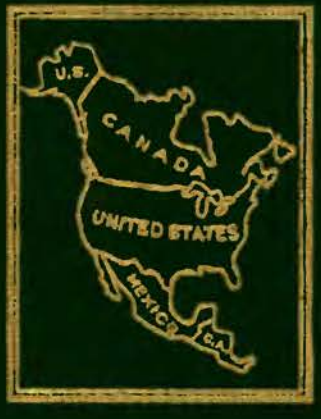
REPORT

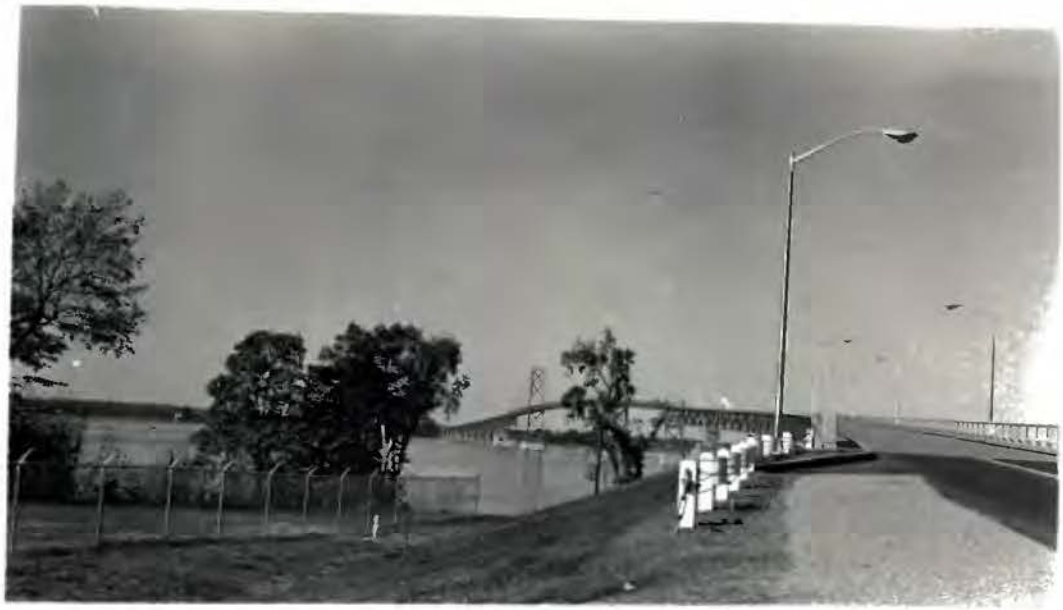
INTERNATIONAL BOUNDARY COMMISSION

REVISION ON THE 1927 NORTH AMERICAN DATUM AND MAINTENANCE OF THE BOUNDARY BETWEEN CANADA AND THE UNITED STATES ST. LAWRENCE RIVER



SPECIAL REPORT NO. 5

1967



New York-Ontario Boundary, 1960
Ogdensburg-Johnstown International Bridge across the St. Lawrence River.

INTERNATIONAL BOUNDARY COMMISSION

JOINT REPORT

UPON THE MAINTENANCE OF THE BOUNDARY BETWEEN

CANADA AND THE UNITED STATES

UNDER THE PROVISIONS OF ARTICLE IV OF THE TREATY

SIGNED AT WASHINGTON, FEBRUARY 24, 1925

SPECIAL REPORT NO. 5

REVISED DATA ALONG THE ST. LAWRENCE RIVER BOUNDARY

FROM THE 45TH PARALLEL BOUNDARY TO LAKE ONTARIO

AND MAINTENANCE ON THIS SECTION FROM 1925 TO 1963.

COMMISSIONERS

FOR CANADA		FOR THE UNITED STATES	
J. D. CRAIG	1925-1931	E. L. JONES	1925-1929
N. J. OGILVIE	1931-1947	J. H. VAN WAGENEN	1929-1935
J. M. WARDLE	1947-1950	T. H. RIGGS	1935-1945
J. L. RANNIE	1950-1951	J. A. ULINSKI	1945-1953
J. E. R. ROSS	1951-1957	SAMUEL L. GOLAN	1953-1961
A. F. LAMBERT	1957-	EDWARD J. KING	1961-

INTERNATIONAL BOUNDARY COMMISSION

CANADA AND UNITED STATES

Washington, March 9, 1967

The Honorable
The Secretary of State
for External Affairs of Canada,
Ottawa.

The Honorable
The Secretary of State
of the United States,
Washington.

Sirs:

We have the honor to submit herewith to each Government two signed originals of the Commissioners' joint report upon the maintenance work done on the International Boundary line along the St. Lawrence River, from the 45th parallel boundary to Lake Ontario, subsequent to the year 1925, under the provisions of Article IV of the Treaty between His Britannic Majesty in respect of Canada, and the United States, signed at Washington February 24, 1925.

Respectfully submitted,

A. F. Lambert

A. F. Lambert
Canadian Commissioner

Edward J. King

Edward J. King
United States Commissioner.

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INTRODUCTION

Article IV of the treaty between the United States and His Britannic Majesty in respect of Canada, signed at Washington, February 24, 1925, which provides for the "maintenance of an effective boundary line between the United States and the Dominion of Canada and between Alaska and the Dominion of Canada," stipulates:

> "The said Commissioners shall submit to their respective Governments from time to time, at least once in every calendar year, a joint report containing a statement of the inspections made, the monuments and buoys repaired, relocated, rebuilt, moved, and established, and the mileage and location of vistas opened, and shall submit with their reports, plats and tables certified and signed by the Commissioners, giving the locations and geodetic positions of all monuments moved and all additional monuments established within the year, and such other information as may be necessary to keep the boundary maps and records accurately revised."

This is a joint report submitted by the Commissioners under the above provisions of the treaty of 1925. The report contains a complete account of boundary inspections and maintenance work performed by this Commission along the water boundary through the St. Lawrence River and Lake Ontario, from 1925 to 1963 inclusive. In addition resurveys, and improvements, of much of the control triangulation has been effected, and the positions of the boundary turning points, reference monuments, and line tablets have been recomputed upon the 1927 North American datum, which has now largely replaced the North American datum upon which the geographic positions in the original report were based. This special report, therefore, without in anyway changing the actual location of the boundary as laid down under the terms of the Treaty of 1908, presents the geographic positions of boundary turning points, monuments and other markers on a more recent and more useful datum, and as already noted gives an account of the work of the International Boundary Commission in maintaining this section of the boundary from 1925 onwards.

RE-ESTABLISHMENT UNDER THE TREATY OF 1908

Under the terms of Article IV of the Treaty of April 11, 1908, the ascertaining and re-establishing of the boundary

between the two countries through the St. Lawrence River and the Great Lakes was assigned to the International Waterways Commission. This Commission at meetings in Buffalo, N.Y., and Toronto, Canada, prepared and submitted to the two governments a plan for carrying out this work. In the preparation of the new charts covering this area, use was made of topographic and hydrographic information available from other government bureaus, supplemented by surveys where necessary by field parties of the Commission. Use was also made of geodetic work of other bureaus executed with the required accuracy, supplemented by triangulation work of the Commissions field engineers.

Although the boundary through the St. Lawrence River and Great Lakes had been defined as early as the Provisional Treaty of 1782, it had never prior to 1908, been definitely located. On many early charts prepared under treaties defining this section of the boundary, the line was generally shown as a curved line along the middle of the rivers, and lakes, and skirting the many islands. The Commission was authorized to adopt, in place of such curved line, a series of connecting straight lines defined by distances and courses. The line of the boundary defined and located as aforesaid was to be laid down by the Commissioners on accurate charts prepared or adopted for this purpose.

The turning points between boundary courses through the rivers were referenced by a series of monuments located along the shores, while turning points through the lakes were referenced by lighthouses. In the section covered by this report, 88 monuments were located to reference the 105 turning points along the St. Lawrence River, and 4 lighthouses were selected and located to reference the 4 turning points in Lake Ontario.

The field work of the International Waterways Commission was carried out during the years 1909 to 1913. The office work was completed and the report of the International Waterways Commission published in 1916. An account of the field and office work is given on pages 120 to 129 of that report.

The United States Lake Survey, in addition to hydrographic and topographic work, have done considerable triangulation throughout the St. Lawrence River and Great Lakes. This triangulation has been incorporated in the results given in this report where marked survey stations are still in existance. The United States Lake Survey, and

Canadian Hydrographic Service, upon request also moved a few reference monuments during the period between the close of the work of the International Waterways Commission and the assigning of the maintenance work to the International Boundary Commission.

FIELD MAINTENANCE WORK

The International Boundary Commission, United States and Canada, was made responsible for the maintenance work on the St. Lawrence River and Great Lakes section of the International Boundary by the Treaty of February 24, 1925. Since that time several inspections have been made, a number of monuments moved or replaced, and extensive resurveys carried out along the St. Lawrence River and Lake Ontario on two separate occasions. The initial resurvey was completed during the years 1938 to 1940, inclusive. This revision was necessary to restore or replace the many triangulation stations not permanently marked during the original survey. Without this timely recovery of stations still existing, there was the danger that the system of continuous control would be lost. All triangulation stations, old and new, of the resurvey were placed on the 1927 North American datum, as were the turning points which they control. A second resurvey was necessary, along a major portion of the St. Lawrence River international boundary, following the construction of the St. Lawrence Seaway. Many monuments and triangulation stations were lost during construction operations, and many additional monuments and stations were lost by flooding. The second resurvey was carried out during the years 1958 to 1960, inclusive. A description of the field work, the final geodetic data, and the descriptions of monuments and survey stations is given in the following pages. An account of the field inspections, revisions, and additions are as follows:

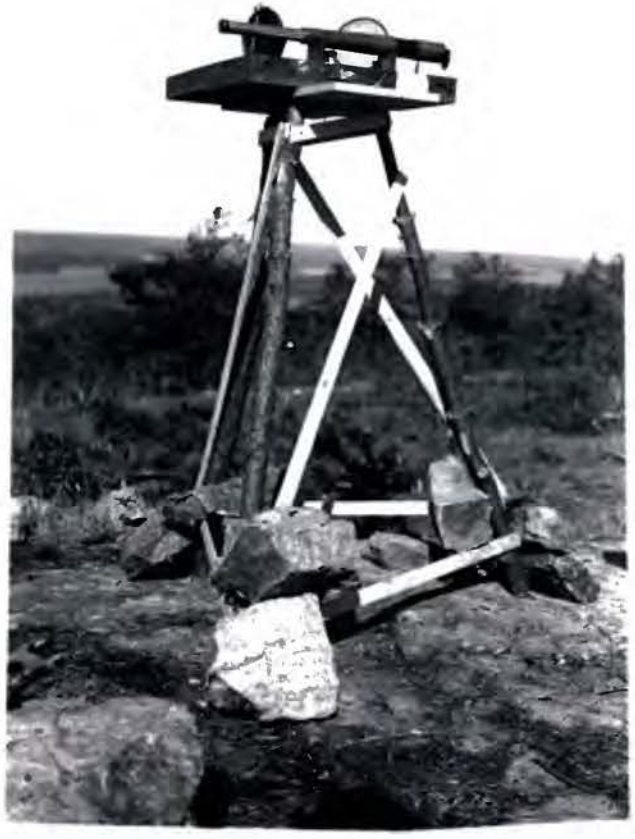
1927 the location of a wharf between Hill and Wells Islands was determined, with respect to the international boundary, upon request by Canadian Customs Officials.

1933 the inspection of reference monuments and triangulation stations from St. Regis to the western end of Cornwall Island.

1934 the location and marking of the boundary on the Cornwall-Rooseveltown bridge.

A view from Adams Island of the weir across "The Gut".

International span of the Thousand Island Bridge.



Heliotrope over station Lansdowne.

Fifty foot tower over station Elizabethtown.

1937 the location and marking of the boundary on the international highway bridge at the Thousand Islands.

1938 the inspection and repair of reference monuments, and the recovery and permanent marking of triangulation stations from St. Regis, Quebec to Aultsville, Ontario.

1939 the inspection and repair of reference monuments, the recovery and permanent marking of triangulation stations from Aultsville, Ontario to Oak Point, New York, and the conversion into a surface mark of Boundary Reference Monument 53, at Ogdensburg, New York.

1940 the inspection and repair of reference monuments, the recovery and permanent marking of triangulation stations from Oak Point, New York to Lake Ontario, and the measurement of magnetic declination along the St. Lawrence River.

1945 the identification and referencing of lighthouses that reference boundary turning points along Lake Ontario, and the Commissioners' inspection of points along the St. Lawrence River.

1946 the referencing of lighthouses that reference boundary turning points, Lake Ontario.

1950 the re-establishment of Reference Monument 59, at Oak Point.

1952 the Commissioners' inspection at the Cornwall-Rooseveltown bridge.

1953 the re-establishment of bridge tablets, Cornwall-Rooseveltown bridge.

1955 the inspection, recovery and protection of reference monuments and triangulation stations, and the re-check of the position of Reference Monument 75, St. Lawrence River.

1956 the recovery and inspection of reference monuments and triangulation stations, St. Lawrence River.

1957 the recovery and inspection of reference monuments and triangulation stations, St. Lawrence River.

1958 the re-establishment of the system of control triangulation and reference monuments, to replace stations and monuments lost through flooding on the St. Lawrence Seaway, from the head of Long Sault Island to Waddington, New York.

1959 the continuation of the re-establishment of the system of control triangulation and reference monuments, lost through work on the St. Lawrence Seaway, between the lower end of Cornwall Island and Prescott, Ontario.

1960 the marking of the international boundary on two new bridges, the establishment of additional survey control stations, and the inspection of triangulation stations on the St. Lawrence River.

1961 the inspection of Reference Monument 53, St. Lawrence River.

1963 the inspection and numbering of reference monuments, and the inspection and replacement of lost triangulation stations, from the lower end of Cornwall Island to Prescott, Ontario.

DESCRIPTION OF FIELD WORK

1927 Ontario-New York Boundary - St. Lawrence River

The Canadian Commissioner of Customs requested information relative to the location of the International Boundary with respect to a wharf on a Canadian island in the boundary channel of the St. Lawrence River between Hill Island and Wells Island and known as "The Rift." Accordingly, the location of the wharf was determined, by an engineer of the Canadian Section of the Commission, by means of a small scheme of triangulation. Details of this survey may be found on pages 13 to 17, of the 1927 Annual Report.

1933 Ontario-New York Boundary - St. Lawrence River

An inspection was made, by an engineer of the Canadian Section of the Commission, of boundary reference monuments and triangulation stations in the vicinity of Cornwall Island. Details of this survey may be found on page 23, of the 1927 Annual Report.

1934 New York-Ontario Boundary - St. Lawrence River

Two engineers, one from each section of the Commission, made a joint survey to locate and mark the boundary on the Cornwall-Rooseveltown bridge. Details of this survey may be found on pages 13 to 16, of the 1934 Annual Report.

1937 Ontario-New York Boundary - St. Lawrence River

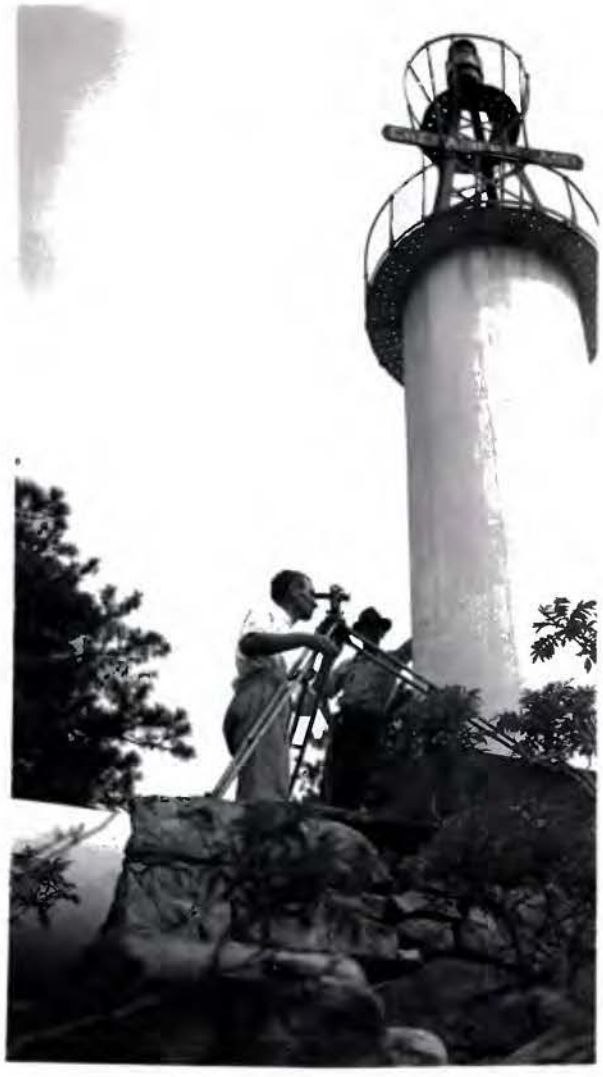
An engineer of the Canadian Section of the Commission made the necessary surveys, and supervised the marking of the boundary on the international bridge across "The Rift" Channel between Ivy Lea, Ontario and Collins Landing, New York. Details of this survey may be found on pages 23 to 26, of the 1937 Annual Report.

1938 New York-Ontario Boundary - St. Lawrence River

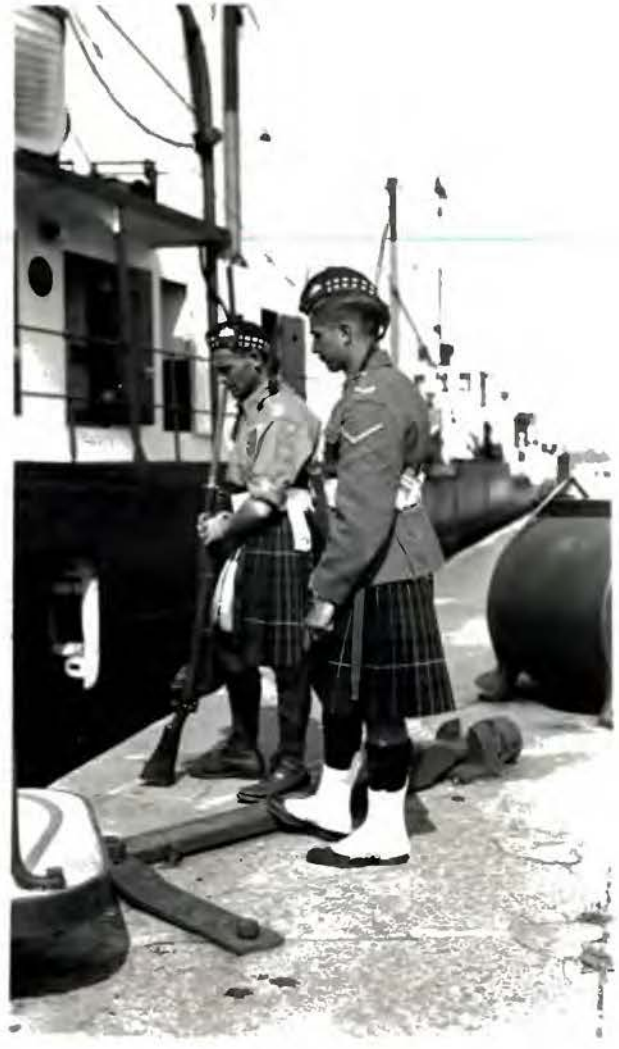
A party of the United States Section of the Commission, assisted by a Canadian engineer as Canadian representative, began a major resurvey of the control for the system of reference monuments along the St. Lawrence River. The section covered during the course of the season's operations was from Reference Monument 1, at the eastern end of Cornwall Island, to Reference Monument 26, near Aultsville, Ontario. The work consisted of; (i) the inspection of the boundary reference monuments and the checking of their positions by triangulation or traverse, (ii) the search for and, where found, the permanent marking of the triangulation stations established in 1910-1913 by the International Waterways Commission, and (iii) the establishment of new stations to replace those that could not be found.

The boundary reference monuments inspected were found in good condition with the exception of No. 17, which was later reset on a more permanent location.

The recovery of triangulation stations established by the International Waterways Commission's survey proved to be a tedious operation. No descriptions of the stations were available, and it was found that the stations had only been marked by wooden hubs, which over the years were almost entirely lost through decay. All stations recovered were permanently marked.



Wolfe Is. light and station 197 sub.



Canadian war time guards on the canal locks.

Where a triangulation station could not be recovered, a new station was established in order that every boundary reference monument would be intervisible with other marked survey points. Details of this survey may be found on pages 12 to 17, of the 1938 Annual Report.

1939 New York-Ontario Boundary - St. Lawrence River

A party of the United States Section, assisted by a Canadian Engineer, who represented that section of the Commission, continued the major resurvey of the control for the system of reference monuments along the St. Lawrence River which had been initiated the previous season. The section covered during the course of the season's operations was from Reference Monument 26, near Aultsville, Ontario, to Reference Monument 59, near Oak Point, New York. The work again consisted of; (i) the inspection of boundary reference monuments and the checking of their positions, (ii) the search for, and where found, the permanent marking of the triangulation stations established in the period 1910 to 1913, by the International Waterways Commission, and (iii) the establishment of new stations to replace those that could not be found.

Of the 35 reference monuments inspected only 2 were found to need repairs.

The restoration of a well-marked scheme of triangulation was the main objective of the work carried out along the St. Lawrence River during the period 1938-1940. Of 97 triangulation stations of the International Waterways Commissions' survey searched for in 1939, 27 were recovered and permanently marked.

New triangulation stations were established and permanently marked at or near the sites of those stations which could not be recovered. The scheme of triangulation was tied to first-order triangulation of the Geodetic Survey of Canada.

At Ogdensburg, New York, Reference Monument 53, on the ferry dock, was cut down to ground level so that cars could drive over it. This work was supervised by an engineer from the Canadian Section of the Commission. Details of the 1939 surveys may be found on pages 52 to 63 of the Annual Report for that year.

Mr. Prinsep observing on Grenadier Island.

Tibbetts Point Lighthouse.

1940 New York-Ontario Boundary - St. Lawrence River

A party of the United States Section, assisted by a Canadian engineer, who represented that section of the Commission, concluded the major resurvey operations undertaken along the St. Lawrence River boundary. The party started near Oak Point, New York and continued through to Lake Ontario. The work was similar to that carried out during the past two seasons; (i) the inspection of boundary reference monuments and the checking of their positions, (ii) the search for, and where found, the permanent marking of the triangulation stations established in the period 1910 to 1913, by the International Waterways Commission, and (iii) the establishment of new stations to replace those that could not be found.

All the boundary reference monuments, 30 in number, inspected were found in good condition.

A careful search was made for 129 triangulation stations of the International Waterways Commission's Survey. Due to the fact that these stations were not permanently marked, only 57 were recovered and permanently marked.

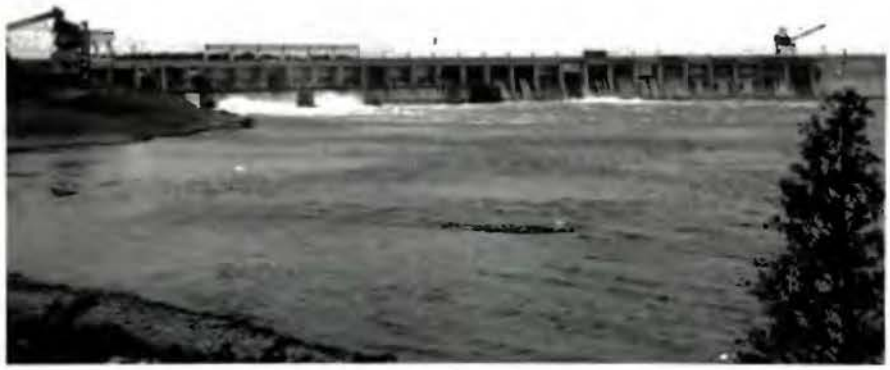
At points where the original stations could not be recovered, but were necessary in completing a continuous chain of triangulation, new stations were established and permanently marked.

Where possible, stations of the United States Lake Survey were recovered and incorporated into the triangulation, and a connection was made with the old base line of the United States Lake Survey at Cape Vincent, New York.

The completion of this work made it possible to describe the International Boundary Line, through the St. Lawrence River, in terms of the geodetic coordinates based on the North American datum of 1927.

During the course of the season's work observations were made to determine the magnetic declination at various points along the St. Lawrence River. Details of the 1940 surveys may be found on pages 24 and 43 of the Annual Report for that year.

Iroquois Control Dam.



Long Sault Control Dam.

1945 New York-Ontario Boundary - Lake Ontario

A party of the United States Section, assisted by an engineer from the Canadian Section, inspected and identified the lighthouses that had been used, by the International Waterways Commission, as references to the turning points in Lake Ontario. Details of this survey may be found on pages 15 to 20 of the 1945 Annual Report.

1946 New York-Ontario Boundary - Lake Ontario

An engineer from the United States Section made further observations to establish the positions of marks set to reference the reference lighthouses along Lake Ontario. Details may be found on pages 12 to 14 of the 1946 Annual Report.

1950 Ontario-New York Boundary - St. Lawrence River

Two engineers from the Canadian Section established a new reference monument to replace Reference Monument 59 at Oak Point. Details of this survey may be found on pages 39 and 40 of the 1950 Annual Report.

1952 Ontario-New York Boundary - St. Lawrence River

The Commissioners inspected the bridge tablets on the Cornwall-Rooseveltown bridge. The western tablet was found missing, but was recovered at the Canadian Customs office. Details of this inspection may be found on page 7 of the 1952 Annual Report.

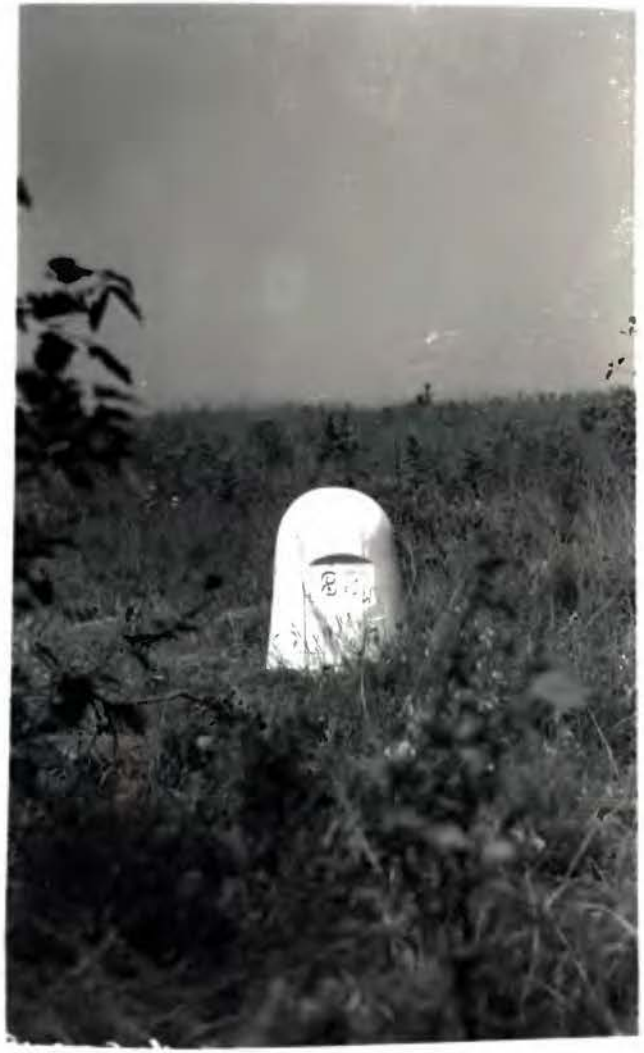
1953 Ontario-New York Boundary - St. Lawrence River

Two engineers from the Canadian Section re-established the tablets on the Cornwall-Rooseveltown bridge. Details of this survey may be found on Page 28, of the 1953 Annual Report.

1955 New York-Ontario Boundary - St. Lawrence River

Upon the completion of the St. Lawrence Seaway, it was anticipated that about 50 boundary reference monuments would be lost due to flooding and earth removal. In order to insure that adequate control would remain for the locating of new monuments to reference the boundary, a joint inspection of stations

Monument 83 before.



Monument 83 after.

of the control triangulation was undertaken by the Engineers to the United States and Canadian Sections of the Commission.

A survey was carried out by the Engineer to the United States Section to check the position of Reference Monument 75.

A new station was established to replace 131-Sub, which was endangered by construction. A new reference was also established for station "Red Mills". This work was carried out by engineers of the Canadian Section. Details of these surveys may be found on pages 39 and 40, of the 1955 Annual Report.

1956 New York-Ontario Boundary - St. Lawrence River

The two Engineers to the Commission met at Ogdensburg and made further inspections of control stations endangered by seaway and highway construction. References were established near two of these stations by Canadian engineers late in the season.

A party of the United States section recovered and inspected reference monuments and triangulation stations along part of the St. Lawrence River boundary. Details of the 1956 surveys may be found on pages 11 to 13, of the Annual Report for that year.

1957 New York-Ontario Boundary - St. Lawrence River

The two Engineers to the Commission again met to inspect, and where possible to arrange protection for, the survey stations along the seaway section of the boundary.

A party of the United States Section completed the recovery and inspection of reference monuments and triangulation stations from Lake Ontario to the vicinity of Massena, New York. Details of the work carried out in 1957 may be found on pages 15 to 17 of the Annual Report for that year.

1958 New York-Ontario Boundary - St. Lawrence River

The re-establishment of reference monuments and control stations, following the construction and flooding of the St. Lawrence Seaway, began in 1958.

At that time danger of subsequent damage to the re-established monuments was minimized, clearer lines of sight were available and communication by water between the two shores was easy.

The operations in 1958 consisted of recovery and inspection of triangulation stations and the establishment of new triangulation stations and a series of new reference monuments by a combined United States and Canadian party on the section from the head of Long Sault Island to Waddington, N.Y.

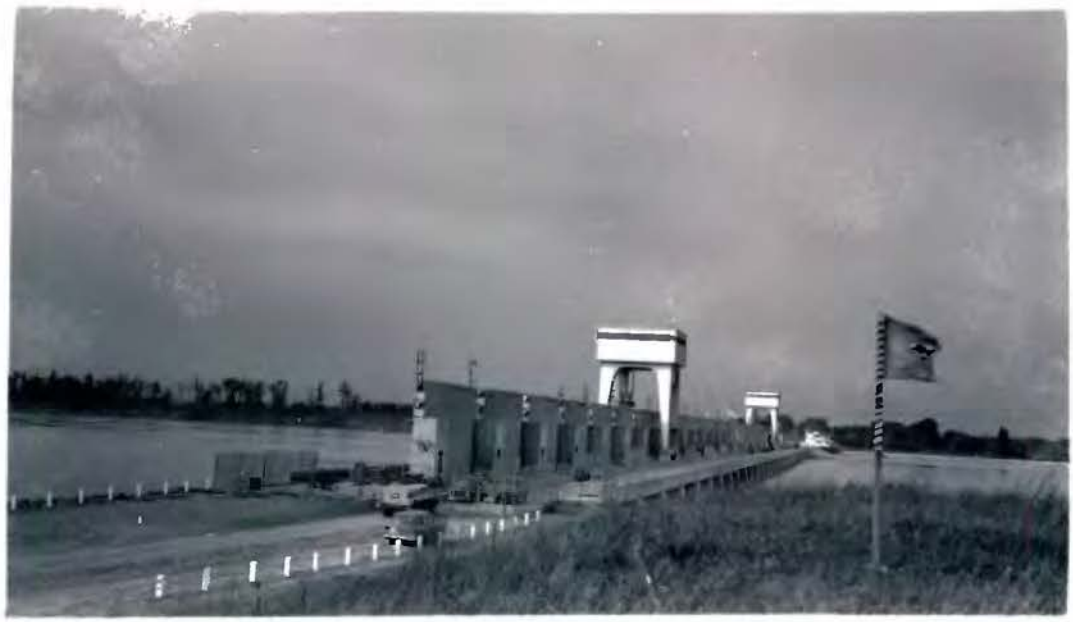
In the course of the 1958 work on the St. Lawrence River; 19 triangulation stations were recovered, 12 new stations were established, and 10 new reference monuments were constructed. Details of this survey may be found on pages 23 to 28 of the 1958 Annual Report.

1959 New York-Ontario Boundary - St. Lawrence River

The re-establishment of reference monuments and control stations, which had been initiated the previous season, was continued in 1959. Two parties, one from each section of the Commission, were engaged in this resurvey operation.

The major portion of the re-establishment work along the St. Lawrence Seaway was completed during the 1959 season. The sections covered were from the 45th Parallel boundary to the head of Long Sault Island, and from Waddington, New York to Prescott, Ontario. The two parties engaged in the St. Lawrence River resurvey, worked on separate sections of the boundary, but occasionally worked jointly in carrying out reconnaissance and in marking the boundary line across the Moses-Saunders and Iroquois Dams.

In the course of the 1959 work on the St. Lawrence River; 34 new reference monuments were constructed, 48 new triangulation stations were established, 61 triangulation stations recovered, two line tablets were established on both the Moses-Saunders and Iroquois Dams, and 35 permanent channel lights located. Details of these surveys may be found on pages 22 to 35 of the 1959 Annual Report.



Iroquois control dam and station Dam.

Iroquois control dam.

1960-1961 New York-Ontario Boundary - St. Lawrence River

A party of the United States Section carried out surveys to establish additional control stations and to establish bridge tablets on both the Rooseveltown-Cornwall and the Ogdensburg-Johnstown bridges. Inspections were also made of Reference Monument 53, at Ogdensburg, New York. Details of these surveys may be found on pages 27 to 31 of the 1960 Annual Report and on Page 14 of the 1961 Annual Report.

1963 Ontario-New York Boundary - St. Lawrence River

Engineers from the Canadian Section of the Commission carried out inspections of all reference monuments located during the resurvey of 1958 and 1959, and at the same time stamped each monument with the year of establishment. Triangulation stations were also inspected and descriptions up-dated. New stations were established to replace those lost or endangered. Details of this inspection may be found on page 29 of the 1963 Annual Report.

SUMMARY OF PERSONNEL ENGAGED

Year	Section	Engineer in Charge
1927	Canadian	G. T. Prinsep
1933	Canadian	G. T. Prinsep
1934	Joint	G. T. Prinsep J. G. Hefty
1937	Canadian	G. T. Prinsep
1938	United States	J. G. Hefty
1939	Canadian	D. F. Chisholm
1939	United States	J. G. Hefty
1940	United States	J. G. Hefty
1940	United States	F. H. Brundage
1945	United States	R. K. Lynt
1946	United States	J. Hill
1950	Canadian	D. F. Chisholm
1952	Joint	
1953	Canadian	
1955	United States	N. W. Smith
1955	Canadian	A. F. Lambert
1956	Joint	
1957	Joint	

IN THE FIELD WORK 1925 - 1963

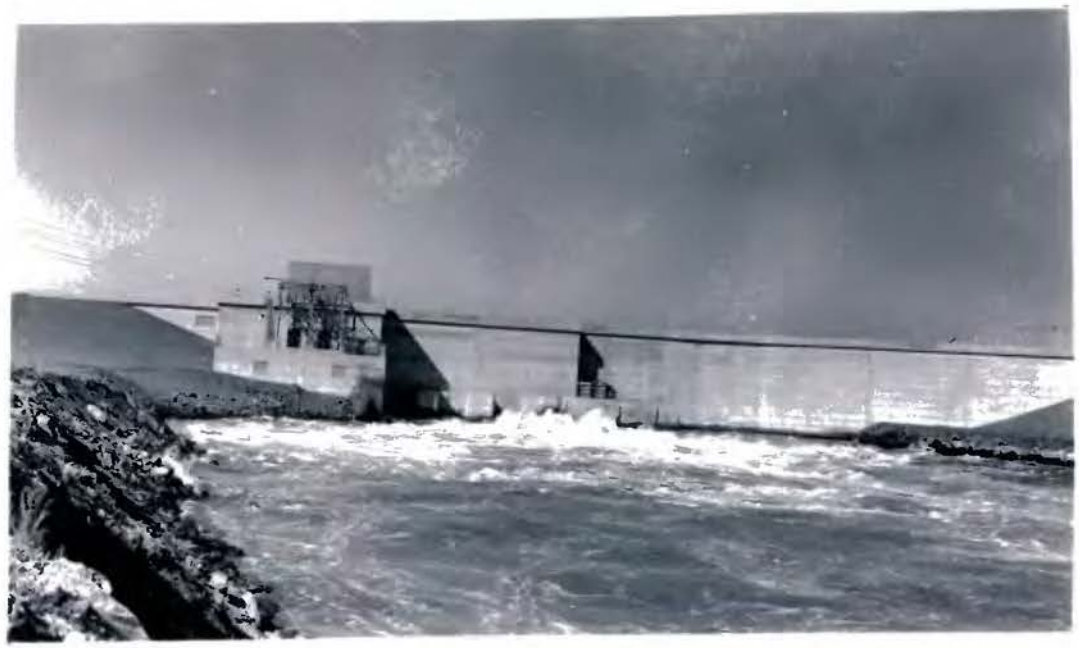
Triangulation	Monumenting	Inspection
G. T. Prinsep		G. T. Prinsep
		G. T. Prinsep
G. T. Prinsep	G. T. Prinsep J. G. Hefty	G. T. Prinsep J. G. Hefty
G. T. Prinsep	G. T. Prinsep	G. T. Prinsep
G. T. Prinsep	J. G. Hefty	J. G. Hefty
	D. F. Chisholm	J. Hill
G. T. Prinsep N. W. Smith	N. W. Smith	J. G. Hefty T. H. Riggs N. J. Ogilvie
G. T. Prinsep J. Hill	C. Husemeyer	J. Hill J. G. Hefty T. H. Riggs N. J. Ogilvie
F. H. Brundage		
G. T. Prinsep	R. K. Lynt	G. T. Prinsep R. K. Lynt
J. Hill		J. Hill
D. F. Chisholm		D. F. Chisholm
		J. A. Ulinski J. E. R. Ross
	A. F. Lambert	A. F. Lambert
N. W. Smith		N. W. Smith
A. F. Lambert		A. F. Lambert
		A. F. Lambert N. W. Smith
		A. F. Lambert N. W. Smith

SUMMARY OF PERSONNEL ENGAGED

Year	Section	Engineer in Charge
1957	United States	N. W. Smith
1958	Canadian	W. M. Smith
1958	United States	N. W. Smith
1959	United States	W. R. Harrison
1959	Canadian	W. M. Smith
1960	United States	N. W. Smith
1961	United States	
1962	United States	
1963	Canadian	W. M. Smith

IN THE FIELD WORK 1925 - 1963

Triangulation	Monumenting	Inspection
		N. W. Smith
W. M. Smith V. J. Vinette	W. M. Smith	A. F. Lambert W. M. Smith
N. W. Smith W. R. Harrison	N. W. Smith	N. W. Smith A. F. Lambert
W. R. Harrison N. W. Smith	W. R. Harrison	N. W. Smith A. F. Lambert S. L. Golan
W. M. Smith	W. M. Smith	W. M. Smith
N. W. Smith H. G. Dwyer		N. W. Smith
		N. W. Smith
		N. W. Smith
D. W. Farley V. J. Vinette		A. F. Lambert W. M. Smith



Massena intake dam.

Barnhart Island control dam.
(Long Sault control dam.)

Reference Monument 44 Iroquois dam overlook.

Triangulation station Hydro 1298 near Iroquois Locks.

DESCRIPTIONS OF BOUNDARY REFERENCE MONUMENTS

All but five of the reference monuments used along the St. Lawrence River are the standard International Waterways Commission monuments. They are constructed in the form of a frustum of a cone with a hemispherical top. These monuments are 2½ feet high, 2 feet in diameter at the base, 1½ feet in diameter at the top, and with a radius for the hemispherical crown of 9 inches. The concrete foundations of the original monuments extends 5 feet below the surface, except where solid rock occurs at a lesser depth, when the monument is built on and bonded to the rock. The foundation of monuments established since 1958 extend 3 feet below the surface and are 2½ feet in diameter. Each of the original monuments has its centre marked by a brass plug ¾ inch in diameter, with a small drill hole in the centre, and each original monument has a number cast in its side. Monuments established since 1958 have their centre marked by a bronze tablet 3 inches in diameter set flush in the top of the monument and stamped with their respective number. The reference monuments are numbered consecutively upstream, and all concrete monuments were painted white in 1958 and 1959.

Reference Monuments 10-59, 11-59, 15A-59, 42-59 and 43-59, established on the concrete decks of dams, consist of International Boundary Commission bronze reference monument tablets set flush with the concrete and stamped with the number of the monument.

Following the adopted practice, the number of a reference monument is followed by the year its position, as given in this report, was determined. In parentheses after the number of the reference monument is given the year of origin followed by the years in which it was subsequently occupied or recovered.

REFERENCE MONUMENT 1 (Ontario, Stormont County, 1910, 1923, 1938,1959) -- On the Canadian side of the boundary, about 200 feet from the shore and near the center of the downstream end of Cornwall Island. The monument was found in good condition in 1959. It is intervisible with Monument 774, Reference Monument 2-59, and with stations BOOTS and AIRIS - U.S.L.S.

REFERENCE MONUMENT 2-59 (Ontario, Stormont County, 1959) -- On the Canadian side of the boundary, near the southeastern

Ref. Mon. 6, St. Lawrence River, newly established, Light No. 14, located as a reference point.

end of Cornwall Island. On Seaway Authority Property adjoining that of Peter Boots. The monument is about 85 feet from the top of the river bank, and about 3 feet from the N-S fence along the western boundary of Peter Boots' Property - Seaway LIGHT No. 2 lies easterly about 300 feet. It is intervisible with Reference Monuments 1, 3-59, 4 and MONUMENT 774, and with stations TWAIN, MOTT and BOOTS.

Station BOOTS lies in azimuth 307° 09', distant 48.15 feet.

REFERENCE MONUMENT 3-59 (New York, Franklin County, 1959)-- On the United States side of the boundary, on the prominent point of the shore line just below the mouth of the Raquette River. The monument is in the northwest corner of an open field, and about 120 feet from the river bank. It is intervisible with Reference Monuments 2-59, 4 and MONUMENT 774, and with stations MOTT, BOOTS and TWAIN.

Station TWAIN lies in azimuth 176° 28', distant 56.30 feet.

REFERENCE MONUMENT 4 (Ontario, Stormont County, 1910, 1938, 1959)-- On the Canadian side of the boundary, on a small point on the south shore of Cornwall Island opposite and about $\frac{3}{4}$ mile upstream from the mouth of the Raquette River. The monument was found in good condition in 1959. It is intervisible with Reference Monuments 2-59, 3-59, and 5, and with stations BOOTS, TWAIN, MOTT, and McCREE.

REFERENCE MONUMENT 5 (Ontario, Stormont County, 1910, 1938, 1959)-- On the Canadian side of the boundary, near the shore on the south side of Cornwall Island, opposite and about 700 feet upstream from the prominent point on the New York Shore $1\frac{1}{4}$ miles upstream from the mouth of the Raquette River. The monument was found in good condition in 1959. It is intervisible with Reference Monuments 4 and 6-59, and with stations MOTT and McCREE.

REFERENCE MONUMENT 6-59 (Ontario, Stormont County, 1959)-- On the Canadian side of the boundary, on the south shore of Cornwall Island, near the river bank east of the approach to the old dismantled Cornwall-Rooseveltown International Bridge. The monument is on the south side of the road along the shore, about $\frac{1}{2}$ mile downstream from the present International Bridge. It is intervisible with Reference Monuments 5 and 7-59, and with stations McCREE, 12 I.W.C., ANDORA and WATT.

Seaway LIGHT NO. 14 lies in azimuth 307°32', distant 16.16 feet to the circumference of the base of the light.

REFERENCE MONUMENT 7-59 (New York, St. Lawrence County, 1959)-- On the United States side of the boundary, west of the International Bridge, about 240 feet from the first concrete bridge pier north of the railway track, and about 500 feet south of the southern shore of the river. The monument is about 120 feet north of the railway track, in rocky ground grown up with thorn bushes. It is intervisible with Reference Monuments 6-59, and 8, and with stations McCREE and 12 I.W.C.

Station 12 I.W.C. lies in azimuth 319°12' distant 55.73 feet.

REFERENCE MONUMENT 8 (Ontario, Stormont County, 1910, 1938, 1959)-- On the Canadian side of the boundary, at the southern corner of the western end of Cornwall Island, at the foot of Polly's Gut, opposite and slightly below the downstream end of Massena Point. The monument was found in good condition in 1959. It is intervisible with Reference Monument 7-59 and with stations WATT, ANDORA and 12 I.W.C.

REFERENCE MONUMENT 9-59 (Ontario, Stormont County, 1959)-- On the Canadian side of the boundary, on the mainland shore about ¾ mile west of the old swing bridge, and midway between the river and Cornwall Canal. The monument is in line with the center of Polly's Gut. It is intervisible with Reference Monuments 10-59 and 11-59, and with stations MASSENA POINT, U.S.L.S. and 17 U.S.L.S.

REFERENCE MONUMENT 10-59 (New York, St. Lawrence County, 1959)-- On the upper level near the United States end of the Moses-Saunders Dam. It is 1.82 feet from the southeastern corner of the first hatch from the United States end of the dam, and 1½ inches northerly of the extension of the southwestern face of the hatch wall. The monument is 2.80 feet westerly from the downstream rail upon which the crane operates. It is intervisible with Reference Monuments 9-59, 11-59 and 12-59.

The reference monument consists of an International Boundary Commission bronze reference monument tablet set flush with the top of the concrete deck.

REFERENCE MONUMENT 11-59 (Ontario, Stormont County, 1959) -- On the Canadian side of the boundary, on the upper level near

Eisenhower Locks.

Moses-Saunders power dam on the International Boundary.

the Canadian end, of the Moses-Saunders Dam. It is 1.81 feet from the northeastern corner of hatch 4A, and 9.25 feet from the southeastern corner of hatch 3C. It is 2.38 feet from the base flange of the downstream rail upon which the crane operates. The monument is 5.4 feet southerly from the steel lid of a hatch 3.3 feet and one inch southerly of the extension of the northeastern face of hatch 4A. It is intervisible with Reference Monuments 9-59, 10-59, and 12-59.

The reference monument consists of an International Boundary Commission bronze reference monument tablet set flush with the concrete deck.

REFERENCE MONUMENT 12-59 (New York, St. Lawrence County, 1959)-- On the United States side of the boundary, on the northerly point of Barnhart Island, about 167 feet from a prominent rock on the point. It is intervisible with Reference Monuments 10-59, 11-59 and 13-59.

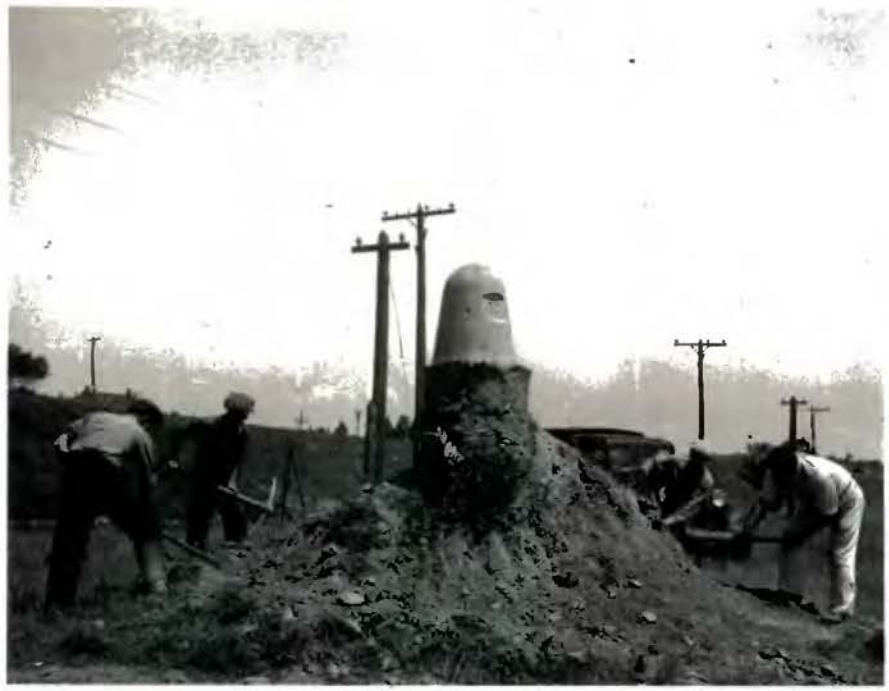
Triangulation Station HART, C.H.S. lies northerly distant 68.55 feet.

REFERENCE MONUMENT 13-59 (Ontario, Stormont County, 1959)-- On the Canadian side of the boundary, on the southerly point of Sheek Island. It is intervisible with Reference Monuments 12-59, 15, and 16-59.

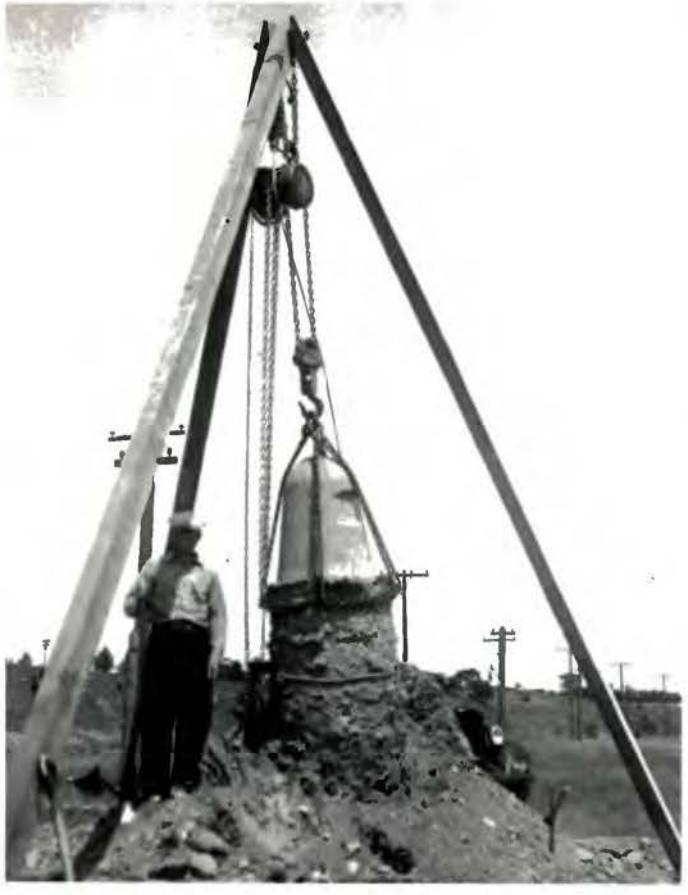
Triangulation Station SHEEK lies in azimuth 231° 31', distant 45.02 feet.

REFERENCE MONUMENT 14 (New York, St. Lawrence County, 1910, 1938, 1959)-- On the United States side of the boundary on Barnhart Island opposite the center of Sheek Island. It is about 85 feet north of the center of the old road across the northerly part of the island, about 180 feet north of the center of a new dirt road, and opposite the junction of the two roads. The monument is about 300 feet east of the water's edge, about 65 feet north of the stone wall along the northerly side of the old road, and about 50 feet west of an old stone wall extending northward to the lake.

REFERENCE MONUMENT 15 (New York, St. Lawrence County, 1910, 1938, 1959)-- On the United States side of the boundary, on the highest part of a small park at the northwestern corner of Barnhart Island. It is about 1000 feet north-northeasterly from Long Sault Dam, among the trees in the park and between the lake and a boat basin. There is a



Digging away mound around Reference Monument 17.



Pulling Reference Monument 17.

Digging hole for Ref. Mon. 17.

Lowering Ref. Mon. 17.

Setting Ref. Mon. 17 into position.

circular turn in the dead-end road between the park and the boat basin. From the monument is is about; 100 feet west, 300 feet north, and 200 feet east, to the water's edge. It is intervisible with Reference Monuments 13-59, 15A-59 and 16-59.

REFERENCE MONUMENT 15A-59 (New York, St. Lawrence County, 1959)-- On the United States side of the boundary, on the upper level of the Long Sault Dam. It is about 2 feet west of the rail along the eastern end, and about 20 inches south of the wall along the northern face of the dam. It is intervisible with Reference Monuments 15 and 16-59.

The monument consists of an International Boundary Commission bronze reference monument tablet set flush with the concrete deck.

REFERENCE MONUMENT 16-59 (New York, St. Lawrence County, 1959)-- On the United States side of the boundary. On the eastern side of the most northerly point of the easterly island formed by the flooding of Long Sault Island. It is 20 feet outside the bushes. It is intervisible with Reference Monuments 15, 15A-59 and 17-59.

Triangulation Station LONG lies in azimuth 177° 43', distant 16.71 feet.

REFERENCE MONUMENT 17-59 (Ontario, Stormont County, 1959)-- On the Canadian side of the boundary, on Phillpotts Island, south of Long Sault Parkway, about 33 feet south of the old highway No. 2, and about 200 feet from the shore line. It is intervisible with Reference Monuments 16-59, and 18-58.

Station 47 I.W.C. lies in azimuth 150° 53', distant 80.71 feet.

REFERENCE MONUMENT 18-58 (Ontario, Stormont County, 1958)-- On the Canadian side of the boundary, on Dickinson Island, south of Long Sault Parkway, about 0.15 miles easterly from the culvert at Hoople Creek, on the high ridge through which the parkway is cut, and 65 feet southerly from edge of the cut bank. It is intervisible with Reference Monuments 17-59 and 19-59.

REFERENCE MONUMENT 19-59 (New York, St. Lawrence County, 1959)-- On the United States side of the boundary, on the long point extending northward from the western end of Long Sault Island. The monument is on the highest point of the ridge.

and about 1000 feet south of the northern end of the point. It is intervisible with Reference Monuments 18-58, 20-59 and 21.

Station 35 SUB, U.S.L.S. lies in azimuth 17° 35', distant 144.85 feet.

REFERENCE MONUMENT 20-59 (Ontario, Stormont County, 1959)-- On the Canadian side of the boundary, on Fraser Island, south of Long Sault Parkway. The monument is in Woodlands Park, on the top of the knoll in the center of the circular drive. It is intervisible with Reference Monument 19-59, and with stations PICNIC and INGLE.

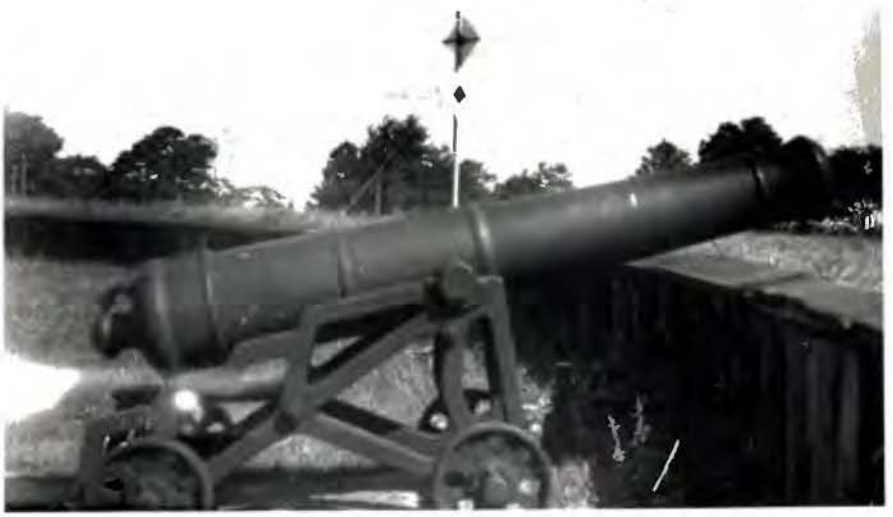
REFERENCE MONUMENT 21 (New York, St. Lawrence County, 1910, 1938, 1959)-- On the United States side of the boundary, on the prominent point near the center of the northern side of Croil Island, which is south of Ingleside, Ontario. The monument is on the top of the ridge extending inland from the point. It is intervisible with Reference Monuments 20-59, and 22-58.

REFERENCE MONUMENT 22-58 (Ontario, Stormont County, 1958)-- On the Canadian side of the boundary, on Morrison Island, southwest of Ingleside, Ontario, near the eastern end of the Island, on the high ground over which a portion of old abandoned Highway No. 2 passes. The monument is about 25 feet north of the old highway. It is intervisible with Reference Monuments 21, 23-58 and 24-58.

Station MORRISON lies in azimuth 198°48', distant 43.09 feet.

REFERENCE MONUMENT 23-58 (Ontario, Stormont County, 1958)-- On the Canadian side of the boundary, near the southeastern shore of Morrison Island, near the end of the road which terminates east of an old apple orchard, and about 10 feet east of the eastern edge of the orchard. The monument is near the top of the sandy slope which is the site of a planned swimming beach. It is intervisible with Reference Monuments 22-58, and 24-58.

REFERENCE MONUMENT 24-58 (New York, St. Lawrence County, 1958)-- On the United States side of the boundary. On the newly formed island south of the western end of Croil Island. The monument is on the south side of the old River Road across the new island. It is just west of the northeastern tree of a clump of trees, and on high ground



I.W.C. Station 137 on rempart of
Fort Wellington, Prescott.

Erecting signal at Trial 193.

at about the southern road limit of the old road. It is intervisible with Reference Monuments 22-58 and 23-58.

Triangulation Station McLEOD lies in azimuth 238°31', distant 540.4 feet.

REFERENCE MONUMENT 25-58 (Ontario, Stormont County, 1958)-- On the Canadian side of the boundary, on Ault Island, south of a row of cottages on the eastern branch of the access road from Highway No. 2, about 0.3 miles from the point where the road divides. The monument is near the eastern boundary of the property owned by J. W. Bredin, about midway between the cottage and the water's edge. It is intervisible with Reference Monuments 26-59, and 27-58.

Triangulation Station AULT POINT lies in azimuth 147° 38', distant 36.12 feet.

REFERENCE MONUMENT 26-59 (New York, St. Lawrence County, 1959)-- On the United States side of the boundary, on the northern point of the eastern end of Wilson Hill Island. The monument is on a lot line, 60 feet north of the center of the old River Road, and 75 feet east of the top of the bank outside of the ditch on the eastern side of the new road along the island. It is intervisible with Reference Monuments 22-58 and 27-58.

Triangulation Station 72 I.W.C. (WHALEN, U.S.L.S.) lies in azimuth 268° 42', distant 23.53 feet.

REFERENCE MONUMENT 27-58 (New York, St. Lawrence County, 1958, 1959)-- On the United States side of the boundary. On Wilson Hill Island, east of the dead-end road on Wilson Hill, which runs northward towards the point of land. The monument is on a lot line 6 feet east of the top of the bank of the road ditch, and about 250 feet from the end of the point. It is intervisible with Reference Monuments 22-58, 26-59, 28-58 and 29-59.

Triangulation Station 74-Sub. U.S.L.S. lies in azimuth 337°14', distant 192.5 feet.

REFERENCE MONUMENT 28-59 (Ontario, Dundas County, 1959)-- On the Canadian side of the boundary, in Crysler Memorial Park. The reference monument is the center of the top of Crysler Monument. It is intervisible with Reference Monuments 26-59, 27-58, 29-59 and 30-58.

REFERENCE MONUMENT 29-59 (New York, St. Lawrence County, 1959)-- On the United States side of the boundary, on Bradford Point opposite Crysler Memorial Park. The monument is about 80 feet north of the trees in the fence line along the northerly side of the old River Road passing across the point. It is intervisible with Reference Monuments 27-58, 28-59 and 30-58.

REFERENCE MONUMENT 30-58 (Ontario, Dundas County, 1958)-- On the Canadian side of the boundary, about 2/3 mile southeasterly from the eastern intersection of Highway No. 2 and Riverside Heights access road. The monument is about 30 feet east of a line extended southeasterly from a northwest-southeast line of trees. It is about 100 feet southeast of the more southerly of two concrete railway signal piers of the abandoned railway.

Triangulation Station WOOD lies in azimuth 96°39', distant 44.51 feet.

REFERENCE MONUMENT 31-58 (New York, St. Lawrence County, 1958, 1959)-- On the United States side of the boundary, on the highest part of a point about ½ mile easterly of the mouth of Colis Creek. The monument is about on the northern road limit of the old River Road, with bushes northward towards the river. It is intervisible with Reference Monuments 30-58, 32-58 and 33-58.

Triangulation Station LAW lies in azimuth 355°36', distant 452.4 feet.

REFERENCE MONUMENT 32-58 (Ontario, Dundas County, 1958)-- On the Canadian side of the boundary, about ½ mile south of the highway intersection west of Riverside Heights, and about ¼ mile west of the old church road now partially flooded. The monument is on an island and about 300 feet south of the railroad right-of-way. It is about 5 feet east of a northwest-southeast line of bushes. It is intervisible with Reference Monuments 29-59, 30-58, 31-58 and 33-58.

Triangulation Station EAST lies in azimuth 157°36', distant 73.51 feet.

REFERENCE MONUMENT 33-58 (New York, St. Lawrence County, 1958, 1960)-- On the United States side of the boundary, about 3½ miles east of Waddington, New York, on Nichols Point which is opposite Broder Island. The monument is on

Monument 41 and Iroquois control dam.

The Royal Yacht Britannia.

the highest part of the point, about 500 feet northeasterly of the woods. It is intervisible with Reference Monuments 31-58, 32-58 and 34-59.

Triangulation Station ALLISON lies in azimuth 232°58', distant 172.93 feet.

REFERENCE MONUMENT 34-59 (Ontario, Dundas County, 1959, 1960)-- On the Canadian side of the boundary, on Broder Island, formed by the flooding of Doran Point. The monument is 66 feet north of the northern edge of the old concrete highway across the point, on the high ridge on the point. It is intervisible with Reference Monuments 31-58, 32-58 and 33-58.

Triangulation Station DORAN lies in azimuth 279°07', distant 86.40 feet.

REFERENCE MONUMENT 35-59 (Ontario, Dundas County, 1959, 1960)-- On the Canadian side of the boundary, on Canadian government property, on the first point west of Morrisburg. The monument is about 150 feet from the river on a line to Light 88, on Canada Island. It is about 250 feet south to the water's edge on the extreme end of the point, about 75 feet westerly to a 30 inch tree, and about 75 feet northwesterly to a work building. It is intervisible with Reference Monuments 34-59 and 36-59.

REFERENCE MONUMENT 36-59 (New York, St. Lawrence County, 1959, 1960)-- On the United States side of the boundary, on Ogden Island, about 300 feet west of the woods near the eastern end of the Island, and about 150 feet east of the eastern end of the dyke connecting this and the central section of the island. The monument is about midway between the northern and southern shores of the island. It is intervisible with Reference Monuments 35-59 and 37-59.

REFERENCE MONUMENT 37-59 (New York, St. Lawrence County, 1959, 1960)-- On the United States side of the boundary, on the high ridge along central Ogden Island. The monument is on the northern point of the island, about 150 feet south of the water's edge, 200 feet west of the eastern shore of the point, and near the top of the northern slope of the island. It is intervisible with Reference Monuments 35-59, 36-59 and 38-59.

Triangulation Station GRAPH (Den C. H. S.) lies in azimuth 268°47', distant 37.93 feet.

REFERENCE MONUMENT 38-59 (New York, St. Lawrence County)-On the Canadian side of the boundary, opposite the western end of Ogden Island. The monument is about 300 ft. east of a small point. It is about 100 feet east of a road leading to the water's edge, and about 40 feet from the river. It is intervisible with Reference Monuments 37-59 and 39-59.

Triangulation Station LOCK lies in azimuth 318°10', distant 15.32 feet.

REFERENCE MONUMENT 39-59 (Ontario, Dundas County, 1959, 1960)-- On the Canadian side of the boundary, on the first prominent point east of Point-Three-Point. The monument is about 30 feet from the water's edge. It is intervisible with Reference Monument 38-59.

Triangulation Station DRAG lies in azimuth 58°24', distant 36.38 feet.

REFERENCE MONUMENT 40-59 (Ontario, Dundas County, 1959)-- On the Canadian side of the boundary, in Point-Three-Point, in a fence line on the northern side of the road leading on to the Point. The monument is about 150 feet east of the bank of Hilliards Creek Inlet, and about 100 feet northeasterly from Light No. 106. It is intervisible with Reference Monument 41-59.

Triangulation Station POINT lies in azimuth 309°01', distant 102.62 feet.

REFERENCE MONUMENT 41-59 (Ontario, Dundas County, 1959)-- On the Canadian side of the boundary on a point directly north of the United States end of the Iroquois Dam. The monument is between the brick Country Club buildings and the shore. It is about 55 feet from the shore, and nearly in line between Station Brick and the Iroquois Church. It is intervisible with Reference Monuments 40-59, 42-59, and 43-59.

Triangulation Station BRICK lies in azimuth 270°15', distant 12.93 feet.

REFERENCE MONUMENT 42-59 (Ontario, Dundas County, 1959)-- On the Canadian side of the boundary, on Iroquois Dam. The monument is 2 feet from the Canadian end and 2 feet from the downstream edge of the contrete roadway across the dam. It is intervisible with Reference Monuments 41-59, 43-59, and 44-59. The reference monument consists of an International Boundary Commission reference monument

Zavikon Island.

International Bridge over the Rift.

tablet set flush in the concrete roadway.

REFERENCE MONUMENT 43-59 (New York, St. Lawrence County, 1959)-- On the United States side of the boundary, on Iroquois Dam. The monument is about 2 feet from the United States end, and 2 feet from the downstream edge of the concrete roadway across the dam. It is intervisible with Reference Monuments 41-59 and 42-59.

Triangulation Station DAM lies in azimuth 253°59', distant 288.05 feet.

REFERENCE MONUMENT 44-59 (New York, St. Lawrence County, 1959)-- On the United States side of the boundary, near the public lookout overlooking the upstream side of Iroquois Dam. The monument is 50 feet east of the center-line of the road leading to the lookout from Highway 37, and 11 feet south of the paved parking lot. It is intervisible with Reference Monument 42-59.

REFERENCE MONUMENT 45-59 (New York, St. Lawrence County, 1959, 1960) On the United States side of the boundary, on the property of New York State Power Authority between Highway 37 and the river. The monument is about 2 miles upstream from the Iroquois Dam, and directly opposite the channel light on the south shore of Toussaint Island. It is about 10 feet north of the property of Mr. Roda of the Roda Lumber Company, and east of, but near, the fence which extends beyond the westerly boundary of Mr. Roda's property to the river. It is intervisible with Reference Monument 46.

REFERENCE MONUMENT 46 (Ontario, Dundas County, 1911, 1959) -- On the Canadian side of the boundary, about 2 miles east of the town of Cardinal, on the southern bank of the old Galop Canal, opposite Sparrowhawk Point. The monument is near the water's edge south of the road along the dyke. It is intervisible with Reference Monuments 45-59, and 47-59.

Triangulation Station 123 I.W.C. lies in azimuth 171°59', distant 39.74 feet.

REFERENCE MONUMENT 47-59 (New York, St. Lawrence County, 1959)-- On the United States side of the boundary on Lalone Island directly opposite the town of Cardinal. The monument is near the western end of the island, and about 100 feet south from the high bank along the river.

It is intervisible with Reference Monuments 46, 48-59 and 49-59.

Triangulation Station LALONE lies in azimuth 246°54', distant 23.84 feet.

REFERENCE MONUMENT 48-59 (Ontario, Grenville County, 1959)-- On the Canadian side of the boundary, about ¾ mile west of the town of Cardinal. On the old Galop Canal property adjoining that of Thomas Sismey. The monument is about 5 feet south of the northern limit of the Canal property, and about 30 feet north of the edge of the bank dropping off to the canal.

Triangulation Station SISMEY lies in azimuth 221°48', distant 25.52 feet.

REFERENCE MONUMENT 49-59 (Ontario, Grenville County, 1959)-- On the Canadian side of the boundary, about 1½ miles west of the town of Cardinal on the old Galop Canal property which was leased by a coal company. The monument is north of the old coal yard, and on top of the 25-foot high bank extending along the north side of the canal property. It is intervisible with Reference Monuments 47-59, 48-59 and 50.

Triangulation Station 129-Sub lies in azimuth 282°12', distant 43.24 feet.

REFERENCE MONUMENT 50 (Ontario, Grenville County, 1911)-- On the Canadian side of the boundary, on the eastern end of Adams Island, near the top of the high bank overlooking the boundary channel. The monument was found in good condition in 1959. It is intervisible with Reference Monument 49-59.

Triangulation Station ADAMS lies in azimuth 108°51', distant 252.52 feet.

REFERENCE MONUMENT 51-59 (Ontario, Grenville County, 1959) -- On the Canadian side of the boundary, on Drummond Island, east of the Johnstown-Ogdensburg International Bridge. The monument is near the northeast corner of the main part of the Island.

Triangulation Station DRUM lies in azimut 192°27', distant 41.80 feet.

REFERENCE MONUMENT 52-59 (Ontario, Grenville County, 1959)-- On the Canadian side of the boundary, about 1½ miles northeast of the town of Prescott, on Windmill Point. The monument is on top of the river bank, about 75 feet easterly of the Windmill Point Lighthouse.

Triangulation Station WINDMILL POINT lies in azimuth 56° 18', distant 84.81 feet.

REFERENCE MONUMENT 53 (New York, St. Lawrence County, 1911, 1961)-- On the United States side of the boundary, on the ferry dock at Ogdensburg, about 22 feet inland from the ferry entrance gangway. The monument is under the pavement 2 feet southeast of a line extended beyond the southeastern side of the gangway. The reference monument consists of International Boundary Commission bronze disk, 3 inches in diameter, set in the pavement.

REFERENCE MONUMENT 54 (Ontario, Grenville County, 1911, 1939, 1959)-- On the Canadian shore, about 1¼ miles southwest of Maitland, Ontario. The monument was found in good condition and painted white in 1959. With clearing of lines of sight, it is intervisible with the following marked triangulation stations; 149 Sub, station K, 148 Sub, 150 IW.C., Reference Monument 55, 152 Sub. and 146 Sub.

REFERENCE MONUMENT 55 (Ontario, Leeds County, 1911, 1939, 1959) --On Murray Island, on the Canadian side of the boundary. The monument was found in good condition and painted white in 1959. The reference monument is located on the same site as triangulation station 153 I.W.C. It is intervisible with the following marked triangulation stations; 151 I.W.C., 150 I.W.C., 152 Sub, 154 I.W.C. Standpipe-Morristown, Presbyterian Church spire, Brockville, Reference Monument 54, and 149 Sub.

REFERENCE MONUMENT 56 (Ontario, Leeds County, 1911, 1939, 1959) -- On the southwest point of Conran Island. The monument was found in good condition and painted white in 1959. It is intervisible with the following marked stations; 156 I.W.C., Taylor, Chapman, 159 I.W.C., Moulson, Halls Dock, 154 I.W.C., with some clearing of line of sight.

REFERENCE MONUMENT 57 (Ontario, Leeds County, 1911, 1939, 1959) -- On the southwestern end of Sheaffe Island. The monument was found in good condition and painted white in 1959. It is intervisible with the following marked triangulation stations; Taylor ecc., Halls Dock, Birch, Molly's Gut, Reference Monument 58.

REFERENCE MONUMENT 58 (Ontario, Leeds County, 1911, 1939, 1959)-- On the southern of the Twin Sisters Islands. The monument was found in good condition and painted white in 1959. It is intervisible with the following marked triangulation Stations; Taylor ecc., Chapman, Birch, 162 Sub, 163 Sub, 156 I.W.C., Reference Monument 57.

REFERENCE MONUMENT 59 (New York, St. Lawrence County, 1911, 1940, 1959)-- On the United States side of the boundary, on the western end of Oak Point. The monument was found in good condition and painted white in 1959. It is inter visible with marked triangulation stations; Oak Point, Whaleback U.S.L.S., 163 Sub, 162 I.W.C., 162 Sub, Reference Monument 59-50.

REFERENCE MONUMENT 59-50 (New York, St. Lawrence County, 1950)-- On the United States side of the boundary, about 7 miles southwest of Morristown, New York, on the western end of Oak Point, about 127 feet northerly of the site of Reference Monument 59, 52.6 feet from the southwestern corner and 51.9 feet from the southeastern corner of a green boathouse, about 7 feet from the shore and 3 feet above water level. The reference monument consists of a standard International Boundary Commission bronze-disk reference tablet, 3 inches in diameter, cemented in a hole drilled in bed rock.

REFERENCE MONUMENT 60 (New York, St. Lawrence County, 1911, 1940, 1959)-- On the United States side of the boundary on the western side of Middle Island, about 5/8 mile northwesterly of Chippewa Point. The monument was found in good condition and painted white in 1959. It is about 10 feet above the water in the river. It is intervisible with the following marked triangulation stations; Gull U.S.L.S., Griswold U.S.L.S., 168 I.W.C., 169 Sub.

REFERENCE MONUMENT 61 (Ontario, Leeds County, 1911, 1940, 1959)-- On the Canadian side of the boundary, about one mile northeast of the northeastern end of Grenadier Island, on the southeastern point of Peel Island. The monument was found in good condition and painted white in 1959. It is intervisible with the following marked triangulation stations; 170 Sub, 172 Sub.

REFERENCE MONUMENT 62 (Ontario, Leeds County, 1911, 1940, 1959)-- On the Canadian side of the boundary, about 3/8 mile off the southeastern shore of Grenadier Island, on the

eastern side of Round Island. The monument was found in good condition and painted white in 1959. It is intervisible with the following marked triangulation stations; 176 I.W.C., 177 I.W.C., Whiskey U.S.L.S.

REFERENCE MONUMENT 63 (Ontario, Leeds County, 1911, 1940, 1959)-- On the Canadian side of the boundary, about midway between Yeo and Deer Islands; on the eastern side of Aspasia Island. This is the site of the Zaviken estate of Mr. P. A. Castner. The monument was found in good condition and painted white in 1959. The monument was originally located from stations 178 I.W.C. and 179 I.W.C. Tree growth and shrubbery made it necessary to occupy the monument eccentrically in 1940. The eccentric station was marked and described.

REFERENCE MONUMENT 64 (New York, Jefferson County, 1911, 1940, 1959)-- On the United States side of the boundary, on the northwestern side of the extreme northeastern point of* Wells Island. The monument was found in good condition and painted white in 1959. It is located from the described and marked stations Club I.W.C., and Little I.W.C.

REFERENCE MONUMENT 65 (New York, Jefferson County, 1911, 1940, 1959)-- On the United States side of the boundary on the western side of the narrow northeastern end of Wells Island; about $\frac{1}{4}$ mile north of Westminster Park. The monument was found in good condition, and painted white in 1959. It is intervisible with the following marked triangulation stations Park I.W.C., Pole Sub, Club I.W.C.

REFERENCE MONUMENT 66 (Ontario, Leeds County, 1911, 1940, 1959)-- On the Canadian side of the boundary, on the point on the eastern end of Hill Island directly west of Westminster Park. The monument was found in good condition and painted white in 1959. On account of obstructed lines of sight, the monument was occupied eccentrically under the station name Mon, 18.90 meters from the monument in azimuth 261°54'. (See description of Mon.) Station Mon is intervisible with several other marked stations.

REFERENCE MONUMENT 67 (New York, Jefferson County, 1911, 1940, 1959)-- On the United States side of the boundary, on the northwestern side of Wells Island, near the foot of Lake of the Isles. The monument was found in good condition and painted white in 1959. It is intervisible with the following marked triangulation stations; Waterloo U.S.L.S., Isles, Chriss, Craft.

* Now called Wellesley

REFERENCE MONUMENT 68 (Ontario, Leeds County, 1911, 1940, 1959)-- On the Canadian side of the boundary, on the southwestern end of the most southern point of Hill Island. The monument was found in good condition and painted white in 1959. It is intervisible with Reference Monument 69 and with several marked triangulation stations.

REFERENCE MONUMENT 69 (New York, Jefferson County, 1911, 1940, 1959)-- On the United States side of the boundary, on the northern side of Wells Island, about $\frac{1}{4}$ mile north or upstream from the lower end of "The Rift" channel. The monument was found in good condition and painted white in 1959. It is intervisible with Reference Monument 68 and with several marked triangulation stations.

REFERENCE MONUMENT 70 (Ontario, Leeds County, 1911, 1940, 1959)-- On the Canadian side of the boundary, on the southern point of the largest island lying between Wells and Hill Islands. The monument was found in good condition and painted white in 1959. It is intervisible with Reference Monument 71 and with several marked triangulation stations.

REFERENCE MONUMENT 71 (Ontario, Leeds County, 1911, 1940, 1959)-- On the Canadian side of the boundary, on the southern side of Hill Island; on the northern extension of the center line of the international span of the Thousand Island Bridge across the St. Lawrence River, and within the roadway. In 1937 a 3-foot square pillar of concrete was built around the monument to the height of the level of the roadway about 8 inches above the top of the monument, and the center point of the monument was marked on the top of the concrete pillar by a small bronze disk inscribed "MONUMENT 71."

In 1940 the bronze disk was found covered with about 6 inches of black-top pavement surfacing. The disk was referenced by two lead plugs set in $\frac{1}{4}$-inch drill holes in the sidewalk, one on each side of the bridge, and on a straight line passing through them and the bronze disk marking the monument between them. The western plug is one foot from the stone wall and 1.8 feet from the northern end of the sidewalk. It is 18.01 feet west of the disk marking the monument. The eastern plug is 1.5 feet from the stone wall and 2.15 feet from the northern end of the sidewalk. It is 17.57 feet east of the disk marking the monument. The monument is intervisible with Reference Monument 70 and Reference Monument 72.

REFERENCE MONUMENT 72 (New York, Jefferson County, 1911, 1940, 1959)-- On the United States side of the boundary, on the northern side of Wells Island at the narrowest part of "The Rift"; about 3/8 mile southeast of the most western point of Hill Island. The monument was found in good condition and painted white in 1959. It is intervisible with Reference Monument 71 and Reference Monument 73.

REFERENCE MONUMENT 73 (Ontario, Leeds County, 1911, 1940, 1959)-- On the Canadian side of the boundary, on the southern end of the island directly east of Lindoe Island, and ¼ mile west of the most western Point of Hill Island. The monument was found in good condition and painted white in 1959. It is intervisible with Reference Monument 72 and Reference Monument 74.

REFERENCE MONUMENT 74 (New York, Jefferson County, 1911, 1940, 1959)-- On the United States side of the boundary, on the northwestern shore of Wells Island, and directly opposite Bingham Island. The monument was found in good condition and painted white in 1959. It was located from station Reference Monument 744 ecc. The monument is intervisible with Reference Monument 73.

REFERENCE MONUMENT 75 (New York, Jefferson County, 1911, 1940, 1959)-- On the United States side of the boundary, on the northwestern side of Wells Island, directly north of Grand View Park. The monument was found in good condition and painted white in 1959. It is intervisible with the following marked triangulation stations; Row I.W.C., Sir I.W.C., Spil Sub.

REFERENCE MONUMENT 76 (New York, Jefferson County, 1911, 1940, 1959)-- On the United States side of the boundary, on the northern side of Grindstone Island about 1½ miles southwest of the most northeasterly point of the island. The monument was found in good condition and painted white in 1959. It is intervisible with Reference Monument 77 and with several marked triangulation stations.

REFERENCE MONUMENT 77 (Ontario, Leeds County, 1911, 1940, 1959)-- On the Canadian side of the boundary, on the southwestern side of Netly Island, a small island about 300 meters off the northern shore of Grindstone Island. The monument was found in good condition and painted white in 1959. It is intervisible with Reference Monument 76 and Reference Monument 78 and with several marked triangulation stations.

REFERENCE MONUMENT 78 (New York, Jefferson County, 1911, 1940, 1959)-- On the United States side of the boundary, on the northern side of Grindstone Island, and opposite Deathdealer Island. The monument was found in good condition and painted white in 1959. It is intervisible with Reference Monument 77 and with marked triangulation station Death I.W.C. and Dock I.W.C.

REFERENCE MONUMENT 79 (New York, Jefferson County, 1911, 1940, 1959)-- On the United States side of the boundary, on the northeastern end of a small island about midway between Jolly and Gig Islands. The monument was found in good condition and painted white in 1959. On account of obstructed lines of sight the monument was occupied eccentrically. The eccentric station is marked and described.

REFERENCE MONUMENT 80 (New York, Jefferson County, 1911, 1940, 1959)-- On the United States side of the boundary, on a small island about $\frac{1}{2}$ mile south of the southern end of Stone Island. The monument was found in good condition and painted white in 1959. It is intervisible with the marked triangulation station 194 I.W.C., and 195 Sub.

REFERENCE MONUMENT 81 (Ontario, Leeds County, 1911, 1940, 1959)-- On the Canadian side of the boundary, about midway between Wolfe and Grindstone Islands, on the southeastern side of Arabella Island. The monument was found in good condition and painted white in 1959. It is intervisible with marked triangulation stations Finis Sub and 187 Sub.

REFERENCE MONUMENT 82 (Ontario, Frontenac County, 1911, 1940, 1959)-- On the Canadian side of the boundary, on the southeastern side of Wolfe Island, about 1 mile southwest of the eastern end of the island. The monument was found in good condition and painted white in 1959. It is intervisible with marked triangulation station 200 Sub.

REFERENCE MONUMENT 83 (Ontario, Frontenac County, 1912, 1940, 1959)-- On the Canadian side of the boundary, on the southeastern side of Wolfe Island, about 2 miles southwest of the eastern end of the island. The monument was found in good condition and painted white in 1959. It is intervisible with marked triangulation station 200 Sub, and 202 I.W.C.

REFERENCE MONUMENT 84 (Ontario, Frontenac County, 1912, 1940, 1959)-- On the Canadian side of the boundary, on the southern side of Wolfe Island, about $3\frac{3}{4}$ miles northwest of

the eastern end of the island. The monument was found in good condition and painted white in 1959. It is intervisible with marked triangulation stations 202 I.W.C. and 204 I.W.C.

REFERENCE MONUMENT 85 (Ontario, Frontenac County, 1912, 1940, 1959)-- On the Canadian side of the boundary, on the southern side of Wolfe Island, opposite the northern point of Carleton Island. The monument was renewed in 1959. The center point is now marked by a standard bronze disk reference monument tablet. It is intervisible with Reference Monument 86.

REFERENCE MONUMENT 86 (Ontario, Frontenac County, 1912, 1940, 1959)-- On the Canadian side of the boundary, on the southern side of Wolfe Island, nearly north of the western end of Carleton Island. The monument was renewed in 1959. The center point is now marked by a standard bronze disk reference monument tablet. It is intervisible with Reference Monument 85.

REFERENCE MONUMENT 87 (Ontario, Frontenac County, 1912, 1940, 1959)-- On the Canadian side of the boundary, on the eastern end of Hinkley Point on Wolfe Island. The monument was found in good condition and painted white in 1959. It is intervisible with marked triangulation stations 219 I.W.C. and Tibbetts Point Light.

REFERENCE MONUMENT 88 (Ontario, Frontenac County, 1912, 1940, 1959)-- On the Canadian side of the boundary, on the southeastern side of Bear Point on Wolfe Island. The monument was found in good condition and painted white in 1959. It is intervisible with marked triangulation stations Tibbetts Point Light, 223 I.W.C., and Bear Point U.S.L.S.

DESCRIPTIONS OF INTERNATIONAL BOUNDARY MONUMENTS AND OTHER MARKS

EAST TABLET, Cornwall Bridge, 1960-- On the international boundary across the Cornwall-Rooseveltown bridge, on the downstream side of the suspension bridge, about 55 feet southerly of the northern main pier. The mark consists of a standard 12-by 18-inch bronze bridge tablet fastened to the main steel girder.

WEST TABLET, Cornwall Bridge, 1960-- On the international boundary across the Cornwall-Rooseveltown bridge, on the upstream side of the suspension bridge opposite East Tablet. The mark consists of a standard 12-by 18-inch bronze bridge tablet fastened to the main steel girder.

SOUTHEAST TABLET, Moses-Saunders Dam, 1959-- On the international boundary across the upper deck of the Moses-Saunders Dam. The monument is 2.24 feet westerly of the base flange of the downstream rail upon which the crane operates, and 0.4 feet northerly of the socket of a rail post. It is on line between Reference Monuments 10 and 11. The monument consists of an International Boundary Commission line tablet set flush with the concrete deck.

NORTHWEST TABLET, Moses-Saunders Dam, 1959-- On the international boundary across the upper deck of the Moses-Saunders Dam. The monument is 4.62 feet westerly of the base flange of the upstream rail upon which the crane operates, and 2.5 feet easterly of the western edge of the concrete. The distance between the two line tablets is 44.36 feet. The monument consists of an International Boundary Commission line tablet set flush with the concrete deck.

NORTH TABLET, Iroquois Dam, 1959-- On the international boundary across the Iroquois Dam. The monument is 2 feet from the downstream edge of the concrete and on the line between Reference Monuments 42 and 43. The distance to Reference Monument 42 is 191.21 feet. The monument consists of an International Boundary Commission line tablet set flush with the concrete deck.

SOUTH TABLET, Iroquois Dam, 1959-- On the international boundary across the Iroquois Dam. The monument is about 2 feet from the wall along the upstream edge of the concrete roadway, and 21.15 feet from the North Tablet. The monument consists of an International Boundary Commission line

tablet set flush with the concrete deck.

EAST TABLET, Ogdensburg Bridge, 1960-- On the international boundary across the Ogdensburg-Johnstown bridge. The mark consists of a standard 12-by 18-inch bronze bridge tablet fastened to the downstream railing of the bridge.

JOHN, 1960-- On the international boundary across the Ogdensburg-Johnstown bridge. It is on the narrow concrete strip along the downstream side of the bridge, 0.46 feet from East Tablet. The mark consists of a standard international boundary line tablet set flush in the concrete.

CHLM, 1960-- On the international boundary across the Ogdensburg-Johnstown bridge. It is on the concrete sidewalk along the upstream side of the bridge, distant 2.13 feet from West Tablet. The mark consists of a standard international boundary line tablet set flush in the concrete.

WEST TABLET, Ogdensburg Bridge, 1960-- On the international boundary across the Ogdensburg-Johnstown bridge. The mark consists of a standard 12-by 18-inch bronze bridge tablet fastened to the upstream railing of the bridge.

EAST TABLET, Eastern Span, The Rift Bridge, 1959-- On the international boundary across the eastern span of the Rift Bridge, near the United States end of the span. The mark consists of a standard 12-by 18-inch bronze bridge tablet set in the cut stone wall along the downstream side of the eastern span.

WEST TABLET, Eastern Span, The Rift Bridge, 1959-- On the international boundary across the eastern span of the Rift Bridge, near the center of the span. The mark consists of a standard 12-by 18-inch bronze bridge tablet set in the cut stone wall along the upstream side of the eastern span.

EAST TABLET, Western Span, The Rift Bridge, 1937-- On the international boundary across the western span of the Rift Bridge, near the center of the span. The mark consists of a standard 12-by 18-inch bronze bridge tablet set in the cut stone wall along the downstream side of the western span.

WEST TABLET, Western Span, The Rift Bridge, 1937-- On the international boundary across the western span of the Rift Bridge, near the center of the span. The mark consists of a standard 12-by 18-inch bronze bridge tablet set in the cut stone wall along the upstream side of the western span.

DESCRIPTIONS OF TRIANGULATION STATIONS

The following descriptions of triangulation stations are based primarily on surveys carried out by the International Boundary Commission. Although many stations established by the International Waterways Commission are listed on the following pages, their descriptions were not available until prepared during the International Boundary Commission surveys of 1938 to 1940. Many additional stations were established during the surveys of those years and during surveys in more recent years. A number of triangulation stations of the United States Lake Survey have been incorporated into the Boundary Commission scheme of triangulation. Descriptions of these stations are based on Lake Survey information updated during more recent surveys by the International Boundary Commission.

Following the name of the station will be found, in parenthesis, the general location of the station together with the year of establishment and the succeeding years in which the station has been recovered.

AIRIS - U.S.L.S. (Quebec, Huntingdon County, 1954, 1959)-- On a small knoll near the western tip of St. Regis Island. The station is about 19 feet from the water's edge and about 12 feet above the surface of the water.

Station Mark: A United States Lake Survey standard bronze disk set in a 6-inch cylinder of concrete 30 inches in length. Reference Mark 1 is a survey station mark southwesterly 16.2 feet; Reference Mark 2 is a blaze in a 24-inch oak tree southeasterly a distance of 78 feet; Reference Mark 3 is a blaze in a 12-inch ash tree easterly a distance of 70.4 feet; Reference Mark 4 is a blaze in a 13-inch oak tree northeasterly a distance of 89.7 feet.

MONUMENT 774 (1902,1923,1938,1959)-- On the 45th Parallel boundary line between Quebec and New York, about 50 feet east of the St. Lawrence River. The monument is in cultivated land about 25 feet north of a wire fence running down to the river. It is one of the standard granite monuments marking the boundary along the 45th Parallel boundary. It was found slightly out of plumb in 1959.

BOOTS (Ontario,Stormont County, 1959)-- On the southeast point of Cornwall Island. On the St. Lawrence Seaway Authority property adjacent to that of Peter Boots. About $3\frac{1}{2}$ feet east of a N-S fence running along the western boundary of the property of Peter Boots to the river. About 37

feet from the top of the river bank and about 282 feet westerly from Seaway Light No. 2.

Station Mark: An I.B.C. standard bronze disk station mark set flush with the ground in the top of a cylinder of concrete 6 inches in diameter. The subsurface mark is a screw set in a cylinder of concrete 6 inches in diameter and two feet below the surface of the ground. The station is referenced by International Boundary Reference Monument 2-59 which lies in azimuth 117°09', distant 48.15 feet.

TWAIN (New York, Franklin County, 1938, 1959)-- This station supersedes station 2-I.B.C. It is on the south bank of the St. Lawrence River on the prominent point of the shore line just below the mouth of the Raquette River in the northwest corner of an open pasture, and a few paces east of a fence line that separates the pasture from a cultivated field.

Station Mark: An International Boundary Commission standard bronze disk station mark set flush with the ground in the top of a concrete cylinder 9 inches in diameter and 30 inches in depth. The subsurface mark is a brass screw set in a circular block of concrete 30 inches underground. Reference mark No. 1 is a drill hole in a round black rock 2 feet in diameter embedded in the ground about 20 feet back from the edge of the high bank of the river. Reference Mark No. 2 is a drill hole in a black rock about 2 by $2\frac{1}{2}$ feet in size embedded in the ground about 16 feet back from the edge of the high bank of the river. Reference Monument 3-59 lies in azimuth 356°28', distant 56.30 feet.

MOTT (New York, Franklin County, 1938, 1959)-- It is in the St. Regis Indian Reservation, on the south bank of the St. Lawrence River about $1\frac{1}{4}$ miles east of the Rooseveltown-Cornwall International Bridge. It is on the farm of Angus Tarbell, at the north edge of a field, and about 6 feet from the edge of the high bank of the river. It is about 25 feet above the level of the water, about 70 feet east of a small gully, and 50 feet east of a fence.

Station Mark: An International Boundary Commission standard bronze disk station mark set flush with the ground in the top of a cylinder of concrete 9 inches in diameter and 30 inches in depth. The subsurface mark is a brass screw set in a circular block of concrete 30 inches underground. Directions and distances to references are as follows:

Object	Distance	Direction
Reference Monument 4		0° 00' 00".0
St. Regis Church		45 12 37
Large elm tree	190 feet	72 33
NE corner of house under two willow trees	370 feet	89 19

McCREE (New York, Franklin County, 1959)-- About one mile east of the international bridge, on the top and towards the eastern end of the large pile of dredged fill. In line with the farm road running northward to the southern base of the pile of fill. The station is 29 feet from the edge of the third level of fill from the river. The station was roughly fenced off. Reference Mark 1, consisting of a standard International Boundary Commission reference mark tablet set in a six-inch cylinder of concrete, was placed on the line from Reference Monument 5 to McCree extended southward a distance of 162.54 feet. Reference Mark 2, of similar design was placed on the line from a lone smoke stack in east Cornwall to McCree extended southward a distance of 72.30 feet.

Station Mark: An International Boundary Commission standard bronze disk station mark set flush with the ground in the top of a cylinder of concrete 6 inches in diameter. The subsurface mark is a screw set in a cylinder of concrete 6 inches in diameter and two feet below the surface of the ground.

WATT (Ontario, Stormont County, 1959)-- On the new International Bridge, on the central span about 5.95 feet south of the southern edge of the northern main pier. It is near the southwest corner of a metal cover on the sidewalk which is along the downstream side of the bridge. The station is located about the middle of the sidewalk. The position of this station may shift slightly due to movement of the span.

Station Mark: An International Boundary Commission standard bronze disk station mark set flush with the surface of the conrete sidewalk.

ANDORA (New York, St. Lawrence County, 1959)-- On the new International Bridge, on the central span about 7.15 feet north of the northern edge of the southern main pier. It is between two metal covers on the sidewalk which is along the downstream side of the bridge. The station is located about the middle of the sidewalk. The position of this station may shift slightly due to movement of the span.

Station Mark: An International Boundary Commission standard bronze disk station mark set flush with the surface of the concrete sidewalk.

12-I.W.C. (New York, St. Lawrence County, 1938, 1959)-- About 500 feet south of the south bank of the St. Lawrence River, about 228 feet west of the first concrete bridge pier north of the railway track, and about 69.5 feet north

of the north rail of the railway track. The station is fenced off on rocky ground badly grown up with thorn bushes.

Station Mark: An International Boundary Commission standard bronze disk station mark set flush with the ground in the top of a cylinder of concrete 9 inches in diameter and 28 inches in depth. The subsurface mark is a brass screw set in the top of a circular block of concrete 28 inches underground. The station is referenced by a drill hole in a rock 2 feet in diameter nearly flush with the ground in azimuth 288°17', distant about 8.9 feet. Reference Monument 7-59 lies in azimuth 139°12', distant 55.73 feet.

MASSENA POINT - U.S.L.S. (New York, St. Lawrence County, 1872, 1959)-- On Massena Point; about $\frac{1}{4}$ mile west of Polly's Gut, about 1200 feet southeast of the St. Lawrence River, about 700 feet north of the old road leading to the point, and about 700 feet west of the woods on the point. The station is located on rocky ground overgrown with hawthorne trees.

Station Mark: A subsurface mark consisting of a center hole in a triangle cut in a 10-by 10-inch limestone set 2 feet underground. A surface mark was established in 1958, consisting of an International Boundary Commission standard bronze disk station mark set in a concrete post over the station with the top about 3 inches above ground. Reference Mark 1 is a $\frac{3}{4}$-inch drill hole in a 3-by 3-foot boulder, 16.8 feet southeasterly of the station. Reference Mark 2 is a $\frac{3}{4}$-inch drill hole in a 2-by 2-foot boulder, 11.4 feet northwesterly of the station. Reference Mark 3 is a nail in a blaze on a 19 inch hickory tree, 110.2 feet northeasterly of the station. Reference Mark 4 is a nail in a blaze on a 10 inch hickory tree 147.9 feet west-northwesterly of the station.

17-U.S.L.S. (New York, St. Lawrence County, 1872, 1959)-- On the United States mainland across from the Moses-Saunders Power Dam. The station is near the top of a knoll and about 600 feet from the river, 490 feet south of the River Road, 165 feet easterly of an old farm building site, and 130 feet south-westerly of a fence along the westward side of a road leading to the river.

Station Mark: The original station mark was replaced in 1958 by an International Boundary Commission standard bronze disk set in a 5-inch cylinder of concrete 27 inches underground. The surface mark is a similar station mark set with the top 3 inches above the surface of the ground. Reference Mark 1, is a U.S.L.S. metal tablet set in concrete

near the end of the old fence line, and 85.7 feet southwesterly of the station. The arrow on the reference tablet points about 30 degrees to the right of the station. Reference Mark 2, is an old well pump distant 127.9 feet southwesterly of the station. Reference Mark 3, is a $\frac{3}{4}$ inch drill hole in a boulder 8-by 5-by 2-feet, distant 138.0 feet southerly of the station. Reference Mark 4, is a $\frac{3}{4}$ inch drill hole in a flat rock 4-by 5-feet, distant 115.1 feet southeasterly of the station.

DAM - C.H.S. (Ontario, Stormont County, 1958, 1959)-- On Moses-Saunders Dam about midway between Reference Monument 11 and the boundary markers. It is on the upper level, about on line with the upstream sides of the hatches, and near the southwestern corner of one of them.

Station Mark: A Canadian Hydrographic Service disk station mark set flush with the surface of the concrete deck.

TANK - MOSES-SAUNDERS (New York, St. Lawrence County, 1959) -- Near the Moses-Saunders Power Dam. The small light, on a spike, on the top of the tank near the United States end of the dam.

FREEGO-U.S.L.S. (New York, St. Lawrence County, 1954)-- Along the North Grass River Road, about one mile from Snell Locks, on the farm of Kenneth Freego. The station is about 900 feet northwesterly of the farmhouse on the highest point of a pasture. Not recovered in 1960, probably lost.

Station Mark: A United States Lake Survey standard bronze triangulation disk set in a 6-inch cylinder of concrete 30 inches in length. There is no sub-surface mark. Reference Mark 1 is a 6-by 6-by 4-foot high boulder on a magnetic bearing of 318°, distant 188 feet. Reference Mark 2 is a nail in a blaze on a 16-inch maple tree on a magnetic bearing of 350°, distant 113.9 feet. Reference Mark 3 is a nail in a blaze on a 23-inch maple on a magnetic bearing of 50°, distant 148.6 feet. The azimuth to additional references are:

Object	Azimuth		
Azimuth mark	309°	43'	23"
Radio mast (Massena South)	39	05	08
Trans. Tower, s'ly of 2	122	06	10

HULBURD - U.S.L.S. (New York, St. Lawrence County, 1954)-- From the intersection north of the Eisenhower Locks, east about three miles to a gravel road, southerly along the gravel road 0.4 miles. Walk easterly about 380 feet to the highest part of the pasture.

Station Mark: A United States Lake Survey standard bronze triangulation disk set in a 6-inch cylinder of concrete 30 inches in length. There is no sub-surface mark. Reference Mark 1 is a nail in a blaze on a 24-inch elm tree northerly of the station distant 63.5 feet. Reference Mark 2 is a similar mark on a 12-inch maple northeasterly distant 76.9 feet. The station was reported lost in 1959. The azimuth and distances to additional references are:

Object	Azimuth	Distance
Azimuth Mark	158° 56' 31"	1350.8 feet
Howard Smith Co. stack	242 58 04	
Black thin stack (alcoa)	63 03 28	
Provincial Paper Co. stack	158 11 15	

LAWRENCE-U.S.L.S.(New York, St. Lawrence County, 1954,1960)-- About 1½ miles west of Snell Locks, on the west side of a gravel road leading northward from the road along the north side of the Grass River to Snell Locks. The station is on the highest spot in an old pasture about 600 feet north of G.W. See's building, and 112.4 feet west of the western fence along the gravel road. There is a low bushy tract just west of the station.

Station Mark: A United States Lake Survey triangulation disk set flush with the ground in the top of a 6-inch cylinder of concrete 30 inches in length. The tablet is marked "U.S.L.S. Lawrence, 1954" There is no subsurface mark. Reference Mark 1- is a nail in a triangular blaze on a 26-inch maple tree located in the western road fence line northeasterly of the station distant 122 feet. Reference Mark 2 - is a similar mark on a 12-inch maple tree located westerly of the station distant 107.5 feet. Reference Mark 3 - is a U.S.L.S. disk set in a 6-inch cylinder of concrete, southerly of the station, distant 840.6 feet. It is 2 feet south of an east-west fence, 528 feet from the center of the gravel road, and 124.5 feet easterly of a blaze on a 16-inch maple tree.

LAMPING-U.S.L.S. (New York, St. Lawrence County, 1954)-- Along the Donahue Road, just east of Massena Center. The station is located in a swampy pasture about 300 feet from the road and near the Kellison Farm. The station was not recovered in 1959.

Station Mark: A United States Lake Survey standard bronze triangulation disk set in a 6-inch cylinder of concrete 30 inches in length. There is no sub-surface mark. Reference Mark 1 is a 8-by 5-by 3-foot high pink granite boulder on a magnetic bearing of 50°, distant 230 feet. Reference Mark 2 is a nail in a blaze on a 31-inch elm tree on a magnetic bearing of 75°, distant 204 feet. Reference Mark 3 is a similar mark on a 23-inch elm on a magnetic bearing of 115°, distant 179.6 feet. Reference Mark 4 is a blaze in a 19-inch elm near the road on a magnetic bearing of 239°, distant 319 feet. The azimuth and distances to additional references are:

Object	Azimuth	Distance
Azimuth Mark	209° 19' 25"	764.8 feet
Black thin stack (Cornwall)	236 24 36	

DIXON-U.S.L.S. (New York, St. Lawrence County; 1954, 1959) About one mile east of the Eisenhower Locks, and north of the lower end of Robinson Creek. It is 378 feet southerly of the old abandoned, river road, which is now being planted to trees. The station is on the highest point of an old rocky pasture overgrown with hawthorne trees. Many surface rocks lie to the north and west of the station.

Station Mark: A United States Lake Survey bronze tablet set flush with the ground in a 6-inch cylinder of concrete 30 inches long. The tablet is marked "U.S.L.S., Dixon, 1954". There is no sub-surface mark. Reference Mark 1 is a nail in a triangular blaze on a 30-inch maple, southerly of the station, distant 169.4 feet. Reference Mark 2 is a bronze disc set in a 6-inch cylinder of concrete 30 inches in length, near the corner of a fence at the southern side of the old road, and easterly of a blazed 24 inch maple tree, distant 32.7 feet. The reference disc is northeasterly of the station, distant 414.6 feet.

SUTTON-U.S.L.S. (New York, St. Lawrence County, 1954)-- Along the St. Lawrence River Road about $2\frac{1}{2}$ miles along Dodge Road which is south of Eisenhower Locks, about 0.35 miles southward from Middle Road, near the residence of Mr. W. C. Palmer on the east side of the road. The station is near the top of the gentle rise about 130 feet beyond the garage. The station was reported lost in 1959.

Station Mark: A United States Lake Survey standard bronze triangulation disk set in a 6-inch cylinder of concrete 30 inches in length. There is no sub-surface mark.

Reference Mark 1 is a nail in a blaze on a utility pole on a magnetic bearing of 345°, distant 204.9 feet. Reference Mark 2 is a similar mark on a 10-inch elm tree on a magnetic bearing of 36°, distant 143.5 feet. Reference Mark 3 is the corner of the fence near the rear of the garage, distant 58.7 feet. Reference Mark 4 is the northeastern corner of the garage, distant 132.3 feet. The azimuth and distances to additional references are:

Object	Azimuth	Distance
Azimuth Mark	342° 48' 13"	1535 feet
Black thin stack (alcoa)	79 59 41	
Transmission tower, 1st E. of the road	164 33 54	
Water tank (alcoa)	83 35 50	

HORTON-U.S.L.S. (New York, St. Lawrence County, 1954)--Along the Dodge Road, about one-half mile southwest of Eisenhower Locks. About 0.8 miles north of Middle Road, on the Horton Farm, on a slight rise 282.6 feet east of the center line of the road.

Station Mark: A United States Lake Survey standard bronze triangulation disk set in a 6-inch cylinder of concrete 30 inches in length. There is no sub-surface mark. Reference Mark 1 is a nail in a blaze on a 16-inch maple tree northerly of the station, distant 240.9 feet. Reference Mark 2 is a similar mark on a 17-inch maple easterly of the station, distant 201.9 feet. The station was reported lost in 1959. The azimuth and distances to additional references are:

Object	Azimuth	Distance
Azimuth Mark	23° 50' 50"	409.6 feet
Black thin stack (alcoa)	44 02 55	
Transmission tower n'ly of 4	232 35 20	
N'ly of 2 identical stacks	36 11 32	

32-I.W.C. (New York, St. Lawrence County, 1910, 1938, 1959)--On Barnhart Island, near the northern point about midway along the island. The station is about 700 feet south of the water's edge at the point, and about 300 feet northerly of the nearby parking lot and resort building.

Station Mark: An International Boundary Commission standard bronze-disk station mark set in a drill hole on a flat topped boulder 6-by 6-by 2-feet high. There is no sub-surface mark. Reference Mark 1, is a drill hole and cross on the southerly side of a 2-by 2-by 1-foot high rock, in azimuth 174° 56', distant 23.31 feet. Reference Mark 2 is a similar mark on a 5-by 3-by 2-foot high rock

in azimuth 233° 14', distant 55.37 feet. Reference Monument 12-59 lies in azimuth 202° 32', distant 610.6 feet.

HART-C.H.S. (New York, St. Lawrence County, 1958, 1959)-- On the most northerly point of Barnhart Island, about 75 feet from the water's edge at the point. It is northerly from a large parking area and a new recreation building.

Station Mark: A steel pin in a concrete post. Reference Mark 1 is a 1-inch drill hole $\frac{1}{2}$-inch deep in a greyish black rock 5-by 3-by 2-foot high, south-southwesterly of the station, distant 98.7 feet. Reference Mark 2 is a $\frac{3}{4}$-inch drill hole $\frac{3}{4}$-inch deep in a 3-by 3-by 3-foot high rock near the water's edge on the point, distant 99.3 feet. Reference Monument 12-59 lies in azimuth 19° 17', distant 68.55 feet.

DYKE-C.H.S. (Ontario, Stormont County, 1958, 1959)-- On the dyke along the Canadian shore upstream from the Moses-Saunders Dam. The station is about 600 feet from the upstream end of the dyke, and is on top of the lake slope of the dyke.

Station Mark: A Canadian Hydrographic Service brass tablet set in a cylinder of concrete with its top 4 inches below the surface of the ground. The tablet is numbered 3900. The station is referenced by an arrow on a rock pointing towards the station. The rock is 2-by $2\frac{1}{2}$-feet by 8 inches high, located halfway down the lake slope of the dyke.

27-U.S.L.S. (Stormont County, Ontario, 1872, 1934, 1959) -- Near the center of Sheek Island. It is on top of a rise in a boulder-strewn pasture; 115 feet N of the N side of a woods, 47.4 feet NW of a $\frac{3}{4}$-inch drill hole in a 3-by 4-by $2\frac{1}{2}$-foot high boulder, and 54.5 feet E of a metal tablet set in a 5-by 6-by $1\frac{1}{2}$ foot high boulder bearing the name "U. S. LAKE SURVEY" and an arrow which points to the station. The station mark is the 3/8 inch center hole of a triangle cut in a field stone set $1\frac{1}{2}$ feet below the ground. The surface mark is the 3/8 inch center hole of a triangle cut in a 4-by 4-by 16-inch long stone centered over the station flush with the ground.

CHARLES - (New York, St. Lawrence County,1959)-- On Barnhart Island, on the first point east of the park on the northwestern corner of the island. The station is about 25 feet west of the line of the old rock fence leading to the old road, and about 60 feet east to the end of the vegetation near the lake. An 8-inch birch tree is about 12 feet

northerly of the station.

Station Mark: An International Boundary Commission standard bronze disk station mark set in a rock 2-by 2 feet in area and about 4 inches above ground level. Reference Mark 1, is a $\frac{3}{4}$-inch drill hole $\frac{1}{2}$-inch deep in a rock 3-by 3-by $1\frac{1}{2}$-feet high, northerly towards the point, distant 35.37 feet. Reference Mark 2 is a similar mark in a rock 2-by 3-by $\frac{1}{2}$-foot high, in an easterly direction, distant 11.88 feet. Reference Monument 14, lies in azimuth 0° 05', distant 564.0 feet.

SHEEK (Ontario, Stormont County, 1959)-- On Sheek Island, near the eastern side of the ridge extending into the southern point of the island. The station is about 350 feet from the water's edge on the eastern and southeastern sides of the point, and about 150 feet easterly of the highest ridge on the point. It is located in a group of rocks. A group of 4 maples lie westerly about 150 feet.

Station Mark: An International Boundary Commission standard bronze disk station mark set in a drill hole in a rock. Reference Mark 1 is a drill hole $\frac{1}{2}$-inch deep in a rock 3-by 2-by 1-foot high, in an easterly direction, distant 11.25 feet. Reference Monument 13-59 lies in azimuth 51°30', distant 45.02 feet.

LONG (New York, St. Lawrence County, 1959)-- On the northeastern corner of the northern point of the easterly island formed by the flooding of Long Sault Island. The station is about 40 feet outside the line of bushes, and about 45 feet southward of a rock 3-by 2-by 1-foot high.

Station Mark: An International Boundary Commission standard bronze-disk station mark set flush with the surface in the top of a cylinder of concrete 5 inches in diameter. The sub-surface mark consists of an iron bolt set in a 6-inch cylinder of concrete two feet below the surface of the ground. The station is referenced by International Boundary Commission Reference Monument 16-59, which lies in azimuth 357° 43', distant 16.71 feet.

EAST FILL (New York, St. Lawrence County, 1959)-- About the middle of the most eastern island formed by the flooding of Long Sault Island. On top of the fill near the southern end of the bay along the northern shore of the island. It is about midway between woods on either end of the island. The station was not marked.

WEST FILL-C.H.S. (New York, St. Lawrence County, 1959)-- On Long Sault Island, on the high fill at the eastern end of the main island, and south of the cut channel between the two high fills.

Station Mark: A Canadian Hydrographic Service brass tablet set in a cylinder of concrete flush with the surface of the ground. The tablet is stamped 3917-1959.

RUSHFORD-U.S.L.S. (New York, St. Lawrence County, 1954,1960) On an island in Lake St. Lawrence about one mile southwestward from Long Sault Dam, and northerly of the northern Alcoa Aluminum buildings. The station is on the highest spot in an old boulder-strewn pasture, about 500 feet north of the southern end of the island.

Station Mark: A United States Lake Survey bronze tablet set flush with the ground in a 6-inch cylinder of concrete 30 inches in length. The tablet is marked "U.S.L.S., Rushford, 1954". There is no sub-surface mark. Reference Mark 1, is a nail in a blaze on a 30 inch hickory tree, northerly of the station, distant 155.3 feet. Reference Mark 2 is a similar mark on a 10 inch elm tree in a stone fence easterly of the station, distant 135 feet.

ALCOA-U.S.L.S. (New York, St. Lawrence County, 1954, 1960) --About $2\frac{1}{2}$ miles northwest of Massena, New York on the eastern side of Hopson's Bay, and north of the Alcoa Aluminum northern plant. The station is in low vegetation about 110 feet northwestward from the center of the dyke east of the Bay, about 150 feet east of the water in the Bay, about 135 feet east of the top of the gradually sloping bank and about 300 feet east-northeasterly of the point where the dyke leaves the new river road.

Station Mark: A United States Lake Survey bronze tablet set flush with the ground in a 6-inch cylinder of concrete 30 inches in length. The tablet is marked "U.S.L.S. Alcoa, 1954". There is no subsurface mark.

TANK-LONG SAULT (Ontario, Stormont County, 1959)-- Near the town of Long Sault, Ontario. The station is the knob on the apex of the town water tank.

TANK (New York, St. Lawrence County, 1959, 1960)-- About one mile east of the intake of the Massena Power Canal, on the point of land north of the Esso Oil Tanks. The station is north of the River Road, about 30 feet east of the top of a high bank and about 50 feet south of the high bank of the Long Sault Canal. A dirt road leads past the station around the east side of the storage tanks.

Station Mark: A spike set in a concrete post flush with the surface of the ground. Reference Mark 1 is Canal Light number 45, which is northeasterly of the station, distant 1124 feet. Reference Mark 2 is a drill hole in a 3-by 2-by 1-foot high boulder on the high bank, distant 28.00 feet.

MOHAWK-U.S.L.S. (New York, St. Lawrence County, 1954, 1959) -- Near the River Road about 2.3 miles eastward from the bridge across the Massena Power Canal. The station is on the old Mohawk farm, and about 150 feet south of the dyke. The old farm driveway and building foundations were still visible in 1959. The station was 80 feet northerly of the northeastern corner of the most northern shed. It is southeasterly of a tree stump at the western end of an old fence, distant 93 feet, and southwesterly from a broken fence corner post, distant 106 feet.

Station Mark: A United States Lake Survey bronze tablet set flush with the ground in a 6-inch cylinder of concrete 30 inches in length. The tablet is marked "U.S.L.S., Mohawk, 1954". There is no sub-surface mark.

47-I.W.C. (Ontario, Stormont County 1938, 1959, 1963)-- On Philpotts Island, in the picnic grounds south of Long Sault Parkway. The station is about 33 feet north of the northern edge of the concrete roadbed of old highway No. 2, and about 275 feet north of the lake shore. The westerly of 3 large Manitoba maples lies easterly distant 69.4 feet. A 6-inch elm lies westerly, distant 11.9 feet.

Station Mark: The station is marked by a sub-surface mark which consists of a drill hole within a triangle cut in the top of a rock about $2\frac{1}{2}$ feet underground. A surface mark was established in 1938 consisting of an International Boundary Commission standard bronze-disk set in a 6-inch cylinder of concrete. The surface mark was about 6 inches below ground level in 1963. Reference Mark 1 is a drill hole and cross cut in a boulder 3 by 4 by one foot high. The station is also referenced by Reference Monument 17-59. The azimuth and distances to references are:

Object	Azimuth	Distance
Ref. Mark 1	252° 35'	56.76 feet
Ref. Mon. 17-59	330 53	80.71 feet

35-SUB-U.S.L.S. (New York, St. Lawrence County, 1954, 1959) -- On Long Sault Island, on the ridge extending northward along the point near the western end of the island. The station is about 1200 feet south of the northern end of the point, and at the top of the slope from the western side of the point.

Station Mark: A United States Lake Survey bronze tablet set flush with the ground in a 6-inch cylinder of concrete 30 inches in length. The tablet is marked "35 Sub, U.S.L.S., 1954". There is no sub-surface mark. Reference Mark 1 is a triangular blaze on a 9-inch ash, southerly of the station, distant 139 feet. Reference Mark 2 is a similar blaze in a 19-inch hickory southeasterly of the station, distant 82.5 feet. Reference Mark 3, is a U.S.L.S. disk set in a 6-inch cylinder of concrete, about 40 feet north of a blazed hickory tree, and in line with a large boulder near a lone elm tree, in azimuth 199° 04', distant 809.6 feet. The station is also referenced by International Boundary Commission Reference Monument 19-59 which lies in azimuth 197° 35', distant 144.85 feet.

PARK-C.H.S.-HYDRO 3901 (Ontario, Stormont County, 1958, 1959) -- On Dickinson Island, south of Long Sault Parkway, about 2.8 miles easterly from the western entrance to the Parkway, and about 0.15 miles easterly from the culvert at Hoople Creek. On the high ridge through which the Parkway is cut, and 50 feet southerly from the edge of cut bank. Reference Monument 18-58 lies in azimuth 337° 17', distant 14.17 feet.

Station Mark: A Hydrographic Service of Canada tablet set in a 6-inch cylinder of concrete flush with the surface of the ground. The number 3901 is stamped on the tablet.

PICNIC (Ontario, Stormont County, 1958)-- On Fraser Island south of Long Sault Parkway, about 2.2 miles easterly from the western entrance to the Parkway. The station is about 600 feet southerly from the cut bank along the Parkway, about 138 feet southerly from an east-west line of bushes and about 125 feet easterly from a north-south line of bushes. A large oak tree, near the intersection of the N-S and E-W lines of bushes bears 297° magnetic, distant 174.6 feet. The more westerly of two large oaks bears 135° magnetic. Massena Water Tower bears 162° magnetic. The northerly edge of large trees on Croil Island bears 257° magnetic.

Station Mark: An International Boundary Commission standard bronze-disk station mark set flush with the surface, in the top of a cylinder of concrete 6 inches in diameter. The sub-surface mark consists of a screw set in a 6-inch cylinder of concrete two feet below the surface of the ground. There are two reference marks. Reference 1 is an International Boundary Commission standard bronze-disk reference mark set in a 6-inch cylinder of concrete placed near the large oak tree at the intersection of the lines of bushes. Reference 2 is a similar mark placed near a small

oak along the N-S line of bushes. Directions and distances to the reference marks are:

Object	Direction	Distance
Station Mark - C.H.S.	0° 00' 00"	
Reference No. 1	208 23 30	168.00 feet
Reference No. 2	134 39 10	135.83 feet

LAST (New York, St. Lawrence County, 1959)-- On the island to the southeast of, and which originally formed part of, Croil Island. The station is on the western side of the northern point of the new island, about 20 feet north of the western edge of the trees, about 50 feet south of the water's edge, about halfway up the slope between the water's edge and trees, and about 100 feet from the northeastern end of the point.

Station Mark: An International Boundary Commission standard bronze-disk station mark set in a 5-inch cylinder of concrete 24 inches in length, with its top slightly above ground. There is no sub-surface mark. Reference Mark 1 is a triangular blaze in a 20-inch poplar, easterly of the station, distant 45.44 feet. Reference Mark 2 is a triangular blaze in a 10-inch maple, southeasterly of the station, distant 44.92 feet. Reference Mark 3 is a 4-foot stump, northwesterly of the station, distant 27 feet.

YELLOW-C.H.S. (New York, St. Lawrence County, 1959)-- About $\frac{1}{4}$ mile upstream from the Massena Power Canal intake. The station is about the center of an open field between the dyke and the lake.

Station Mark: A drill hole in the top of a rock. The exposed part of the rock is about 6 inches across.

RAW-C.H.S. (New York, St. Lawrence County, 1959)-- On the highest point of the fill on the southern side of Long Sault Island, and just north of the cut from the Long Sault Canal. The station was about $\frac{3}{4}$-mile westerly of the Esso tanks. From Seaway Light 48, the station lies in azimuth 217° 17', distant 503 feet. The station was not permanently marked.

RED-C.H.S. (New York, St. Lawrence County, 1959)-- On high fill near the southern side of Long Sault Island, near the Long Sault Canal and across from the Esso tanks which are about one mile easterly of the Massena Power Canal. The station was not permanently marked.

SEVRING-U.S.L.S. (New York, St. Lawrence County, 1954)-- The station was reported lost in 1959.

LON-C.H.S. (New York, St. Lawrence County, 1958, 1959)-- On the island to the southeast of, and which originally formed part of, Croil Island. The station is on the fill on the southeastern corner of the island, and north of the Massena Country Club.

Station Mark: A Canadian Hydrographic Service disk set flush with the ground in a concrete post. Reference Mark 1 is a 1½-inch concrete-filled pipe with top 4 inches above ground, which lies north-northwest of the station, distant 28.35 feet. Reference Mark 2 is a similar mark which lies northeast of the station, distant 18.85 feet.

LON-U.S.E. (New York, St. Lawrence County, 1959)-- Near the Massena Country Club. The station is on the sharp point near the northern edge of the golf course.

Station Mark: A United States Army Corps of Engineers brass disk set flush with the ground in a concrete post with concentric circles. The disk is stamped "Lon, 799.885".

CROIL ISLAND-U.S.L.S. (New York, St. Lawrence County, 1872, 1958)-- Near the center of Croil Island, on a long narrow ridge and equidistant from the two highest points on the ridge which rise about 8 feet above the surrounding land. It is about 80 feet from the edge of the woods; 208.8 feet northerly of a ¾-inch drill hole in a 4-by 5-by 4-foot high boulder, the largest one in the woods adjacent to the station, 77.7 feet southeasterly of a ¾-inch drill hole in a 3-by 3-by 1-foot high flat boulder, 352.3 feet southwesterly of a ¾-inch drill hole in a 5½-by 7½-by 3-foot high boulder in a field, 63 feet westerly of a 31-inch maple with a nail in a blaze, 124.5 feet south-easterly of a 25-inch maple with a nail in a blaze, 92 feet north-easterly of an oak near the edge of the woods with a nail in a blaze.

Station Mark: A 1¼-inch drill hole, 1½ inches deep in a 10-by 10-inch limestone set 3½ feet below the surface of sandy soil. In 1954 a U.S.L.S. disk in a 6-inch cylinder of concrete 30 inches in length was set over the old mark flush with the surface in a slight depression.

INGLE (Ontario, Stormont County, 1958)-- On Woodlands Island south of Long Sault Parkway, about 0.8 miles easterly from the western entrance to the Parkway. It is about 790 feet southerly from the Parkway, and about 119 feet southerly from the highest point of the field. The station is about 89 feet easterly from a north-south line of bushes. An 18-inch elm tree on the line of bushes bears 314° magnetic, distant 175.1 feet. Ingleside water tower bears 315° magnetic. Cornwall water tower bears 104° magnetic. The

northerly edge of large trees on Croil Island bears 241° magnetic.

Station Mark: An International Boundary Commission standard bronze-disk station mark set flush with the surface, in the top of a cylinder of concrete 6 inches in diameter. The sub-surface mark consists of a screw set in a 6-inch cylinder of concrete two feet below the surface of the ground. There are two reference marks. Reference 1 is an International Boundary Commission standard bronze-disk reference mark set in a 6-inchcylinder of concrete, placed near the 18-inch elm. Reference 2 is a similar mark placed near the N-S line of bushes.

Object	Direction
Ingleside W. T.	0° 00' 00"
Reference No. 1	358 48 20
Reference No. 2	275 16 20

INGLESIDE WATER TOWER (Ontario, Stormont County, 1958, 1960) -- Near the village of Ingleside. The station is the apex of the water tower, upon which is painted the name Ingleside.

MORRISON (Ontario, Stormont County, 1958, 1959)-- Near the eastern end of Morrison Island. On the high ground over which a portion of old abandoned Highway No. 2 passes. The station is about 10 feet north of the north shoulder of the ditch along the highway, about 30.5 feet from the center-line of the pavement, and 20.2 feet from the northern edge of the pavement. Reference Monument 22-58 lies in azimuth 18° 48', distant 43.09 feet.

Station Mark: An International Boundary Commission standard bronze-disk station mark set flush with the surface, in the top of a cylinder of concrete 6 inches in diameter. The sub-surface mark consists of a screw set in a 6-inch cylinder of concrete two feet below the surface of the ground.

FAR (New York, St. Lawrence County, 1958, 1959)-- On Croil Island, near the northwestern corner of the island, about 400 feet westerly of the northwestern corner of the woods, and on flat ground.

Station Mark: An International Boundary Commission standard bronze-disk station mark set with its top about 3 inches above the surface of the ground in a 5-inch cylinder of concrete 24 inches in length. The sub-surface mark is a similar mark 2 feet underground. Reference Mark 1 is an International Boundary Commission standard bronze-disk reference mark set in a cylinder of concrete about 2 inches above the surface of the ground with an arrow pointing towards the station. The reference mark is about 18 feet

westerly of a triangular blaze in a 36-inch elm tree in an old fenceline. The reference mark is easterly of the station, distant 365.8 feet. Reference Mark 2 is a similar mark with an arrow pointing towards station Isle. The reference mark is about 22 feet from a triangular blaze in a 12-inch elm tree in the fence line. The reference mark is 719.2 feet from station Far.

ISLE (New York, St. Lawrence County, 1958, 1959)-- Near the southwestern corner of Croil Island, on the western end of a ridge which extends from the treeline to the western end of the island, and at the top of a long gradual slope from the lake.

Station Mark: Reference Mark 1 is an International Boundary Commission standard bronze-disk reference mark set in a cylinder of concrete about 2 inches above the surface of the ground with an arrow pointing towards the station. The reference mark is about 22 feet from a triangular blaze in a 12-inch elm in an old fence line. The reference mark is 858.3 feet from the station. Reference Mark 2 is a similar mark with an arrow pointing towards station Far. The reference mark is about 18 feet westerly of a triangular blaze in a 36-inch elm in an old fence line. The reference mark is 1132.5 feet from station Isle.

McLEOD-U.S.L.S. (New York, St. Lawrence County, 1872, 1959) -- On an island, south of the western end of Croil Island, which was formed by the flooding of the St. Lawrence River. The station is on the eastern side of the northern point of the island, and on the southern end of a 10-foot high sand dune. It is north of the center of the old River Road, distant 84 feet. There are trees to the south across the old road and another group to the westard around Reference Monument 24-59. The station was not recovered in 1963.

Station Mark: A United States Lake Survey bronze-disk set just below the surrounding ground level, in a 6-inch cylinder of concrete 30 inches in length. The subsurface mark consists of a center hole in a triangular cut in a rock 3 feet below the surface of the ground. Reference Mark 1 is a blazed tree easterly of the station, on the northern side of the old road, distant 48.2 feet. Reference Mark 2 is a marked Canadian Hydrographic Service Station northerly of the station, distant 5.19 feet. Reference Monument 24-59 lies in azimuth 58° 31', distant 540.4 feet.

67-I.W.C. (New York, St. Lawrence County 1910, 1959)-- On Cat Island, which is about midstream and about one mile

southwesterly of Croil Island. The island was partly submerged in 1959 and it is expected that it will completely disappear with further raising of the water level.

STEEN (Ontario, Stormont County, 1958, 1959)-- Near the southeastern shore of Morrison Island, near the end of the road which terminates east of an old apple orchard, which is now the site for youth camps. The station was at the end of a wooded fenceline. The site of the station was found under water in 1959.

WHALEN-U.S.L.S.-72 I.W.C. (New York, St. Lawrence County, 1872, 1959)-- On Wilson Hill Island, on the northern point about midway along the island. In an old rocky pasture, about 40 feet north of the old unused River Road, about 70 feet south of the new River Road, and about 45 feet east of a line of trees.

Station Mark: An International Boundary Commission standard bronze-disk station mark set in a cylinder of concrete projecting slightly above ground level. The subsurface mark is a brass screw embedded in concrete.

AULT-U.S.L.S. (Ontario, Stormont County, 1872, 1959)-- On Morrison Island, near the highway bridge leading on to the island, and about 2/3 mile westerly of Reference Monument 23-59. The station is on the western side of an old rarely used road, and about 850 feet north of old highway No. 2. It is near the southern end of the second field west of the old road and 75 feet westerly of the fence corner formed by the fence on the western side of the road and the bushy fence between the fields. The first field west of the road is planted with trees.

Station Mark: A drill hole in a white stone 14 by 14 inches, set $2\frac{1}{2}$ feet underground.

AULT POINT (Ontario, Dundas County, 1958)-- On Ault Island, south of a row of cottages on the eastern branch of the access road from Highway No. 2, about 0.3 miles from the point where the road divides. The station is near the eastern boundary of the property owned by J. W. Bredin, about midway between the cottage and the water's edge. A large 4-foot elm tree bears 174° magnetic, distant 66 feet, a 20-inch maple bears 260° magnetic, distant 110 feet, an 18-inch maple bears 306° magnetic, distant 133 feet and a 24-inch maple bears 349° magnetic, distant 109 feet. Reference Monument 25-58 lies in azimuth 327° 38', distant 36.12 feet.

Station Mark: An International Boundary Commission standard bronze-disk station mark set flush with the surface in the top of a cylinder of concrete 6 inches in diameter. The subsurface mark consists of a screw set in a 6-inch cylinder of concrete two feet below the surface of the ground.

WELLS-U.S.L.S. (Ontario, Dundas County, 1872, 1934, 1958)-- On Ault Island, north of the western branch of the access road from Highway No. 2 about 0.3 miles from the point where the road divides. The station is on the rise of land now set out as a maple grove. It is 180.5 feet southeast of a 3/4-inch drill hole in a 2-by 3-by 2-foot high light-coloured boulder which is in an E-W rail fenceline, 87.9 feet north of a 3/4-inch drill hole in a 12-by 18-by 6-inch high boulder, and 218 feet south of a fence corner.

Station Mark: An International Boundary Commission standard bronze-disk station mark set flush with the surface in the top of a cylinder of concrete 6 inches in diameter. The subsurface mark consists of a one-inch drill hole in a 10-by 16-inch stone set $3\frac{1}{2}$ feet below the surface of the ground.

74-SUB (New York, St. Lawrence County 1939, 1959)-- On Wilson Hill Island, near the road leading to the northern point near the western end of the island. The station is located about 500 feet north of the old River Road, and about 800 feet south of the river. It is about 9 feet east of a new cottage, 12 feet from the northeastern corner of the cottage, and will be under the edge of a porch when built.

Station Mark: An International Boundary Commission standard bronze-disk station mark set nearly flush with the ground in a 10-inch cylinder of concrete 24 inches in length. The subsurface mark is a brass screw set in a circular block of concrete 10 inches in diameter and 8 inches in depth set 24 inches underground. Reference Mark 1 is a drill hole and an arrow pointing towards the station, cut in the top of a granite boulder with a round top about 2 by 3 feet in area and one foot high. Reference Mark 2 is a United States Lake Survey bronze disk reference mark set, with the arrow pointing towards U.S.L.S. station Wilson, in the top of a granite boulder about 2 by 4 feet in area and one foot high. The station is also referenced by Reference Monument 27-58. The azimuth and distances to references are:

Object	Azimuth	Distance
Station 72 I.W.C.	248° 12'	5314.0 feet
Reference Mark 1	257° 17'	35.12 feet
Reference Mark 2	173° 23'	23.08 feet
Ref. Mon. 27-58	157° 14'	193.72 feet

WILSON-U.S.L.S. (New York, St. Lawrence County, 1872, 1939, 1958)-- On Wilson Hill Island. Under the western shoulder of the road leading to the northern point near the western end of the island. The station is about 36 feet northerly of the highway stop sign, and about 34 feet easterly of the center electric utility pole near the road center.

Station Mark: The surface mark was destroyed by construction work in 1958. A flat rock was placed in the shoulder of the road over the station. The subsurface mark consists of a 3/8-inch drill hole in a 10- by 18-inch stone set 2½ feet below the ground surface. The reference mark is a 3/4-inch drill hole in a 1½- by 1½- by 3½-foot boulder 8 inches high, southeasterly of the station, distant 178.9 feet.

BRADFORD-U.S.L.S.-76 I.W.C. (New York, St. Lawrence County, 1872, 1939, 1959)-- On Bradford Point, about ¼ mile south of the point of land, and south of the old River Road. The station is on the northern end of a sandy ridge, at the northern point of a cedar grove.

Station Mark: An International Boundary Commission standard bronze-disk station mark set, nearly flush with the ground level, in the top of a 9-inch cylinder of concrete 36 inches in length. The subsurface mark consists of a brass screw set in the surface of a large flat rock. Reference Mark 1 is a drill hole and cross cut in a boulder 4- by 5- by 2-feet high situated on lower and open ground westerly of the station. Reference Mark 2 is a cross cut in a boulder 3- by 4- by 1½-feet high situated to the westward on lower and open ground. Reference Monument 29-59 is located northerly of the station, and north of the old River Road. The azimuth and distances to references are:

Object	Azimuth	Distance
Ref. Mon. 29-59	168° 15'	1048 feet
Ref. Mark 1	147° 15'	110.45 feet
Ref. Mark 2	108° 09'	115.80 feet

BRAD (New York, St. Lawrence County, 1958, 1959)-- On Bradford Point, about one mile up stream from Wilson Hill. The station is on the highest part of the ridge, and about 160 feet north of the trees in the fence line along northern side of the old River Road.

Station Mark: An International Boundary Commission standard bronze-disk station mark set nearly flush with the ground in a 5-inch cylinder of concrete 24 inches in length. The subsurface mark is a similar marker about 2 feet below ground level.

Reference Mark 1 is a nail in a blaze in a large tree, forked 4 feet above ground, on the northern side of the old road near the western side of the point, distant 172.90 feet. Reference Mark 2 is a ¼-inch rod in a rock 5 feet across and 2½ feet high, near the old road at the eastern side of the point, distant 162.50 feet. Reference Monument 29-59 lies in azimuth 352° 42', distant 77.35 feet.

78 SUB (New York, St. Lawrence County, 1939, 1959)-- About 6 miles downstream from Waddington, New York, on the first point of land west of Bradford Island. The station is about 300 feet westerly of a tree-lined point, about 300 feet easterly of the end of trees on the northern side of the old road, about 150 feet from the river, and about 36 feet northwesterly of the northern edge of the old hard-surfaced road.

Station Mark: An International Boundary Commission standard bronze-disk station mark set in a cylinder of concrete slightly above ground. The subsurface mark is a similar station mark set in a 9-inch cylinder of concrete 12 inches in length, and 2 feet underground. Reference Mark 1 is a nail within a triangular blaze on an 18-inch maple southwesterly of the station, distant 35.10 feet. Reference Mark 2 is a similar mark on an 18-inch maple southward across the old road, distant 76.20 feet. Reference Mark 3 is an International Boundary Commission standard bronze-disk reference mark set in a rock south of the highway, near Reference Mark 2, with the arrow pointing to the station, distant 79.06 feet.

LAW (New York, St. Lawrence County, 1958, 1959)-- On the highest part of the main island below the mouth of Coles Creek, and about 1½ miles upstream from Bradford Point. The station is on the highest part of the sandy knoll, and about 300 feet south of the old River Road. It is about 25 feet north of, and about 50 feet west of, the top of the bank of a sand pit.

Station Mark: A standard International Boundary Commission bronze-disk station mark set in a 6-inch cylinder of concrete about 2 inches above ground. The subsurface mark is a similar mark about 2 feet underground. Reference Mark 1 is a standard bronze-disk reference mark set in a cylinder of concrete about 18 feet south of the southern edge of the pavement of the old River Road, and about 192.3 feet in azimuth 27° from Reference Monument 31-58. The reference mark lies in azimuth 156° 09', distant 306.4 feet from the station. Reference Monument 31-58 lies in azimuth 175° 30', distant 452.3 feet.

WOOD (Ontario, Dundas County, 1958)-- About 2/3 mile southeasterly from the eastern intersection of Highway No. 2 and Riverside Heights access road. About 11 feet west of a line extended southeasterly from a northwest-southeast line of trees, and about 11 feet east of a ridge of earth which lies about 20 feet east of a ditch leading to the water's edge. The station lies southeast of the southeastern bolt on the more southerly of two concrete railway signal piers of the abandoned railway, distant 66.92 feet. Reference Monument 30-58 lies in azimuth 276° 39', distant 44.51 feet.

Station Mark: An International Boundary Commission standard bronze-disk station mark set flush with the surface in the top of a cylinder of concrete 6 inches in diameter. The subsurface mark is a one-inch hole in a 6-inch cylinder of concrete two feet below the surface of the ground.

HEIGHTS (Ontario, Dundas County, 1958)-- In the settlement of Riverside Heights, about 800 feet westerly from the eastern intersection of the Riverside Heights access road and Highway No.2. The station is on the property of Mary Bauch, about two feet west of the eastern lot line. It is about 51 feet north from the centre line of Riverside Heights access road, about 20 feet from a hydro pole near the eastern property line, and about 65.0 feet from the southeastern corner of the house on said property, and about 56.4 feet from the southwestern corner of the house on the adjoining property to the east.

Station Mark: An International Boundary Commission standard bronze-disk station mark set flush with the surface in the top of a cylinder of concrete 6 inches in diameter. The subsurface mark consists of a screw set in a 6-inch cylinder of concrete two feet below the surface of the ground.

RIVERSIDE (Ontario, Dundas County, 1958)-- In the settlement of Riverside Heights, on the property of Floyd Fisher, which is the third lot east of the Riverside Heights school. The station is about $3\frac{1}{2}$ feet west of the bottom of the ditch on the eastern lot line, about 74 feet north from the centre line of the Riverside Heights access road, and about 41 feet from the hydro pole near the property line. It is about 38.6 feet from the southeastern corner, and about 42.4 feet from the northeastern corner of the house on said property.

Station Mark: An International Boundary Commission standard bronze-disk station mark set flush with the surface in the top of a cylinder of concrete 6 inches in diameter. The subsurface mark consists of a screw set in a 6-inch

cylinder of concrete two feet below the surface of the ground.

EAST BASE, MORRISBURG-U.S.L.S. (Ontario, Dundas County, 1872, 1958)-- About 2½ miles northeasterly of Morrisburg, about ½ mile south of the highway intersection west of Riverside Heights, about ¼ mile west of the old church road, and on an island formed by the flooding of the seaway. The station is on the southern bank of the old railroad right-of-way, between the roadbed and the old line fence. It is 36 feet westerly of the underground part of a telegraph pole cut-off at ground level, and 187 feet northeasterly of a fence corner.

Station Mark: A drill hole in a stone set 3½ feet underground. The surface mark is a drill hole within a triangle cut in a square rock set about 6 inches underground. Reference Monument 32-58 lies in azimuth 359° 05', distant 366.8 feet.

EAST (Ontario, Dundas County, 1958)-- About ½ mile south of the highway intersection west of Riverside Heights, and about ¼ mile west of the old church road now partially flooded. The station is on an island, and about 250 feet south of the old railroad right-of-way. It is about 7 feet east of a north-south line of bushes. A 7-inch maple tree bears 72° magnetic, distant 73.1 feet. A drill hole in an 18-inch square block of concrete flush with the surface of the ground bears 212° magnetic, distant 10.3 feet. The Waddington Water Tower bears 231° magnetic. A large forked maple on the shoreline bears 176° magnetic; the Riverside Heights Roman Catholic Church Spire bears 034° magnetic. The station is 22 feet southerly of a hawthorne bush in a line of bushes. Reference Monument 32-58 lies in azimuth 337° 36', distant 73.51 feet.

Station Mark: An International Boundary Commission standard bronze-disk station mark set flush with the surface in the top of a cylinder of concrete 6 inches in diameter. The subsurface mark consists of a one-inch hole in a 6-inch cylinder of concrete two feet below the surface of the ground.

ALLISON, U.S.L.S.= 90-I.W.C. (New York, St. Lawrence County, 1872, 1939, 1958, 1960, 1963)-- About 3¼ miles downstream from Waddington, New York, on the prominent point (Nichols Point) on the southern shore opposite Broder Island. The station is about 1000 feet north of New York Highway No. 37 and among the sand dunes on the highest part of the point.

Station Mark: The subsurface mark consists of a triangular shaped drill hole in a stone 3 feet underground. The surface mark was lost in 1963. A new surface mark was set consisting of a standard International Boundary Commission bronze-disk station mark set in a 6-inch cylinder of concrete about 3 inches above ground. Reference Mark 1 consists of a standard United States Lake Survey bronze-disk reference mark with the arrow pointing towards the station set in an 8-inch cylinder of concrete slightly above ground. Reference Mark 2 is a similar mark set slightly above ground. Reference Monument 33-58 also references the station. The azimuths and distances to the references are:

Object	Azimuth	Distance
Ref. Mon. 33-58	52° 58'	172.93 feet
Ref. Mark 1	91° 03'	39.60 feet
Ref. Mark 2	270° 53'	40.39 feet

MUFF-C.H.S. (Ontario, Dundas County, 1958)-- On an island opposite the mouth of Coles Creek, and south of the village of Riverside Heights. The station is on a small knoll near the southern edge of the island.

Station Mark: A steel pin set in a concrete post slightly above ground level. Triangulation Station EAST lies in azimuth 4° 06', distant 819.9 feet.

MARTIN (Ontario, Dundas County, 1957, 1959)-- About one mile northeast of Morrisburg, on the southerly right-of-way fence line of relocated Highway No. 2, about 60 feet south of the center-line of the highway, and about 1040 feet eastward of the bridge over Nash Creek. The station is about ½ foot north of the woven fence and about ½ foot westerly of a steel fence post. It is 27 feet east of a north-southerly fence-line, 50.6 feet south-southwesterly of a telephone pole, 136.6 feet westerly of the westward fence on a north-southerly lane.

Station Mark: A one-inch hole in a cylinder of concrete 6 inches in diameter set 14 inches below the ground. A surface mark, consisting of an International Boundary Commission standard bronze-disk station mark set in a 6-inch cylinder of concrete, was set flush with the ground in 1963. Reference Mark 1, is an International Boundary Commission standard bronze-disk reference tablet, set in a 6-inch cylinder of concrete, about one foot north of the southern right-of-way fenceline easterly of the station, distant 63.18 feet. Reference Mark 2, is a similar mark, set about 2 feet north of the southern right-of-way fenceline, westerly of the station and in line with the north-

southerly fenceline, distant 26.62 feet.

DORAN, 3907-C.H.S. (Ontario, Dundas County, 1958, 1960, 1963)-- On Broder Island, about one mile east of Morrisburg Ontario. The station is located in the pavement about one foot north of the southern edge of the old road across the point. It is on the highest part of the road and 150 feet westerly of where the road rises above the lake. A lone maple tree lies directly north of the station.

Station Mark: A Canadian Hydrographic Service tablet set in a drill hole in the concrete road. Reference Mark 1 is a railroad spike driven into the paved road, one foot north of southern edge of pavement, westerly of the station, distant 32.82 feet. Reference Mark 2, is a similar mark one foot south of the northern edge of pavement, northerly of the station, distant 18.88 feet. Reference Monument 34-59 lies in azimuth 99° 07' distant 86.40 feet.

MORRISBURG TANK (Ontario, Dundas County, 1958, 1961, 1963)-- The ball on the apex of the water tank in the town of Morrisburg, Ontario.

BUMP (New York, St. Lawrence County, 1958, 1960)-- In the town of Waddington, New York. At the western end of the Norfold and St. Lawrence Railroad tracks on the lake front. The station is about the center of the railway fill and west of the railway snubbing posts. It is 11.07 feet from the center of the end of the northern rail of the southern track, and 11.52 feet from the end of the southern rail of the northern track.

Station Mark: An International Boundary Commission standard bronze-disk station mark set flush with the gravel in a 5-inch cylinder of concrete 24 inches in length. There is no subsurface mark.

WAD (New York, St. Lawrence County, 1958, 1960)-- In the town of Waddington, New York, about 200 feet westerly of the Railroad Depot, and on the lake side of the road over the knoll. The station is about midway between the road and the edge of the shoulder which drops off steeply. It is 16.09 feet westerly of a yellow hydrant, and 17.71 feet from a nail driven into the center of the road opposite the station.

Station Mark: An International Boundary Commission standard bronze-disk station mark set, with the top slightly below ground level, in a 5-inch cylinder of concrete 24 inches in length. The subsurface mark is a bolt in a similar cylinder of concrete 24 inches underground.

WADDINGTON TANK (New York, St. Lawrence County, 1958, 1961) -- The small ball on the apex of the water tank in the town of Waddington, New York.

REF. MON. 36 ECC (New York, St. Lawrence County, 1960)-- On the eastern section of Ogden Island, on the highest ground just west of the woods near the eastern end of the island. The station is opposite the western end of the railroad tracks in Waddington.

Station Mark: A wooden hub was the only mark at this station.

BURG (Ontario, Dundas County, 1959, 1960)-- Near the southern shore at the village of Mariatown, Ontario. The station is near the western end of the prominent point and opposite the eastern woods on Ogden Island. It is about 10 feet from the top of the high bank and about 25 feet west of a road to the water.

Station Mark: An International Boundary Commission standard bronze-disk station mark set about 4 inches above ground in a 5-inch cylinder of concrete 24 inches in length. Reference Mark 1 is Light 92, which is westerly along the shore, distant 246 feet. Reference Mark 2 is a standard International Boundary Commission bronze-disk reference mark set about 3 inches above ground in a cylinder of concrete, with the arrow pointing to the station. The reference mark is across a ditch, about 60° to the right of the line to Light 92, distant 31.98 feet from the station.

GRAPH-DEN-C.H.S. (New York, St. Lawrence County, 1958, 1960) -- On Ogden Island, on the high prominent point about the center of the island. The station is about 30 feet south of the top of the northern slope of the island, 150 feet south of the water's edge, 200 feet north of the woods, and about equidistant from the two points of the woods. Reference Monument 37-59 lies in azimuth 88° 47', distant 37.93 feet.

Station Mark: A Canadian Hydrographic Service disk set in a cylinder of concrete slightly above ground.

LOCK (Ontario, Dundas County, 1959, 1960, 1963)-- About ½ mile eastward from Rapide Plat Point, and about 300 feet eastward from a small point of land. It is north of the woods near the western end of Ogden Island, and about 300 feet westerly of a small grove of scotch pine trees between the highway and the river. The station was about 25 feet from the water's edge. Reference Monument 38-59 lies in azimuth 138° 10', distant 15.32 feet.

Station Mark: An International Boundary Commission standard bronze-disk station mark set flush with the ground in a 5-inch cylinder of concrete 24 inches in length. The subsurface mark is a similar mark set 24 inches below the surface of the ground.

OGDEN (New York, St. Lawrence County, 1959, 1960)-- On Ogden Island, on the highest point of the fill near the western end of the island. The station is about on line with the western end of the railroad tracks in Waddington (station Bump) and the eastern end of the woods near the southwestern corner of the island.

Station Mark: A standard International Boundary Commission bronze-disk station mark set slightly above ground, in the top of a 5-inch cylinder of concrete 24 inches in length. There is no subsurface mark.

LEISH (New York, St. Lawrence County, 1959, 1960)-- On the fill on Leishman's Point, about 50 feet towards Waddington from the highest point on the fill, about 100 feet towards the high fill on Ogden Island from the circle in the road up from the swimming pool. The station is about on line with a church spire in Morrisburg and the northern edge of the woods on the southwestern corner of Ogden Island, and about on line with the entrance of road to parking lot and the swimming beach.

Station Mark: An International Boundary Commission standard bronze-disk station mark set slightly above ground in a 5-inch cylinder of concrete 24 inches in length. There is no subsurface mark.

BASE A (New York, St. Lawrence County, 1959, 1960)-- About 2 miles above Waddington, New York and opposite the western end of Ogden Island. The station is about 87 feet east of a fence between fields, and about 147 feet south of the fence and trees along the southern side of the road. Station Ames U.S.L.S. lies in azimuth 73° 20', distant 354.99 feet.

Station Mark: A standard International Boundary Commission reference mark tablet, set about 3 inches above ground, in the top of a 5-inch cylinder of concrete 24 inches in length. The arrow points towards station Leish on the fill on Leishman's Point.

AMES-U.S.L.S. (New York, St. Lawrence County, 1872, 1933, 1960)-- About 2 miles above Waddington, New York, and $\frac{1}{8}$ mile south of the river. It is in a rock-strewn field,

about 830 feet west-southwesterly of a road intersection, about 180 feet south of the river road, and 9 feet east of a rail fence on the eastern edge of an orchard. In 1960 a cottage and 2 small outhouses had been built between the station and the river. The station is 38.6 feet south-westerly of a cross cut in a 3- by 4- by 1½-foot-high boulder, 42.6 feet east-southeasterly of a 3- by 5- by 1½-foot-high boulder on the western side of the fence, and about 18 feet northerly of an 18-inch elm tree. The elevation above the river is about 40 feet.

Station Mark: A drill hole in a stone below ground. The surface mark is a 1-inch triangular drill hole in a stone block, 5 inches square and about ½ foot below ground.

JINKS-U.S.L.S. (New York, St. Lawrence County, 1872, 1959) -- About 3½ miles above Waddington, New York, about one mile southeast of the river, and about 530 feet north of the river road. The station is on a bare hill, about 130 feet northeast of its highest part, 40 feet west of a stone wall, and 76 feet north of another stone wall. It is southeasterly of a cross cut in a 5- by 2-foot-high triangular-shaped boulder, distant 201.4 feet, and east-northeasterly of a cross cut in a 3½- by 3½- by 1-foot high boulder, distant 179.5 feet. The elevation above the river is about 60 feet.

Station Mark: As established in 1872, is a drill hole in a stone 1 foot square, set about 3 feet below the ground surface. The surface mark is a 1-inch drill hole in a stone block, 5 inches square, centered over the station mark and about one foot below the ground.

PINE TREE POINT-U.S.L.S. (Ontario, Dundas County, 1872, 1959)-- About 1¾ miles below Iroquois, Ontario, about 1/8 mile west of Hilliards Creek Inlet, and about ¼ mile north of the river. The station is in the northwestern corner of an orchard, about 5 feet east of a fence, about 55 feet south-southeasterly of a fence corner, 290 feet northerly of the northeastern corner of a brick house, and about 90 feet northeasterly of the northeastern corner of a large barn. It is 81.0 feet east-northeasterly of a 2-inch cross cut in a 6- by 6- by 4-foot high boulder, 126.1 feet south-southeasterly of a drill hole in a triangle cut in a 2½- by 2½- by 2-foot high boulder, 7.5 feet northeasterly of a ¾-inch drill hole in a triangle cut in a 2- by 2-foot rock.

Station Mark: The station is marked by a 1-inch drill hole in a 12- by 6-inch stone 2 feet below the ground.

DROG-Hill C.H.S. (Ontario, Dundas County, 1959, 1960)-- On a point about one mile downstream from Pine Tree Point, and

to the riverside of an old apple orchard. The station is about 10 feet from a low eroding beach, and about 85 feet easterly of the most southern of a row of trees. Reference Monument 39-59 lies in azimuth 238° 24', distant 36.38 feet.

FILL (New York, St. Lawrence County, 1959)-- About 1½ miles downstream from Iroquois Dam, on the highest point of the fill on the United States shore, and opposite Pine Tree Point on the Canadian shore.

Station Mark: An International Boundary Commission standard bronze-disk set in a mass of concrete, 24 inches in diameter and 15 inches in depth, in a hole dug in the hard fill.

POINT (Ontario, Dundas County, 1959)-- On Pine Tree Point, east of Hilliards Creek Inlet. The station is about 3 feet from an 8-foot high eroding bank of the river, about 25 feet from the point where the old road enters the water, and about 100 feet from Light No. 106.

Station Mark: An International Boundary Commission standard bronze-disk station mark set slightly above ground in the top of a 5-inch cylinder of concrete, 24 inches in length. There is no subsurface mark. Reference Monument 40-59 lies in azimuth 129° 01', distant 102.62 feet.

YARD (Ontario, Dundas County, 1959)-- About 1¾ miles below Iroquois, and about 1/8 mile west of Hilliards Creek Inlet. The station is on the southern lawn of the old farm house west of Hilliards Creek, near the western side of the driveway and 18 feet from the edge of the lawn.

Station Mark: A wooden hub driven flush with the surface of the ground. There is no permanent station mark. Reference Mark 1 is an International Boundary Commission standard bronze-disk reference mark set in a 5-inch cylinder of concrete 24 inches in length with the arrow pointing to the station. The reference mark is located in the fence-line west of the driveway, and lies in azimuth 123° 11', distant 96.82 feet from the station. Reference Mark 2 is a nail in a blaze on a 24-inch elm tree, located in the fence-line northerly of the reference mark, distant 61.30 feet.

114-SUB (New York, St. Lawrence County, 1939, 1959)-- In an open field about ½ mile east of Iroquois Dam. It is about 4 feet west of the remains of an old fence-line, slightly visible in places, especially near the water, and which runs to a break in the woods near the old road. The station is about halfway from the woods near the road to the water, and

about 25 feet north of the line through the United States end of the Dam and a large elm in the field west of the station. Channel Light 107 is off the point northeasterly of the station.

Station Mark: An International Boundary Commission standard bronze-disk station mark set nearly flush with the ground, in the top of a 10-inch cylinder of concrete 24 inches in length. The subsurface mark is a brass screw set in the top of a 10-inch cylinder of concrete 12 inches in length and 24 inches underground. Reference Mark 1 is a drill hole and an arrow pointing towards the station cut in a black boulder showing 2 by 2 feet of surface nearly flush with the ground in the pasture 20 feet west of the old fence-line. Reference Mark 2 is a drill hole and an arrow pointing towards the station cut in a sloping flat rock with a surface about 3 by 3 feet. The azimuth and distance to references are:

Object	Azimuth	Distance
Ref. Mark 2	80° 04'	47.75 feet
Ref. Mark 1	340° 46'	104.22 feet

BRICK (Ontario, Dundas County, 1959)-- Near the Iroquois Golf Club, on the river side of the brick club house, and on the point of land directly north of the United States end of Iroquois Dam. The station is about 75 feet from the tip of the point which is in line with the Canadian end of the dam, about 55 feet from the water's edge, and about 54.7 feet from the northern corner of the top of the concrete abutment which terminates a sewer at the water's edge. An apple tree lies towards the new Iroquois church, distant 27 feet. In 1963 the station was buried at least one foot underground.

Station Mark: An International Boundary Commission standard bronze-disk station mark set in a 5-inch cylinder of concrete 24 inches in length. The subsurface mark consists of a similar mark set 2 feet underground. The station is referenced to the southeastern corner of the stone foundation under the brick club house, distant 144.80 feet. Reference Monument 41-59 lies in azimuth 90° 15', distant 12.93 feet.

DAM (New York, St. Lawrence County, 1959)-- Near the United States end of Iroquois Dam, on the fill on the northern side of the road leading to the dam. The station is 80 feet from the top of the sharp slope dropping off to the river, and 8 feet from the top of the sharp slope dropping off to the road. The west corner of the cap on a

concrete vault on the southern bank of the road leading to the dam, bears 200° magnetic. The first large elm tree downstream, bears 30° magnetic.

Station Mark: An International Boundary Commission standard bronze-disk station mark set slightly above ground, in a 5-inch cylinder of concrete 24 inches in length. Reference Monument 43-59 lies in azimuth 73° 59', distant 288.05 feet.

IROQUOIS TANK (Ontario, Dundas County, 1959)-- The peak of the water tank in the town of Iroquois, Ontario.

SHARPS-U.S.L.S. (New York, St. Lawrence County, 1872, 1933, 1959)-- About 5½ miles upstream from Waddington, and about ¼ mile southeast of the river. The station is in a level field about 455 feet southeast of the river road, about 30 feet west of a rail fence, and about 103 feet south-southeasterly of the intersection of the rail and an old stone fence. The elevation above the river is about 40 feet.

Station Mark: As established in 1872, is a 1/6-inch drill hole which is about ¾ inches from a 1-inch drill hole in the same stone about 4 feet below the ground. The surface mark is 1-inch triangular drill hole in a stone, 5 inches square, at the bottom of a shallow hole. Reference Mark 1 is a ¾-inch drill hole at the point of an arrow in a 2- by 2- by 1-foot-high boulder in the rail fence south-southwesterly of the station, distant 35.0 feet. Reference Mark 2 is a similar mark in a 1½- by 1½- by ½-foot-high boulder in an old stone fence-line and brush strip southeasterly of the station, distant 99.4 feet.

PUTNEY (New York, St. Lawrence County, 1959)-- On the prominent point directly opposite the upper entrance to Iroquois Locks. On property owned by Mrs. Irene Putney Scott. The station is about 45 feet back from the crest of the slope falling away to the river, and 2 feet east of a wire fence leading southward to an apple orchard. It is about 510 feet westerly of a lone elm tree in a field.

Station Mark: An International Boundary Commission standard bronze-disk station mark set flush with the surface in the top of a cylinder of concrete 6 inches in diameter. The subsurface mark consists of a screw set in a 6-inch cylinder of concrete two feet below the surface of the ground. The station is referenced by one International Boundary Commission reference mark tablet set flush with the ground, and two New York State Power Authority Monuments.

Directions and distances to the reference marks are as follows:

Object	Direction	Distance
Iroquois Water Tank	0° 00' 00"	
Ref. Mark Tablet	160° 46' 00"	42.38 feet
Power. Authority Mon.		
PAS NY L I 132	226° 13' 30"	195.0 feet
PAS NY L I 133	331° 04' 50"	16.81 feet

IROQUOIS-C.H.S. 1298 (Ontario, Dundas County, 1959)-- On the Iroquois Lock Property. On the top of the bank south of the lock. The station is about 42 feet from the north corner where the bank jogs northward, and about 16 feet south of the crest of the steep bank.

Station Mark: A Hydrographic Service of Canada tablet set in a 6-inch cylinder of concrete flush with the surface of the ground. The number 1298 is stamped on the tablet. The station is referenced by one International Boundary Commission reference mark tablet set flush with the ground, and three $\frac{3}{4}$-inch drill holes in rock. Directions and distances to the reference marks are:

Object	Direction	Distance
Iroquois Water Tower	0° 00' 00"	
Drill hole No. 3.	96° 34' 30"	27.76 feet
Drill hole No. 2.	187° 18' 30"	32.58 feet
Drill hole No. 1.	209° 29' 30"	63.51 feet
Ref. Mark Tablet	236° 21' 00"	22.70 feet

TOUSSAINT (Ontario, Dundas County, 1959)-- On Toussaint Island, which is about one mile above the Iroquois Locks. The station is near the eastern end of the high ridge along the Island, and northwesterly from Seaway Channel Light 114 on the southern shore of the Island. It is opposite Reference Monument 45-59 on the New York shore of the river.

Station Mark: An International Boundary Commission standard bronze-disk station mark set about 3 inches above the surface of the ground, in the top of a cylinder of concrete 6 inches in diameter. The subsurface mark is a screw set in a 6-inch cylinder of concrete two feet below the surface of the ground. The station is referenced by two International Boundary Commission reference mark tablets set flush with the ground. Directions and distances to the reference marks are as follows:

Object	Direction	Distance
Ref. Mon. 45-59	0° 00' 00"	
Ref. Mark No. 2	147° 26' 50"	36.28 feet
Ref. Mark No. 1	212° 37' 10"	39.49 feet

BINION-U.S.L.S. (Ontario, Dundas County, 1873, 1959)--About 2 miles above the town of Iroquois, and opposite the foot of Toussaint Island. The station is in a group of lombardy poplars on a small knoll, about 27 feet northwesterly of a large poplar, and about 2 feet easterly of a honeysuckle bush.

Station Mark: A triangular drill hole 3 inches east of another triangular drill hole (cracked) in the same rock $1\frac{1}{2}$ feet below the ground. A surface mark consisting of a standard International Boundary Commission bronze-disk station mark set in a 6-inch cylinder of concrete 18 inches in length was established in 1959. Reference Mark 1 is a $\frac{3}{4}$-inch drill hole in a flat boulder which is 2 feet north of the most northerly of a short north-southerly row of lombardys. The station lies on a magnetic bearing of 048°, distant 18.7 feet. Reference Mark 2 is a $\frac{3}{4}$-inch drill hole in a boulder which is at the southern edge of the young orchard, approximately on line between 2 elms 8 feet and 57 feet from the westerly and easterly elms respectively. The station lies on a magnetic bearing of 141°, distant 34.3 feet.

WORT-U.S.L.S. (Ontario, Dundas County, 1873, 1933, 1959)--On the property of William Hooke, about $2\frac{1}{4}$ miles below Cardinal. The station is on a bare hill, about 610 feet northwesterly of Highway No. 2. It is about 12 feet east of a wire fence, and about 75 feet southeasterly from where an east-west fence formerly joined the north-south fence. The southwesterly corner of the house bears 091° magnetic.

Station Mark: A 1-inch triangular drill hole in a 14- by 9-inch stone about 3 feet below the ground. A surface mark consisting of an International Boundary Commission standard bronze-disk station mark set in a 6-inch cylinder of concrete 24 inches in length. Reference Mark 1 is a standard International Boundary Commission bronze-disk reference mark set in a 6-inch cylinder of concrete, about 2 feet from the wire fence and on line from the station to Reference Monument 46. Reference Mark 2 is a similar mark 2 feet from the wire fence and on line from the station to the elevator in Cardinal. Reference Mark 3 is a $\frac{3}{4}$-inch drill hole in a boulder 2- by 2- by 1-foot high located near the wire fence. The direction and distances to references are:

Object	Direction	Distance
Ref. Mon. 46	0° 00'	
Ref. Mark 3	18° 39'	17.03 feet
Ref. Mark 2	41° 47'	11.57 feet
Ref. Mark 1	359° 33'	25.17 feet

123-I.W.C.-EAST BASE CARDINAL (Ontario, Dundas County, 1939, 1959)-- About 2 miles downstream from Cardinal, on the dyke of the Galop Canal between the canal and the St. Lawrence River. The station is about 23 feet from the Canal water's edge, and about 55 feet from the river water's edge.

Station Mark: The original station mark was not disturbed. It consists of a bronze plug with a center hole set 8 inches underground in the top of a solid concrete post 12 inches square. A surface mark was established in 1959, consisting of a standard bronze-disk station mark set in a 6-inch cylinder of concrete flush with the ground. Reference Mark 1, established in 1959, consists of a standard International Boundary Commission bronze-disk station mark set, in a 6-inch cylinder of concrete, flush with the ground on line with the station and Reference Monument 46, and about 11 feet from canal bank. Reference Mark 2 is International Boundary Reference Monument 46. The azimuth and distances to references are:

Object	Azimuth	Distance
Church Spire, Cardinal	42° 13'	
125 I.W.C.	42° 17'	
Ref. Mark 1	171° 58'	14.78 feet
Ref. Mon. 46	351° 58'	39.80 feet

125 I.W.C.-WEST BASE CARDINAL (Ontario, Dundas County, 1939, 1959)-- About $1\frac{1}{4}$ mile downstream from Cardinal, on the dyke of the Galop Canal between the canal and the St. Lawrence River. The station is about 180 feet easterly of where the dyke widens west of the station, about 29 feet from the river water's edge, and about 23 feet from the canal water's edge.

Station Mark: The original station mark was not disturbed. It consisted of a bronze plug with a center hole set 5 inches underground in the top of a solid concrete post 12 inches square. A surface mark was established in 1959, consisting of a standard bronze-disk station mark set in a 6-inch cylinder of concrete flush with the ground. Reference Mark 1 is a standard International Boundary Commission bronze-disk reference mark set in a 6-inch cylinder of concrete flush with the ground, and towards the canal from the station, about 10 feet from the canal bank. Reference Mark 2 is a similar mark set northeasterly of the station, in line with the station and the elevator in Cardinal, and about 17 feet from the canal bank. The azimuth and distance to reference marks are:

Object	Azimuth	Distance
Station Elevator	33° 26'	
Church spire, Cardinal	42° 09'	
Reference Mark 1	119° 36'	12.50 feet
Reference Mark 2	213° 46'	37.75 feet

TOP (New York, St. Lawrence County, 1959)-- On the top of the large pile of dredged waste on Sparrowhawk Point. The station is about 428 feet east of the western edge of the most westerly rise of the pile. It is about 85 feet south of the northern edge of the high rise, and about 146 feet north of the southern edge of the rise.

Station Mark: A Hydrographic Service of Canada Tablet set in a cylinder of concrete 6 inches in diameter. The name "Top" is stamped on the tablet. The station is referenced by two International Boundary Commission reference mark tablets set flush with the ground. Directions and distances to the reference marks are as follows:

Object	Direction	Distance
Station Elevator	0° 00' 00"	
Ref. Mark No. 1	180° 00' 50"	17.86 feet
Ref. Mark No. 2	251° 27' 40"	19.68 feet

STETHEM-U.S.L.S. (Ontario, Dundas County, 1873, 1933, 1959) -- In a field about one mile below Cardinal, about $\frac{1}{4}$ mile north of the Galop Canal, about 540 feet north of Highway No. 2, and opposite the western of two cemeteries. The station is about 252 feet northeasterly of the northeastern corner of the nearby house, and about 29 feet southerly of an 8-inch apple tree.

Station Mark: As established in 1873, is a shallow drill hole in a triangle cut in an irregular-shaped rock $1\frac{1}{2}$ feet below the grand. Reference Mark 1 is a standard International Boundary Commission bronze-disk reference mark set in a cylinder of concrete. Reference Mark 2 is a similar mark. Reference Mark 3 is a $\frac{3}{4}$-inch drill hole in a $1\frac{1}{2}$- by $\frac{1}{2}$-foot square rock. The directions and distances to the references are:

Object	Direction	Distance
Wort	00° 00'	
N. E. Corner of House	188° 09'	252 feet
Reference Mark 3	207° 43'	178.64 feet
Reference Mark 2	229° 30'	83.84 feet
Reference Mark 1	277° 09'	63.27 feet

ELEVATOR (Ontario, Grenville County, 1939, 1959)-- In the town of Cardinal, Ontario, on the flat deck roof of the tall

tower of the elevator of the Canada Starch Company, Limited.

Station Mark: The knob on the apex of the conical cover of the larger and taller of the two metal ventilators on the deck of the tower. The station is referenced by a Canadian Hydrographic Service tablet set flush with the surface of the deck of the tower, and numbered 3905. The reference lies in azimuth 122° 16', distant 9.86 feet.

130-SUB (New York, St. Lawrence County, 1939, 1959)-- On the United States side of the boundary directly opposite the town of Cardinal, Ontario, and about 6 miles downstream from the Ogdensburg-Johnstown Bridge, on a rise of ground and to the rear of houses along the north side of the highway.

Station Mark: A subsurface mark consisting of a brass screw set in the top of a mass of concrete poured around large rocks 18 inches underground. A surface mark was established in 1959, consisting of an International Boundary Commission standard bronze-disk station mark set flush with the surface in the top of a cylinder of concrete 6 inches in diameter. Reference Mark 1 is a drill hole and an arrow pointing towards the station cut in a large boulder showing an area of 3 by 3 feet and 6 inches high east of the station. Reference Mark 2 is a like mark cut in a large rock showing an area of 3 by 3 feet and 6 inches high south of the station. Directions and distances to the references are:

Object	Direction	Distance
Station Elevator	0° 00' 00"	
Reference Mark No. 1.	95° 15'	21.37 feet
Reference Mark No. 2.	201° 49'	10.28 feet

WAGNER-U.S.L.S. (New York, St. Lawrence County, 1873, 1933, 1959)-- Located about 8½ miles below Ogdensburg, about ¼ mile from the river, and about 390 feet S of the river road. It is in the NE corner of a small woods on a hill about 38 feet in from the N edge, and 21 feet W of the fence on the E edge of the woods. It is 195 feet SE of an arrow cut in a 5- by 3- by 1-foot-high boulder in a field, 103.1 feet NE of an arrow cut in a 6- by 3- by 3½-foot-high boulder in the woods, and 24 feet W of a double-trunk elm tree. The elevation above the river is about 40 feet.

Station Mark: Established in 1873, is a drill hole in a stone. The surface mark is a 1½-inch triangular drill hole in a stone, 5 inches square, centered over the station mark and flush with the ground. The surface stone was found split lengthwise. The station is referenced by two drill holes in rocks, one about 6 feet north-northwest of

the station, and the second about 3 feet north-northwest of the station.

LALONE (New York, St. Lawrence County, 1959)-- On Lalone Island directly opposite the town of Cardinal. The station is near the western end of the Island, and about 100 feet south from the high bank along the river.

Station Mark: An International Boundary Commission standard bronze-disk station mark set flush with the surface in the top of a cylinder of concrete 6 inches in diameter. The subsurface mark consists of a screw set in a 6-inch cylinder of concrete two feet below the surface of the ground. The station is referenced by International Boundary Reference Monument 47-59, which lies in azimuth 66° 54', distant 23.84 feet.

DUPUIS (New York, St. Lawrence County, 1959)-- Near the eastern end of the main portion of Galop Island, about 150 feet west of the edge of the bank dropping off to a small bay. The station is about 20 feet south of the center line of the east - west dyke in the small by produced. It is 166 feet from a cluster of elms which bear 100° magnetic.

Station Mark: An International Boundary Commission standard bronze-disk station mark set flush with the surface in the top of a cylinder of concrete 6 inches in diameter. The subsurface mark consists of a screw set in a 6-inch cylinder of concrete two feet below the surface of the ground. The station is referenced by two International Boundary Commission reference mark tablets set in cylinders of concrete flush with the ground. A third reference is a $\frac{3}{4}$-inch drill hole in a flat 4-foot triangular rock with an arrow pointing to the station. Directions and distances to the reference marks are as follows:

Object	Direction	Distance
Station Elevator	0° 00'	
Ref. Mark No. 1	21° 38'	40.49 feet
Ref. Mark No. 2	82° 10'	43.90 feet
Ref. Mark No. 3	83° 58'	54.66 feet

SISMEY (Ontario, Grenville County, 1959)-- About $\frac{3}{4}$ mile west of the town of Cardinal. On the old Galop Canal property adjoining that of Thomas Sismey. It is about 3 feet south of the northern limit of the canal property, about 30 feet north of the edge of the bank dropping off to the canal, about 11 feet north of a ditch and directly opposite a pair of hawthorne bushes. The westerly corner of a brick house bears 347° magnetic.

Station Mark: An International Boundary Commission standard bronze-disk station mark set flush with the surface in the top of a cylinder of concrete 5 inches in diameter. The subsurface mark consists of a screw set in a 6-inch cylinder of concrete two feet below the surface of the ground. The station is referenced by International Boundary Commission Reference Monument 48-59, which lies in azimuth 41° 48', distant 25.52 feet.

129-SUB (Ontario, Grenville County, 1939, 1959)-- About 1½ miles west of the town of Cardinal. It is on the old Galop Canal property which was leased by a coal company. The station is north of the old coal yard and on top of the 25-foot-high bank extending along the north side of the canal property.

Station Mark: An International Boundary Commission standard bronze-disk station mark set nearly flush with the ground in the top of a cylinder of concrete 10 inches in diameter and 24 inches in depth. The subsurface mark is a brass screw set in a mass of concrete poured between some large rocks 24 inches underground. Reference Monument 49-59 lies in azimuth 102° 12', distant 43.24 feet. Reference Mark 2, a drill hole with an arrow pointing towards the station cut in an exposed rock 2½ by 2 feet, lies in azimuth 109° 16', distant 40.45 feet.

ADAMS (Ontario, Grenville County, 1939)-- On Adams Island at the head of Galop Rapids in the St. Lawrence River. The station is on high ground about 100 meters northeast of the highest point of the island.

Station Mark: An International Boundary Commission standard bronze-disk station mark set in a drill hole in the surface of a large embedded boulder showing about 2 by 2½ feet in area 6 inches above the ground. There is no subsurface mark. Reference Mark 1 is International Boundary Reference Monument 50. Reference Mark 2 is a drill hole and an arrow pointing toward the station cut in a rock rising to a straight ridge, 4 by 7 feet by 1½ feet high. The directions and distances to the references are:

Object	Distance	Direction
Station 129-Sub	meters	0° 00'
Monument 50	76.958	46° 59'
Reference Mark 2	29.023	340° 07'

PITT (New York, St. Lawrence County, 1959)-- On the portion of Galop Island which is now north of the ship canal. The station is at the western edge of the highest part of the

DRUM (Ontario, Grenville County, 1959)-- On Drummond Island east of the Johnstown-Ogdensburg International Bridge. The station is near the eastern end of the Island and approximately 50 feet from the bank along the river.

Station Mark: An International Boundary Commission standard bronze-disk station mark set flush with the surface in the top of a cylinder of concrete 6 inches in diameter. The subsurface mark consists of a screw set in a 6-inch cylinder of concrete two feet below the surface of the ground. The station is referenced by Reference Monument 51-59, which lies in azimuth 12° 27', distant 41.80 feet.

JOHNS (Ontario, Grenville County, 1959)-- About 2 miles east of the Johnstown-Ogdensburg International Bridge along Highway No. 2. The station is on the eastern boundary of the Johnstown Motel property. It is 428 feet southerly along the eastern boundary from the center line of Highway No. 2.

Station Mark: An International Boundary Commission standard bronze-disk station mark set flush with the surface in the top of a cylinder of concrete 6 inches in diameter. The subsurface mark consists of a screw set in a 6-inch cylinder of concrete two feet below the surface of the ground. The station is referenced to the corners of the two Motel Buildings. Southeast corner of the northern building bears 300° magnetic, slope distance 133.71 feet. Southwest corner of the northern building bears 276° magnetic, slope distance 201.87 feet. Northeast corner of the southern building bears 255° magnetic, slope distance 227.5 feet. Southeast corner of the southern building bears 227° magnetic, slope distance 241.0 feet.

EDWARDSBURG-U.S.L.S. (Ontario, Grenville County, 1873)-- On the N bank of the Galop Canal, opposite Cardinal. Not found in 1901, probably excavated.

GALLOPS-U.S.L.S. (Ontario, Grenville County, 1873)-- On a low hill on the N side of Galop Canal, opposite Galop Island. Not found in 1933, probably excavated in 1906 when part of the bank was removed.

CHIMNEY POINT-U.S.L.S. (New York, St. Lawrence County, 1871, 1934)-- On Chimney Point, about 3 miles below Ogdensburg, on the property of the St. Lawrence State Hospital. It is 550 feet S of the river bank at a small gully, 375 feet SE of the SW corner of pumphouse, and 366 feet SE of the SE corner of

Island. It is approximately on line between triangulation station Red Mills and Reference Monument 50. It is in line with the northern of three large trees on the western edge of Galop Island and the southern pier of the Johnstown-Ogdensburg Bridge. The most easterly of a group of 3 radio towers bears 354° magnetic. The most northerly tip of Pier Island bears 256° magnetic.

Station Mark: An International Boundary Commission standard bronze-disk station mark set flush with the surface in the top of a cylinder of concrete 6 inches in diameter. The subsurface mark consists of a screw set in a 6-inch cylinder of concrete two feet below the surface of the ground. The station is referenced by two International Boundary Commission reference mark tablets set in cylinders flush with the ground. Directions and distances to reference marks are as follows:

Object	Direction	Distance
Station Elevator	0° 00' 00"	
Ref. Mark 1	266° 21' 50"	35.63 feet
Ref. Mark 2	190° 17' 50"	43.27 feet

RED MILLS-U.S.L.S.=132-I.W.C. (New York, St. Lawrence County, 1873, 1939, 1959)-- The station is on a rise of land about 6 miles below Ogdensburg, and about $\frac{3}{4}$ mile above Red Mill. It is about 600 feet from the river, and about 400 feet northwesterly of the River Road. The site on which this station is located is now a Trailer Park. The location of the station is about seven feet from the northwesterly wall of the Service Building, and its location was indicated on that wall in 1959.

Station Mark: A United States Lake Survey station mark set flush with the surface of the ground. The sub-surface mark is a drill hole within a triangle cut in an irregular-shaped granite boulder 14 inches in diameter placed 20 inches underground. Reference Mark is a sub-station established in 1955, consisting of a standard International Boundary Commission bronze-disk station mark set in a 6-inch cylinder of concrete 18 inches long, 6 inches below ground level. The sub-station is 116.58 feet from station Red Mills on line to 130-sub. It is about 2 feet east of the easterly fence of the trailer park, about 7 feet southerly of a fence-post, 12.5 feet southwesterly of another fence-post at end of stone wall, and about 20 feet southwesterly of a boulder lying at south side of the same wall.

the pumphouse. It is 192 feet N of a 34-inch ash tree, 152 feet E of an 18-inch butternut tree, about 165 feet NW of a cast-iron drainage inlet grating, and 105.71 feet W of reference No. 1, a metal tablet, set in concrete 10 feet W of a wagon road, bearing the name "U.S. LAKE SURVEY" and an arrow which points to the station.

Station Mark: The center hole of a triangle cut in a 1-foot square stone, 2 feet below the ground.

JOHNSTOWN-U.S.L.S. (Ontario, Grenville County, 1871, 1934, 1957)-- In Canada, about $3\frac{1}{4}$ miles below Prescott, on a point W of Johnstown church. It is 27.8 feet E of the SE corner of a cottage and 28.5 feet SE of the NE corner of the cottage. It is 77.5 feet N of a drill hole in rock, 92.2 feet E of a flagpole, 53 feet SW of a large triple-trunked willow, and 16 feet S of one of two box elder trees on line.

Station Mark: The center hole of a triangle cut in a stone set about 3 feet below the ground.

FRAZERS-U.S.L.S. (Ontario, Grenville County, 1871, 1933, 1957)-- Located about 2 miles below Prescott, about $\frac{1}{2}$ mile NE of Windmill Point Lighthouse. It is on a low point of the SW end of an orchard, 47 feet from the S rail of a track, and about 37 feet from the top of the river bank. It is 185.3 feet NE of a $\frac{3}{4}$-inch drill hole in a 6- by 4- by 4-foot-high boulder, 83.5 feet SSW of a $\frac{3}{4}$-inch drill hole in a $2\frac{1}{2}$- by 1-foot-high boulder, and 46.7 feet N of a $\frac{3}{4}$-inch drill hole in ledge rock. The elevation above the river is about 8 feet.

Station Mark: Established in 1871, is a drill hole in solid rock $1\frac{1}{2}$ feet below the ground. The surface mark is a 1-inch triangular drill hole in a sandstone block, 5 inches square, and flush with the ground.

OGDENSBURG, EAST BASE 2 (New York, St. Lawrence County, 1902, 1939)-- Located on the E side of Ogdensburg, about 1/8 mile NE of a railroad underpass, about 180 feet NW of a highway, and about 120 feet S of the river bank. It is 5 feet W of a double black walnut tree, about on line with three 16-inch poplar trees, and 21 feet SE of the S one. It is 64 feet W of the NW corner of a house, 32 feet NE of a 15-inch elm tree, and 1.8 feet ENE of a 2-inch pine projecting $\frac{1}{2}$ foot above the ground. The elevation above the river is about 40 feet.

Station Mark: Established in 1902, is a drill hole in a triangle cut in an 8- by 10- by 8-inch-thick sandstone bearing the letters "U.S." and set 3 feet below the ground.

The surface mark is a 1½-inch triangular drill hole in a 6- by 10- by 18-inch-long Sandusky stone centered over the station mark and ¼ foot below the ground.

OGDENSBURG LIGHTHOUSE-U.S.L.S. (New York, St. Lawrence County, 1871)-- On the New York Central Railroad car-ferry dock in Ogdensburg. Could not be found in 1933 and was probably destroyed by the construction of a new wall.

HENRY-U.S.L.S. (Ontario, Grenville County, 1871)-- Between the road and the river, about 1 mile above Prescott. It could not be found in 1933 and was probably destroyed by construction work.

RAILROAD-U.S.L.S. (Ontario, Grenville County, 1871, 1873)-- Station is in Canada, about 2 miles above Prescott. It is on the N side of the railroad and about 500 feet from the railroad, on the NW corner of an old earthwork.

Station Mark: A buried stone with chiseled triangle. A cut Sandusky stone set flush with the surface is placed over the station.

G-U.S.L.S. (Ontario, Grenville County, 1873)-- On the Canadian side of the river, about 3½ miles above Prescott. It is on the highest land between the railroad and the river and about 800 feet from the railroad. It is directly toward the river from the point where the railroad from Prescott enters a swampy area about 1 mile before reaching Maitland.

Station Mark: A buried stone with chiseled triangle. The surface mark is a cut Sandusky stone about flush with the ground, not recovered in 1957.

MAITLAND-U.S.L.S. (Ontario, Grenville County, 1873)-- On a point on the Canadian shore of the river just upstream from the village of Maitland, on land belonging to George C. Langley. It was just upstream from an old ice house. The original station was marked by a standard stone with chiseled triangle, buried 2½ feet below the surface. It was recovered in 1902 but could not be found in 1933.

BRENNAN-U.S.L.S. (Ontario, Grenville County, 1873)-- On land owned, when the station was built, by Mrs. Malock and occupied by Patrick Brennan, about ½ mile W of Maitland. It is in the field N of the lot in which the stone residence is located and separated from it by a stone wall. This field also has a stone wall on its NW side and a stone wall

on the NE separates it from the land of Robert Byers. The station is in a triangle formed by two boulders and an ash tree. It is a little NW of the center of the field. The railroad is about 1,000 feet NW of the station. It is 100 feet above the river. Not searched for in 1933.

Station Mark: A standard stone buried 2.5 feet below the surface, with standard surface stone.

Object	Direction	Distance
NE base	0° 00' 00"	1027 feet
Triangle on ash tree	87° 16'	45.1 feet
Triangle on boulder	182° 55'	54.1 feet
House of Mrs. Malock, NW corner	219° 10'	
Triangle on boulder	346° 52'	15.7 feet

BROCKVILLE ROCK 2-U.S.L.S. (New York, St. Lawrence County, 1902)-- On a small rocky island N of Old Man Island in the St. Lawrence River opposite Prescott. Mr. Pierce owns the island and has a small cottage on it SE of the station. The station is 6 feet from the SW corner of the cottage, 12.1 feet from the NW corner, 17 feet from the W point of the island, and 3 feet from the river to the NW. Not recovered in 1933.

Station Mark: A sunken triangle in solid rock with a drill hole in its center.

135-SUB (Ontario, Grenville County, 1939)-- On the north bank of the St. Lawrence River about 1½ miles below Prescott, about 140 meters north of Windmill Point lighthouse, about 90 meters south of Ontario Highway No. 2. The station is in a rocky pasture, 2 meters west of the southwest bank of an old stone quarry, about 75 meters northeast of an old stone house with attached barn, and about 120 meters southwest of an old stone barn with a wooden shed attached.

Station Mark: An International Boundary Commission standard bronze-disk station mark set nearly flush with the ground in the top of a cylinder of concrete 10 inches in diameter and 24 inches in depth. The subsurface mark is a brass screw set with cement in a drill hole in a rock 30 inches underground. The directions and distances to the references are:

Object	Direction	Distance
Station Bench Mark 27	0° 00'	meters
Reference Mark 1	68° 53'	29.44
Reference Mark 2	129° 13'	43.16

WEST BASE, OGDENSBURG-U.S.L.S. (New York, St. Lawrence County, 1871, 1939, 1960)-- In Ogdensburg, about 40 meters north of the Washington Street north property line, and about 27 meters east of the Tate Street east property line on the property line between 1206 and 1210 Washington Street north. It is on top of the railroad bank about 6 meters south of its edge, 4.6 meters northwest of a fence intersection, and on line with a fence separating adjacent lots. The station is 62.362 meters north of a stone monument at the southeast corner of Washington and Tate Streets, 32.92 meters northwest of the northeast corner of the east wing of a house and grocery store, 12.2 meters northeast of the northwest corner of a garage with a chimney, and 13.1 meters west of the northeast corner of a shed. The elevation above the river is about 20 feet.

Station Mark: A drill hole within a triangle cut in a stone 1 foot square and 2½ inches thick placed 2½ feet underground. The surface mark is a drill hole within a triangle cut in the top of stone post 5 inches square and 1 foot in depth placed 1 foot underground. In 1957 a new surface mark had been set in a 10-inch square concrete block projecting 2 inches above ground.

WINDMILL (Ontario, Grenville County, 1939)-- On the north bank of the St. Lawrence River, about 2 miles northeast of Prescott and about 3/10 mile northeast of Windmill Point Lighthouse. The station is on the crest of a narrow and sharp ridge, the downstream of several, just south of the highest point. It is about 80 meters from the river and 20 meters riverward from an abandoned section of paved highway.

Station Mark: An International Boundary Commission standard bronze-disk station mark set nearly flush with the ground in the top of a cylinder of concrete 10 inches in diameter and 24 inches in depth. The subsurface mark is a brass screw set in the top of a circular block of concrete 10 inches in diameter and 12 inches in depth placed 24 inches underground. There is but one reference mark: A drill hole and an arrow pointing toward the station cut in an embedded boulder showing a surface of 2 by 3 feet flush with the ground. The directions and distances to the references are:

Object	Direction	Distance
Station Bench Mark 27	0° 00' 00"	meters
Windmill Point Light, apex of roof	43° 21'	

Object	Direction	Distance
Reference Mark in boulder (slope)	179° 58'	11.87
International Boundary Reference Monument 52	208° 40' 09"	85.527

WINDMILL POINT - U.S.L.S. (Ontario, Grenville County, 1871, 1939, 1960)-- About 1½ miles northeast of Prescott, on Windmill Point, about 15 feet north of the edge of the bluff. The station is 6 feet south of a ¾-inch drill hole in the base of the stone wall of the Windmill Point Lighthouse, and 31.50 feet southwest of a ¾-inch drill hole in a boulder 1 by 1½ feet by 1½ feet high near the edge of the bluff. The elevation above the river is about 25 feet.

Station Mark: A 3/8-inch drill hole cut in solid rock about 1 foot below the ground surface.

137-I.W.C. (Ontario, Grenville County, 1939, 1959) -- Just east of Prescott, on the embankment around Fort Wellington, about 46 feet northerly of the southeastern corner of the embankment. The station is about the middle of the crest of the embankment, 3.77 feet from the nearest edge of the plank cap on the top of the piling revetment on the inside of the embankment. The station was occupied eccentrically under the heading 137-Sub, 42.65 feet from the station in azimuth 337° 02'. The substation was not marked.

Station Mark: An International Boundary Commission standard bronze-disk station mark set 2 inches below the surface on the lawn in the top of a cylinder of concrete 8 inches in diameter and 24 inches in depth. The subsurface mark is a brass screw set in a circular block of concrete 8 inches in diameter and 12 inches in depth placed 24 inches underground. The station is referenced by an iron post a about 3 inches in diameter and 24 inches high that was the center post of a revolving gun which is now replaced by a large old cannon on a 4-wheeled truck. The reference lies in azimuth 356° 10', distant 66.27 feet.

BENCH MARK 27 (New York, St. Lawrence County, 1939) -- On the south shore of the St. Lawrence River, in the town of Ogdensburg, on the sharp point of the shore line at the foot of Patterson Street, at the terminal of the Rutland Railroad. The station is about 15 meters from the water's edge at the tip of the point, 15 meters upstream from the southwest corner of the large Rutland Railroad warehouse, and 8 meters west of a hydrant. It is at the end of a railroad track, between the rails, and 1 meter in front of the bumper at the end of the track.

Station Mark: A bronze bench mark disk stamped "U.S. Engineers Office, Buffalo, N.Y., 27" set nearly clush with the ground in the top of a cylinder of concrete 10 inches in diameter and of unknown depth. This mark was found in place as described.

FERRY (New York, St. Lawrence County, U.S.L.S., 1933, 1939, 1957) -- In Ogdensburg, N.Y. on the N. Y. Central Railroad car ferry dock. The station is about 270 feet northeast of the northeast corner of the Ogdensburg lighthouse, 31 feet east of the most northerly switch stand on the fill, and is between the most easterly track on the fill and the east edge of the fill, being 9.8 feet from the east rail of the track, and 12.1 feet from the east edge of the fill.

Station Mark: The original station mark was a $\frac{3}{4}$-inch drill hole in a 1 by 1 foot boulder flush with the ground. In 1939 an International Boundary Commission standard bronze disk station mark was cemented into the original drill hole, and two references were marked. Reference mark 1 is a drill hole and an arrow pointing toward the station cut in the top of a pointed 3-by 5-foot block of white limestone on the west side of the railroad fill. Reference mark 2 is a like mark cut in a 2-by 3-foot block of white limestone on the west edge of the fill. The directions and distances to the references are:

Object	Direction	Distance
Station 139-Sub	0° 00'	
Reference mark 1	7 58	54.63 feet
Ogdensburg light	246 01	
Reference mark 2	295 48	37.20 feet

139-SUB (Ontario, Grenville County, 1939, 1959) -- At Prescott, Ontario, on the dock of the Prescott Electric Power Company on the north shore of the St. Lawrence River. The station is on the lawn, about midway between the concrete curb of a well and the downstream corner of the concrete retaining wall around the dock, and 4.07 feet from the inside edge of the retaining wall. In 1959 station was 8 inches from the inside southern edge of a concrete walk, and 22.54 feet from the eastern outside edge of concrete walk.

Station Mark: An International Boundary Commission standard bronze-disk station mark set nearly flush with the ground in the top of a cylinder of concrete 10 inches in diameter and 24 inches in depth. The subsurface mark is a brass screw set in the top of a circular block of concrete 10 inches in diameter and 12 inches in depth set

24 inches underground. Reference mark 1 is the southern outside corner of the concrete retaining wall around the dock. Reference mark 2 is the northern outside corner of the inside end of the concrete retaining wall on the downstream side of the dock. Reference mark 3 is the outside of the downstream corner of the retaining wall. The directions and distances to the references are:

Object	Direction	Distance
Station Ferry	0°00'	
Ogdensburg light	02 57	
Reference mark 1	101 53	31.20 feet
Reference mark 2	234 14	50.66 feet
Reference mark 3	329 58	25.10 feet

140-SUB (New York, St. Lawrence County, 1939) -- The station was reported lost in 1957.

141-SUB (Ontario, Grenville County, 1939,1957) -- About 2½ miles southwest of Prescott, on the point of the shoreline just below Little Church Bay on the north shore of the St. Lawrence River. The station is on a rock ledge, 3 feet inshore from the edge of the ledge and just outside the grass line. It is 130 feet downstream from a dock, and 4 feet east of the line of the east face of the south portion of a cottage north of the station.

Station Mark: An International Boundary Commission standard bronze disk station mark set in a drill hole in the ledge rock. Reference mark 1 is a drill hole and an arrow cut in outcropping rock showing a surface about 3 by 3 feet nearly flush with the ground northwest of the station and on line to and 16 feet from the corner of the next cottage upstream from the one by the station. Reference mark 2 is a like mark cut on a boulder 3 by 3 feet by 2 feet high on the shore line downstream from the station. The directions and distances to the references are:

Object	Direction	Distance
Station Nevins	0°00'	
Reference Mark 1	132 34	54.56 feet
Reference Mark 2	262 01	42.32 feet
Church spire, Prescott	269 21	

NEVINS (New York, St. Lawrence County; U.S.L.S., 1873, 1939, 1957) -- About 3 miles southwest of Ogdensburg and about 1000 feet northwest of a square white schoolhouse near highway 37; on the south shore of the St. Lawrence river. The station is about 211 feet northwest of the northeast corner of the ruins of a stone house.

It is on the rocky beach, at the base of a low bank, about 20 feet from the top of the bank, 367 feet northwest of the north rail of a railroad, 172 feet north-northeast of an elm tree 24 inches in diameter, and 23 feet north-northwest of an 18-inch cedar tree. The elevation above the river is about 4 feet.

Station Mark: A United States Lake Survey standard bronze disk station mark stamped "Nevins 1873" set in a drill hole in a grey boulder 4 by 5 feet by 1 foot high. Two references were noted in 1939. Reference mark 1 is drill hole and an arrow pointing toward the station cut in a boulder 3 by 4 feet in size near the bank. Reference mark 2 an original mark, is a drill hole within a circle cut in a boulder 3 by 4 feet by 3 feet high at the water's edge. The directions and distances to the references are:

Object	Direction	Distance
Station 140-Sub	0°00'	
Reference mark 1	94 22	8.14 feet
Reference mark 2	342 52	43.50 feet

GUERNSEY (Ontario, Leeds County, U.S.L.S., 1902, 1939, 1957) -- About 3 $\frac{1}{4}$ miles northeast of Maitland, on the broad point of the north shore line of the St. Lawrence River at the southwest side of Little Church Bay. The station is on a rocky beach about 325 feet southeast of the southeast corner of a stone house, 43 feet south of a fence corner, and 64 feet east-northeast of a 28-inch elm tree. It is 55.81 feet northeast of a $\frac{3}{4}$-inch drill hole in a boulder 5-by 6-feet by 3 feet high, and 75.00 feet southeast of an 8-inch triangle cut in a boulder 3 by 4 feet by I $\frac{1}{2}$ feet high. The elevation above the river is about 4 feet.

Station Mark: A U.S.L.S. standard bronze disk station mark stamped "Guernsey 1902" set in a drill hole in a boulder 3 by 4 feet by 1 $\frac{1}{2}$ feet high.

143-SUB (Ontario, Grenville County, 1939, 1957) -- About 5 miles above Prescott, on the north shore of the St. Lawrence River, on the third point of the shore line of any prominence in the first mile and one-half above Little Church Bay. The station is just above extreme high-water mark and in 1957, about 400 feetdownstream from a new dock, and on Dupont Company property.

Station Mark: An International Boundary Commission standard bronze-disk station mark set in a drill hole in an outcropping rock showing about 2-by 2-feet nearly flush with the surface of the ground among some smaller outcrops. Reference mark 1 is a drill hole and an arrow cut in a rock

showing 2 by 2 feet and 6 inches high upstream from the station. Reference mark 2 is a like mark cut in a rock showing 2 by 3 feet and 6 inches high just outside the line of willows downstream from the station. The directions and distances to the references are:

Object	Direction	Distance
Station 141-Sub	0°00'	
Standpipe Morristown	175 58	
Reference mark 1	209 14	7.87 feet
Reference mark 2	349 40	46.69 feet

H-1902 (New York, St. Lawrence County, U.S.L.S., 1902, 1939, 1957) -- About 5½ miles southwest of Ogdensburg, on the south shore of the St. Lawrence River, on the rocky shore on a small point about 580 feet southwest of a crib dock, about 700 feet northeast of a cottage, and about 10 feet from the edge of a low bank and the edge of a thick cedar woods. The elevation above the river is about 4 feet.

Station Mark: A United States Lake Survey standard bronze-disk station mark stamped "H-1902" and set in a drill hole in a rock 3-by 3½-feet and 1 foot high. In 1939 three references were marked. Reference mark 1 is a drill hole and an arrow pointing toward the station cut in a triangular rock 4 feet on a side and showing 1 foot high among the cedar trees southeast of the station. Reference mark 2 is a like mark cut on a boulder 3 by 4 feet and 1½ feet high on the beach between the station and the water's edge on the point. Reference mark 3 is a like mark cut on the point of a triangular rock with sides of 4, 4, and 3 feet and 1 foot high, just above high-water mark downstream from the station. This last mark replaces a faint triangle and ¼-inch drill hole found on the rock. The directions and distances to the references are:

Object	Direction	Distance
Station Nevins	0° 00'	
Reference mark 1	124 00	24.36 feet
Reference mark 2	246 48	17.34 feet
Reference mark 3	352 09	40.24 feet
Ogdensburg light	358 23	

145-SUB (Ontario, Grenville County, 1939, 1957) -- About one-half mile northeast of Maitland, Ontario, on a prominent point of the north shore line of the St. Lawrence River. The Station is about 80 feet downstream from the sharp bend of the shore line of the point. In 1957 the tablet was about flush with the surface of the water and 4 feet outside the shore line.

Station Mark: An International Boundary Commission standard bronze disk station mark set in a drill hole in an outcropping rock showing 2 by 2 feet by 6 inches high. Reference mark 1 is a drill hole and an arrow cut in a rock 3 by 4 feet by 2 feet high at the edge of the tree growth upstream from the station. Reference mark 2 is a like mark cut in a rock 3 by 3 feet by 1 foot high at the edge of the tree growth downstream from the station. The directions and distances to the references are:

Object	Direction	Distance
Station 147-Sub	0° 00'	
Reference mark 1	42 55	7.09 feet
Reference mark 2	148 14	8.73 feet
Standpipe, Morristown	344 35	

146-SUB (New York, St. Lawrence County, 1939, 1957) -- About 3¾ miles northeast of Morristown, on the south shore of the St. Lawrence River about 1 mile northeast of Brooks Point, on a small rock ledge about 6 feet from the river and about 5 feet above the water. The station is about 75 feet northeast of an "L" shaped pier and 77 feet north of the northeast corner of a stone porch on a brown cottage.

Station Mark: An International Boundary Commission standard bronze disk station mark set flush in a drill hole in the ledge rock. Reference mark 1 is a ¾-inch drill hole and a large arrow pointing toward the station cut in ledge rock 10 feet from the water's edge. Reference mark 2 is a 3/8-inch iron pin 3 inches high set within an inscribed triangle in the ledge rock about 20 feet from the water's edge. The directions and distances to the references are:

Object	Direction	Distance
Station K, U.S.L.S.	0° 00'	
Reference mark 1	181 28	12.14 feet
Reference mark 2	270 10	29.00 feet

I - U.S.L.S. (New York, St. Lawrence County, 1873, 1939, 1957) -- About 4 miles northeast of Morristown, about 1 1/8 miles northeast of Brooks Point, on the south shore of the St. Lawrence River, on a flat ledge rock, about 20 feet from the water's edge and about 6 feet from the edge of the ledge. It is about 30 feet north-northwest of the north corner of a cottage. The elevation above the river is about 5 feet.

Station Mark: A U.S.L.S. standard bronze-disk station mark stamped "I 1873" set in a drill hole in solid rock. A U.S.L.S. standard bronze disk reference mark stamped "No. 1" with the arrow pointing toward the station,

set in a drill hole in the rock near the edge of the ledge, bears west-southwest from the station 46.90 feet distant. A cross cut in the ledge rock bears east-northeast from the station 51.50 feet distant.

147-SUB (Ontario, Grenville County, 1939, 1957) -- About one-fourth mile southwest of Maitland, Ontario, on a prominent point of the north shore line of the St. Lawrence River. A large summer cottage with its level and well-kept lawns covers the whole point out to the edge of the high bank of the river. The station is about 40 feet upstream from the tip of the point and is at about the extreme high-water mark of the river. In 1957 the station was about 10 feet outside the shore line under 2 feet of water.

Station Mark: An International Boundary Commission standard bronze disk station mark set in a drill hole in a rock showing 5 by 5 feet by 1 foot high above the ground. Reference mark 1 is a drill hole and an arrow pointing toward the station cut in a rock 3-by $3\frac{1}{2}$ feet by $1\frac{1}{2}$ feet high which was upstream and 3 feet outside the shore line in 1957. Reference mark 2 is a $\frac{1}{4}$-inch drill hole within a 2-inch triangle cut in a boulder 6 by 6 feet by 3 feet high downstream from the station. This mark was originally one of the references to the United States Lake Survey station "Maitland" now reported to be lost. The directions and distances to the references are:

Object	Direction		Distance
Station 145-Sub	0°	00'	
Standpipe, Morristown	161	16	
Reference mark 1	235	25	27.07 feet
Reference mark 2	355	27	10.71 feet

148-SUB (New York, St. Lawrence County, 1939, 1957) -- About $2\frac{3}{4}$ miles northeast of Morristown, on Brooke Point on the south shore of the St. Lawrence River. The station is near the eastern side of the point, 46.9 feet northeasterly of the northeastern corner of the main part of a brown cottage, 86.0 feet north of the northeastern corner of a gray cottage, about 100 feet west of a wooden pier with a flagpole, and about 150 feet downstream from 2 triangles cut in a rock

Station Mark: An International Boundary Commission standard bronze disk station mark set in a drill hole in a boulder showing 4 by 5 feet $2\frac{1}{2}$ feet high above ground. Reference mark 1 is $\frac{3}{4}$-inch drill hole and an arrow pointing toward the station cut in a boulder 2 by 3 feet in size about 25 feet back from the water's edge.

Reference mark 2 is a $\frac{3}{4}$-inch drill hole in the face of a 2-by 4-foot boulder in a stone wall near the water's edge in front of a white cottage. The directions and distances to the references are:

Object	Direction	Distance
Station K, U.S.L.S.	0° 00'	
Reference mark 1	191 21	39.73 feet
Sta. Brooks Pt. USLS.	282 22	162.17 feet
Reference mark 2	286 34	114.44 feet

149-SUB (Ontario, Grenville County, 1939, 1957) -- About $3\frac{1}{2}$ miles northeast of Brockville, Ontario, on a point of the north shore of the St. Lawrence River. The station is about the center of a square block of concrete about 8 by 8 feet by 4 feet high about 13 feet downstream from a concrete dock extending 50 feet into the river.

Station Mark: An International Boundary Commission standard bronze disk station mark set in a drill hole in the concrete. Monument 54 is 95.48 feet from the station in azimuth 125° 18' 20".

150-I.W.C., MORRISTOWN POINT - U.S.L.S. (New York, St. Lawrence County, 1873, 1957) -- About 1 mile northeast of Morristown, about $\frac{1}{4}$-mile west of Terrace Park station on the N. Y. Cent. R. R., about 650 feet southwest of Morristown Point on the south shore of the St. Lawrence River. The station is about 10 feet above the water, on a rock outcrop at the top of a bank on a small point of the shore line. It is about 6 feet from the edge of the bank, and 184 feet northeast of the eastern corner of a boathouse.

Station Mark: A United States Lake Survey standard bronze disk station mark, stamped "Morristown, 1873", set in a drill hole in the solid rock outcrop. Reference mark 1 is a U.S.L.S. standard bronze disk reference mark stamped "No. 1" set with the arrow pointing toward the station, in a drill hole in a large detached rock at the base of the bank. Reference mark 2 is a drill hole and an arrow cut in the rock outcrop 13 feet back from the edge of the high bank downstream from the station. Reference mark 3 is a drill hole between the letters C.D. cut in the rock outcrop upstream from the station. The directions and distances to the references are:

Object	Direction	Distance
Station 153-I.W.C.	0° 00'	
Chimney of Brockville Asylum	41 29	
Reference mark 1	128 32	19.52 feet
Reference mark 2		44.23 feet
Reference mark 3	12 34	32.31 feet

FINLEY - U.S.L.S. (Ontario, Grenville County, 1873) -- About midway between the railroad and the river, on land belonging to James Finley about ¾-mile W. of Maitland. It is in a part of the field having many stones and bushes and some trees, 2 of which are marked with triangles. It is 100 feet above the river. Not searched for in 1933.

Station mark: A standard stone buried 2.5 feet below the surface. Surface mark is a standard stone with chiseled triangle. It is marked with the letter "U.S." and is set about flush.

Object	Direction	Distance
Brennan	0° 00' 00"	
Elm tree	4 30	43.64 feet
Triangle on black cherry tree	9 59	46.92
Fence between Finley and Robert Byers	190 00	97.6
Railroad fence		1350
Railroad track		1400

BROOKS POINT - U.S.L.S. (New York, St. Lawrence County, 1873, 1939) -- About 2¾ miles northeast of Morristown, on Brooks Point on the south shore of the St. Lawrence River. The station is on top of a low bank on the broad rocky point, about 16 feet from the edge of the bank, about 27.9 feet southwest of the northwest corner of a cottage, and about 325 feet northwest of a railroad crossing. It is 29.89 feet west of a drill hole within a triangle cut on a 3-by 3-foot boulder, 18.21 feet south of a drill hole within a triangle cut on a 2-by 2-foot boulder on the bank, 12.86 feet east-southeast of a drill hole within a triangle cut on a 3-by 3-foot boulder on the bank, and 1.38 feet east of a square hole in a flat rock. The elevation above the river is about 7 feet.

Station Mark: A drill hole within a triangle between the letters U.S. cut in a 3½-by 5-inch sandstone post set 2 feet underground.

K-U.S.L.S. (Ontario, Grenville County, 1873, 1939, 1957) -- About 1 3/8 miles southwest of Maitland, south of St. Marys College, and about 80 feet north of the bank of the St. Lawrence River. The station is on an outcropping ledge of rock in a field about 400 feet west-southwest of a stone wall, and about 7 feet from the edge and 16 feet east of an angle in the ledge. In 1957 the station was about 160 feet upstream from a new building on the hill. The elevation above the river is about 30 feet.

Station Mark: A U.S.L.S. standard bronze-disk station mark stamped "K 1873" set in a drill hole in the solid rock. A U.S.L.S. standard bronze disk reference mark, stamped "No. 1", with the arrow pointing toward the station, set in a drill hole in ledge rock, bears west from the station 62.12 feet distant. A cross cut in the ledge rock bears east-southeast from the station 15.30 feet distant. International Boundary Commission Monument No. 54 bears east-southeast from the station about 460 feet distant.

EATON - U.S.L.S. (Ontario, Leeds County, 1873,1939, 1957)-- About 2 miles northeast of Brockville, about 1/8-mile north of the St. Lawrence River, and 300 feet southeast of Ontario Highway No. 2. The station is on a small rock outcrop in a field on the highest part of a hill rising to an elevation of about 70 feet above the river. It is 434 feet east of the southeast corner of the main part of a house, 65 feet southwest of a 20-inch cherry tree and 81 feet west of an 18-inch elm tree.

Station Mark: A United States Lake Survey standard bronze disk station mark stamped "EATON 1873" set flush with the ground in a drill hole in a rock outcrop 1 by $1\frac{1}{2}$ feet in area. A U.S.L.S. standard bronze-disk reference mark stamped "No. 1", with the arrow pointing toward the station, and set in a drill hole in outcropping bedrock, bears west from the station 46.59 feet distant.

TAYLOR - U.S.L.S. (New York, St. Lawrence County, 1872, 1939, 1957)-- About $3\frac{3}{4}$ miles southwest of Morristown, N.Y., on Point Comfort on the south shore of the St. Lawrence River. The station is on the rock outcrop at the top of the river bank, about 7 feet from the edge of the outcrop, and 48 feet southwest of a L shaped dock. It is 35 feet north of the southwest corner of a cottage, 22 feet northwest of the northwest corner of the cottage, and 75 feet northeast of the stump of a 24-inch birch tree. It is about 8 feet above the river.

Station mark: A United States Lake Survey standard bronze disk station mark stamped "Taylor, 1872" set in a drill hole in solid rock. Reference marks as follows were set in 1939: Reference mark 1 is a drill hole and an arrow pointing toward the station cut in an outcrop of rock southeast of the station and east of a brown cottage. Reference mark 2 is a like mark cut in outcropping rock north of the station and about 2 feet in from the edge of the rock. Number 2 was used as an eccentric station in 1939. The directions and distances to the references are:

Object	Direction	Distance
Station 157-I.W.C.	0° 00'	
Reference mark 1	79 53	29.20 feet
Reference mark 2	358 45	20.90 feet
Boundary Ref. Mon. 56	6 21	

MAITLAND, NORTHEAST BASE - U.S.L.S. (Ontario, Grenville County, 1873) -- On land owned by Mrs. Malock and occupied by Patrick Brennan, about ½-mile W. of Maitland. It is slightly inside the fenceline between this land and the railroad right-of-way, about 2/5 of the way from the Burns property on W. side to the Byers property to the E, and just W. of a pole. Not searched for in 1933.

Station Mark: A standard stone set 3 feet underground, with standard surface stone set about flush.

Object	Direction	Distance
SW base	0° 00' 00"	
S rail of Grand Trunk Railway	90 00	43.6 feet
Triangle on elm tree in field	252 32	233.76 feet

MAITLAND, SOUTHWEST BASE - U.S.L.S. (Ontario, Grenville County, 1873) -- About ¾-mile W of Maitland, on the Grand Trunk Railway right-of-way. It is near the fence, between the railroad property and the property of Mr. Kelley known as the Harvey Farm, and a few feet E of the fenceline between the Kelley farm and the Finley Farm. Not searched for in 1933.

Station Mark: A 6-inch square Sandusky sandstone 15 inches long about 2 feet below the ground. Surface mark is a drill hole in a triangle with letters "U.S."

Object	Direction	Distance
NE base	0°00'00"	
Triangle on pine tree in Finley field	141 58	157.5 feet
S rail of Grand Trunk Railway	270 00	40.2 feet

PRESBYTERIAN CHURCH SPIRE, BROCKVILLE - (Ontario, Leeds County, 1939, 1957) The tallest and most conspicuous spire in the city of Brockville.

Station Mark: The center of the tip of the spire. It is not feasible to occupy the station.

ELIZABETHTOWN - G.S.C. (Ontario, Leeds County, 1908, 1939, 1959) -- On property originally known as the commons between the townships of Elizabethtown and Augusta, in Concession V, Elizabethtown township, Leeds County, Ontario.

Reached from Algonquin by driving southwesterly for 1.3 miles; thence north and northwesterly ½ mile to a road running southwesterly, continue on this road for 0.6 miles. The station is on the right and north of the road.

Station mark: The lower mark consists of a 3/16-inch copper wire set in a drain tile filled with concrete; the top of the mark is 5 feet underground. The surface mark is a standard Geodetic Survey of Canada bronze disk station mark set 1 foot underground in the top of a cylinder of concrete 12 inches in diameter and 30 inches in depth. The station is referenced by a concrete reference monument 0.4 miles northerly of the road, near the western limit of Lot 37. (The top is broken off this monument and the base partially destroyed). Maple Tree (a) lies in magnetic bearing 332°, distant 76.0 feet. Maple Tree (b) lies in magnetic bearing 50°, distant 25.7 feet. A Hemlock tree lies in magnetic bearing 194°, distant 34.5 feet. The Azimuths and distances to additional references are:

Object	Azimuth	Distance
Ref. Mon.	100° 18' 22"	399.90 feet
N.W. Corner Lot 37	179 36 45	900.90 feet

STANDPIPE, MORRISTOWN (New York, St. Lawrence County, 1939, 1957) -- The standpipe and steel water tank on the hill in Morristown, N.Y.

Station Mark: The point of the finial on the conical roof of the tank. The station was not occupied, nor is it feasible without heavy expense.

LANSDOWNE - G.S.C. (Ontario, Leeds County, 1908, 1939, 1959) -- On Blue Mountain, on Lot 24, Concession VII, Lansdowne Township. The station is reached from Mitchellville on No. 2 highway by driving 45 miles northwesterly to the end of the township road. It is on the highest part of Blue Mountain, one mile northwesterly from the end of the road.

Station mark: A ¾-inch copper bolt leaded into the rock. It is referenced by two ¾-inch copper bolts and connected to the northeast corner of Lot 24. The azimuth and distances to the references are:

Object	Azimuth	Distance
Copper Bolt 1	203° 42' 21"	158.93 feet
Copper Bolt 2	21 02 47	116.85 feet
Lot Corner	216 44 45	331.06 feet

151-I.W.C. (Ontario, Leeds County, 1939, 1957) -- About 1½ miles northeast of Brockville, Ontario, on a point of the north shore of the St. Lawrence River. The station is about the middle of a flat ledge about 6 feet wide and 2 feet above the normal water level of the river. Back of this ledge the rock rises steeply about 4 feet to a higher flat or sloping ledge.

Station Mark: An International Boundary Commission standard bronze-disk station mark set in a drill hole in the solid rock of the ledge. In 1957 the station was one inch under water with only the shank of the marker remaining. Reference mark 1 is a drill hole and an arrow pointing toward the station cut in the rock of the higher ledge 1 foot back from the edge of the ledge upstream from the station, and at the shore terminal or end of a line fence. Reference mark 2 is a like mark cut in the bare rock of the higher ledge directly inshore from the station. The directions and distances to the references are:

Object	Direction	Distance
Ref. Mon. 55	0° 00'	
Reference mark 1	40 48	29.44 feet
Reference mark 2	126 50	10.14 feet
Standpipe, Morristown	320 23	

153-I.W.C.- The station is the center mark in the top of Reference Monument 55, see description of monument.

152-SUB (New York, St. Lawrence County, 1939, 1957)-- About one-fourth mile north of the village of Morristown, on the south shore of the St. Lawrence River, on the tip of a low rocky ledge at the east side of the entrance to Morristown Bay. The station is on ledge rock about 500 feet north of the yellow brick chimney of an old milk plant, about 300 feet northwest of a railroad track, and about 200 feet northeast of an old pier.

Station Mark: An International Boundary Commission standard bronze-disk station mark set in a drill hole in solid rock. Reference mark 1 is a drill hole and an arrow cut in the ledge rock southeast of the station. Reference mark 2 is a like mark cut in the ledge rock south of the station. The directions and distances to the references are:

Object	Direction	Distance
Ref. Mon. 55	0° 00'	
Reference mark 1	176 17	60.79 feet
Reference mark 2	237 22	79.82 feet
Pres. Ch. spire Brockville	341 50	

154-I.W.C. - (New York, St. Lawrence County, 1939, 1957) -- About 1½ miles southwest of the village of Morristown, on the sharpest point of the sharp flat point of the shore line on the upper side of Eager Bay on the south shore of the St. Lawrence River; directly opposite Old Man Island. The station is 5 feet inshore from the edge of the ledge upon which it is situated, and 10 feet downstream from a fence that terminates at the river. There are two cottages a short distance upstream from the station.

Station Mark: An International Boundary Commission standard bronze-disk station mark set in a drill hole in the ledge rock. In 1957 only the shank of the station mark remained. Reference mark 1 is a drill hole and an arrow cut in the ledge rock upstream from the station, 10 feet downstream from the fence before-mentioned, and just outside of and opposite an angle of a retaining wall built around the lawn belonging to the first cottage upstream from the station. The directions and distances to the references are:

Object	Direction	Distance
Boundary Ref. Mon. 55	0° 00'	
Reference mark 1	52 18	16.01 feet
Reference mark 2	174 19	31.14 feet
Pres. Ch. spire, Brockville	309 39	

155-SUB - (Ontario, Leeds County, 1939, 1957) -- In Brockville in the public park on Blockhouse Island, about 36 feet inshore from the iron railing on the retaining wall along the river face of the island. The station is 46.92 feet riverward from the concrete flagpole near the center of the park, 18.86 feet inshore from the back of the curb along the driveway on the river front, and 139.01 feet from the outside corner of the concrete walk at the eastern corner of the park. In 1957 a new retaining wall was built along the river front.

Station Mark: An International Boundary Commission standard bronze-disk station mark set just below the sod in the top of a cylinder of concrete 10 inches in diameter and 20 inches in depth. The subsurface mark is a cross cut in a small piece of bronze set in a mass of concrete 20 inches underground.

156-I.W.C. - (New York, St. Lawrence County, 1939, 1957) -- About 2¾ miles southwest of Morristown, on the south shore of the St. Lawrence River; on a little rounded point of the shore line, the third from the east, on the north face of the little peninsula called Delack Point.

The station is on a rock ledge about 3 feet back from the river. The bank rises higher back of the station. The ledge has a large crack in it, leaving the station on a partially detached block of rock about 10 by 20 feet in area and 3 feet in depth. In 1957 the ledge was under 2 feet of water and 6 feet outside the shore line. The station should be checked by the references before using.

Station Mark: An International Boundary Commission standard bronze-disk station mark set in a drill hole in the rock. Reference mark 1 is a drill hole and an arrow cut in the ledge rock at the foot of the high bank upstream from the station. Reference mark 2 is a like mark cut in the ledge rock at the foot of the high bank downstream from the station. The directions and distances to the references are:

Object	Direction	Distance
Boundary Ref. Mon. 56	0° 00'	
Pres. Ch. spire, Brockville	56 36	
Standpipe, Morristown	101 55	
Reference mark 1	168 40	26.74 feet
Reference mark 2	242 29	30.28 feet

157-I.W.C.(Ontario, Leeds County, 1939, 1957) -- On Skelton Island off the north shore of the St. Lawrence River at the western end of Brockville. The station is just south of the steel tower supporting Skelton Island light. It is 10.5 feet from the most southern leg of the tower and is in line with this southern leg and the most western leg of the tower; 5 feet south of the station the rock bank drops perpendicularly 15 feet to the water.

Station Mark: A standard International Boundary Commission bronze-disk station mark set in a drill hole in the bedrock. Reference mark 1 is a drill hole and an arrow pointing toward the station cut in the bedrock 10 feet west of the most western leg of the light tower. Reference mark 2 is a 2-inch iron pin 2 feet high set with concrete in the bedrock 6 feet south of the downstream end of an oil tank. The directions and distances to the references are:

Object	Direction	Distance
Station 155-Sub	0° 00'	
Standpipe, Morristown	32 50	
Reference mark 1	256 01	23.20 feet
Reference mark 2	355 52	23.88 feet

159-I.W.C. (Ontario, Leeds County, 1939, 1957) -- About 1 mile above Brockville, Ont., on McCoy Island in the St. Lawrence River. The station is on the rock ledge that forms the higher part of the island. It is about 80 feet inshore from the upper end of the island and is about 50 feet upstream from the highest point of the ledge.

Station Mark: A standard International Boundary Commission bronze-disk station mark set in a drill hole in the ledge rock. Reference mark 1 is a drill hole in the ledge rock northeast of the station and near the highest point of the island. Reference mark 2 is a drill hole and an arrow pointing toward the station cut in the ledge rock east of the station. The directions and distances to the references are:

Object	Direction	Distance
Station 156-I.W.C.	0° 00	
Beacon on a rocky islet	162 10	
Cupola on a house in Canada	202 26	
Reference mark 1	306 07	22.80 feet
Reference mark 2	338 20	9.68 feet

77-SUB - (Temporary station, 1939)-- In a cultivated field, the maintenance of a permanent mark not practicable.

79- SUB - (Temporary station, 1939) -- In an alfalfa field, permanent mark not practicable.

85-SUB - (Temporary station, 1939) -- In a cultivated field, permanent mark not practicable.

86-SUB - (Temporary station, 1939) -- In the edge of the water of the river, permanent mark not practicable.

92-SUB - (Temporary station, 1939) Eccentric to monument no. 33, one marked station in the vicinity considered to be sufficient.

98-I.W.C.- The station is the center mark in the top of Monument no. 35, see description of the monument.

102-SUB - (Temporary station, 1939) -- In a meadow subject to cultivation, permanent mark not practicable.

102-A-SUB - (Temporary station, 1939) -- In a meadow subject to cultivation, permanent mark not practicable.

104-SUB - (Temporary station, 1939) -- In a meadow subject to cultivation, permanent mark not practicable.

105-SUB - (Temporary station, 1939) -- In marsh where it is impracticable to maintain a station mark permanently.

109-SUB - (Temporary station, 1939) -- In marshy ground at the river's edge, permanent mark not practicable.

110-SUB - (Temporary station, 1939) -- In meadow subject to cultivation, permanent mark not practicable.

113-SUB - (Temporary station, 1939) -- In marshy ground at edge of river, permanent mark not practicable.

116-SUB - (Temporary station, 1939) -- In alfalfa field where permanent mark is not practicable.

122-SUB - (Temporary station, 1939) -- In meadow where permanent mark is not practicable.

133-SUB -(Temporary station, 1939) -- In meadow where permanent mark is not practicable.

134-SUB - (Temporary station, 1939) -- In meadow on New York State Hospital grounds, permanent mark not practicable.

153- I.W.C. - The station is the center mark in the top of reference monument 55, see description of monument.

MOLLYS GUT - U.S.L.S. (Ontario, Leeds County, 1872, 1939, 1957) -- About 3 miles southwest of Brockville, Ontario, on DeWatterville Island in the St. Lawrence River just below Lily Bay. The station is on the southeast side of the island, on a rock bluff, about 14 feet west of the edge of the bluff. It is 67.5 feet east of the east corner of De Watterville front range light, and 14.21 feet north-northeast of a drift pin projecting 6 inches out of the rock. The elevation above the river is about 14 feet.

Station mark: A United States L.S. standard bronze disk station mark stamped "Mollys Gut, 1872" set in a drill hole in solid rock. The directions and distances to the references are:

Object	Direction	Distance
Station 159-I.W.C.	0° 00'	
Drift pin	154 56	14.21 feet
East corner DeWatterville front range light	216 02	67.49 feet

BIRCH - (New York, St. Lawrence County, 1939, 1957) -- About 5½ miles southwest of Morristown, on Birch Point, on the south shore of the St. Lawrence River. The station is at the tip of the only point of land entirely covered with birch trees.

In 1957 the birch trees had died out and were replaced by cedars. It is on a detached rock, 8 by 10 feet in size, in the water. The old station BIRCH POINT of the U.S. Lake Survey in the same locality could not be found.

Station Mark: An International Boundary Commission standard bronze-disk station mark set in a drill hole in the rock. Reference mark 1 is a drill hole in the side of and 3 feet in from the edge of a rock wall at right angles to the river at the point marked. Reference mark 2 is a brass screw cemented into a drill hole within a triangle cut in the ledge rock 13 feet back from the edge of a high ledge southwest of the station. The directions and distances to the references are:

Object	Direction		Distance
	0^{o}	00	
Station Taylor			
Reference Mark 1	24	55	37.48 feet
Reference Mark 2	155	59	31.11 feet

BRIER - (New York, St. Lawrence County, 1939, 1957) -- About 1 mile northeast of the village of Brier Hill, on the highest land in the vicinity, about 400 feet east of a farm road leading north from N. Y. Highway No, 37 just east of Brier Hill. The station is on range with the north end of an old barn and the south end of a milk house, and is about 33 feet from the northeast corner of the old barn. The farmhouse on the property is distinguished by a cupola.

Station Mark: An International Boundary Commission standard bronze-disk station mark set flush with the ground in the top of a cylinder of concrete 9 inches in diameter and 2 feet in depth. The subsurface mark is a like bronze disk set in a drill hole in bedrock $2\frac{1}{2}$ feet underground. Reference mark 1 is a $\frac{3}{4}$-inch drill hole and an arrow cut in an outcrop of rock showing a surface $1\frac{1}{2}$ by $2\frac{1}{2}$ feet in area, 16.1 feet east of the northeast corner of an old shed and 35.1 feet north of the southeast corner of the same shed. Reference mark 2 is a like mark in outcrop of rock 3 by 3 feet in area, 73.0 feet southeast of the southeast corner of the old barn and 71.0 feet south of the southwest corner of the old shed. The directions and distances to the references are:

Object	Direction			Distance
	0^{o}	00'	00"	
Pres. Ch. spire, Brockville				
Reference mark 1	20	17		81.44 feet
Reference mark 2	86	19		120.91 feet
Brier Ecc., a drill hole and triangle in outcropping rock	88	00	52	640.82 feet

CHAPMAN - U.S.L.S. (New York, St. Lawrence County, 1902, 1939, 1957)-- About 3 miles southwest of Morristown and about one-half mile southwest of Delack Point. The station is on a small rocky point of the south shore line of the St. Lawrence River, on flat ledge rock about 40 feet from the end of the point, and about 30 feet from a low bank and a tree line. It is 116.27 feet west-southwest of a $\frac{3}{4}$-inch drill hole in the ledge rock, 15.39 feet northeast of a $1\frac{1}{2}$ inch pipe projecting 3 inches above the ledge rock, and 52.99 feet northeast of a fence post set in concrete. The elevation above the river is about 4 feet.

Station Mark; A United States Lake Survey standard bronze-disk station mark stamped "Chapman 1902" set in a drill hole in the ledge rock.

MOULSON - U.S.L.S. (Ontario, Leeds County, 1872, 1939, 1957)-- About $2\frac{1}{2}$ miles southwest of Brockville, on Cockburn Island in the Brock Group in the St. Lawrence River. The station is on a rock bluff on the southeast side of the island, about 25 feet from the north edge and about 20 feet from the east edge of the bluff. It is 60 feet east-northeast of a 12-inch pine tree, 63 feet east of a 12-inch oak tree, and 41 feet southeast of a 10-inch pine tree. The elevation above the river is about 11 feet.

Station Mark: A U.S.L.S. standard bronze disk station mark stamped "Moulson 1872" set in a drill hole in solid rock.

McDONALD - U.S.L.S. (Ontario, Leeds County, 1872, 1939, 1957) -- About 3 miles southeast of Brockville, on Sparrow Island in the Brock Group, and opposite Needles Eye Island light. The station is on a rock outcrop on a ridge on the east side of the island and about 325 feet southwest of the northeast point of the island. It is 63 feet east of a 14-inch pine tree, 56 feet east of another 14-inch pine tree, 47 feet south of a third 14-inch pine tree, and 40 feet southwest of a 4th 14-inch pine tree. The elevation above the river is about 12 feet.

Station Mark: A U.S.L.S. standard bronze disk station mark stamped "McDonald 1872" set in a drill hole in solid rock.

HALLS DOCK - U.S.L.S. (New York, St. Lawrence County, 1872, 1939, 1957) -- About 4 miles southwest of Morristown and about one-half mile southwest of Point Comfort. The station is on the south shore of the St. Lawrence River, on flat ledge rock, about 13 feet from the water's edge, about 5 feet from the edge of the ledge rock, and 60 feet northwest of the wood line. It was noted in 1957 that the

station was about 30 feet down from the highest point of the rock.

Station Mark: A U.S.L.S. standard bronze disk station mark stamped "Halls Dock 1872" set in a drill hole in the solid rock.

XXI A.C.L. - U.S.L.S. (Ontario, Leeds County, 1872) -- On Skelton Island, opposite the W side of Brockville. Station is in line with crosses cut in rock and with BROCKVILLE ROCK and CHAPMAN, respectively. The height of ground at the station is about 40 feet above the water, being the highest point on the island with no trees near. The distance to the mark opposite BROCKVILLE ROCK is 16-1/8 inches and to the mark opposite CHAPMAN, 13-$\frac{1}{4}$ inches.

BIRCH POINT - U.S.L.S. (New York, St. Lawrence County, 1872) -- On a point $\frac{3}{4}$-mile downstream from Oak Point. Could not be found in 1933 or 1939 and has probably caved in with the bank.

CAMPBELL - U.S.L.S. (Ontario, Leeds, 1872, 1873)-- In the E edge of Brockville, inshore from the upstream side of McNair Island, on property of Mr. Campbell. It is on a point of cliff, on solid rock 20 feet from edge of cliff and 28 feet above the water. It is 18 feet from a black cherry tree directly inshore and 80 feet upstream from a cut in the cliff with a staircase leading down to a boathouse. Not recovered in 1933.

Station mark: A small drill hole inside a triangle cut in the rocky cliff.

162-SUB - (New York, St. Lawrence County, 1939, 1957)-- On a small rock island about 50 by 150 feet in area about 590 feet offshore from Oak Point on the south shore of the St. Lawrence River, and about 625 feet west of a small rock island with a green cottage and a navigation rangepole on it. The station is on the southwest end of the island and about midway between the sides.

Station mark: An International Boundary Commission bronze-disk station mark set in solid rock. Reference mark 1 is a drill hole and an arrow pointing toward the station cut in the ledge rock near the southwest corner of the island. Reference mark 2 is a like mark cut in the ledge rock east of the station and about midway between the sides of the island. The directions and distances to the references are:

Object	Direction	Distance
Station Birch	0° 00	
Reference mark 1	44 35	18.34 feet
Crossover lighthouse	171 54	
Reference mark 2	325 22	16.40 feet
162-I.W.C. 1940	32 27	1.18 feet

163-SUB (Ontario, Leeds County 1939, 1957)-- About 5 miles southwest of Brockville, on a small rock island on Cole Shoal 1150 feet off the north shore of the St. Lawrence River. Cole Shoal lighthouse, not now in use, is on the island. The station is on the bedrock southwest of the lighthouse.

Station mark: An International Boundary Commission standard bronze disk station mark set in a drill hole in the bedrock. Reference mark 1 is a drill hole and an arrow pointing toward the station cut in the bedrock 60 feet southwest of the lighthouse. The directions and distances to the references are:

Object	Direction	Distance
Station Mollys Gut	0° 00'	
Southwest corner of lighthouse concrete dock	14 58	80.54 feet
Reference mark 1	344 13	12.86 feet
Northwest corner of lighthouse concrete dock	349 50	75.92 feet

164-I.W.C. (New York, St. Lawrence County, 1940, 1957)-- About 1.9 miles southwest of the village of Oak Point, New York, on Peach Island (a small island just off the New York shore of the St. Lawrence River). The station is on the south end and west side of the island. It is about 8 feet from the water's edge. It is 81.66 feet in azimuth 47°17' from station "Peach-U.S.L.S." See description of "Peach".

Station mark: An International Boundary Commission standard bronze disk station mark set flush with the surface in solid rock.

WHALEBACK - U.S.L.S. (New York, St. Lawrence County, 1925, 1940, 1957)-- About 5 miles northwest of Chippewa Bay; about $\frac{3}{4}$-mile southwest of Oak Point; about 1 mile northeast of Crossover Island; on Whaleback Island in the St. Lawrence River, a long and narrow bare rock island. The station is about the middle of the island and on about the highest point. Its elevation above low water datum of the river is 7 feet.

Station Mark: A cross in a bronze disk marked "U.S. Lake Survey" and stamped "Whaleback, 1925." The disk is set in the original drill hole in solid rock marking the station when established in 1925.

OAK POINT - U.S.L.S. (New York, St. Lawrence County, 1872, 1940, 1957) -- On a small island off Oak Point on the south shore of the St. Lawrence River; about 1¾ miles northeast of Crossover Island light. The station is on ledge rock on the southwest side of the island; in a crack in the ledge 3 feet northeast from the vertical face of the ledge; 14 feet north-northwest of a range post; and about 10 feet north of an angle in a sea wall. The elevation above low water datum of the river is 6 feet.

Station Mark: A cross in a bronze disk marked "U.S. Lake Survey" and stamped "Oak Point-1872." The disk is set in the drill hole that marked the station established in 1872.

INGALL - U.S.L.S. (Ontario, Leeds County, 1925, 1940, 1957) -- About 1½ miles southwest of Crossover light and about ¾-mile south-southeast of Whitney Point; on Ingall Island in the St. Lawrence River, the most northern of the Amateur group. The station is on the northeast end of the island, on the highest part of a bare rock knob, its elevation above low water datum of the river is 13 feet.

Station Mark: A cross in a bronze disk marked "U.S. Lake Survey" and stamped "Ingall, 1925." The bronze disk is set in the center of the cross cut in solid rock that marked the station established in 1925.

BLIND BAY - U.S.L.S. (New York, St. Lawrence County, 1925, 1940, 1957) -- About 2½ miles northeast of Chippewa Bay, New York, on Chippewa Point on the south shore line of the St. Lawrence River; on the point on the southwest side of the entrance to Blind Bay. The station is on a small bluff of rock outcrop, about 2½ feet from the east edge and 16 feet from the west edge. It is about 30 feet from the water's edge to the west and 95 feet southwest of the end of the point. The elevation above low water datum of the river is 14 feet.

Station Mark: A cross in a bronze disk marked "U.S. Lake Survey" and stamped "Blind Bay, 1925." The disk is set in the center hole of a cross cut in solid rock that marked the station established in 1925. There are two references. Reference mark 1 is a bronze disk similar to the station mark, but bearing an arrow pointing toward the

station, set in solid rock at the end of the point. The second reference is an 18-inch jack pine tree. The azimuths and distances to the references are:

Object	Azimuth	Distance
Reference mark 1	216° 44'	84.24 feet
18-inch jack pine	354 42	16.6 feet

CHIPPEWA - U.S.L.S. (New York, St. Lawrence County, 1872, 1940, 1957) -- On Chippewa Point on the south shore line of the St. Lawrence River. The station is about midway between Blind Bay and the south end of the point and about 100 feet inland from the river. It is on the highest part of a rock bluff on the highest point of land in the vicinity. It is 7 feet east of the west edge of the bluff. The elevation above low water datum of the river is 40 feet.

Station mark: A cross in a bronze disk marked "U.S. Lake Survey" and stamped "Chippewa." The disk is set in the drill hole in solid rock that marked the station established in 1872. There are two reference marks, each consisting of a bronze disk similar to the station mark but bearing an arrow pointing toward the station. The reference marks are set in solid rock at the following azimuths and distances from the station:

Object	Azimuth	Distance
Reference mark 1	284° 55'	20.14 feet
Reference mark 2	6 29	39.98 feet

GRISWOLD - U.S.L.S. (Ontario, Leeds County, 1925, 1940, 1957) -- About 3½ miles northwest of Chippewa Bay, New York; about 5/8 mile east of Bridge Island light; on Griswold Island in the St. Lawrence River. The station is on bare rock on the northeast end of the island; 16 feet southwest of the southeast corner of a stone masonry duck blind; and about 20 feet from the east side of the island. Its elevation above the river is about 5 feet.

Station mark: A cross in a bronze disk marked "U.S. Lake Survey" and stamped "Griswold, 1925." The disk was set in the drill hole within a triangle cut in solid rock that marked the station established in 1925.

FULFORD - U.S.L.S. (Ontario, Leeds County, 1872, 1902, 1933) --Located about 1¾ miles NE of Union Park and about ¼ mile N of an old light tower. It is on a rocky beach about 200 feet SW of a prominent, bare rock bluff, and about 15 feet from the base of a steep bank. It is 45.19 feet WSW of a bronze disk stamped "No. 1," 122.0 feet ENE of a ¾ inch drill hole in the center of an 18-by 12-by 4-foot high flat-topped boulder at the water's edge, and 43 feet SE of a

24-inch black oak tree. The reference disk with an arrow pointing to the station was set in a 6-by 3-by 3-foot high wedge-shaped boulder near the base of the bank. The elevation above the river is about 3 feet.

Station mark: A cross in a bronze disk bearing the name "U.S. Lake Survey" and stamped "Fulford 1902." It was set in the drill hole in a triangle cut in a 1½-by ½-foot high boulder that marked the station established in 1902.

SLIDE - U.S.L.S. (Ontario, Leeds County, 1872, 1933, 1957) -- Located about 3/8 mile SW of Union Park and about 500 feet WNW of a rock awash offshore. It is on a flat rock about 10 feet from the base of a steep and heavily wooded bluff. It is 16.64 feet SW of a bronze disk stamped "No. 1" 26 feet S of a leaving 20-inch cedar tree, 16 feet SSE of a 30-inch hemlock tree, and 24 feet ENE of a 12-inch hemlock tree. The elevation above the river is about 5 feet. In 1957 the station was flush with the surface of the water.

Station mark: A cross in a bronze disk bearing the name "U.S. Lake Survey" and stamped "Slide 1872." It was set in a drill hole in a triangle cut in a 4-by 2-by ½-foot high flat rock that marked the station established in 1872. The reference disk, with an arrow pointing to the station, was set in a 3-by 2-by 1½-foot high boulder 10 feet from the base of the bluff.

WHITNEY - U.S.L.S. (Ontario, Leeds County, 1872, 1933, 1957) -- Located on Whitney Point, about 2 miles SW of Union Park. It is on the highest part of a bare rock ridge 149 feet WNW of a water tank, about 35 feet S of a wire fence, and about on line with the S side of a garage and stable. It is 70 feet E of a 14-inch black cherry tree, 54 feet N of a dead 20-inch black oak tree, and 28 feet NW of a dead 12-inch black oak tree. The elevation above the river is about 40 feet.

Station mark: A cross in a bronze disk bearing the name "U.S. Lake Survey" and stamped "Whitney 1872." It was set in a drill hole in a triangle cut in solid rock that marked the station established in 1872.

MANZ - U.S.L.S. (New York, St. Lawrence County, 1933, 1957) -- Located on Manzanita Island about 1¼ miles WNW of Chippewa Bay, and about ½ mile ESE of the N end of Cedar Islands. It is on the highest part of a ledge rock point near the SW end of the island about 200 feet NNE of two bare rock islands.

It is about 16 feet from the water's edge, about 52 feet SSW of the SW corner of a boathouse, and nearly on line with the S side of the boathouse. In 1957 the boathouse was gone, and a new one built on the southeastern side of the island. The elevation above the river is about 5 feet.

Station mark: Established in 1933, is a $\frac{3}{4}$-inch drill hole in ledge rock.

CHIMNEY - U.S.L.S. (Ontario, Leeds County, 1872, 1933, 1957) -- Located about $7\frac{3}{4}$ miles NE of Rockport, about $\frac{1}{2}$ mile W of Bridge Island, and about $\frac{1}{4}$ mile from the river. It is on rock outcrop on the second ridge above Bridge Island, about 325 feet NE of a prominent bare rock knob, and on the highest part and near the SW corner of the rock outcrop. It is 106 feet NE of a clump of cedar trees, 110 feet ENE of a clump of cherry trees, and 153 feet SW of a wire fence. The elevation above the river is about 92 feet.

Station mark: A cross in a bronze disk bearing the name "U.S. LAKE SURVEY" and stamped "CHIMNEY 1872." It was set in a drill hole in solid rock that marked the station established in 1872.

DARK ISLAND - U.S.L.S. (New York, St. Lawrence County, 1925, 1940, 1957) -- About 3 miles west-northwest of Chippewa Bay, New York; on Dark Island in the St. Lawrence River. The station is on ledge rock on the southwest end of the island. It is on the second point northwest of a swimming pool, about 8 feet southeast of the top of the bank, and 5 feet from the near corner of a boardwalk. The elevation above low water datum of the river is 10 feet.

Station mark: A cross in a bronze disk bearing the name "U.S. Lake Survey" and stamped "Dark Island, 1925." The disk is set in the center hole of a triangle cut in solid rock that marked the station established in 1925.

LYONS - U.S.L.S. (New York, St. Lawrence County, 1902, 1940, 1957) -- About $3\frac{1}{2}$ miles southwest of Chippewa Bay, New York; $\frac{1}{4}$ mile west of the head of Oak Island, on Jug Island in the St. Lawrence River. The station is on a low rock bluff on the northwest side of the island, about 4 feet from the water's edge and the edge of the bluff, and 117 feet in azimuth 131° 46' from a flagpole on the island. The elevation above low water datum of the river is 4 feet.

Station mark: A cross in a bronze disk bearing the name "U.S. Lake Survey" and stamped "Lyons, 1902." The disk is set in the center hole of a triangle cut in solid rock that marked the station established in 1902.

CHERRY - U.S.L.S. (Ontario, Leeds County, 1902, 1933, 1957)-- Located on St. Helena Island about 4 miles W of Chippewa Bay and about 3/8 mile E of the N end of Grenadier Island. It is on the highest part of the rock outcrop on a knoll near the W side of the island, and about 3 feet E of the edge of the rock outcrop. The elevation above the river is about 20 feet.

Station mark: A cross in a bronze disk bearing the name "U.S. Lake Survey" and stamped "Cherry 1902." It was set in a drill hole in a triangle cut in solid rock that marked the station established in 1902.

165-I.W.C. (Ontario, Leeds County, 1940, 1957) -- About 1 mile northeast of Whitney Point; on a small round island about 100 feet east of Savage Island in the St. Lawrence River, and about $\frac{1}{4}$ mile off the Canadian shore of the river. The station is on the highest part of the rock knoll on the island.

Station mark: An International Boundary Commission standard bronze disk station mark set in the solid rock.

DEER - U.S.L.S. (New York, Jefferson County, 1933, 1940, 1957) -- About $1\frac{3}{4}$ miles north-northeast of Alexandria Bay, New York, on Deer Island in the St. Lawrence River. The station is on a flat rock ledge on a point on the southeast side of the island near the base of a retaining wall, and about 20 feet east of an old stone chimney.

Station mark: A $\frac{3}{4}$-inch drill hole in the solid ledge rock.

PEACH - U.S.L.S. (New York, St. Lawrence County, 1872, 1940, 1957) -- About $3\frac{1}{2}$ miles north of Chippewa Bay and about 5/8 mile southeast of Crossover Island light, on Peach Island, a small island lying about 150 feet off the south shore of the St. Lawrence River. The station is on a rock outcrop 14.5 feet east of the edge of a low rock bank and is about the center of the island. Its elevation above low water datum is about 6 feet.

Station mark: A cross in a metal tablet $2\frac{1}{2}$ inches in diameter bearing the name "U.S. Lake Survey" and stamped "Peach 1872." The tablet is set in the original drill hole in solid rock that marked the station in 1872.

166-I.W.C. (New York, St. Lawrence County, 1940, 1957) -- On the western side of Chippewa Point on the New York shore of the St. Lawrence River, about 0.9 mile northeast of the extreme southern tip of the point. The station is about 5

feet above the water level of the river, on a rocky outcrop projecting slightly beyond the general shore line. It is about 5 feet from the edge of the outcrop which rises vertically from the water, 3 feet westerly from a right angled cleft in the cliff-like shore line, 7 feet easterly from a similar cleft, and about 1.5 feet north of a 6-inch fissure.

Station mark: The station was recovered marked with a small drill hole within a faint triangle cut in the rock. It was re-marked by the International Boundary Commission standard bronze disk station mark set in the original drill hole flush with the surface of the rock.

SIFTON - U.S.L.S. (Ontario, Leeds County, 1925, 1940, 1957)- On Whitney Point on the north shore line of the St. Lawrence River about 2 miles southwest of Union Park, Ontario. The station is on a rock outcrop on the southeast end of the point; 340 feet south-southwest of a water tank; 7 feet south of a crevice in the rock, and about 85 feet southeast of the highest ground on this side of the point. The elevation above the river is about 10 feet.

Station mark: A cross in a bronze disk marked "U.S. Lake Survey" and stamped "Sifton, 1925." The bronze disk is set in the drill hole within a triangle cut in solid rock that marked the station established in 1925.

168-I.W.C. (New York, St. Lawrence County, 1940, 1957)-- On Pine Tree Island in the St. Lawrence River, about one mile west of Chippewa Point, about 820 feet west of Middle Island on which Reference Monument 60 is situated. The station is on the south end of the highest part of the rock outcrop and is about 6 feet above the level of the water in the river.

Station mark: An International Boundary Commission standard bronze disk station mark set flush with the surface in a drill hole in the solid rock. The reference mark is a drill hole in the center of a cross cut in the rock. The direction and distance to the reference is:

Object	Direction	Distance
Station 169-Sub	0° 00'	
Reference mark	84 15	11.63 feet

169-SUB (Ontario, Leeds County, 1940, 1957)-- About $\frac{3}{4}$ mile south of Patterson Point and about $\frac{1}{4}$ mile off the Canadian shore of the St. Lawrence River, on Bridge Island locally known as Chimney Island from a conspicuous naked chimney on the island. The station is on a large rounded outcrop of rock on the southern side of the island, about 20 feet from

the shore line and about 60 feet easterly from a higher and grassy knoll. It is about 50 feet east of the old chimney. The height above the water in the river is about 15 feet.

Station mark: An International Boundary Commission standard station mark set flush with the surface in solid bedrock.

GULL - U.S.L.S. (Ontario, Leeds County, 1925, 1940, 1957)-- About 3¾ miles north-northwest of Chippewa Bay, New York; about ½ mile northwest of Dark Island; on Gull Island in the St. Lawrence River. The station is on the highest part of the bare rock island. Its elevation above the river is about 6 feet.

Station mark: A cross in a bronze disk marked "U.S. Lake Survey" and stamped "Gull, 1925." The disk is set in the center of the cross cut in solid rock that marked the station established in 1925.

170-SUB (New York, St. Lawrence County, 1940, 1957) -- Just outside of Chippewa Bay on a small rock island just offshore on the west side and near the north end of the largest of the Cedar Islands in the St. Lawrence River. This rock island is about 75 feet long and 25 feet wide. The station is about 3 feet from the water's edge and about 2 feet above the water in the river.

Station mark: An International Boundary Commission standard bronze disk station mark set with cement in a cleft in the rock.

171-SUB (Ontario, Leeds County, 1940, 1957) -- About 1 mile northeast of the northeast end of Grenadier Island in the St. Lawrence River; on a rock island 75 by 300 feet in area lying just east of the northern end of Peel Island. The station is on the northern end of the island, 4 feet from the water's edge, and 2 feet above the water in the river.

Station mark: An International Boundary Commission standard bronze disk station mark set in solid rock.

172-SUB (New York, St. Lawrence County, 1940, 1957) -- On the western point of Scow Island, a small island ½-mile north of the southwest end of Oak Island in the St. Lawrence River. The station is about 30 feet westerly from the west corner of the house on the island. It is 8 feet from the water's edge and about 2 feet above the water in the river.

Station mark: An International Boundary Commission standard bronze disk station mark set in solid rock.

173-I.W.C. (Ontario, Leeds County, 1940, 1957) -- On Grenadier Island in the St. Lawrence River, about one mile south of the most northeastern point of the island, on the east shore of the peninsula-like Vansittart Point. The peninsula is probably an island when the river is high. The station is on an outjutting rock about 20 feet above the water level of the river; it is about 2 feet from the edge of the rock where it drops precipitously to the water.

Station mark: An International Boundary Commission standard bronze disk station mark set in a drill hole in solid rock. Reference mark 1 is a drill hole 1 inch in diameter in the center of a cross cut in solid rock 28.52 feet south by southwest of the station. Reference mark 2 is a like mark cut in solid rock southwest of the station 27.52 feet distant. U.S. Lake Survey station Point (1931) is on the extreme north end of the point, but no direction or distance was given to it.

ELISSA - (New York, St. Lawrence County, 1940, 1957) -- On the south shore of the St. Lawrence River, about 1½ miles downstream from Goose Bay, about ¾ mile east of Ironsides Island, and about ¾ mile south of Hemlock Island. The station is on a point of the shore line on the West side of a small bay which may be identified by the remains of a chimney on the east side of it. It is about 50 feet from the shore line and 10 feet above the water level of the river.

Station mark: An International Boundary Commission standard bronze disk station mark set in a drill hole in solid rock near the sod line. In 1957 only the shank of the station mark remained. There are two references. Reference mark 1 is a 1-inch drill hole in the center of a cross cut in solid rock. This mark was used as a trial station for locating Station "174-I.W.C." In 1957 this reference was not recovered. Reference mark 2 is station 174-I.W.C. marked by an International Boundary Commission standard bronze disk set in solid rock. It is east of Elissa. The directions and distances to the references are:

Object	Direction	Distance
173-I.W.C.	0° 00'	
Reference mark 1	18 18	162.19 feet
174-I.W.C.	61 32	172.36 feet

174-I.W.C. (New York, St. Lawrence County, 1940, 1957) -- On the south shore of the St. Lawrence River, about 1½ miles downstream from Goose Bay, about ¾-mile east of Ironside Island, and about ¾-mile south of Hemlock Island.

The station is on a point of the shore line on the west side of a small bay which may be identified by the remains of a chimney on the east side of it. It is about 20 feet from the shore line and about 6 feet above the level of the water in the river. It is 172.36 feet east of the International Boundary Commission standard bronze disk station mark marking station Elissa, and 123.50 feet southeast of the drill hole in the center of a cross cut in solid rock used as reference mark 1 for station Elissa.

Station mark: An International Boundary Commission standard bronze disk station mark set in solid rock.

175-SUB (Ontario, Leeds County, 1940, 1957) -- On the southeastern shore of Grenadier Island in the St. Lawrence River; on a point of the shore line about 1150 feet northwest of Sister Island lighthouse. The point is a flat bare rock about 30 feet wide. The station is about 15 feet from the southern end of the point, and is about 6 feet above the water level in the river.

Station mark: An International Boundary Commission standard bronze disk station mark set in a drill hole in solid rock.

176-I.W.C. (New York, Jefferson County, 1940, 1957) -- On a rock islet about 30 by 100 feet in area situated about 2000 feet offshore from the lower end of Goose Bay, and about 4000 feet southwest of Ironsides Island in the St. Lawrence River. The waves wash over the islet when the water is rough from the wind.

Station mark: An International Boundary Commission standard bronze disk station mark set in a drill hole in solid rock. A shallow drill hole in the center of a cross is cut in the rock 29.60 feet east of the station.

177-I.W.C. (Ontario, Leeds County, 1940, 1957) -- On the southern end of a small tree-and brush-covered island lying just off the southeastern shore of Grenadier Island in the St. Lawrence River. It is about midway of the length of Grenadier Island and is about 4500 feet northwest of the southwestern end of Ironsides Island. In 1957 there was a summer camp on the island. The station is about 3 feet from the shore line, and about 2 feet above the water level in the river.

Station mark: An International Boundary Commission standard bronze disk station mark set in a drill hole in solid rock. A 1-inch drill hole in solid rock bears northeast from the station 19.58 feet distant.

178-I.W.C. AND 178-I.W.C. ECC. (New York, Jefferson County 1940, 1957) -- About 2 miles northeast of Alexandria Bay on the largest point of the shore line of the United States side of the St. Lawrence River between Point Marguerite and Iroquois Point. The station "178-I.W.C." is on a solid rock outcrop about 90 feet from the water's edge and about 22 feet above the water level in the river. It is 16.00 feet west of the west corner of a summer residence named "Casa Linda", and 42.00 feet northeast of a steel flagpole.

Station mark: A $\frac{3}{4}$-inch drill hole within a triangle cut in the solid rock. The direction and distance to 178-I.W.C. Ecc. is:

Object	Direction	Distance
Station 181-I.W.C.	0° 00' 00"	
178-I.W.C. Ecc.	356 48 46	86.05 feet

Station 178-I.W.C. Ecc. is on the shelving rock just inside the dock belonging to the Casa Linda. It is about 6 feet from the water's edge and 3 feet above the water level of the river. It is marked by an International Boundary Commission standard bronze disk station mark set in the solid rock. The direction and distance from the eccentric to the true station is:

Object	Direction	Distance
Station 181-I.W.C.	0° 00' 00"	
178-I.W.C.	176 46 54	86.05 feet

POINT - U.S.L.S. (Ontario, Leeds County, 1931, 1940, 1957) -- On Grenadier Island in the St. Lawrence River; about one mile south of the most northeastern point of the island; on the northern tip of the peninsula-like Vansittart Point (at high stages of the river, an island). The station is on the slope of a high bare rock about 15 feet from the end of the point. Station 173-I.W.C. is on the same point a short distance to the south, but no connections were made between the two.

Station mark: A small cross cut in solid rock.

SPORT - I.W.C. (New York, Jefferson County, 1940, 1957) -- About 0.55 mile southeast of the southwesternmost tip of Grenadier Island, on the most northern tip of Sport Island in the St. Lawrence River. The station is about 5 feet from the water's edge and about 5 feet above the level of the water in the river.

Station mark: A $\frac{1}{4}$-inch metal plug driven into the exposed root of a 12-inch pine tree growing immediately at the water's edge northerly from the station. In 1957 the tree was found cut off 2 feet above ground.

There are two references. Reference mark 1 is a ¾-inch drill hole ½-inch deep in solid rock 63.60 feet southeast of the station. Reference mark 2 is an International Boundary Commission standard bronze disk station mark set in solid rock 9.83 feet northwest of the station. The station is on the straight line between the two references. The directions and distances to the references are:

Object	Direction	Distance
The ball at the apex of the stone water tank on Club Island	0°00'	
Station Little - I.W.C.	24 39	
Ref. mark 2, bronze disk	52 25	9.83 feet
Ref. mark 1, drill hole	232 25	63.60 feet

B - U.S.L.S. (Ontario, Leeds County, 1902, 1933, 1957) -- Located on Channel Island, about 1 mile S of Mallorytown Landing about 5½ miles NE of Rockport, and about 1 mile WNW of the foot of Grenadier Island. It is on the highest part of the bare rock near the NE side of the island, and about 40 feet SE of the W end of a natural slip. The elevation above the river is about 8 feet.

Station mark: Bronze disk stamped "B 1902".

GRENADIER - U.S.L.S. (Ontario, Leeds County, 1872, 1933, 1957) -- Located about in the middle of Grenadier Island and about 1 mile NE of Grenadier Island light. It is on top and near the SW end of a wooded knoll which is the second knoll below the head of the island. It is 9.18 feet S of a bronze disk stamped "No. 1", 48 feet ENE of a 12-inch oak tree marked with a blaze, 25 feet S of a 14-inch oak tree marked with a blaze, 109 feet SW of a 24-inch maple tree, 47 feet W of a clump of small black cherry trees, and 24 feet N of a 12-inch triple oak tree. The elevation above the river is about 60 feet.

Station mark: Established in 1872, a shallow 1-inch drill hole in a flat-topped sandstone about 3 feet below the ground. Surface mark is a 1½-inch drill hole in a triangle cut in a 6-by 18-inch long sandstone centered over the station mark and flush with the ground. Boulders were piled around the station. Ref. disk with arrow to station set in 3-by 1½-foot high boulder.

A - U.S.L.S. (Ontario, Leeds County, 1902, 1933, 1957) -- Located about 5½ miles NE of Rockport, on a flat rocky island at the end of a marshy point about 3/8 mile SW of the N end of Grenadier Island. The elevation above the river is about 3 feet.

Station mark: A cross in a bronze disk bearing the name "U.S. Lake Survey" and stamped "A 1902". It was set in a drill hole in a triangle cut in solid rock that marked the station established in 1902.

GRENADIER - SUB (Ontario, Leeds County, 1940, 1957) -- On the southern tip of Grenadier Island in the St. Lawrence River, about 40 feet above the water level of the river and about 25 feet from the shore line. The station is on the concrete base of Grenadier Island lighthouse about 2.8 feet southerly of the rim of the house.

Station mark: An International Boundary Commission standard bronze disk station mark set in a drill hole in the concrete.

POOLE - U.S.L.S. (Ontario, Leeds County, 1902, 1933, 1957) -- Located on Rolleston Island, about 4 miles NE of Rockport. It is on a high bare rock bluff, about 20 feet W of its edge and about 20 feet E of the center of a summerhouse on the highest part of the bluff. The elevation above the river is about 44 feet.

Station mark: A cross in a bronze disk bearing the name "U.S. Lake Survey" and stamped "Poole 1902". It was set in a drill hole in a triangle cut in solid rock that marked the station established in 1902.

DINGMAN - U.S.L.S. (New York, Jefferson County, 1873) -- On the farm of Jeremy Dingman about 1 mile downstream from Alexandria Bay, and 1,500 feet inshore from the river. It is in a cultivated field, about 100 feet E of a large boulder, about 2 by 4 feet projecting slightly above the ground. Not recovered in 1933, nor in 1957.

Station mark: At the intersection of two pairs of range marks. These range marks are stones with triangles cut in them. The two S of the station are buried $2\frac{1}{2}$ feet. The nearer of the two E of the station is buried 8 inches and the farther one $2\frac{1}{2}$ feet.

Object	Direction	Distance
Darling	0° 00	
Fence	92 00	34.5 meters
Fence	180 00	73.25 meters
S range stone	211 23	1.41 meters
S range stone		2.17 meters
Stone fence	264 30	101.00 meters
Triangle cut on boulder	285 46	29.33 meters
E range stone	294 48	1.12 meters
E range stone		2.06 meters

WHISKEY - I.W.C. (New York, Jefferson County, 1940, 1957) -- About 4 miles northeast of Alexandria Bay, New York, on Whiskey Island in the St. Lawrence River. The station is on a rock outcrop about the center of the island. It is about 30 feet northwest of the highest point of the island, 13 feet northeast of a small dwelling, and about 12 feet above the water in the river.

Station mark: An International Boundary Commission standard bronze disk station mark set in solid rock. Station "Whiskey-U.S.L.S.", marked by a $\frac{3}{4}$-inch drill hole in solid rock, is 116.39 feet from the station in azimuth 314°26'.

WHISKEY - U.S.L.S. (New York, Jefferson County, 1933, 1940, 1957) -- About 4 miles northeast of Alexandria Bay, New York, and about 1 mile east of Grenadier Island light, on Whiskey Island in the St. Lawrence River. It is on the ledge rock on the east side of the island, about 6 feet from the edge of the ledge and the water's edge, 7 feet northeast of the highest part of the rock, and about 42 feet south of a lone 24-inch pine tree.

Station mark: A $\frac{3}{4}$-inch drill hole in solid rock. Station Whiskey-I.W.C. marked by a bronze disk stamped "International Boundary Commission", is 116.39 feet from the station in azimuth 134°26'.

179- I.W.C. (Ontario, Leeds County, 1940, 1957) -- Off the southeastern shore of Grenadier Island in the St. Lawrence River, about 1 mile northeast of the southwest end of the island; on an island about 60 feet wide and 200 feet long lying east of the narrow channel separating Bloomfield Island from McMahon Island. The station is on the flat rocky point at the southern end of the small island, 5 feet back from the shore line, and 2 feet above the level of the water in the river.

Station mark: An International Boundary Commission standard bronze disk station mark set in a drill hole in solid rock.

181 - I.W.C. - BLUFF - U.S.L.S. (Ontario, Leeds County, 1902, 1940, 1957) -- About 1 mile east of Rockport, Ontario, and about $\frac{3}{4}$ mile southwest of Grenadier Island light; on Yeo Island, locally known as Pumpelly Island, in the St. Lawrence River. The station is on the high rock bluff near the northeast end of the island. It is about 25 feet south of the highest part; about 8 feet from the edge of the bluff, and $7\frac{1}{2}$ feet southeast of the southeast corner of the

base of a large memorial cross. The elevation above the river is about 70 feet.

Station mark: A cross in a bronze disk marked "U.S. Lake Survey" and stamped "Bluff, 1902." The disk is set in the drill hole within a triangle cut in rock that marked the station established in 1902.

183 - I.W.C. (New York, Jefferson County, 1940, 1957) -- On * Wells Island in the St. Lawrence River; about 1½ miles southwest of Westminster Park, on a high bluff above a bay south of the outlet of Lake of the Isles. The elevation of the bluff above the river is about 126 feet. The station is on a red granite outcrop about 50 feet south of the highest part of the summit.

Station mark: A drill hole within a triangle cut in solid rock. Station Waterloo- U.S.L.S., marked by a bronze disk (see description of Waterloo) is 47.35 feet from the station in azimuth 176° 41' 50".

WATERLOO - U.S.L.S. (New York, Jefferson County, 1902, 1940, 1957) -- On Wells Island in the St. Lawrence River; about 1½ miles southwest of Westminster Park; on a high bluff above a bay south of the outlet of Lake of the Isles. The elevation of the bluff above the river is about 126 feet. The station is about 9 feet southwest of the highest part of the bluff; 17 feet east of a masonry wall at the edge of a road; 64 feet west of a 10-inch pine tree; and 54 feet west-northwest of a 6-inch oak tree.

Station mark: A standard bronze disk station mark stamped "U.S. Lake Survey, Waterloo, 1902", set in solid rock. The station is about 35 feet northwesterly of a reference tablet with an arrow pointing to the station.

MONUMENT 63 - ECC. (Ontario, Leeds County, 1940, 1957) -- About 1½ miles southeast of the village of Rockport, Ontario, on a small rocky island (Aspasia Island) about 50 feet southeast of Zavikon Island and connected therewith by a bridge. These islands are occupied by the summer home owned by Woolrich Woolen Co. of Pennsylvania. The bridge connecting them is the one advertised in all the tourist literature as "the shortest international bridge in the world". The islands and the bridge are wholly in Canada. the station is on the east side of the islet, 15 feet from the water's edge and 6 feet above water level in the river.

Station mark: a ¾-inch drill hole in the center of a cross cut in solid rock. The reference is Monument 63. The direction and distance to the reference is:

* Now called Wellesley

Object	Direction	Distance
Station 181-I.W.C.	0° 00'	
Ref. Mon. 63	194 56	26.37 feet

YEO - SUB (Ontario, Leeds County, 1940, 1957) -- On the extreme northern end of Yeo Island in the St. Lawrence River about 200 feet northwest of a large, prominent, concrete memorial cross. The station is on a moss-covered rock projecting from the regular shore line, about 3 feet from the water's edge and 6 feet above the level of the water in the river. It is about 20 feet west of a 10-foot perpendicular stone cliff.

Station mark: An International Boundary Commission standard bronze disk station mark set in a drill hole in solid rock. The site of the original station is under water and was not recovered.

LITTLE - I.W.C. (Ontario, Leeds County, 1940, 1957) -- On a small island about 325 feet southeast of the southwestern tip of Tar Island in the St. Lawrence River. The station is on a rock point on the southern side of the island, 4 feet from the water's edge, and 8 feet above the water level of the river.

Station mark: An International Boundary Commission standard bronze disk station mark set flush with the surface in solid rock.

CLUB - I.W.C. (Ontario, Leeds County 1940, 1957) -- About $\frac{1}{2}$ mile south of the village of Rockport, Ontario, on the northeastern end of Club Island in the St. Lawrence River. The station is on a rocky point, 8 feet from the water's edge, and 6 feet above the level of the water in the river.

Station mark: An International Boundary Commission standard bronze disk station mark set in a drill hole near the center of a large rock. A $\frac{3}{4}$-inch drill hole in the center of a cross cut in the rock bears north from the station 46.59 feet. This drill hole was used as an eccentric station in making the recovery of Station Club.

MARY - I.W.C. (New York, Jefferson County, 1940, 1957) -- About 2 miles north of Alexandria Bay, on the southwestern end of Mary Island, near the northern tip of Wellesley Island in the St. Lawrence River. The station is on top of a steep rocky cliff, about 30 feet above the water, and 25 feet from the water's edge. It is about 75 feet southwest of a large permanent sign reading "STATE LAND."

Station mark: An International Boundary Commission standard bronze disk station mark cemented in a drill hole in solid rock.

POLE - SUB (Ontario, Leeds County, 1940, 1957) -- About 1 mile south of Rockport, Ontario, and about 2 miles north of Alexandria Bay, New York; on the eastern tip of Hill Island in the St. Lawrence River. The station is on a small point of the shore line, on a rocky ledge a little lower than the general level of the adjacent land, about 3 feet from the water's edge, and about 6 feet above the level of the water. It is about 50 feet northeast of a large flagpole. The original station mark was found, but angle measurements indicated it had been disturbed and the substitute station was established.

Station mark: An International Boundary Commission standard bronze disk station mark set in a drill hole in solid rock. There are 2 reference marks, each being a $\frac{3}{4}$-inch drill hole in the center of a cross cut in the side of the stone cliff. The directions and distances to the references are:

Object	Direction	Distance
Ref. Mon. 65	0° 00'	
Reference mark 1	78 38	5.38 feet
Reference mark 2	131 54	2.30 feet.

PARK - I.W.C. (New York, Jefferson County, 1940, 1957) -- In Westminster Park on Wells Island in the St. Lawrence River. On a point of the east- and-west shoreline of the island about 3/8 mile almost due south of the eastern tip of Hill Island. The station is about 7 feet north of the road paralleling the water front, about 65 feet from the water's edge, and about 60 feet southeast of a well and water pump. It is about 10 feet above the water level of the river. The original station mark, a nail in a wooden hub, was recovered in place.

Station mark: An International Boundary Commission standard bronze disk station mark set flush with the surface of the ground in the top of a cylinder of concrete 8 inches in diameter and 30 inches in depth. The sub-surface mark is a brass screw set in a circular block of concrete 30 inches underground. No references are given.

POINT - SUB (Ontario, Leeds County, 1940) On the extreme southeastern point of the southern of two unnamed islands lying in the eastern entrance to the Lake of the Isles, just off Westminster Park.

The station is on the low gravelly point just above the high-water mark at the edge of the brush.

Station mark: Temporary mark, a nail in a wooden hub driven flush with the ground.

LAUNDRY - I.W.C. (New York, Jefferson County, 1940, 1957) -- In the western limits of Westminster Park on the northeast end of Wells Island in the St. Lawrence River, on the point of the north shore line of the first narrows inside the eastern entrance to Lake of the Isles. The point, including the location of the station, is enclosed by a fence. The station is 35 feet southwest of highwater mark at the extremity of the point; 83 feet northeast of the northeast edge of the concrete floor of an old building, 2 feet southeast of an 8-inch oak tree, and about 5 feet above high-water mark.

Station mark: An International Boundary Commission standard bronze disk station mark set flush with the ground in the top of a cylinder of concrete 8 inches in diameter and 18 inches in depth. The sub-surface mark is a bronze plug cemented in a drill hole in solid bedrock 18 inches underground.

MON - I.W.C. (Ontario, Leeds County, 1940, 1957) -- On the southeastern shore of the eastern end of Hill Island in the St. Lawrence River, about 5/8 mile southwest of the most eastern end of the island. The station is on a noticeable sharp point of the shore line, about 40 feet from the water's edge, and about 10 feet northeast of an 18-inch oak tree. In 1957 the oak tree was reported gone. It is about 11 feet above the level of the water in the river. The original station mark, a shallow drill hole in the center of a triangle cut in the solid rock, was recovered.

Station mark: An International Boundary Commission standard bronze disk station mark set in a drill hole in solid rock. Boundary Reference Monument 66 is in azimuth 81° 54' from the station 62.0 feet distant.

SAND - SUB (New York, Jefferson County, 1940, 1957) -- On the northern shore of Wells Island, about $\frac{1}{2}$ mile southwest of Westminster Park; on a low grassy point. In 1957 the station was at the water's edge.

Station mark: An International Boundary Commission standard bronze disk station mark set in a boulder 3 by 3 by $1\frac{1}{2}$ feet in dimensions.

MARSH - I.W.C. (Ontario, Leeds County, 1940) -- On the southeastern shore of the eastern end of Hill Island in the St. Lawrence River; about $\frac{3}{4}$ mile southwest of the most eastern end of the island. The station is at the edge of a small marshy bay facing the south; it is about 140 feet southeast of the edge of the timber, about 13 feet from the mean shore line, 10 feet southwest of a small knoll, and just above the mean water level.

Station mark: An International Boundary Commission standard bronze disk station mark set flush with the surface of the ground in the top of a cylinder of concrete 8 inches in diameter and 30 inches in depth. The subsurface mark is a brass screw set in a circular block of concrete 30 inches underground. No references are recorded.

HUNT - (Ontario, Leeds County, 1940, 1957) -- On the southeast shore of Hill Island in the St. Lawrence River, in the narrows at the northeast entrance to the Lake of the Isles, about 325 feet upstream from the small island in the narrows. The station is on a flat-topped isolated boulder 6 feet long, 4 feet wide, and 3 feet high. It is at the shore line and about 2 feet above the water.

Station mark: A semi-circular bronze plug $\frac{3}{4}$-inch in diameter and 1 inch long cemented in a drill hole in the rock. The mark has a triangle chiseled around it.

BOLDT'S TANK - I.W.C. (New York, Jefferson County, 1940, 1957)-- On Wells Island in the St. Lawrence River, on the high summit about 1 mile southwest of Westminster Park and 1/8 mile south of the narrows at the entrance to Lake of the Isles. A water tank about 20 feet in diameter and approximately 80 feet in height. The station was not occupied.

Station mark: The finial on the roof of the tank.

NIMS - (New York, Jefferson County, 1940, 1957) -- On the northern shore of Wells Island in the St. Lawrence River, about 1 mile southwest of Westminster Park. The station is on a prominent point on the south shore of the narrows at the northeast end of Lake of the Isles , about 30 feet from the east side of the point, about 20 feet from the north shore of the point, and about 30 feet from the west shore of the point. It is on the highest part of the point and is about 8 feet above high water level.

Station mark: An International Boundary Commission standard bronze disk station mark set in a drill hole in solid rock.

CHRIS - (Ontario, Leeds County, 1940, 1957) -- On the southeastern shore of Hill Island in the St. Lawrence River. On the shore line on the northwest side of the narrow channel of the eastern entrance to Lake of the Isles, and about 12 feet southwest from a projecting rock ledge 9 feet high.

Station mark: A semi-circular bronze plug set flush in a drill hole in a large embedded boulder on the beach, about 3 feet inshore and 1 foot above the water. In 1957 the mark was flush with water surface.

CRAFT - (Ontario, Leeds County, 1940, 1957) -- On the southeastern shore of Hill Island in the St. Lawrence River. On the narrow point of land extending southwestward from the main shore of the island at the southwestern end of the narrow channel into the Lake of the Isles. The station is about 125 feet northeast of the extreme tip of the point, on the channel side of the point, 15 feet inshore, and 7 feet above the water.

Station mark: An International Boundary Commission standard bronze disk station mark set flush with the surface in solid bedrock about flush with the surrounding ground surface.

ISLES - (Ontario, Leeds County, 1940, 1957) -- On the southern shore of Hill Island in the St. Lawrence River, on the southern extremity of a point of the north shore line of Lake of the Isles, about midway between the east entrance to "The Rift" and the north entrance to Lake of the Isles. The station is 13 feet inshore from the extremity of the point and about 4 feet above high water mark of the lake.

Station mark: A semi-circular bronze plug $\frac{1}{2}$-inch in diameter and $\frac{3}{4}$-inch long set with cement in a drill hole in solid rock outcrop. A center punch mark in the plug marks the exact station.

HILL - U.S.L.S. (Ontario, Leeds County, 1902, 1957) -- The station is near the eastern end of the high ridge in the center of Hill Island in the St. Lawrence River. It is on the highest point of the ridge and of the island, at an elevation of 390 feet. The station is 30 feet east of a 4 foot rock wall running in a north-southerly direction.

Station mark: A bronze disk stamped "Hill 1902."

DARLING - U.S.L.S. (Ontario, Leeds County, 1872, 1933, 1957) -- Located about 1 5/8 miles WSW of Rockport, about 3/8 mile NE of Darling Dock, and about 1/8 mile N of the river. It is on a rocky ridge in thick woods and about 45 feet SW of a bare rock knob at a higher elevation than the station.

There is a considerable drop in the rock knob to the North of the station. In 1957 the remains of the old signal tower and a cairn were visible. It is 54 feet NE of a 10-inch pine tree, 22 feet SSW of a 10-inch pine tree, 62 feet W of a 12-inch pine tree, and 39 feet N of a 10-inch pine tree. The elevation above the river is about 140 feet.

Station mark: A cross in a bronze disk bearing the name "U.S. Lake Survey" and stamped "Darling 1872". It was set in a 1 inch drill hole in a 4 inch triangle cut in solid rock that marked the station established in 1872.

ALEXANDRIA - U.S.L.S. (New York, Jefferson County, 1872) -- On high ground on the river side of the road, about $\frac{1}{4}$ mile upstream from Alexandria Bay. Not found in 1933, and was probably excavated by the quarry operations.

WELLS NO. 2 - U.S.L.S. (New York, Jefferson County, 1872, 1873, 1933, 1957) -- Located on Wells Island, about $3\frac{1}{2}$ miles WNW of Alexandria Bay. It is about $\frac{3}{4}$ mile E of the SW end of the Lake of the Isles, and about $\frac{1}{4}$ mile S of the lake. It is on a rocky ridge, sparsely wooded with small pine trees, just E of a ridge with vertical rock sides, and about 30 feet E of the edge of the ravine, between the ridges. It is 15 feet NNE of a triangle cut in a stump, 18 feet NE of a triangle cut in rock outcrop, 44 feet NE of a 22-inch pine tree found dead in 1957, 32 feet E of an 18-inch pine tree, 72 feet WSW of a 12-inch pine tree, and 24 feet NW of an 8-inch pine tree. The reference pine trees were marked with a nail in a blaze. The elevation above the river is about 145 feet.

Station mark: Established in 1873, a drill hole in a triangle cut in solid rock about $1\frac{1}{2}$ feet below the ground. The surface mark is a drill hole in a triangle cut in a 6-by 6-by 18-inch long sandstone centered over the station mark and flush with the ground. Several stones were piled over the station.

SMOKE - U.S.L.S. (Ontario, Leeds County, 1872, 1933, 1957)- Located on Hickey Island about $1\frac{1}{4}$ miles NNE of Gananoque Narrows light, and about 1/8 mile S of the N end of the island. It is on a high knoll about 30 feet SE of the edge of a bluff and about 20 feet E of the highest rock outcrop. It is 43.4 feet WSW of a cross cut in solid rock at the top of the bank, 20.7 feet SE of a $\frac{3}{4}$-inch drill hole in a square cut in solid rock, 10.1 feet E of a drill hole in a triangle cut in rock, 71 feet SW of a blaze in a 12-inch pine tree, and 30 feet E of a blaze in an 18-inch pine tree.

The elevation above the river is about 60 feet.

Station mark: Established in 1872 was a drill hole in solid rock about 2 feet below the ground. This mark was not found in 1933 and was probably destroyed by the breaking up of the rock surface. The surface mark consisting of a 1-inch drill hole in a triangle cut in a 7-by 7-by 18-inch long stone, was disturbed during the search for the station mark, but was reset approximately in its former position and projects about 3 inches above the ground.

EXCELSIOR - U.S.L.S. (New York, Jefferson County, 1902, 1933, 1957) -- Located on the top of a small bare rock island at the SE end of the Excelsior Group, about 2¾ miles NE of Alexandria Bay, and just W of Schooner Island. The elevation above the river is about 9 feet.

Station mark: A cross in a bronze disk bearing the name "U.S. Lake Survey" and stamped "Excelsior 1902." It was set in a drill hole in a triangle cut in solid rock that marked the station established in 1902.

TURKEY - U.S.L.S. (New York, Jefferson County, 1902, 1933, 1957) -- Located on a high, bare rock point locally known as Kring Point, about 4½ miles NE of Alexandria Bay, and at the NE side of the entrance to Goose Bay. It is about 10 feet SE of the highest part of the bare rock, 172 feet ESE of a 14-inch hemlock tree, 116 feet S of a 12-inch pine tree and 192 feet WNW of a 36-inch black oak tree. The elevation above the river is about 27 feet.

Station mark: A cross in a bronze disk bearing the name "U.S. Lake Survey" and stamped "Turkey 1902." It was set in a drill hole in a triangle cut in solid rock that marked the station established in 1902.

IRONSIDES - U.S.L.S. (New York, Jefferson County, 1933, 1957) -- Located on Ironsides Island, about 5 miles NE of Alexandria Bay, and about 2¾ miles ENE of Grenadier light. It is on a ledge rock bluff on a point at the SW end of the island.

Station mark: Established in 1933, a ¾-inch drill hole 1½ inches deep in a crevice at an angle in the ledge rock.

COOKS POINT - U.S.L.S. (Ontario, Leeds County, 1902, 1933, 1957) -- Located about 2¾ miles NE of Rockport, about ½ mile NW of the end of Cooks Point, and about 380 feet NW of a road. It is on a rocky ledge on a bare hill in rolling pasture land, about 90 feet E of the highest part of the hill, and 4 feet from a slight angle in the ledge.

It is 34 feet NE of a wild cherry tree, 151 feet ESE of a lone pine tree, 33 feet SW of a lone cedar tree, 27 feet WSW of a 6-inch jack pine tree and 3 feet N of a juniper tree. The elevation above the river is about 100 feet.

Station mark: A cross in a bronze disk bearing the name "U.S. Lake Survey" and stamped "Cooks Point 1902." It was set in a drill hole in a triangle cut in rock that marked the station established in 1902.

INA - U.S.L.S. (New York, Jefferson County, 1933, 1957) -- Located on an island between Ina Island and Arcadia Island in the Summerland Group, and about 2¾ miles NNE of Alexandria Bay. It is on the low part of a ledge rock point at the SE end of the island, and about 20 feet from the end of the point.

Station mark: Established in 1933, a ¾-inch drill hole at the intersection of several cracks in the ledge rock.

THIRD BROTHER - U.S.L.S. (New York, St. Lawrence County, 1902, 1933, 1957) -- Located on Third Brother Island about 4¾ miles SW of Chippewa Bay, about 3/8 mile SE of Sister Island light. It is on the highest part of the bare rock bluff on the E side of the island, about 17 feet from the E edge of the bluff, and 13 feet E of an 18-inch pine tree. The elevation above the river is about 15 feet.

Station mark: A cross in a bronze disk bearing the name "U.S. Lake Survey" and stamped "Third Brother 1902." It was set in a drill hole in a triangle cut in solid rock that marked the station established in 1902.

TUESDAY - U.S.L.S. (Ontario, Leeds County, 1902, 1933, 1957) -- Located about the middle of the SE side of Grenadier Island, about 1½ miles SW of Sister Islands light. It is on a bare rock point about 110 feet N of the end and about 25 feet NW of the edge of a rock bluff. It is 70 feet NE of a 14-inch pine tree, 51 feet ESE of a 12-inch pine tree, and 82 feet SE of a 15-inch oak tree. The elevation above the river is about 13 feet.

Station mark: A cross in a bronze disk bearing the name "U.S. Lake Survey" and stamped "Tuesday 1902." It was set in a drill hole in a triangle cut in solid rock that marked the station established in 1902.

ECHO - U.S.L.S. (Ontario, Leeds County, 1902, 1933, 1957) -- Located about 2½ miles WSW of Rockport, on the mainland N of Georgina Island.

It is on a high rock bluff overlapping the river, about 5 feet from the edge, and about 12 feet S of the highest part of the bluff. It is 29 feet NE of a 12-inch oak tree and 47 feet SW of a 10-inch pine tree. The elevation above the river is about 100 feet.

Station mark: A cross in a bronze disk bearing the name "U.S. Lake Survey" and stamped "Echo 1902." It was set in a drill hole in a triangle cut in solid rock that marked the station established in 1902.

DORR FARM - U.S.L.S. (New York, Jefferson County, 1914, 1933, 1942, 1957) -- About 1½ miles northeast of Clayton, N.Y. on a bare grassy hill about 0.5 miles east of the St. Lawrence River. The station is about 825 feet southeast of highway 12E and 115 feet southwest of the most northerly point of the hill.

Station mark: A cross in a bronze disk marked U.S.L.S. and stamped "Dorr Farm 1914". The station is about one foot underground set in solid rock. Three reference disks with arrows pointing to the station are set in bedrock and stamped 1, 2, and 3. No. 1 is 36.39 feet SSW of the station; No. 2 is 37.95 feet NW of the station; and No. 3 is 43.62 feet ENE of the station.

RIFT - U.S.L.S. (New York, Jefferson County, 1902, 1933, 1957) -- Located on Wells Island, about 3 miles WSW of Westminster Park, about ¼ mile S of The Rift, and about ½ mile N of the Lake of the Isles. It is on rock outcrop of the extreme N end of a high, thickly wooded hill, about 4 feet from the N edge of the outcrop, about 30 feet E of the edge of a vertical bluff, and about 105 feet N of the highest bare rock outcrop on the hill. It is 37 feet ENE of a 10-inch pine tree, 41 feet W of a 12-inch pine tree, 34 feet NNW of a 12-inch pine tree, and 45 feet N of a 13-inch oak tree. The elevation above the river is about 120 feet.

Station mark: A cross in a bronze disk bearing the name "U.S. Lake Survey" and stamped "Rift 1902." It was set in a drill hole in a triangle cut in rock outcrop that marked the station established in 1902.

WIND - U.S.L.S. (New York, Jefferson County, 1902, 1933, 1957) -- Located on Wells Island, about 3 miles NNE of Thousand Island Park, and about ½ mile N of the W end of the Lake of the Isles. It is on the highest rock on the N side of the highest hill in the vicinity, and 3 feet from the N edge of the bare rock. It is 45.62 feet NNW of a bronze disk stamped "No. 1," 98 feet WNW of a 9-inch pine tree, 43 feet SW of a

12-inch pine tree, and 36 feet NE of a 9-inch pine tree. The elevation above the river is about 120 feet.

Station mark: A cross in a bronze disk bearing the name "U.S. Lake Survey" and stamped "Wind 1902". It was set in a drill hole in a 4-inch triangle cut in solid rock that marked the station established in 1902. The reference disk with an arrow pointing to the station was set in solid rock and the reference trees were marked with a blaze.

THOUSAND ISLAND HOUSE - (New York, Jefferson County, 1902)-- The flagpole on top of this hotel. The building is now gone and the station lost.

SUNKEN ISLAND SHOAL LIGHT - U.S.L.S. (New York, Jefferson County, 1933) -- The peak of the roof lantern house of the lighthouse on Sunken Rock Shoal about $\frac{1}{4}$ mile N of Alexandria Bay.

SUNKEN ROCK LIGHT - U.S.L.S. (New York, Jefferson County, 1933, 1957) -- The peak of the roof lantern house of the lighthouse on Sunken Rock, about 5/8 mile NW of Alexandria Bay.

CRAWFORD - U.S.L.S. (New York, Jefferson County, 1902, 1933, 1957) -- Located on Bluff Island, about 2 miles NNE of Clayton and about $2\frac{1}{4}$ miles WSW of Thousand Island Park. It is on a bare rock bluff on the SE end of the island and about 12 feet NE of the highest part of the bluff. It is 37.14 feet SW of a bronze disk stamped "No. 1" on the same bluff as the station; 37.42 feet NNW of a bronze disk stamped "No. 2" on a lower ledge of the bluff; and 69.26 feet NE of a bronze disk stamped "No. 3" in a pine grove. The elevation above the river is about 70 feet.

Station mark: A cross in a bronze disk bearing the name "U.S. Lake Survey" and stamped "Crawford." It was set in a drill hole in a triangle cut in solid rock that marked the station established in 1902. The reference disks with an arrow pointing to the station were set in solid rock.

ROCK - U.S.L.S. (Ontario, Leeds County, 1902, 1933, 1957) -- Located about 6 miles ENE of Gananoque, about $1\frac{1}{2}$ miles NNE of Horseblock Point, and about 3/8 mile E of the creek at Landon Bay. It is on the first hill back from the highway. It is among the hills on the highest point of a bare rock knob near the S end of a sparsely-wooded hill. In 1957 it was reported under a 2-foot rock pile.

It is 86 feet SE of a 4-inch oak, 74 feet SSW of an 8-inch pine tree, and 57 feet W of a 6-inch oak tree. The reference trees are marked with a nail in a blaze. The elevation above the river is about 100 feet.

Station mark: A cross in a bronze disk bearing the name "U.S. Lake Survey" and stamped "Rock 1902." It was set in a drill hole in a triangle cut in solid rock that marked the station established in 1902.

GARLOCK - U.S.L.S. (New York, Jefferson County, 1902, 1933, 1957) -- Located about 3 miles ENE of Clayton, about $\frac{1}{4}$ mile E of Spicer Bay, and about 260 feet NW of the highway. It is in a field on a hill NE of a schoolhouse and about 70 feet N of a fenceline. It is 74.44 feet NNW of a bronze disk stamped "No. 1" about 5 feet S of the fence; 152.60 feet E of a bronze disk stamped "No. 2" in the field; and 50.47 feet S of a bronze disk stamped "No. 3" in the field. The elevation above the river is about 60 feet.

Station mark: A cross in a bronze disk bearing the name "U.S. Lake Survey" and stamped "Garlock 1902". It was set in a drill hole in a triangle cut in an irregular shaped limestone that marked station established in 1902, and set about 2 feet below the ground. The surface mark is a drill hole in a triangle cut in a 4-by 4-by 12-inch long stone post centered over the station mark set flush with the ground. In 1957 the surface mark had been destroyed but the sub-surface mark was recovered. The reference disks with arrows pointing to the station were set in boulders.

PARK - U.S.L.S. (New York, Jefferson County, 1902, 1933, 1957) -- Located on Wells Island, about $\frac{1}{2}$ mile NE of Thousand Island Park, and on a rocky ridge at the NW side of a golf course. It is on a bare rock about 40 feet SW of the edge and SW side of a ravine, and about 250 feet N of a prominent bare rock knob on the S edge of the ridge. The elevation above the river is about 100 feet.

Station mark: A cross in a bronze disk bearing the name "U.S. Lake Survey" and stamped "Park 1902". It was set in a drill hole in a triangle cut in solid rock that marked the station established in 1902.

FISHER - U.S.L.S. (New York, Jefferson County, 1902, 1933, 1957) -- Located about $4\frac{1}{2}$ miles NE of Clayton, about $\frac{1}{4}$ mile W of Fisher Landing, and about 625 feet S of the river bank. It is on the W end of a low knoll in a meadow, about 100 feet W of the top of the knoll, about 855 feet SW of the SW corner of a church, and about 500 feet S of a road.

It is 552 feet S of the SW corner of a T-shaped cottage, 450 feet WSW of a 15-inch pine tree, and 433 feet W of another 15-inch pine tree. The elevation above the river is about 25 feet.

Station mark: Established in 1902, a drill hole in a triangle cut in an irregular field stone 1½ feet long, set about 1½ feet below the ground.

ST. LAWRENCE - U.S.L.S. (New York, Jefferson County, 1902, 1933, 1957) -- Located about 4½ miles SW of Alexandria Bay, about 860 feet W of the intersection of the highway with the road to Collins Landing. It is on a broad knoll about 380 feet NW of the highway and on the line of a row of maple trees. It is 12.5 feet WNW of a triangle cut in a 3-by 2-by 2-foot high boulder, 25.2 feet WNW of a drill hole and arrow cut in a 2½-by 3-by 2-foot high boulder, 64 feet WNW of a 14-inch maple tree, 119 feet WNW of another 14-inch maple tree, and 33 feet SE of a triple maple tree. The elevation above the river is about 45 feet.

Station mark: Established in 1902, a drill hole in a triangle cut in a 13-by 8-by 21-inch stone set about 2 feet below the ground. The surface mark is a shallow drill hole in a triangle cut in a 7-by 7-by 12-inch long stone centered over the station mark and about flush with the ground. In 1957 the surface mark was lost, but the subsurface mark was recovered.

BECKWITH - U.S.L.S. (New York, Jefferson County, 1933, 1957) -- Located on Beckwith Island, about 1½ miles NNE of Clayton, about 120 feet from shore, and on the highest point of the E bluff of two bare rock bluffs on the S side of the island. It is 19.30 feet NNW of a bronze disk stamped "No. 1" on a lower ledge of the same bluff as the station; 68.27 feet NE of a bronze disk stamped "No. 2" on the W bluff; and 65.73 feet SE of a bronze disk stamped "No. 3" in rock outcrop. The elevation above the river is about 48 feet.

Station mark: A cross in a bronze disk bearing the name "U.S. Lake Survey" and stamped "Beckwith 1933". It was set in solid rock about 212 feet SSE of Beckwith 1914, which was destroyed. The reference disks with arrows pointing to the station set in solid rock.

CAL - U.S.L.S. (New York, Jefferson County, 1933, 1957)-- Located on a small island about ½ mile NW of Clayton, about 500 feet SE of Calumet Island. It is on the highest part of the island, about 60 feet from the E end, and 33 feet ENE of a 12-inch double elm tree. It is 38.73 feet SSW of a bronze disk stamped "No. 1" and on the N side of the island:

and 23.36 feet NW of a bronze disk stamped "No. 2" and on the S side of the island. The elevation above the river is about 8 feet.

Station mark: A cross in a bronze disk bearing the name"U.S. Lake Survey" and stamped "Cal 1933". It was set in concrete about 2 feet below the ground and accurately replaces the stake that marked the station established in 1925. The reference disks with arrows pointing to the station were set in ledge rock.

ROUND ISLAND - U.S.L.S. (New York, Jefferson County, 1933, 1957) -- Located on Round Island, about 1¼ miles NE of Clayton, about 3/8 mile SE of Chapman Shoal Light, and on a point of broken ledge rock at the W end of the island. It is 54.52 feet SSW of a bronze disk stamped "No. 1"; 63.39 feet W of a bronze disk stamped "No. 2"; 257 feet W of a flagpole; and 101 feet SW of a 24-inch willow tree. The elevation above the river is about 1 foot.

Station mark: A cross in a bronze disk bearing the name "U.S. Lake Survey" and stamped "Round Island 1933". It was set in solid ledge rock. The reference disks with arrows pointing to the station were set in ledge rock.

CHAPMAN - U.S.L.S. (New York, Jefferson County, 1933, 1957) -- Located on a low rocky island about 1¼ miles NE of Clayton and about 240 feet W of Chapman Shoal light. It is about midway between two nearly parallel fissures in a ledge, about 15 feet from the N side, and about 20 feet from the E side of the island. The elevation above the river is about 2 feet.

Station mark: A cross in a bronze disk bearing the name "U.S. Lake Survey" and stamped "Chapman 1933". It was set in solid ledge rock.

TIMBER ISLAND - U.S.L.S. (Ontario, Timber Island, 1874, 1934, 1957) -- On the NE end of Timber Island, about 20 feet SW of the edge of bluff. It is 56.4 feet E of reference disk No. 1; 44.8 feet NE of reference disk No. 2; 148 feet NE of a 4-inch poplar tree; and 188 feet E of a 12-inch basswood tree at the edge of the bluff.

Station mark: The square iron nail leaded in a drill hole in bedrock about 1 foot below the ground. In 1957 the iron nail was reported missing from the drill hole. Reference disks bear the name "U.S. Lake Survey" and arrows pointing to the station. In 1957 the reference disks were reported lost, but the shafts were still in place.

GALLOO - U.S.L.S. (New York, Jefferson County, 1874, 1934, 1957) -- Located on the N side of Galloo Island, on the W side of North Pond, in a clearing. The station is 26 feet S of a vertical bluff and 47 feet W of the top of bank. It is 59.4 feet N of a 3/8-inch drill hole in a stone post, 6 inches square, projecting 11 inches above the ground; 58.9 feet E of stone post, 6 inches square, projecting 2 inches above the ground; and 58 feet W of a 15-inch basswood tree.

Station mark: A cross in a metal tablet bearing the name "U.S. Lake Survey" and stamped "Galloo 1874". It was set in bedrock, $1\frac{1}{2}$ feet below the ground.

GLEASON - U.S.L.S. (New York, Jefferson County, 1874, 1934, 1957) -- Located about $3\frac{1}{2}$ miles NE of Stone Point light, about 400 feet S of the shore, about 600 feet E of the U.S. Military Reservation rifle range target wall, in a grove of cedars. It is 649.6 feet E of a metal tablet, $2\frac{1}{2}$ inches in diameter, set in the top of the rifle range target wall, bearing the name "U.S. Lake Survey" and arrow which points to the station. In 1957 the reference tablet was reported lost. The station is 144.5 feet W of a stone post; 157.5 feet N of a stone post; and 57.0 feet NE of a stone post. The station is reached by travelling 1.1 miles N from Hungerford Corners to a road intersection, then W for 1.2 miles, then N for about 0.5 mile to the gates of the Military Reservation.

Station mark: The triangular hole in bedrock about 1 foot below the ground.

DEUEL - U.S.L.S. (New York, Jefferson County, 1874, 1934, 1957) -- On extreme N end of Six Town Point, about 5 miles SW of Sackets Harbour, on the W side of Henderson Bay, about 25 feet S of N bank, and about 70 feet W of the E bank. It is 49.6 feet W of a $\frac{3}{4}$-inch drill hole in a limestone, 6 inches square, flush with ground; 40.9 feet N of a $\frac{3}{4}$-inch drill hole in a limestone, 6 inches square, projecting 8 inches above the ground; and 49.8 feet E of a $\frac{3}{4}$-inch drill hole in a limestone, 6 inches square, projecting 6 inches above the ground, and each bears the letters "U.S." It is 48 feet N of a 24-inch elm tree with 2 triangular blazes, 64 feet N of a 36-inch elm tree with triangular blaze, and 78 feet NE of a 24-inch elm tree with triangular blaze.

Station mark: A $\frac{3}{4}$-inch drill hole in a limestone block 6 inches square, set 18 inches below the ground.

FOX - U.S.L.S. (New York, Jefferson County, 1874, 1934, 1957) -- On the tip of Pillar Point, about 4 miles NW of Sackets Harbour; 13.0 feet SW of the W corner and 24.1 feet NW of the S corner of the most W cottage on the point. It is 24.7 feet NW of a metal tablet bearing the name "U.S. Lake Survey", and an arrow which points to the station and is set in a stone post; 86.0 feet S of cross with lead-filled center hole in a boulder; and 46 feet SE of a double elm stump.

Station mark: A ½-inch drill hole in a stone post set 1 foot below the ground.

SNOWSHOE - U.S.L.S. (New York, Jefferson County, 1874) -- Not found. A diligent search was made on July 31 and August 1, 1934. It is believed the bottle marking this point has been destroyed.

COOPER - U.S.L.S. (New York, Jefferson County, 1874, 1934, 1957) -- On Peninsula Point, 1200 feet E of its W end; 1000 feet N of its S shore; and on the old D.W. Barnes farm. It is 202.6 feet S of a stone post which projects about 6 inches and is 12 feet S of an elm tree; 172.6 feet SW of reference disk No. 2; 242.1 feet W of reference disk No. 3; and 244 feet NE of a 4-trunked ash tree in fence corner.

Station mark: A ½-inch drill hole in a stone post, 6 inches square, set 1 foot below the ground surface. The reference disks which are set in concrete bases in a fence line, bear the name "U.S. Lake Survey" and an arrow pointing to the station.

188-I.W.C. (New York, Jefferson County, 1940, 1957) -- On the northeastern end of Grindstone Island in the St. Lawrence River; on Canoe Point State Park; about ¼ mile west of the Canoe Point dock; on the northwestern side of the highest part of the point. The station is about 50 feet from the edge of an open, grassy knoll and about 12 feet southerly from a grey granite boulder 3 feet square and projecting 6 inches above the ground.

Station mark: An International Boundary Commission standard bronze disk station mark set flush with the ground in the top of a cylinder of concrete 6 inches in diameter and 30 inches in depth. The subsurface mark is a bronze plug set in a block of concrete 30 inches underground.

189- SUB (Ontario, Leeds County, 1940, 1957) -- About 3 miles east of Gananoque, Ontario; on Gordon Island in the St. Lawrence River. The station is on the more easterly of the two points on the south end of the island. It is about 600 feet southwest of the dock on the island, 20 feet from the

water's edge, and about 15 feet above the water in the river. It is 2 feet northeast of a path along the shore line.

Station mark: An International Boundary Commission standard bronze disk station mark set in flat limestone. There are two reference marks. Reference mark 1 is a $\frac{3}{4}$-inch drill hole in the center of a cross cut in a rounding grey granite boulder 2-by 3 feet in area and 1 foot high, 15.66 feet northeast of the station. Reference mark 2 is a $\frac{3}{4}$-inch drill hole cut in a limestone $2\frac{1}{2}$-by $2\frac{1}{2}$ feet in area and 3 inches high 9.83 feet southwest of the station. The station is on line between the two reference marks.

191 - SUB (Ontario, Leeds County; 1940, 1957) -- About $1\frac{1}{2}$ miles southeast of Gananoque, Ontario, on a small island $\frac{1}{4}$ mile southwest of Corn Island in the St. Lawrence River. The station is on the western end of the island, on the shore line and at the level of the water in the river.

Station mark: The station was marked by a drill hole in a large slab of limestone. The mark cannot be depended on as the slab of limestone is subject to movement by the action of water and ice.

193 - SUB (Ontario, Leeds County, 1940, 1957) -- About $2\frac{1}{2}$ miles southwest of Gananoque, Ontario; on Long Island, the small island lying about 650 feet south of Yorke Island in the St. Lawrence River. The station is on the point on the western end of the island about 75 feet northeast of the extreme end of the point. It is on the northwest side of the point about 30 feet from the water's edge and about 8 feet above the water in the river.

Station mark: An International Boundary Commission standard bronze disk station mark set in the solid rock that covers the entire point.

194-I.W.C. (Ontario, Frontenac County 1940, 1957) -- About $1\frac{1}{2}$ miles due north of the most eastern end of Wolfe Island; on the northeastern side of Black Ant Island in the St. Lawrence River. The station is 4 feet from the water's edge and about 1 foot above the water in the river.

Station mark: An International Boundary Commission standard bronze disk station mark set in solid rock. The original station, a small drill hole in solid rock was recovered.

195-SUB (Ontario, Frontenac County, 1940) -- On the southern side of the eastern end of Howe Island in the St. Lawrence River. The station is in a clearing along the wooded shore line about 1½ miles southwest of the northeastern end of the island. It is 20 feet from the shore line and about 4 feet above the water in the river.

Station mark: An International Boundary Commission standard bronze disk station mark set in a flat limestone about 4 feet square. There are two reference marks, each consisting of a ¾-inch drill hole in a red granite boulder. The directions and distances to the references are:

Object	Direction	Distance
Station 194-I.W.C.	0° 00'	
Reference mark 1	17 14	8.10 feet
Reference mark 2	90 21	12.04 feet

196-I.W.C. (New York, Jefferson County, 1940, 1957) -- About 3.4 miles west of Clayton, New York; about 1600 feet southwest of the southwest end of Grindstone Island; on the southwestern end of Whiskey Island in the St. Lawrence River. The station is about 6 feet from the water's edge and about 5 feet above the water in the river.

Station mark: A bronze plug about ½-inch in diameter and with a ¼-inch hole in the center. The plug is set with cement in a drill hole in solid rock. It projects above the surface of the rock about ½ inch.

197 - SUB (Ontario, Frontenac County, 1940, 1957) -- On the northeasternmost point of Wolfe Island in the St. Lawrence River. The station is 3.20 feet east of Wolfe Island lighthouse, 9.70 feet southeast of the northeast corner of the lighthouse, and 6.00 feet northeast of the southeast corner of the lighthouse. It is about 15 feet from the water's edge and 12 feet above the water in the river.

Station mark: An International Boundary Commission standard bronze disk station mark set flush with the ground in the top of a cylinder of concrete 6 inches in diameter and 24 inches in depth. The subsurface mark is a brass screw set in a block of concrete 24 inches underground.

198 - SUB (New York, Jefferson County, 1940, 1957) -- On a point of the south shore line of the St. Lawrence River about 1.4 miles southeast of the most eastern point of Wolfe Island, and about 4 miles westerly from Clayton, New York. The station is on the shore line below a cliff heavily wooded on top. It is about 100 feet west of a flight of stairs leading from the top of the cliff to the water's edge.

The shore is lined with large sections of rock which have broken off and dropped from the cliff.

Station mark: A drill hole in one of the loose rocks about 6-by 7-by 7 feet in size. The rock is liable to be moved by ice and the mark cannot be relied on as being permanent.

200 - SUB (New York, Jefferson County, 1940, 1957) -- Just north of Sawmill Bay, on the northern side of Linda Island in the St. Lawrence River. The station is about 150 feet westerly from Linda Island light, 35.0 feet northerly from the northeast corner of a pumphouse, about 45 feet from the water's edge, and about 2 feet above the water in the river. It is at the foot of two 6-inch ash trees. The station was reported lost in 1957.

Station mark: An International Boundary Commission standard bronze disk station mark set flush with the ground in the top of a cylinder of concrete 8 inches in diameter and 30 inches in depth. The subsurface mark is a brass screw set in a block of concrete 30 inches underground. There are two reference marks. Reference mark 1 is a $\frac{3}{4}$-inch drill hole in the flat limestone along the water's edge. Reference mark 2 is a similar mark. The directions and distances to the references are:

Object	Direction	Distance
Ref. Mon. 83	0° 00'	
Reference mark 1	286 37	45.72 feet
Reference mark 2	17 33	83.76 feet

202-I.W.C. (New York, Jefferson County, 1940, 1957) -- About 7 miles northeast of the town of Cape Vincent, New York; on the west side of Rose Bay on the south shore of the St. Lawrence River. The station is on the northeastern end of the point, locally known as Beadles Point, on the west side of the bay. It is on a limestone shelf, about 75 feet southwesterly from the extreme end of the point, 25 feet from the water's edge, and about 5 feet above the water level of the river. The original mark, a nail in a wooden hub driven into a crack in the rock, was recovered. The station was reported lost in 1957.

Station mark: An International Boundary Commission standard bronze disk station mark set in concrete in the crevice in the rock where the original mark was found.

204-I.W.C. (New York, Jefferson County, 1940, 1957) -- On the northeasternmost point of Carleton Island in the St. Lawrence River.

The station is 15 feet southwesterly from a glacial boulder 3-by 4-by 4-feet in size resting on the ground, about 45 feet from the water's edge, and about 5 feet above the water in the river. In 1957 the station was about 33 feet northwesterly of a 10-inch hickory tree.

Station mark: An International Boundary Commission standard bronze disk station mark set flush with the ground in the top of a circular block of concrete 12 inches in diameter and 12 inches in depth. The subsurface mark is a small bronze plug set with cement in bedrock 12 inches below the surface of the ground.

205 - SUB (Ontario, Frontenac County, 1940, 1957) -- On the southern shore of the east end of Wolfe Island in the St. Lawrence River. The station is on a conspicuous point of the shore line between two small bays a little east of north of the most eastern point of Carleton Island. It is about 25 feet from the water's edge and about 6 feet above the water in the river.

Station mark: An International Boundary Commission standard bronze disk station mark set with cement in stratified bedrock. In 1957 the station was reported probably disturbed.

206 - SUB (New York, Jefferson County, 1940, 1957) -- On the eastern of the two most northern points of Carleton Island in the St. Lawrence River. The station is about 600 feet east of an abandoned house, 85 feet from the shore line, and about 4 feet above the water in the river.

Station mark: An International Boundary Commission standard bronze disk station mark set flush with the ground in the top of a concrete cylinder 6 inches in diameter and 18 inches in depth. The subsurface mark is a bronze plug set in cement on solid rock 18 inches underground. Reference mark 1 is a drill hole in a rock near the shore line 74.51 feet northeast of the station, covered by gravel in 1957. Reference mark 2 is a drill hole in a red granite rock, near a larger, pointed black rock, 85.99 feet northwest of the station.

208-I.W.C. (New York, Jefferson County, 1940, 1957) -- On the northwesternmost point of Carleton Island in the St. Lawrence River. The station is about 288 feet southwesterly from Carleton Island Light tower, about 5 feet east of the top of the river bank and about 20 feet above the water level.

Station mark: An International Boundary Commission standard bronze disk station mark set flush with the surface

of the ground in the top of a cylinder of concrete 9 inches in diameter and 30 inches in depth. The subsurface mark is a brass screw set in concrete 30 inches underground. The station was occupied eccentrically as 208-Sub. There are two reference marks. Reference mark 1 is a lead plug in center of south square-topped stone post, 8 inches square, 6 inches above ground, inscribed "U.S.L.H.E." It is in azimuth 158° 13' 38" distant 128.60 feet from the station. Reference mark 2 is a drill hole in a flat rock about 5-by 6 feet by 2 feet high. It is in azimuth 228° 31' 52" distant 91.33 feet from the station. The eccentric station 208-Sub was 1.46 feet from the station in azimuth 241° 05'.

210 - SUB (New York, Jefferson County, 1940, 1957) -- On the northwest point of the Hammerhead Peninsula on the southwest end of Carleton Island in the St. Lawrence River. The station is on the flat outcrop of limestone about 30 feet wide which borders the point. It is about 15 feet from the water's edge, about 3 feet above the water, and is 4 inches north of a 6-inch crack in the rock.

Station mark: A drill hole in the rock. There are two reference marks. Reference mark 1 is an International Boundary Commission standard bronze disk station mark set in a drill hole in the rock 19.11 feet in a northerly direction from the station. Reference mark 2 is a drill hole in the rock 33.78 feet in a southerly direction from the station and on the straight line passing through the station and reference mark 1. The directions and distances from the station to the reference marks are:

Object	Direction	Distance
Station 208-Sub	0° 00' 00"	
Reference mark 2	176 56 22	33.78 feet
Reference mark 1	356 56 22	19.11 feet

211 - SUB (Ontario, Frontenac County, 1940) -- On the southeast point of Mud Island in the St. Lawrence River.

Station mark: Temporary mark only. Permanent mark not practicable

212 - SUB (New York, Jefferson County, 1940, 1957) -- On the south side of the St. Lawrence River about 2½ miles north 60° east from the town of Cape Vincent, New York; about 2000 feet south of the main river shore highway; in a pasture field owned by Mrs. L.A. Docteur. The station is approximately in azimuth 304° from Mrs. Docteur's barn about 1700 feet distant. It is 3 feet west of the east pasture fence line.

Station mark: An International Boundary Commission standard bronze disk station mark placed 22 inches underground in the top of a cylinder of concrete 11 inches in diameter and 18 inches in depth. There are two reference marks: Reference mark 1 is a 1-inch drill hole in the top of a large field stone in a fence line in close proximity to a scrap heap. Reference mark 2 is an automobile axle, driven in the ground and protruding 2 inches, in the west pasture fence line and 40 feet north of a 2-foot elm tree. The directions and distances to the references are:

Object	Direction	Distance
Station 210-Sub	0° 00' 00"	
Station Ellis-U.S.L.S.	57 12 33	805.64 feet
Station Cape Vincent		
East base	186 43 18	
Reference mark 2	232 04	297.70 feet
Reference mark 1	321 18	274.87 feet

213 - SUB (Ontario, Frontenac County, 1940) -- On Wolfe Island in the St. Lawrence River; on the south shore of the peninsula that forms the south side of Big Bay; about 1 mile southeast of the east end of the peninsula.

Station mark: Temporary mark only. Permanent mark not practicable.

CAPE VINCENT WEST BASE - U.S.L.S. (New York, Jefferson County, 1874, 1940, 1957) -- Near the town of Cape Vincent, New York; about $\frac{1}{4}$ mile east of Cape Vincent elevator; just east of the railroad yard limits and on the north side of the track. The station is about 335 feet east of the yard limits sign, 99.7 feet east of a drill hole in stone, 71.2 feet north of a stone post, 99.1 feet west of a stone post, 19.8 feet north of north rail of track, and 54 feet south of north right-of-way fence. In 1957 the railroad rails had been removed.

Station mark: A triangular brass plug in a stone post 6 inches square, set about 2 feet below the ground surface.

215 - SUB (Ontario, Frontenac County, 1940, 1957) -- On the south shore of Wolfe Island in the St. Lawrence River, on the north side of Button Bay; about $1\frac{1}{2}$ miles a little west of north of Hinckley Point; near where a road comes down to the shore and makes a right angle turn to the northeast. The station is in cultivated ground where it is not feasible to maintain a permanent mark; therefore, in its stead a reference was permanently marked.

Station mark: A nail in a wooden hub driven flush with the ground. There are two references. Reference mark 1 is triangulation station "Rainy-U.S.L.S." (see description of "Rainy"). Reference mark 2 designated in the records as "215-Sub Ref. Mark" is an International Boundary Commission standard bronze disk station mark set in an outcropping triangular boulder 3 by 2½ feet in dimensions above ground, flush with the ground on one side and 1 foot above ground facing the ditch; about 6 feet above the water, 30 feet from the bank, and about 10 feet from the turn of the road. The reference mark is 17.30 feet from a drill hole in a boulder 2 by 2 feet by 1 foot high in fence line 4 feet east of road, and 35.00 feet from a drill hole in a boulder 3 by 2 feet and 1½ feet high in fence line 10 feet west of road. This last drill hole is also a reference to station "Rainy-U.S. L.S." The following directions and distances were observed:

Object	Direction	Distance
At station 215-Sub:		
210-Sub	0° 00' 00"	
215-Sub Ref. Mark	329 48 29	43.37 feet
Rainy-U.S.L.S.	330 41 02	185.78 feet
At 215-Sub Ref. mark;		
211-Sub	0 00 00	
Rainy-U.S.L.S.	8 01 04	142.44 feet
215-Sub	186 52 18	43.37 feet.

CAPE VINCENT EAST BASE - U.S.L.S. (New York, Jefferson County, 1874, 1940, 1957) -- About 2 miles east of the town of Cape Vincent; on the south side of the New York Central Railroad track. The station is 170 feet northwest of a leaning stone post; 110.7 feet southwest of a stone post; 172.6 feet southeast of a stone post; 66.1 feet east of a concrete signpost; 13.6 feet south of the south rail of the track; and 16.8 feet north of the south right-of-way fence. In 1957 the railroad rails and reference posts had been removed.

Station mark: A brass plug in a stone 6 inches square, set 3 feet below the ground surface.

217-I.W.C. (Ontario, Frontenac County; 1940) -- On the southern side of Wolfe Island in the St. Lawrence River; about 1¾ miles southwest of Hinkley Point; about ¼ mile southwest of a farmhouse; and about 740 feet from the shore line of the river. The station is in the corner of an open field or pasture fenced on the northwest and on the southwest sides. It is about 45 feet southeast of the fence on the northwest side of the pasture; about 45 feet northeast of the fence on the southwest side of the pasture; and 60 feet

east of the fence corner at the western corner of the pasture.

Station mark: An International Boundary Commission standard bronze disk station mark set flush with the ground in the top of a cylinder of concrete 9 inches in diameter and 24 inches in depth. The subsurface mark is a semi-circular bronze plug set 24 inches underground in the top of a block of concrete, 9 inches in diameter and 6 inches in depth. Reference mark 1 is a 5/8-inch drill hole in the top of a rock 8 by 16 by 24 inches in size set with its top projecting about 6 inches above the ground in the fence line on the northwest side of the pasture 86 feet northeast of the fence corner. Reference mark 2 is a 5/8-inch drill hole in the top of a rock 10 by 18 by 24 inches in size set with its top projecting 6 inches above the ground in the fence line on the southwest side of the pasture 46 feet southeast of the fence corner. The directions and distances to the references are:

Object	Direction	Distance
Station 221-Sub	0° 00'	
Reference mark 2	78 15	86.62 feet
Reference mark 1	166 43	42.93 feet
Tibbetts Point Lighthouse	359 01	

218 - SUB (New York, Jefferson County, 1940, 1957) -- On the southern shore of the St. Lawrence River at the western outskirts of the town of Cape Vincent, New York. The station is about 300 feet west of the northern end of the "Valley Road"; it is on a flat limestone outcrop 1 foot below high-water mark of the river; 110 feet southwest of the inshore point of the dock wing wall belonging to the Beechwood Estate (now the property of A.J. Phinney of Buffalo, New York); 71 feet north of the approximate center line of the "Lake Shore Drive"; 91 feet northeast of a power line pole guy wire anchor which is cemented into solid rock.

Station mark: An International Boundary Commission standard bronze disk station mark countersunk and cemented into solid rock. There are two reference marks. Reference mark 1 is a 5/8-inch drill hole southeast of the station and at high-water mark in an upper strata of the same limestone outcrop on which the station is located. In 1957 reference mark 1 was covered with coarse gravel. Reference mark 2 is the steel eye-bolt of a power line pole guy wire anchor southwest of the station. The directions and distances to the references are:

Object	Direction	Distance
Station 213-Sub	0° 00'	
Reference mark 1	106 35	25.22 feet
Reference mark 2	227 11	90.60 feet.

219-I.W.C. (Ontario, Frontenac County, 1940, 1957) -- On Wolfe Island in the St. Lawrence River; on the southeast end of Hinkley Point opposite Cape Vincent, New York. The station is on the south side of the road leading from the ferry wharf, 16.5 feet north of the outside edge of the concrete retaining wall, 82 feet southeast of the southeast corner of the stone porch of the Canadian customs house, 12.0 feet south of the approximate center of the ferry drive-way, and about 6 feet above the water in the river.

Station mark: An International Boundary Commission standard bronze disk station mark set flush with the ground in the top of a cylinder of concrete 9 inches in diameter and 24 inches in depth. The subsurface mark is a bronze wedge set 24 inches underground in a block of concrete 9 inches in diameter and 6 inches in depth set on solid rock. Boundary reference monument 87 is 92.33 feet from the station in azimuth 233° 33'.

220 - SUB (New York, Jefferson County, 1940, 1957) -- On the south bank of the St. Lawrence River about 1 mile northeast of Tibbetts Point light and about $1\frac{1}{2}$ miles southwest of the town of Cape Vincent. The station is on a limestone ledge, about 6 feet back from the water's edge and 10 feet riverward from the foot of the bank where the ledge disappears under it. It is 44 feet north of the center of the road along the river and is about 450 feet northeast of a stone house standing on the south side of the road. The station is under water in windy weather and at high water stages of the river.

Station mark: An International Boundary Commission standard bronze disk station mark set with cement in a drill hole in the limestone ledge.

221 - SUB (Ontario, Frontenac County, 1940, 1957) -- On the southern shore of Wolfe Island in the St. Lawrence River; about $1\frac{3}{4}$ miles southwest of Hinkley Point. The station is on the beach backed by a high bare gravel bank.

Station mark: A drill hole found in a large boulder among a lot of water worn boulders large and small. This mark seemed to be insecure and therefore a reference tablet was set in a low outcrop of limestone 31.04 feet from the station in azimuth 249° 52'.

The reference tablet is described as follows: On a low outcrop of limestone backed by a high bare gravel bank, about 13 feet from the water's edge and 1 foot above the water. An International Boundary Commission standard bronze disk station mark countersunk and cemented in solid rock at the edge of the boulder strewn beach.

There are two references to this mark, each being a 5/8-inch drill hole in solid rock. The directions and distances from the reference tablet to the drill holes are:

Object	Direction	Distance
Station 219-I.W.C.	0° 00'	
Reference mark 1	355 21	14.96 feet
Reference mark 2	98 42	18.45 feet

223-I.W.C. (Ontario, Frontenac County, 1940, 1957) -- On Bear Point, the most southerly point on Wolfe Island at the head of the St. Lawrence River; on the southeast side of the point and about 590 feet northeast of the extreme point of land. The station is about 45 feet back from the water's edge and about 10 feet above the water in the river.

Station mark: An International Boundary Commission bronze disk station mark set flush with the ground in the top of a cylinder of concrete 9 inches in diameter and 22 inches in depth. The subsurface mark is a bronze wedge cemented in a drill hole in solid bedrock 23 inches underground. A dressed stone post 5 inches square bearing a $\frac{1}{4}$-inch triangle on its top and the letters "U.S." on its southwest face and projecting 4 inches above ground bears northeast from the station a short distance. The post just described is Reference no. 2 for station "Bear Point-U.S.L.S." Station "Bear Point-U.S.L.S." is in azimuth 60° 25' from the station 222.2 feet distant. Boundary Reference Monument 88 is in azimuth 227° 27' from the station 265.2 feet distant. (See description of station "Bear Point-U.S.L.S.")

RAINY - 1874 U.S.L.S. (Ontario, Frontenac County, 1874, 1934, 1940) -- On the south shore of Wolfe Island in the St. Lawrence River; on the north side of Button Bay; about $1\frac{1}{2}$ miles a little west of north of Hinkley Point and about midway between Hinkley Point and Carpenter Point; a short distance east of a road to the bay, and about 4 feet north of the river bank. It is 121.0 feet northeast of a $\frac{3}{4}$-inch drill hole in a 3-by 2-by 1-foot high boulder in the fence line; 176.3 feet east of a $\frac{3}{4}$-inch drill hole in a 3-by 2-by 1-foot high boulder in the fence line; 131.3 feet east of a broken stone post, and 170.7 feet east of a stone post.

Station mark: A triangular piece of brass in a limestone block 6 inches square set 1 foot below the ground surface. The station was reported lost in 1957.

ELLIS - U.S.L.S. (New York, Jefferson County, 1874, 1940) -- About 2½ miles northeast of the town of Cape Vincent, New York; on the south side of the St. Lawrence River; about 2000 feet southeast of the highway; and about 2000 feet northeast of a side road. The station is 545.6 feet northeast of a limestone block 5 inches square projecting 1 foot above the ground in fence line; 568.0 feet north of a limestone block 5 inches square, bearing the figure 3, and projecting 6 inches above the ground surface about 1½ feet east of the west fence line; 143.0 feet south of a ¾-inch drill hole in a boulder in the east fence line; and 110.3 feet southwest of Reference No. 2, a U.S.L.S. standard bronze disk reference mark, set with the arrow pointing toward the station in concrete in the east fence line.

Station mark: A 3/8-inch drill hole in a boulder set 30 inches underground.

BEAR POINT - U.S.L.S. (Ontario, Frontenac County, 1874, 1940, 1957) -- On Bear Point, the most southerly point of Wolfe Island at the head of the St. Lawrence River; 335 feet northeast of the extreme end of the point; 4 feet west of the top of the bank and in a pasture. It is 123.0 feet south of a limestone block 5 inches square, bearing the letters "U.S." and flush with the ground surface; 246.2 feet southwest of a stone block 5 inches square bearing a ¼-inch triangle on its top and the letters "U.S." on its southwest face, and projecting 4 inches above ground; 483.8 feet southwest of Boundary Reference Monument 88; 28 feet south of a 14-inch elm tree; and 89 feet south of a 30-inch twin basswood.

Station mark: A 3/8-inch drill hole 1 inch deep in solid rock 2 feet below the ground surface. The surface mark is a 3/8-inch drill hole in a stone 2 feet long, 4 by 6 inches at its top, centered over the station and flush with the ground surface. (See description of station "223-I.W.C.")

LOWER- SUB (New York, Jefferson County; 1940, 1957) -- On the southeast shore line of an unnamed island immediately off the eastern entrance to "The Rift". The station is on a rock ledge 6 feet inshore and 2 feet above mean water level. It is 2 feet west of the edge of a rounded rock projecting 1 foot above the level of the ledge.

Station mark: A semi-circular brass plug ½ inch in diameter and ¾-inch long cemented in a drill hole in solid rock with its top flush with the surface of the rock.

ROCK - I.W.C. (New York, Jefferson County, 1940, 1957) -- On a small island, in Lake of the Isles, lying about 1300 feet south of the eastern entrance to "The Rift" and about the same distance from the south shore of the lake. The station is on a sloping rock ledge on the northern shore of the island, about 8 feet lower than the highest point of the island, about 30 feet inshore, and about 15 feet above the water level of the lake.

Station mark: An International Boundary Commission standard bronze disk station mark countersunk and cemented in solid rock.

UPPER - SUB (New York, Jefferson County, 1940, 1957) -- On the northwestern shore line of an unnamed island immediately off the eastern entrance to "The Rift". The station is on a rock ledge, 6 feet inshore, and 5 feet above mean water level.

Station mark: A semi-circular brass plug cemented in a drill hole in solid rock.

SHACK - I.W.C. (New York, Jefferson County, 1940) -- On *Wells Island in the St. Lawrence River; on the northern extremity of a hook-shaped point on the west side of the eastern entrance to "The Rift" and southwest of the island that lies in the entrance. The station is on a rock outcrop 1 by 3 feet in area and 3 inches above the general high water mark. In 1957 station was not recovered, probably covered by the stone wall of a duck blind.

Station mark: A drill hole within a triangle cut in solid rock. The word "Shack" is chiselled in the same rock. Station "QQ-I.W.C." is 9.48 feet north of station "Shack - I.W.C."

QQ- I.W.C. (New York, Jefferson County, 1940, 1957) -- On Wells Island in the St. Lawrence River; on the northern extremity of a hook-shaped point on the west side of the eastern entrance to "The Rift" and southwest of the island that lies in the entrance. The station is on a rock ledge, 11 feet inshore from the extreme point of land, and 4 feet above high water mark.

Station mark: An International Boundary Commission standard bronze disk station mark set in solid rock. Station "Shack-I.W.C." is 9.48 feet south of station "QQ-I.W.C."

DD- SUB (Ontario, Leeds County, 1940, 1957) -- About one-half mile downstream from the International Bridge across "The Rift"; on the north-and-south shore line on the west side of the most southern extension of Hill Island in the

*Now called Wellesley

St. Lawrence River; about 500 feet north of where the shore line turns abruptly from a westward direction to a northern direction. The station is on a low rock outcrop on a slight point of the shore line, 30 feet outside the timber line, 20 feet inshore, and about 3 feet above high water mark.

Station mark: An International Boundary Commission standard bronze disk station mark countersunk and cemented in solid rock.

PP- SUB (New York, Jefferson County, 1940, 1957) -- On the northern shore of Wells Island in the St. Lawrence River; on the northeast tip of the peninsula that lies between "The Rift" and Lake of the Isles. The station is on the north end of a ledge, 15 feet inshore and 10 feet above high water mark. It is 62 feet northeast of the northeast corner of the porch of a summer cottage owned by T. Velie of 2089 Washington Avenue, The Bronx, New York, New York. It is 38.68 feet in azimuth 130° from Boundary Reference Monument 69.

Station mark: An International Boundary Commission standard bronze disk station mark set in solid ledge rock.

CC- SUB (Ontario, Leeds County, 1940, 1957) -- On the southern shore of Hill Island in the St. Lawrence River; about $\frac{1}{2}$ mile downstream from the International Bridge across "The Rift". The station is at the southwest extremity of a point on the shore line with swamp all around it. The point perhaps may more properly be called an island. It has been described as a "small wooded island in a swamp". The station is 6 feet from an 8-inch white birch, 15 feet from a 12-inch white pine, and is 3 feet above the water in the river.

Station mark: An International Boundary Commission bronze disk station mark set flush with the ground in the top of a cylinder on concrete 7 inches in diameter and 30 inches in depth. The subsurface mark is a brass screw set in a concrete block 7 inches in diameter and 6 inches in depth set 30 inches underground.

OO- SUB (New York, Jefferson County, 1940, 1957) -- On Wells Island in the St. Lawrence River; on the south shore of "The Rift" channel about 2100 feet east of the International Bridge across "The Rift"; on the middle one of three points of the shore line just before "The Rift" channel turns to the south into Lake of the Isles. The station is near the northwest extremity of a detached rock about 6 by 12 feet in area and about 6 feet above the water.

Station mark: An International Boundary Commission standard bronze disk station mark countersunk and cemented in the rock.

NN- I.W.C. (Ontario, Leeds County, 1940, 1957) -- On the southeast side of the island in "The Rift", between Hill and Wells Islands in the St. Lawrence River, 1100 feet east or downstream from the International Bridge across "The Rift". This island is the largest in "The Rift" channel. The station is northeasterly of Reference Monument 70, located in bedrock covered with boulders, and 20 feet towards the river from higher bedrock.

Station mark: An International Boundary Commission standard bronze disk station mark countersunk and cemented in the top of a large flat-topped rock 25 feet inshore from the edge of the marsh and 6 feet above the water level of the river.

BB- SUB (Ontario, Leeds County, 1940, 1957) -- On the south shore of Hill Island in the St. Lawrence River, on a point of the shore line about 1500 feet downstream from the International Bridge across "The Rift". The station is on an out-jutting rock about 6 by 12 feet in area and 8 feet above the surface of the swamp. It is 2 feet out from the inshore end of the rock and is 5 feet west of a 14-inch pine tree.

Station mark: An International Boundary Commission standard bronze disk station mark set in solid rock.

Z- SUB (New York, Jefferson County, 1940, 1957) -- On the north shore of Wells Island in the St. Lawrence River, about $\frac{1}{4}$ mile down "The Rift" channel from the international span of the "Thousand Islands Bridge"; directly opposite the south end of the largest island in "The Rift" channel between Wells and Hill Islands. The station is southeasterly of Reference Monument 70, on a high bluff, and about 10 feet above the water.

Station mark: An International Boundary Commission standard bronze disk station mark set in rock.

AA-SUB (Ontario, Leeds County, 1940, 1957) -- On Hill Island in the St. Lawrence River; on the pine covered point on the north shore of "The Rift" 325 feet downstream from the International Bridge across "The Rift". The station is about 130 feet upstream from an abandoned concrete dock; about 130 feet inshore from the water's edge; and about 2 feet above the water in the river.

Station mark: An International Boundary Commission standard bronze disk station mark set in solid rock.

X - SUB (New York, Jefferson County, 1940, 1957) -- On Wells Island in the St. Lawrence River, on the south shore of "The Rift"; 575 feet upstream from the International Bridge across "The Rift". The station is 3 feet above and directly behind a wharf, being 27.90 feet inshore from the outer edge of the wharf, 28.83 feet from the northwest corner, and 30.5 feet from the northwest corner of the wharf. It is 65.0 feet northeast of the northeast corner of a camp building; 44.4 feet north of the northwest corner of a masonry outdoor fireplace; and about 6 feet above the water in the river.

Station mark: An International Boundary Commission bronze disk station mark set in solid bedrock 2 or 3 inches below the general ground level.

L - SUB (Ontario, Leeds County, 1940, 1957) -- Between Wells and Hill Islands in the St. Lawrence River; on a small low island in "The Rift"; about 560 feet upstream from the International Bridge. The island is surrounded on three sides by swamp. The station is about 5 feet west of the east bank of the island, 20 feet east of the west bank, 15 feet south of the north bank, and 100 feet north of the south bank of the island.

Station mark: An International Boundary Commission standard bronze disk station mark set flush with the ground in the top of a cylinder of concrete 6 inches in diameter and 24 inches in depth and resting on bedrock.

W - SUB (New York, Jefferson County, 1940, 1957) -- On the north shore of Wells Island in the St. Lawrence River; about 800 feet upstream from the International Bridge across "The Rift". The station is on a rounded point of land; 20 feet inshore; 3.5 feet south of a 14-inch pine tree; and 7 feet above the water in the river.

Station mark: A drill hole in the top of a steel bar 1 7/8 inches in diameter and 18 inches long set 16 inches in the ground and 2 inches above the ground.

K - SUB (Ontario, Leeds County, 1940, 1957) -- Between Wells and Hill Islands in the St. Lawrence River; on a small island in "The Rift"; about 850 feet upstream from the International Bridge. The island is entirely surrounded by rushes. The station is 15 feet west of the eastern edge of the island, 24 feet east of the western edge, 16 feet south of the northern edge, and 22 feet north of the southern

edge of the island. It is about 6 feet above the water level of the river, on a bare rock ledge about 3 by 3 feet in area and exposed about 8 inches on one side and 3 inches on the side opposite.

Station mark: An International Boundary Commission standard bronze disk station mark countersunk and cemented in the rock.

J - SUB (Ontario, Leeds County, 1940, 1957) -- On Hill Island in the St. Lawrence River; on a point of land on the north shore of "The Rift"; and about 575 feet east of the most narrow part of the west entrance to "The Rift". It is at the bottom of a steep bluff and directly across from station "V-SUB".

Station mark: A drill hole within a triangle cut in the rock surface about 10 inches below the general ground surface and 3 feet above high water mark. The rock is crumbly and full of seams and not at all suitable for a permanent mark.

V - SUB (New York, Jefferson County, 1940, 1957) -- On the north shore of Wells Island; on the top of a small ridge on the south side of "The Rift" about 575 feet east of the narrowest part of the west entrance. The station is about 23 feet inshore and about 10 feet above high water mark.

Station mark: A small drill hole within a triangle cut in solid bedrock about flush with the general ground level.

I - SUB (Ontario, Leeds County, 1940) -- On Hill Island in the St. Lawrence River; on the north shore of "The Rift" about 475 feet east of the narrowest portion of the western entrance. The station is on bedrock, at the present water level, and will be submerged at high water levels. It is at the foot of a high wooded cliff.

Station mark: An International Boundary Commission standard bronze disk station mark countersunk and cemented in the solid bedrock.

U - SUB (New York, Jefferson County, 1940) -- On Wells Island in the St. Lawrence River; on the south shore of "The Rift" about 310 feet east of the narrowest part of the west entrance. The station is on a large embedded boulder about 8 inches below the general level of the boulder-strewn beach. The station will be submerged at high water stages of the river.

Station mark: A small drill hole within a triangle cut in the top of the boulder.

H - SUB (Ontario, Leeds County, 1940) -- On Hill Island in the St. Lawrence River; on the north shore of "The Rift" about 325 feet east of the narrowest part of the western entrance. The station is on a large and deeply-embedded boulder about 8 inches below the general level of the boulder-strewn beach. The station will be submerged at high water level.

Station mark: A small drill hole within a triangle cut in the top of the boulder.

G - SUB (Ontario, Leeds County, 1940) -- On Hill Island in the St. Lawrence River; on the north shore of the narrowest portion of the western entrance to "The Rift"; approximately 53 feet north of Boundary Reference Monument 72 on the opposite side of the channel. The station is on a large and deeply-embedded boulder about 6 inches below the general level of the rock-strewn shore and between the present water level and a high wooded bluff. The station will be submerged at high water levels.

Station mark: A drill hole within a triangle cut in the top of the boulder.

F - SUB (Ontario, Leeds County, 1940, 1957) -- On the south shore of Hill Island in the St. Lawrence River; about 80 feet northwest of the narrowest part of the west entrance to "The Rift". The station is on top of a small cliff; 3 feet back from the point of the cliff and 8 feet above the high water mark.

Station mark: An International Boundary Commission standard bronze disk station mark countersunk and cemented in solid rock.

S - SUB (New York, Jefferson County, 1940, 1957) -- On the northern shore of Wells Island in the St. Lawrence River; at the west entrance to "The Rift", on the south side of the channel and about 125 feet east of the narrowest place in the channel; about 100 feet east of a marshy inlet. The station is at the foot of a 25-foot bluff; on a ledge 4 feet above high water mark and about 3 feet inshore from the edge of the ledge.

Station mark: An International Boundary Commission standard bronze disk station mark countersunk and cemented in solid rock.

E - SUB (Ontario, Leeds County, 1940, 1957) -- On the southern shore of Hill Island in the St. Lawrence River at a point about 400 feet west of the narrowest portion of the west entrance to "The Rift" and just west of a marsh inlet.

The station is at high water mark on the southern extremity of a rocky point.

Station mark: An International Boundary Commission standard bronze disk station mark cemented in a drill hole in solid rock.

R - I.W.C. (New York, Jefferson County, 1940, 1957) -- On the northern shore of Wells Island in the St. Lawrence River at a point about 400 feet west of the narrowest portion of the west entrance to "The Rift", and just west of a marshy inlet. The station is on a large and prominent granite rock about 8 by 15 feet in area. It is 3 feet south of the edge of the rock and about 4 feet above high water mark of the river.

Station mark: An International Boundary Commission standard bronze disk station mark countersunk and cemented in the rock.

D - SUB (Ontario, Leeds County, 1940, 1957) -- On the southwestern shore of Hill Island in the St. Lawrence River; on the extreme southern point of the first major outjutting point of the shore line east of the extreme western point of the island; and about 1400 feet west of the west entrance to "The Rift". The station is on a rock cliff, 10 feet inshore from the edge of the cliff, and about 15 feet above high water mark of the river.

Station mark: An International Boundary Commission standard bronze disk station mark countersunk and cemented in solid granite rock.

Q - I.W.C. (New York, Jefferson County, 1940, 1957) -- On the northern shore of Wells Island in the St. Lawrence River; on a well defined rounded point of the shore line nearly due south of the western tip of Hill Island about 1400 feet west of the west entrance to "The Rift". The station is on a low outcrop of rock on the northeast extremity of the point, about 10 feet from the shore line, and about 6 feet above the water in the river.

Station mark: An International Boundary Commission standard bronze disk station mark countersunk and cemented in solid rock.

P - I.W.C. (New York, Jefferson County, 1940, 1957) -- On the northern shore of Wells Island in the St. Lawrence River at a point about 1600 feet south 23° east of Lindoe Island lighthouse and about 2600 feet west of the west entrance to "The Rift". The station is on sloping rock bluff.

It is about 6 feet inshore from the edge of the bluff and about 20 feet above high water mark of the river.

Station mark: An International Boundary Commission standard bronze disk station mark countersunk and cemented in solid granite rock.

B - I.W.C. (Ontario, Leeds County 1940, 1957) -- Between Wells Island and Lynedoch Island in the St. Lawrence River; about 1600 feet west of the western point of Hill Island; on the small island on which Lindoe Island lighthouse stands. The station is on the extreme western point of the island; on a sharp rock bluff dipping to the water in a westerly direction. It is about 4 feet inshore, and about 5 feet above high water mark of the river.

Station mark: An International Boundary Commission standard bronze disk station mark countersunk and cemented in solid granite rock.

O - I.W.C. (Leeds County, 1940, 1957) -- About $\frac{1}{4}$ mile south 30° west of Lindoe Island lighthouse, on the northeast end of Bingham Island in the St. Lawrence River. The station is about 15 feet southwest of the extreme point of land, and is 5 feet above high water mark.

Station mark: An International Boundary Commission standard bronze disk station mark set in solid rock.

N - I.W.C. (Ontario, Leeds County, 1940, 1957) -- On the highest point of an island 30 by 75 feet in area lying $\frac{1}{2}$ mile south 75° west of Lindoe Island lighthouse in the St. Lawrence River. The station is about 5 feet above the high water mark of the river.

Station mark: An International Boundary Commission standard bronze disk station mark set in solid rock. A D.P.W. brass plug cemented in the rock and inscribed "D.P.W. - 1901" is in azimuth 142° distant 3.6 feet from the station.

A - SUB (Ontario, Leeds County, 1940, 1957) -- On the extreme south point of the small island lying just off the southwest end of Lynedoch Island in the St. Lawrence River. The station is north of high water mark and 2 feet above its level.

Station mark: An International Boundary Commission standard bronze disk station mark countersunk and cemented in solid rock. The original I.W.C. station mark was recovered; a 20d nail driven in a crevice in the rock ledge. The location of this mark was too unstable to hold a bronze disk station mark and therefore a sub station was established.

The original station mark was not disturbed but was reinforced by filling the crevice around the nail with cement. The original station mark is 4.17 feet southwest of the bronze disk marking the Sub station.

SIR - I.W.C. (Ontario, Leeds County, 1940, 1957) -- About 1 mile south 73° west of Lindoe Island lighthouse; on the southwest end of Sir William Island in the St. Lawrence River. The station is about 10 feet from the water's edge, about 10 feet above the water in the river, and about 5 feet from the edge of the high ledge.

Station mark: An International Boundary Commission standard bronze disk station mark countersunk and cemented in solid rock.

MONUMENT 74 ECC. - I.W.C. (New York, Jefferson County, 1940, 1957) -- On the northwest shore of Wells Island in the St. Lawrence River; opposite Bingham Island; and south 24° west of Lindoe Island lighthouse $\frac{1}{2}$ mile distant. The station is on a low rock bluff, about 3 feet back from the edge of the bluff, and about 7 feet above high water mark.

Station mark: A punch mark in a half-round piece of bronze $\frac{1}{2}$ inch in diameter and $\frac{3}{4}$ inch long cemented in a drill hole in solid rock 1.2 feet below the surface of the ground. Boundary Reference Monument 74 is in azimuth 321° 55' distant 29.22 feet from the station.

STONE - I.W.C. (New York, Jefferson County, 1940, 1957) -- On a small unnamed island lying just off the northwest shore of Wells Island in the St. Lawrence River. This small island is immediately west of Waterton State Park, and is about one mile southwest of Lindoe Island lighthouse. The station is on a small rocky peninsula about 40 feet wide and 40 feet long constituting the extreme northern point of the island. It is about 9 feet below the highest point of the island, 10 feet from the water's edge, and about 1 foot above high water mark. In 1957 the station was under 2 inches of water with one foot of water over the ledge towards the shore about 15 feet distant. The ledge is eroding.

Station mark: An International Boundary Commission standard bronze disk station mark countersunk and cemented in solid granite rock.

VIEW- SUB (New York, Jefferson County, 1940, 1957) -- On the north shore of Grand View Park Peninsula on Wells Island in the St. Lawrence River; on a small hammerhead peninsula between two small bays $1\frac{1}{2}$ miles northeast of the southwestern tip of Grand View Park peninsula.

The station is about 6 feet from the shore line which is a vertical rock face, and 6 feet above the water in the river. It is 22.4 feet from the easterly corner of a small shingle covered house, 19.5 feet from the westerly corner of the same house, and 32.0 feet from the bottom of the chimney of the same house, about on line with the westerly corner of the house.

Station mark: An International Boundary Commission standard bronze disk station mark set in the solid rock.

ROW - I.W.C. (Ontario, Leeds County, 1940, 1957) -- About 1½ miles north 60° east of Gananoque Narrows lighthouse; about 1000 feet south of Downie Island; on the extreme southeast point of Rowley Island in the St. Lawrence River. The station is on the summit of a smooth round-topped rock outcrop, 4 feet above the water level of the river.

Station mark: An International Boundary Commission standard bronze disk station mark countersunk and cemented in solid rock. Directions and distances to the references are:

Object	Direction	Distance
Station Spil-Sub	0° 00' 00"	
D.P.W. brass mark stamped "D.P.W. 1901"	72 26	5.77 feet
Flagpole, Williams Estate	188 25	
Corner pole, Tennis court enclosure	224 20	25.69 feet

SPILL- SUB (Ontario, Leeds County, 1940, 1957) -- On the southeast shore of Spilsbury Island, a small island in the St. Lawrence River about midway between Lynedoch Island and Gananoque Narrows lighthouses, and about ½ mile north of the northwestern peninsula of Wells Island. The station is on a rock ledge; about 12 feet inshore, about 5 feet from the crest of the ledge and 5 feet above the high water mark of the river.

Station mark: An International Boundary Commission standard bronze disk station mark countersunk and cemented in solid rock. Station "Spil-I.W.C." was recovered as marked by a drill hole within a triangle cut in rock, but it was not in a stable rock, hence the substitute station was established and marked. The I.W.C. mark bears south-southeast from the station 16.75 feet distant. There is nearby a ¼-inch drill hole in a large flat-topped rock detached from the main shore line, but no distance or direction to it is recorded.

GRAND - I.W.C. (New York, Jefferson County, 1940, 1957) -- On the west end of Grand View Park, the northwestern peninsula of Wells Island in the St. Lawrence River, about $\frac{1}{4}$ mile north of the most southern end of the point which terminated the peninsula. The original station was recovered as marked with a nail in a wooden hub. It was found to be too close to an eroding bank to establish a permanent mark. It was reported lost in 1957. Therefore it was re-marked with a nail in a 2 by 4 wooden hub and a reference referred to in the field notes as Grand-Sub was permanently marked. The reference, Grand-Sub is 14.24 feet from Grand-I.W.C. in azimuth 267° 28' 34". The reference, Grand-Sub, is described as follows:
In a grove on a grassy knoll which breaks steeply to the shore of the river; about 300 feet northerly from two boathouses in a small bay; 82 feet north of a maple tree 5.4 feet in circumference standing at the edge of the lawn and on top of the bank and being the farthest south maple tree; 81 feet from the northeast corner of a small house just north of a large one; about 50 feet from the water's edge, 18 feet from the top of the bank, and 30 feet above the water in the river.

Station mark: An International Boundary Commission standard bronze disk station mark set flush with the ground in the top of a concrete post. There is supposed to be a subsurface mark but it is not described.

LONG - I.W.C. (Ontario, Leeds County, 1940, 1957) -- About $3\frac{1}{2}$ miles east and a little south of Gananoque, Ontario, on a small long and narrow island 1/8 mile southeast of the southwestern end of Prince Regent Island in the St. Lawrence River. The station is about one-third the length of the island from the northeast end. It is on a rock outcrop that drops vertically to the water; is about 6 feet from the water's edge and about 6 feet above the water in the river.

Station mark: An International Boundary Commission standard bronze disk station mark set in the solid bedrock.

ROUND - I.W.C. (Ontario, Leeds County, 1940, 1957) -- About 1 mile southwest of the extreme northeast point of Grindstone Island in the St. Lawrence River; about 3/8 mile north of the northern shore of Grindstone Island; on a small island known as Round Island. The station is on the northern side of the island at a point about 30 feet northeast from the southwestern end of the island, and 12 feet from the shore line. It is about 8 feet above the water in the river.

Station mark: An International Boundary Commission standard bronze disk station mark set in a projecting grey granite rock.

END- SUB (Ontario, Leeds County, 1940, 1957) -- On the rocky point on the southeastern side of the northeastern end of Endymion Island in the St. Lawrence River. There is a small grove of pine trees on the point about 40 feet north of the station. The station is about 8 feet from the water's edge and 7 feet above the water in the river.

Station mark: An International Boundary Commission standard bronze disk station mark set in solid rock.

MION- SUB (Ontario, Leeds County, 1940, 1957) -- About $\frac{1}{4}$ mile north of Grindstone Island; on the southwest end of Endymion Island in the St. Lawrence River. The station is on a rocky point, on the southern shore about 300 feet from the extreme southwestern end of the island. It is about 12 feet from the shore line and about 6 feet above the water in the river.

Station mark: An International Boundary Commission standard bronze disk station mark set in solid rock.

PEAK - I.W.C. (New York, Jefferson County, 1940, 1957) -- On the northern shore of Grindstone Island; on a prominent point of the shore line about $\frac{3}{4}$ mile west of the eastern of the two deep inlets that penetrate the north side of the island. There is a small bay just east of the point. The station is on a conspicuous high rounded dome of rock that rises from the water's edge to a height of about 20 feet.

Station mark: An International Boundary Commission standard bronze disk station mark set in the rock.

GRIND - I.W.C. (New York, Jefferson County, 1940, 1957) -- On the northern shore of Grindstone Island in the St. Lawrence River; on a prominent point about midway between the two deep inlets or bays that penetrate the northern side of the island. The station is on the northern side of the point about 5 feet from the water's edge and about 12 feet above the water in the river. A rock cliff rises about 15 feet higher a short distance back of the station.

Station mark: An International Boundary Commission standard bronze disk station mark set in an irregular-shaped rock 2 feet by 3 feet in size.

DEATH - I.W.C. (Ontario, Leeds County, 1940, 1957) -- About 3 miles southeast of Gananoque, Ontario, on Deathdealer Island in the St. Lawrence River. The station is on a rock outcrop on the southern end of the island; about 100 feet westerly from a low bare rock point about 40 feet wide; about 5 feet from the shore line; and about 4 feet above the water in the river.

Station mark: An International Boundary Commission standard bronze disk station mark set with cement in a drill hole in the rock.

DOCK - I.W.C. (New York, Jefferson County, 1940, 1957) -- On the northern shore of Grindstone Island; about 3000 feet east of the western of the two large inlets that penetrate the northern shore of the island. The station is about 75 feet northerly from a small house, about 25 feet southwesterly from a wooden dock, 15 feet from the water's edge and 4 feet above the water in the river.

Station mark: An International Boundary Commission standard bronze disk station mark set in solid rock.

PUNT - (Ontario, Leeds County, 1940, 1957) -- About $2\frac{1}{2}$ miles southeast of Gananoque, on one of the Punts Islands. The station is on a small rocky island northeast of the largest island of the Punts group. It is on a rocky point on the eastern end of the island, about 30 feet from the end of the point, 10 feet from the water's edge, and about 4 feet above the water in the river.

Station mark: An International Boundary Commission standard bronze disk station mark set in solid rock.

MONUMENT 79 ECC. - I.W.C. (New York, Jefferson County, 1940, 1957) -- About 4000 feet east of Thwartway Island, 2600 feet north of Grindstone Island, and 300 feet southwest of Gig Island in the St. Lawrence River. The station is on the northeast end of a small unnamed island.

Station mark: An International Boundary Commission standard bronze disk station mark set in solid rock. Boundary Reference Monument 79 is 6050 feet from the station in azimuth 175° 07'.

JONES - I.W.C. (Ontario, Leeds County, 1940, 1957) -- About $2\frac{1}{2}$ miles southeast of Gananoque, Ontario, on Jones Island in the St. Lawrence River. The station is on the northerly shore of the island, on the highest point of the small granite knoll that projects out between two small bays; about 25 feet westerly from the larger of the two bays;

about 125 feet easterly from a small pavilion with stone pillars and a concrete floor, and about 8 feet above the water in the river. There are several small cottages on the northern side of the island.

Station mark: An International Boundary Commission standard bronze disk station mark set in the rock.

LEEK - I.W.C. (Ontario, Leeds County, 1940, 1957) -- About 2¼ miles south and a little east of Gananoque, Ontario, on Thwartway Island in the St. Lawrence River. The station is on a small peninsula about 100 feet wide and 100 feet long on the northeast shore of the island. It is about 20 feet northerly from the highest part of the peninsula, 20 feet from shore line, and about 12 feet above the water in the river.

Station mark: An International Boundary Commission standard bronze disk station mark set in solid granite rock.

FINIS - SUB (New York, Jefferson County, 1940, 1957) -- About 3.75 miles due west of Clayton, New York, 0.9 mile east of the eastern end of Wolfe Island; 0.75 mile west of Blanket Island; on Rock West Island in the St. Lawrence River. Rock West Island is small, low, and rocky, barely above the water level of the river. The station is about 40 feet southeast of the northwest end of the island, about 15 feet from the water's edge, and less than a foot above the water level of the river.

Station mark: An International Boundary Commission standard bronze disk station mark set in solid rock.

DESCRIPTIONS OF ST. LAWRENCE SEAWAY CHANNEL LIGHTS

The following descriptions are of St. Lawrence Seaway Channel Lights which are stationary and of permanent construction through that section of the St. Lawrence River covered during the re-surveys of 1958 and 1959. The geographic positions of these channel lights were determined by intersection from, generally, three nearby triangulation stations. The stationary lights are part of the overall system of lights, including many buoy-type lights, which range the shipping channel. The lights are numbered numerically commencing at Cornwall Island and continuing upstream along the seaway.

Channel Light 2 (Ontario, Stormont County, 1959) -- Near the southeastern end of Cornwall Island. A red light on top of a circular concrete column, 4 feet in diameter.

Channel Light 11 (New York, Franklin County, 1959) -- Near the northern tip of Raquette Point. A green light on a box on top of a pole.

Channel Light 13 (New York, Franklin County, 1959) -- Near the western end of the high fill on Raquette Point. A green light on a box on top of a pole.

Channel Light 14 (Ontario, Stormont County, 1959) -- About $\frac{1}{2}$ mile downstream from the International Bridge. A red light on top of a circular concrete column 4 feet in diameter.

Green Channel Light, Eisenhower Locks (New York, St. Lawrence County, 1959) -- On the southern side, and western end of the Eisenhower Locks. A green light on a box on top of a pole.

Red Channel Light, Eisenhower Locks (New York, St. Lawrence County, 1959) -- On the northern side, and western end of the entrance to Eisenhower Locks. A red light on a box on top of a pole.

Channel Light 41 (New York, St. Lawrence County, 1959) -- About 1.5 miles upstream from Eisenhower Locks. On the western end of a pier along the southern side of the shipping channel. A green light on a box on top of a pole.

Channel Light 42 (New York, St. Lawrence County, 1959) -- About 1.5 miles upstream from Eisenhower Locks. On the northern side of the shipping channel and opposite Channel Light 41. A red light on a box on top of a pole.

Channel Light 43 (New York, St. Lawrence County, 1959) -- Near the edge of the bank on the southern side of the shipping channel and about opposite Alcoa Tank. A green light on a box on top of a pole.

Channel Light 44 (New York, St. Lawrence County, 1959) -- On the northern side of the shipping channel, about opposite Channel Light 43. A red light on a box on top of a pole.

Channel Light 45 (New York, St. Lawrence County, 1959) -- Near the edge of the bank, on the southern side of the shipping channel, east of Esso Oil storage tanks. A green light on a box on top of a pole.

Channel Light 46 (New York, St. Lawrence County, 1959) -- On the northern side of the shipping channel, about opposite Channel Light 45. A red light on a box on top of a pole.

Channel Light 47 (New York, St. Lawrence County, 1959) -- On a narrow island on the southern side of the shipping channel south of Long Sault Island. It is about $\frac{3}{4}$ mile upstream from the Esso Oil storage tanks. A green light on top of a pole.

Channel Light 48 (New York, St. Lawrence County, 1959) -- On the northern side of the shipping channel south of Long Sault Island. It is about opposite Channel Light 47. A red light on top of a pole.

Channel Light 51 (New York, St. Lawrence County, 1959) -- On the southern side of the shipping channel, north of Richards Point Islands. A green light on top of a pole.

Channel Light 54 (New York, St. Lawrence County, 1959) -- On the northern side of the shipping channel, north of Richards Point Islands, and Massena Country Club Golf Course. A red light on top of a pole.

Channel Light 55 (New York, St. Lawrence County, 1959) -- On the southern side of the shipping channel north of the Massena Country Club Golf Course. A green light on top of a pole.

Channel Light 57 (New York, St. Lawrence County, 1959) -- On the southern side of the shipping channel, north of a newly formed island south of the western end of Croil Island. A green light on top of a pole.

Channel Light 58 (New York, St. Lawrence County, 1959) -- On the northern side of the shipping channel on the eastern end of Cat Island Shoal, south of Morrison Island. A red light on top of a pole.

Channel Light 63 (New York, St. Lawrence County, 1959) -- On the southern side of the shipping channel near the northern point of Wilson Hill Island. A green light on top of a pole.

Channel Light 65 (New York, St. Lawrence County, 1959) -- On the southern side of the shipping channel near the north-western point of Wilson Hill Island. A green light on top of a pole.

Channel Light 68 (Ontario, Dundas County, 1959) -- On the northern side of the shipping channel south of Crysler Memorial Monument. A red light on top of a pole.

Channel Light 70 (Ontario, Dundas County, 1959) -- On the northern side of the shipping channel north of Bradford Point. A red light on top of a pole.

Channel Light 74 (Ontario, Dundas County, 1959) -- On the northern side of the shipping channel, about 1.5 miles westerly of Bradford Point. A red light on top of a pole.

Channel Light 81 (Ontario, Dundas County, 1959) -- On the southern side of the shipping channel, southeasterly of Broder Island. A green light on top of a pole.

Channel Light 82 (Ontario, Dundas County, 1959) -- On the northern side of the shipping channel near Broder Island. A red light on top of a pole.

Channel Light 85 (New York, St. Lawrence County, 1959) -- On the southern side of the shipping channel north of Murphy Islands. A green light on top of a pole.

Channel Light 88 (Ontario, Dundas County, 1959) -- On the northern side of the shipping channel, near the southern shore of Canada Island. A red light on top of a circular concrete column 4 feet in diameter.

Channel Light 91 (New York, St. Lawrence County, 1959) -- On the southern side of the shipping channel northeasterly of Ogden Island. A green light on top of a pole.

Channel Light 92 (Ontario, Dundas County, 1959) -- On the northern side of the shipping channel near the shore south of Mariatown. A red light on top of a circular concrete column 4 feet in diameter.

Channel Light 96 (Ontario, Dundas County, 1959) -- On the northern side of the shipping channel north of the woods on the western end of Ogden Island. A red light on top of a circular concrete column 4 feet in diameter on a square base and located in the water.

Channel Light 97 (New York, St. Lawrence County, 1959) -- On the southern side of the shipping channel near the northwestern point of Ogden Island. A green light on top of a pole.

Channel Light 106 (Ontario, St. Lawrence County, 1959) -- On the northern side of the shipping channel near the shore of Pinetree Point. A red light on top of a circular concrete column 4 feet in diameter.

Channel Light 107 (New York, St. Lawrence County, 1959) -- On the southern side of the shipping channel about $\frac{1}{2}$ mile northeast of the entrance to Iroquois Locks. A green light on top of a pole.

Channel Light 110 (Ontario, Dundas County, 1959) -- On the northern side of the eastern entrance to Iroquois Locks. A red light on top of a circular concrete column 4 feet in diameter.

Channel Light 114 (Ontario, Dundas County, 1959) -- On the northern side of the shipping channel near the southern shore of Toussaint Island. A red light on top of a circular concrete column 4 feet in diameter.

Channel Light 115 (New York, St. Lawrence County, 1959) -- On the southern side of the shipping channel near the shore at Sparrowhawk Point. A green light on top of a pole.

Channel Light 118 (Ontario, Dundas County, 1959) -- On the northern side of the shipping channel near the shore at Cardinal. A red light on top of a circular concrete column 4 feet in diameter.

Channel Light 121 (New York, St. Lawrence County, 1959) -- On the southern side of the shipping channel, near the northern shore of Galop Island, west of the dyke joining the island. A green light on top of a pole.

Channel Light 119 (New York, St. Lawrence County, 1959) -- On the southern side of the shipping channel, near the northern shore of Galop Island, opposite the island newly formed by dredging the channel. A green light on top of a pole.

DESCRIPTIONS OF UNMARKED INTERSECTION STATIONS

Dyke 1H (Ontario, Stormont County, 1959) -- On the dyke, along the Canadian shore, upstream about 1½ miles from the Moses-Saunders Dam. The station was temporarily marked by a Canadian Hydrographic Service tripod.

Dyke 2H (Ontario, Stormont County, 1959) -- On the dyke, along the Canadian shore, upstream about 1¼ miles from the Moses-Saunders Dam. The station was temporarily marked by a Canadian Hydrographic Service tripod.

Dyke 3H (Ontario, Stormont County, 1959) -- On the dyke, along the Canadian shore upstream about 2 miles from the Moses-Saunders Dam. The station was temporarily marked by a Canadian Hydrographic Service tripod.

East Sheek H (Ontario, Stormont County, 1959) -- On a small island which, prior to flooding, formed the eastern end of Sheek Island. The station was temporarily marked by a Canadian Hydrographic Service tripod.

South Sheek H (Ontario, Stormont County, 1959) -- On the southern shore of Sheek Island. The station was temporarily marked by a Canadian Hydrographic Service tripod.

West Sheek H (Ontario, Stormont County, 1959) -- On the most southern of two small islands which,prior to flooding, formed the western end of Sheek Island. The station was temporarily marked by a Canadian Hydrographic Service tripod.

Isle H (Ontario, Stormont County, 1959) -- On an island westerly about 1¼ miles from the Moses-Saunders Dam. The station was temporarily marked by a Canadian Hydrographic Service tripod.

Charles H (New York, St. Lawrence County, 1959) -- On Barnhart Island, on a point east of the park on the northwestern point of the island. The station was temporarily marked by a Canadian Hydrographic Service tripod.

R.M. 15 H (New York, St. Lawrence County, 1959) -- On the northwestern point of Barnhart Island. The station was temporarily marked by a Canadian Hydrographic Service tripod.

East Long H (New York, St. Lawrence County, 1959) -- On the eastern section of Long Sault Island, on the northern side of the eastern point of the island. The station was temporarily marked by a Canadian Hydrographic Service tripod.

Long H (New York, St. Lawrence County, 1959) -- On the northern point of the eastern section of Long Sault Island, on the first point west of Reference Monument 16-59. The station was temporarily marked by a Canadian Hydrographic Service tripod.

Tank H (New York, St. Lawrence County, 1959) -- On the United States shore, on the most northern part of the point east of the Esso storage tanks. The station was temporarily marked by a Canadian Hydrographic Service tripod.

H-1 (Ontario, Stormont County, 1959) -- On the Canadian shore directly north of Sheek Island. The station was temporarily marked by a Canadian Hydrographic Service tripod.

H-2 (Ontario, Stormont County, 1959) -- On an island about two miles north northeast of the eastern section of Long Sault Island, and one mile northwesterly of Sheek Island. The station was temporarily marked by a Canadian Hydrographic Service tripod.

H-3 (Ontario, Stormont County, 1959) -- On an island about $1\frac{1}{2}$ miles north-northeast of the eastern section of Long Sault Island, and one-half mile west of Sheek Island. The station was temporarily marked by a Canadian Hydrographic Service tripod.

H-4 (Ontario, Stormont County, 1959) -- On an island about two miles northeast of the eastern section of Long Sault Island, and about $\frac{1}{2}$ mile northwest of Sheek Island. The station was temporarily marked by a Canadian Hydrographic Service tripod.

H-5 (Ontario, Stormont County, 1959) -- On the eastern shore of Moulinette Island, about $\frac{3}{4}$ mile west of Sheek Island. The station was temporarily marked by a Canadian Hydrographic Service tripod.

H-6 (New York, St. Lawrence County, 1959) -- On a small island about $\frac{1}{2}$ mile southeast of station 47 I.W.C., on Philpotts Island. The station was temporarily marked by a Canadian Hydrographic Service tripod.

H-7 (Ontario, Stormont County, 1959) -- On the southern shore of Philpotts Island near station 47 I.W.C. The station was temporarily marked by a Canadian Hydrographic Service tripod.

H-8 (New York, St. Lawrence County, 1959) -- On the northwestern point of Long Sault Island. The station was temporarily marked by a Canadian Hydrographic Service tripod.

H-9 (New York, St. Lawrence County, 1959) -- On the most southeasterly point of Long Sault Island. The station was temporarily marked by a Canadian Hydrographic Service tripod.

H-10 (New York, St. Lawrence County, 1959) -- Near the southwestern corner of Long Sault Island. The station was temporarily marked by a Canadian Hydrographic Service tripod.

H-11 (New York, St. Lawrence County, 1959) -- On the southern side of the ship channel just west of the Esso storage tanks, on the eastern end of a narrow island. The station was temporarily marked by a Canadian Hydrographic Service tripod.

H-12 (New York, St. Lawrence County, 1959) -- On the southern side of the ship channel west of the Esso storage tanks, on the western end of a narrow island, directly across from Channel Light 43. The station was temporarily marked by a Canadian Hydrographic Service tripod.

West Dyke H (New York, St. Lawrence County, 1959) -- On the dyke along the mainland shore south of the western end of Long Sault Island. It is northwesterly of station Yellow, a distance of about $\frac{3}{4}$ mile. The station was temporarily marked by a Canadian Hydrographic Service tripod.

South Croil Island H (New York, St. Lawrence County, 1959) -- On Croil Island about the center of the southern shore of the island. The station was temporarily marked by a Canadian Hydrographic Service tripod.

Morrison H (Ontario, Stormont County, 1959) -- On Morrison Island, near Reference Monument 22-58. The station was temporarily marked by a Canadian Hydrographic Service tripod.

Far H (New York, St. Lawrence County, 1959) -- On Croil Island, near the shore at the northwestern corner of the island. The station was temporarily marked by a Canadian Hydrographic Service tripod.

Steen H (Ontario, Stormont County, 1959) -- On Morrison Island across from the southwestern point of Croil Island and near Reference Monument 23-58. The station was temporarily marked by a Canadian Hydrographic Service tripod.

GEOGRAPHIC POSITIONS

On the pages immediately following are listed the triangulation stations, reference monuments, and turning points which define the boundary through Lake Ontario and St. Lawrence River. For each, the latitude and longitude are given, together with distances and azimuths to neighboring triangulation stations, reference monuments, and turning points. The values in this report are given on the 1927 North American datum. The methods used in the computation on this datum are outlined briefly as follows:

(1) Primary control was obtained from lines and first-order stations of the United States Coast and Geodetic Survey, the Geodetic Survey of Canada, and the United States Lake Survey. These stations were adjusted by the respective bureaus.

(2) Second-order control was obtained from observations made by engineers of the International Boundary Commission based on the primary control stations mentioned above. These observations were adjusted by the International Boundary Commission.

(3) Third-order control was obtained from observations made by engineers of the International Boundary Commission, supplemented by observations made by the United States Lake Survey. This work was adjusted by the International Boundary Commission. The stations in this third-order included a number located in the primary or second-order work and the adjustments were made in several sections between these well located stations used as tie points.

(4) Some of the reference monuments were stations in the third-order schemes and were fixed in position by the adjustment of those triangulation schemes. The others were located in the field from stations of the primary, second-order, and third-order, and their positions adjusted from the adjusted values of those stations.

(5) The positions of various intersection stations such as church steeples, lights for navigation, harbor monuments, etc., were obtained by adjusting observations taken by the International Boundary Commission, the International Waterways Commission, the United States Lake Survey from stations fixed by above adjustments. All are given on the 1927 North American datum.

(6) The boundary turning points were located and listed from these reference monuments on the North American datum by the International Waterways Commission and published in their final report in 1916. The values of the turning points on the 1927 North American datum are derived in this report from their positions in the 1916 publication on the North American datum.

The positions of all stations and reference monuments moved and relocated since 1940 are given as determined from the adjustment of observations taken since that time. The year of relocation follows the name of the station.

Latitudes and longitudes are given to three decimal places in seconds; azimuths are measured from south and given to tenths of a second; computed distances are given to tenths of a meter and measured distances to hundredths of a meter; logarithm of distances are carried to at least six places. The usual procedure of publishing only one uncertain figure is followed.

Abbreviations on the following geographic lists have the following meaning:

d.=described, m.=marked, n.=not, r.=recovered,

l.=lost, p.=probably

The following stations were inspected in 1963 and recovered in good condition:

<u>New York-Ontario, St. Lawrence River:</u>

Boots
Twain
12 - I. W. C.
Hart
Iroquois (1298) C. H. S.
Putney
Toussaint
Lalone

New York-Ontario, St. Lawrence River (cont.):

Sheek
Long
47 - I. W. C.
Park - C. H. S.
Picnic
Ingle
Doran - C. H. S.
Lock
Whalen - U.S.L.S.
74 - Sub
Brad
78 - Sub
Law
Wood
Heights
Riverside
Morrisburg E. Base
East
Martin
Graph (Den - C. H. S.)
Drog (Hill - C. H. S.)
Point
Brick
Dam
Sismey
Dupuis
Pitt
Adams
Johns
Drum
Windmill Point - U.S.L.S.
MV2 - C. H. S. (Located)
Mon. 774
222 - I. W. C.
Chevrolet W. T.
Reynolds W. T.
Moses Dam Tank
Long Sault W. T.
Ingleside W. T.
Morrisburg W. T.
Johnstown Elevator flagpole
Windmill Pt. Light
Ogdensburg Light
Waddington W. T.
Waddington Cath. Ch. Cross
Iroquois Ch. Cross
Iroquois W. T.

Three stations recovered and new surface marks added:

Morrison, Ault Point, Allison - U.S.L.S.

INTERNATIONAL BOUNDARY COMMISSION—UNITED STATES, ALASKA, AND CANADA

GEOGRAPHIC POSITIONS—NORTH AMERICAN DATUM 1927

International boundary line St. Lawrence River Primary Connections *State* New York *Province* Ontario

STATION	LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
St.Raphael R.C.Ch. spire-G.S.ofC.	45 12 41.954	63 01 14.43	242 51 07.88	Bonville-G.S. of C.	20,974.29	4.3216872
Canada, 1908; r. 1923 n.d.	74 35 50.837	161 43 44.18	341 42 31.17	Alexandria-G.S. of C.	7,148.32	3.8542043
		295 58 50.70	116 13 26.67	Huntingdon-G.S. of C.	30,054.94	4.4779159
Cornwall east church, R.C.	45 01 07.711	140 58 23.1	320 53 10.8	Bonville-G.S. of C.	15,313.0	4.185060
Ontario, 1923; r. 1938 n.d.	74 42 44.906	202 51 16.8	22 56 10.2	St. Raphael Ch. spire G.S. of C.	23,264.3	4.366690
		257 01 37.1	77 21 04.7	Huntington - G.S. of C.	37,016.9	4.568400
Redwood - C. & G.S.	44 20 18.508	206 43 35.05	26 47 15.94	Hammond-C. & G.S.	15,518.11	4.1908387
New York, 1942 d.m.	75 46 27.489	352 19 49.12	172 20 35.76	Miller - U.S.G.S.	11,105.39	4.0455338
Browns - C. & G.S.	44 17 59.899	238 00 35.03	58 04 11.22	Redwood - C. & G.S.	8,082.51	3.9075464
New York, 1942 d.m.	75 51 36.931	308 50 29.85	128 54 52.47	Miller - U.S.G.S.	10,718.90	4.0301501
Granite - C. & G.S.	44 19 39.116	264 04 53.16	84 11 06.40	Redwood - C. & G.S.	11,895.38	4.0753782
New York, 1942 d.m.	75 55 21.590	301 34 21.99	121 36 58.93	Browns - C. & G.S.	5,845.40	3.7668145
		306 14 58.52	126 21 58.06	Miller - U.S.G.S.	16,534.24	4.2183842
Flackville - C. & G.S.	44 41 42.686	44 07 12.33	224 01 22.42	Galilee - C. & G.S.	15,776.75	4.1980176
New York, 1942 d.m.	75 22 01.873	307 22 06.27	127 26 48.76	Morley - C. & G.S.	11,145.43	4.0470968
Lisbon - C. & G.S.	44 45 10.965	51 33 37.33	231 29 18.66	Flackville - C. & G.S.	10,333.30	4.0142391
New York, 1942 d.m.	75 15 54.284	356 43 24.92	176 43 49.02	Morley - C. & G.S.	13,221.40	4.1212774
Chase - C. & G.S.	44 51 15.958	1 23 05.58	181 22 56.97	Madrid - C. & G.S.	11,100.50	4.0453426
New York, 1942 d.m.	75 07 32.278	279 11 38.46	99 16 18.38	Raymond - C. & G.S.	8,831.32	3.9460256
Cornwall west chruch, R.C.	45 01 15.648	145 17 42.4	325 13 21.1	Bonville - G.S.C.	14,169.5	4.151355
Ontario, 1923; r. 1938 n.d.	74 43 56.972	278 49 11.1	98 50 02.1	Cornwall east church, R.C.	1,596.8	3.203245
Elizabethtown - G.S.C.	44 41 22.599					
Ontario, 1908; r. 1942 d.m.	75 42 18.987					
Lansdowne - G.S.C.	44 29 39.383	226 50 04.00	47 02 23.24	Elizabethtown-G.S.C.	31,790.29	4.5022945
Ontario, 1908; r. 1942 d.m.	75 59 51.971					
Bradford-U.S.L.S. 1872 =	44 55 15.707	25 14 48.91	205 12 56.76	Chase - C. & G.S.	8,181.41	3.9128281
76-I.W.C. 1910,	75 04 53.359	268 16 38.58	88 23 44.95	Massena - C. & G.S.	13,248.04	4.1221517
New York, r. 1939,1959 d.m.		329 19 57.88	149 22 45.83	Raymond - C. & G.S.	10,249.09	4.0106853
Allison-U.S.L.S. 1872=90-I.W.C. 1910	44 53 28.753	237 48 58.07	57 51 47.04	Bradford-U.S.L.S.=76 I.W.C.	6,202.60	3.7925735
New York, r. 1939, 1959 = Brand - C.H.S. d.m.	75 08 52.707	297 42 50.74	117 48 27.50	Raymond - C. & G.S.	11,842.93	4.0734593
		336 41 28.92	156 42 25.67	Chase - C. & G.S.	4,463.29	3.6496548
Red Mill-U.S.L.S. 1873=132-I.W.C. 1911	44 45 12.732	25 21 17.84	205 16 48.78	Galilee - C. & G.S.	19,717.23	4.2947357
New York, r. 1939, 1959 d.m.	75 23 57.118	338 37 29.41	158 38 50.51	Flackville - C. & G.S.	6,962.13	3.8427420
		270 14 49.37	90 20 29.31	Lisbon - C. & G.S.	10,620.71	4.0261536

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STATION	LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
130 - I.W.C. 1911	44 46 31.464	2 27 54.41	182 27 42.14	Flackville - C. & G.S.	8,922.29	3.9504764
New York r, 1955, Lost 1959 d.m.	75 21 44.444	50 13 15.32	230 11 41.89	Red Mill-U.S.L.S.=132 I.W.C.	3,797.35	3.5794809
		287 50 58.00	107 55 04.58	Lisbon-U.S. C.&G.S.	8,091.76	3.9080428
Ogdensburg west base 2-U.S.L.S.	44 42 18.812	9 13 55.28	189 12 50.80	Galilee - C. & G.S.	12,613.36	4.1008307
New York, 1933; r.1939, 1959 d.m.	75 28 48.076	229 59 30.54	50 02 55.30	Red Mill-U.S.L.S.=132-I.W.C.	8,355.59	3.9219772
		277 04 04.18	97 08 49.90	Flackville-C. & G.S.	9,012.41	3.9548411
Brier	44 32 23.985	78 58 37.1	258 44 57.8	Lansdowne-G.S.C.	26,304.48	4.4200298
New York, 1940; r. 1957 d.m.	70 40 23.381	171 17 41.3	351 16 20.1	Elizabethtown-G.S.C.	16,819.97	4.2258251
178 - I.W.C. 1911	44 21 25.049	34 54 08.24	214 52 56.29	Granite - C. & G.S.	3,986.36	3.6005763
New York, r; 1940, 1957 d.m.	75 53 38.647	282 05 43.49	102 10 44.87	Redwood - C. & G.S.	9,768.34	3.9898209
		336 55 08.71	156 56 33.76	Browns - C. & G.S.	6,882.54	3.8377487
Waterloo-U.S.L.S. 1902	44 20 35.500	252 14 14.01	72 16 44.88	178 - I.W.C.	5,018.81	3.7006005
New York, r. 1940, 1957 d.m.	75 57 14.466	304 49 29.60	124 50 48.49	Granite - C. & G.S.	3,046.69	3.4838284
Rainy-U.S.L.S. 1874	44 09 41.147	30 04 01.80	210 02 48.95	Wolf - U.S.L.S.	4,641.61	3.6666682
Ontario, r, 1940; p.l. 1957 d.m.	76 21 34.243					
Daly-U.S.L.S. 1874	44 10 03.748	53 24 58.00	233 21 39.12	Wolf - U.S.L.S.	7,905.97	3.8979554
New York d.m.	76 18 33.303	80 10 25.13	260 08 19.06	Rainy - U.S.L.S.	4,080.27	3.6106891
Vincent-U.S.L.S. 1874	44 07 31.598	89 43 37.01	269 41 39.68	Wolf - U.S.L.S.	3,746.79	3.5736588
New York, r, 1940 d.m.	76 20 30.319	160 26 40.21	340 25 55.69	Rainy - U.S.L.S.	4,243.44	3.6277179
		208 57 59.09	28 59 20.60	Daly - U.S.L.S.	5,368.14	3.7298239
Ellis-U.S.L.S. 1874	44 08 34.354	75 23 01.93	255 19 07.54	Wolf - U.S.L.S.	7,734.04	3.8884066
New York, r, 1940 d.m.	76 17 42.236	157 38 53.34	337 38 17.77	Daly - U.S.L.S.	2,983.39	3.4747103
Cape Vincent west base-U.S.L.S. 1874	44 07 54.201	83 06 02.23	263 02 57.46	Wolf - U.S.L.S.	5,943.00	3.7740055
New York, r, 1912, 1940, 1957 d.m.	76 18 53.472	132 44 50.13	312 42 58.15	Rainy - U.S.L.S.	4,864.50	3.6870380
		186 23 39.40	6 23 53.45	Daly - U.S.L.S.	4,023.51	3.6046049
		196 28 19.98	16 29 12.83	Carleton - U.S.L.S.	5,942.99	3.7740050
		231 56 39.13	51 57 28.74	Ellis - U.S.L.S.	2,010.80	3.3033685
Cape Vincent east base-U.S.L.S. 1874	44 07 41.775	102 05 57.27	282 05 01.20	Cape Vincent west base U.S.L.S.	*1,830.9818	3.2626840
New York, r, 1912, 1940, 1957	76 17 32.939	172 44 35.94	352 44 29.47	Ellis - U.S.L.S.	1,635.97	3.2137756
* Base measured in 1912 by I.W.C. d.m.						
Brockville, Presby. Ch. Spire	44 35 25.383	66 44 41.9	246 31 36.4	Lansdowne- G.S.C.	26,930.7	4.430248
Ontario 1939; r. 1957 d.	75 41 12.099	172 23 29.7	352 22 42.7	Elizabethtown-G.S.C.	11,124.5	4.046282
		349 07 35.0	169 08 09.2	Brier	5,701.5	3.755992

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STATION	LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
Morristown, standpipe	44 35 14.333	22 05 19.1	202 04 11.3	Brier	5,674.3	3.753912
New York, 1939;r. 1957 d.	75 38 46.730	69 48 42.1	249 33 54.7	Lansdowne-G.S.C.	29,784.5	4.473990
		157 39 06.9	337 36 37.8	Elizabethtown-G.S.C.	12,292.5	4.089640
Oswego-U.S.L.S. 1875	43 26 37.128	16 43 34.68	196 39 46.20	Victory-U.S.L.S.	26,112.37	4.4168463
New York, 1878;1883; r,1942 d.m.	76 30 49.290	63 35 44.14	243 12 27.89	Sodus-U.S.L.S.	51,248.76	4.7096834
Vanderlip-U.S.L.S.	43 57 35.685	2 41 22.87	182 39 27.56	Sodus-U.S.L.S.	80,393.33	4.9052200
Ontario, 1875; 1877 d.m.	77 01 56.461	323 43 58.29	144 05 28.33	Oswege-U.S.L.S.	70,979.30	4.8511317
Duck Island-U.S.L.S.	43 56 05.289	94 59 16.38	274 42 12.18	Vanderlip-U.S.L.S.	33,028.21	4.5188851
Ontario, 1874; 1875 d.m.	76 37 20.656	350 50 14.83	170 54 45.16	Oswego-U.S.L.S.	55,269.29	4.7424839
Stony Point-U.S.L.S.	43 50 47.422	21 57 46.49	201 48 32.78	Oswego-U.S.L.S.	48,235.74	4.6833690
New York, 1874; 1875, 1878, r. 1942 d.m.	76 17 27.043	110 19 47.71	290 06 00.20	Duck Island-U.S.L.S.	28,391.48	4.4531881
Amherst-U.S.L.S.	44 07 23.109	56 38 17.33	236 24 01.43	Vanderlip-U.S.L.S.	32,865.45	4.5167396
Ontario, 1874 d.m.	76 41 25.263	345 22 54.76	165 25 44.77	Duck Island-U.S.L.S.	21.618.00	4.3348155
Grenadier-U.S.L.S.	44 02 11.619	60 22 59.80	240 12 42.15	Duck Island-U.S.L.S.	22.818.34	4.3582841
New York 1875 d.m.	76 22 31.278	110 58 04.91	290 44 56.04	Amherst-U.S.L.S.	27,001.02	4.4313801
		342 09 28.95	162 13 00.07	Stony Point-U.S.L.S.	22,180.24	4.3459662
Wolf - U.S.L.S.	44 07 31.066	41 36 42.00	221 26 56.91	Duck Island-U.S.L.S.	28,273.99	4.4513872
Ontario 1874 d.m.	76 23 18.847	89 31 21.04	269 18 44.66	Amherst-U.S.L.S.	24,156.19	4.3830284
Kingston - U.S.L.S.	44 13 47.407	325 26 32.15	145 30 42.82	Wolf-U.S.L.S.	14,098.62	4.1491766
Ontario 1874 d.m.	76 29 18.546	53 45 48.30	233 37 21.87	Amherst-U.S.L.S.	20,032.47	4.3017344
Carleton - U.S.L.S.	44 10 58.942	49 47 53.98	229 43 56.27	Wolf-U.S.L.S.	9,933.30	3.9970938
New York 1874 d.m.	76 17 37.608	108 32 35.02	288 24 26.29	Kingston-U.S.L.S.	16,408.40	4.2150663
		260 11 23.51	80 17 19.34	Hogsback-U.S.L.S.	11,503.22	4.0608196
Sir John - U.S.L.S.	44 15 02.304	293 48 13.62	113 54 48.76	Hogsback-U.S.L.S.	13,749.11	4.1382747
Ontario 1874 d.m.	76 18 33.654	350 35 23.38	170 36 02.47	Carleton-U.S.L.S.	7,613.80	3.8816014
		24 28 58.49	204 25 39.71	Wolf-U.S.L.S.	15,300.25	4.1846985
		80 53 09.43	260 45 39.51	Kingston-U.S.L.S.	14,495.69	4.1612389

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STATION	LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
St. Regis east base	44 59 57.639	117 14 53.6	297 12 37.9	Cornwall east church	4,727.5	3.674634
New York, 1923 n.d.	74 39 32.952	112 38 17.0	292 35 10.3	Cornwall west church	6,263.1	3.796792
St. Regis west base	44 59 22.594	127 55 22.1	307 52 57.3	Cornwall west church	5,681.0	3.754424
New York, 1923 n.d.	74 40 32.291	138 10 57.7	318 09 23.9	Cornwall east church	4,354.9	3.638978
		230 13 24.0	50 14 05.9	St. Regis east base	1,691.11	3.228173
Ref. Mon. 1-1910	45 00 33.267	9 10 32.8	189 10 21.5	St. Regis west base	2,209.9	3.344380
r. 1923, 1938, 1959 Ontario d.m.	74 40 16.204	319 15 28.2	139 15 58.8	St. Regis east base	1,451.5	3.161827
Mon. 774-1902	44 59 57.810	144 15 04.9	324 14 39.4	Ref. Mon. 1	1,348.7	3.129917
N.Y.-Ont.;1902; r. 1923,1959 d.m.	74 39 40.223	271 54 01.4	91 54 06.5	St. Regis east base	159.3	2.202340
Twain - 1938	44 59 42.767	205 22 54.0	25 23 17.8	Ref. Mon. 1	1,725.5	3.236924
New York, 1938; r. 1959 d.m.	74 40 49.980	253 05 14.1	73 06 03.4	Mon. 774	1,596,9	3.203286
Ref. Mon. 4 - 1910	45 00 14.865	154 41 07.1	334 40 42.2	Cornwall east church	1,804.7	3.256404
Ontario, r. 1923,1938,1959 d.m.	74 42 09.663	299 34 37.9	119 35 34.3	Twain	2,003.1	3.302534
		307 05 59.9	127 07 08.8	St. Regis west base	2,674.4	3.427231
6 - I.W.C. (6-U.S.L.S. 1872)	44 59 30.258	208 41 49.0	28 42 13.3	Ref. Mon. 4	1,569.9	3.195860
New York, 1910; r. 1938 l.	74 42 44.083	261 12 23.8	81 13 44.5	Twain	2,526.0	3.402961
8 - I.W.C. (6-U.S.L.S. - 1872)	44 59 06.790	223 01 35.0	43 02 38.3	Ref. Mon. 4	2,875.0	3.458636
New York, 1910; r. 1938 l.	74 43 39.236	239 02 53.2	59 03 32.2	6 - I.W.C.(8 U.S.L.S.)	1,408.8	3.148839
Mott - 1938	44 59 43.253	6 17 02.7	186 17 01.3	6 - I.W.C.(8 U.S.L.S.)	403.6	2.605907
New York, 1938; 1959 d.m.	74 42 42.066	48 03 27.5	228 02 47.1	8 - I.W.C.(6 U.S.L.S.)	1,683.8	3.226302
		216 01 25.2	36 01 48.1	Ref. Mon. 4	1,206.6	3.081576
		270 20 20.4	90 21 39.7	Twain	2,455.2	3.390089
Ref. Mon. 5-1910	44 59 58.824	13 27 38.9	193 27 26.5	8 - I.W.C.(6 U.S.L.S.)	1,631.6	3.217914
Ontario, r. 1938,1959 d.m.	74 43 21.686	252 33 56.8	72 34 47.7	Ref. Mon. 4	1,653.3	3.218356
		278 28 11.0	98 29 58.3	Twain	3,356.1	3.526296
		298 58 43.9	118 59 11.9	Mott	992.1	2.996538
12 - I.W.C.	44 59 10.084	223 10 20.3	43 11 05.9	Ref. Mon. 5	2,063.3	3.314556
New York, 1910; r. 1938,1959 d.m.	74 44 26.139	275 38 49.7	95 39 22.9	8- I.W.C. (6 U.S.L.S.)	1,032.6	3.013922
13 - I.W.C.	44 59 29.645	36 33 08.4	216 32 53.9	12 - I.W.C.	751.7	2.876030
Ontario, 1910 l.	74 44 05.705	320 34 53.0	140 35 11.7	8 - I.W.C.(6 U.S.L.S.)	913.2	2.960588
15 - I.W.C.	44 59 29.591	269 51 46.3	89 52 09.4	13 - I.W.C.	713.6	2.853463
Ontario, 1910; r. 1938 l.	74 44 38.281	336 09 57.5	156 10 06.1	12 - I.W.C.	658.3	2.818432
14 - I.W.C.	44 59 09.846	238 25 35.6	58 26 07.6	15 - I.W.C.	1,164.3	3.066059
New York, 1910; r. 1938 d.m.	74 45 23.563	269 39 33.9	89 40 14.5	12 - I.W.C.	1,258.1	3.099704

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STATION		LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
17 - I.W.C.		44 59 51.007	297 56 19.8	117 57 00.2	15 - I.W.C.	1,416.7	3.151270
Ontario, 1910	l.	74 45 35.415	348 28 30.8	168 28 39.2	14 - I.W.C.	1,299.6	3.113811
16 - I.W.C.		44 59 31.636	224 58 15.4	44 58 34.8	17 - I.W.C.	849.2	2.929019
New York, 1910	l.	74 46 02.816	308 01 46.8	128 02 14.6	14 - I.W.C.	1,091.7	3.038118
18 - I.W.C.		44 59 56.277	280 39 56.7	100 40 24.1	17 - I.W.C.	863.7	2.936345
New York, 1910	n.d.	74 46 14.164	341 54 09.5	161 54 17.5	16 - I.W.C.	800.2	2.903225
19 - I.W.C.		45 00 33.058	12 37 51.2	192 37 43.0	18 - I.W.C.	1,163.6	3.065796
Ontario, 1910	l.	74 46 02.547	335 21 13.9	155 21 33.1	17 - I.W.C.	1,425.1	3.153854
21-I.W.C. (16 U.S.L.S. 1872)		45 00 32.512	269 04 52.7	89 05 26.8	19 - I.W.C.	1,056.0	3.023652
Ontario, r. 1910, 1938	d.m.	74 46 50.762	324 22 23.2	144 22 49.1	18 - I.W.C.	1,376.1	3.138649
20 - I.W.C.		45 00 02.661	206 54 58.9	26 55 14.0	21-I.W.C.(16 U.S.L.S.)	1,033.4	3.014289
New York, 1910	l.	74 47 12.125	278 49 11.1	98 49 52.1	18 - I.W.C.	1,284.7	3.108797
25-I.W.C. (18 U.S.L.S. 1872)		45 00 49.733	296 04 35.2	116 05 10.3	21-I.W.C.(16 U.S.L.S.)	1,209.2	3.082510
Ontario 1910; r. 1938	d.m.	74 47 40.359	336 56 47.0	156 57 07.0	20 - I.W.C.	1,579.2	3.198437
17 U.S.L.S. 1872		44 59 50.956	167 38 26.7	347 38 13.8	25-I.W.C.(18 U.S.L.S.)	1,857.5	3.268936
New York, r. 1934,1959	d.m.	74 47 22.203	208 13 21.5	28 13 43.7	21-I.W.C.(16 U.S.L.S.)	1,456.0	3.163150
Massena Point - U.S.L.S. 1872		45 00 00.030	80 23 54.7	260 23 01.3	17 U.S.L.S.	1,678.2	3.224837
New York, r. 1934, 1959	d.m.	74 46 06.659	136 04 33.2	316 04 02.0	21-I.W.C.(16 U.S.L.S.)	1,392.3	3.143718
Freego - U.S.L.S.		44 58 50.527	193 17 03.1	13 17 17.3	17 - U.S.L.S.	1,916.7	3.282559
New York, 1954	d.m.	74 47 42.310	224 18 45.1	44 19 52.7	Massena Point-U.S.L.S.	2,999.0	3.476973
Hulburd - U.S.L.S.		44 59 24.085	238 10 15.2	58 10 58.3	17 - U.S.L.S.	1,573.2	3.196771
New York, 1954	l.	74 48 23.225	319 07 36.2	139 08 05.1	Freego - U.S.L.S.	1,369.9	3.136678
Lawrence - U.S.L.S.		44 59 38.543	177 42 15.9	357 42 14.1	Hulburd - U.S.L.S.	1,407.0	3.148291
New York, 1954; r. 1960	d.m.	74 48 20.653	246 13 41.4	66 14 08.5	Freego - U.S.L.S.	917.9	2.962813
Lamping - U.S.L.S.		44 58 19.741	230 12 34.0	50 13 50.9	Hulburd - U.S.L.S.	3,104.3	3.491964
New York, 1954	d.m.	74 50 12.112	256 37 16.3	76 38 35.0	Lawrence - U.S.L.S.	2,510.3	3.399731
Dixon - U.S.L.S.		44 59 09.014	2 22 05.4	182 22 03.4	Lamping - U.S.L.S.	1,522.3	3.182509
New York, 1954; r. 1959	d.m.	74 50 09.241	258 39 45.0	78 40 59.9	Hulburd - U.S.L.S.	2,368.7	3.374501
Sutton - U.S.L.S.		44 57 53.595	209 47 39.5	29 48 22.5	Dixon - U.S.L.S.	2,682.9	3.428609
New York, 1954	l.	74 51 10.092	237 34 11.0	57 34 52.0	Lamping - U.S.L.S.	1,505.3	3.177619
Horton - U.S.L.S.		44 58 53.775	255 50 05.0	75 51 05.2	Dixon - U.S.L.S.	1,923.4	3.284059
New York, 1954	d.m.	74 51 34.364	344 01 15.8	164 01 33.0	Sutton - U.S.L.S.	1,932.4	3.286091
R. M. 11-59		45 00 29.965	296 21 36.3	116 22 36.5	Massena Point-U.S.L.S.	2,080.6	3.318196
Ontario, 1959	d.m.	74 47 31.777	350 07 16.7	170 07 23.5	17 - U.S.L.S.	1,222.3	3.087192

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STATION		LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
R. M. 10-59		45 00 15.241	232 19 25.8	52 19 44.8	R. M. 11-59	743.72	2.871412
New York, 1959	d.m.	74 47 58.656	280 49 33.4	100 50 52.6	Massena Point-U.S.L.S.	2,497.5	3.397500
			313 11 36.6	133 12 02.4	17 - U.S.L.S.	1,095.2	3.039499
32 - I.W.C.		45 00 39.365	274 54 00.1	94 55 49.1	R. M. 11-59	3,386.6	3.529763
New York 1910; r. 1959	d.m.	74 50 05.855	284 57 17.5	104 58 47.5	R. M. 10-59	2,883.4	3.459911
27 - U.S.L.S.		45 01 00.837	281 57 59.2	102 00 24.1	R. M. 11-59	4,588.2	3.661639
Ontario 1872; r. 1959	d.m.	74 50 56.733	289 49 38.6	109 51 44.5	R. M. 10-59	4,145.9	3.617616
Dyke (Hydro) - C.H.S.		45 01 51.363	11 43 02.3	191 42 47.4	32 - I.W.C.	2,269.8	3.355997
Ontario 1958; r. 1959	d.m.	74 49 44.805	45 16 49.6	225 15 58.8	27 - U.S.L.S.	2,216.6	3.345681
			310 46 16.0	130 47 50.1	R. M. 11-59	3,846.7	3.585092
			321 55 06.9	141 56 22.0	R. M. 10-59	3,769.2	3.576245
Hart (Hydro) - C.H.S.		45 00 45.570	22 12 42.8	202 12 40.3	32 - I.W.C.	206.9	2.315791
New York 1958; r. 1959	d.m.	74 50 02.283	190 40 07.2	10 40 19.6	Dyke - Hydro-C.H.S.	2,066.7	3.315286
			278 18 02.6	98 19 49.1	R. M. 11-59	3,330.9	3.522560
			289 03 51.9	109 05 19.4	R. M. 10-59	2,864.7	3.457074
R. M. 15		45 00 07.280	207 01 57.0	27 02 24.3	27 - U.S.L.S.	1,856.0	3.268578
New York 1910; r. 1959	d.m.	74 51 35.260	216 57 33.6	36 58 51.7	Dyke (Hydro)-C.H.S.	4,021.6	3.604395
			267 00 47.6	87 03 20.8	R. M. 10-59	4,750.3	3.676719
Long Sault W. T.		45 02 06.833	291 04 03.1	111 08 13.4	R. M. 11-59	8,305.5	3.919367
Ontario, 1959	d.	74 53 25.685	295 39 36.0	115 43 27.3	R. M. 10-59	7,945.8	3.900140
			301 39 42.3	121 42 03.6	32 - I.W.C.	5,141.1	3.711060
			326 45 33.0	146 46 51.1	R. M. 15	4,412.0	3.644638
Long		44 59 57.910	231 15 18.3	51 17 39.4	Dyke - Hydro -C.H.S.	5,598.4	3.748061
New York, 1959	d.m.	74 53 04.267	249 43 13.1	69 45 21.8	Hart - Hydro -C.H.S.	4,248.4	3.628224
			261 33 06.6	81 34 09.6	R. M. 15	1,970.8	3.294642
Charles		45 00 29.590	61 12 54.1	241 12 13.7	R. M. 15	1,430.0	3.155333
New York, 1959	d.m.	74 50 38.037	73 02 02.1	253 00 18.7	Long	3,348.6	3.524862
			204 46 42.2	24 47 19.9	Dyke - Hydro -C.H.S.	2,780.4	3.444110
Sheek		45 00 40.498	26 56 50.8	206 56 34.0	Ref. Mon. 15	1,150.3	3.060810
Ontario, 1959	d.m.	74 51 11.459	61 59 31.7	241 58 11.9	Long	2,798.4	3.446935
			294 42 07.1	114 42 30.7	Charles	805.7	2.906149
Rushford - U.S.L.S.		44 59 07.152	179 05 07.3	359 05 06.4	Long	1,567.1	3.195094
New York, 1954; r. 1959	d.m.	74 53 03.123	218 15 16.7	38 16 46.1	27 - U.S.L.S.	4,469.8	3.650278
			226 01 48.2	46 02 50.3	Ref. Mon. 15	2,673.9	3.427141
			252 28 38.3	72 32 13.6	Ref. Mon. 10-59	6,992.6	3.844640
			281 58 47.2	101 59 49.9	Horton - U.S.L.S.	1,988.0	3.298412
			312 30 11.5	132 31 31.4	Sutton - U.S.L.S.	3,360.1	3.526352
Alcoa - U.S.L.S.		44 58 02.568	211 51 44.2	31 52 24.2	Rushford - U.S.L.S.	2,347.5	3.370613
New York 1954; r. 1960	d.m.	74 53 59.688	243 35 07.6	63 36 50.3	Horton - U.S.L.S.	3,555.1	3.550857

International boundary line Lake St. Lawrence — Main Scheme — *State* New York — *Province* Ontario

STATION		LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
Mohawk - U.S.L.S. New York 1954; r. 1959	d.m.	44 57 56.085 74 52 52.748	97 46 29.2 174 05 04.3	277 45 41.9 354 04 57.0	Alcoa - U.S.L.S. Rushford - U.S.L.S.	1,480.6 2,205.6	3.170436 3.343520
Dam - C.H.S. Ontario 1958; r. 1959	d.m.	45 00 27.737 74 47 36.280	51 47 38.9 99 47 02.5 132 32 41.2	231 47 23.1 279 45 19.2 312 31 10.3	Ref. Mon. 10-59 Hart - C.H.S. Dyke - C.H.S.	623.7 3,244.3 3,818.8	2.794941 3.511124 3.581927
E. Fill - C.H.S. New York 1958; r. 1959	d.	44 59 45.364 74 52 56.212	7 18 53.1 23 40 20.1 261 45 42.1	187 18 48.2 203 39 35.2 81 46 29.2	Rushford - U.S.L.S. Alcoa - U.S.L.S. Ref. Mon. 15A-59	1,189.2 3,464.6 1,477.2	3.075374 3.539658 3.169438
W. Fill - C.H.S. New York 1958; r. 1959	d.m.	44 59 26.243 74 53 34.565	214 10 14.4 234 54 18.6 310 32 47.1	34 10 35.7 54 54 45.7 130 33 09.4	Long E. Fill - C.H.S. Rushford - U.S.L.S.	1,181.6 1,026.8 906.5	3.072465 3.011466 2.957367
Tank New York 1959; r. 1960	d.m.	44 58 02.644 74 54 53.140	75 34 47.6 90 34 49.5 230 25 48.2 270 06 35.8	255 32 35.1 270 33 06.5 50 27 06.0 90 07 13.6	Lon - U.S.E. Lon - C.H.S. Rushford - U.S.L.S. Alcoa - U.S.L.S.	4,245.6 3,195.8 3,126.7 1,171.4	3.627943 3.504585 3.495091 3.068699
47-I.W.C.=28 U.S.L.S. Ontario 1910; r. 1959	d.m.	44 59 47.088 74 54 20.249	237 30 52.3 242 55 23.8 258 38 29.3 260 11 49.5 302 44 12.6 306 06 33.6 195 28 32.4	57 34 07.0 62 57 47.7 78 39 22.9 80 13 46.1 122 44 44.9 126 07 28.1 15 29 10.9	Dyke - Hydro-C.H.S. 27 - U.S.L.S. Long R. M. 15 W. Fill - Hydro-C.H.S. Rushford - U.S.L.S. Long Sault W. T.	7,148.2 5,004.7 1,697.5 3,667.1 1,189.7 2,091.5 4,476.3	3.854199 3.699381 3.229812 3.564327 3.075452 3.320452 3.650920
35 sub - U.S.L.S. New York 1954; r. 1959	d.m.	44 58 37.883 74 55 59.395	225 27 55.9 244 47 23.5 256 48 55.0 292 33 20.4	45 29 05.9 64 49 05.9 76 50 59.6 112 34 45.0	47 - I.W.C. W. Fill - Hydro-C.H.S. Rushford - U.S.L.S. Alcoa - U.S.L.S.	3,046.6 3,506.7 3,966.3 2,840.7	3.483811 3.544895 3.598390 3.453422
Park - Hydro 3901-C.H.S. Ontario 1958; r. 1959	d.r.	44 59 42.383 74 55 27.700	19 13 44.8 210 55 00.2 264 22 44.7 281 21 22.3 288 56 15.3	199 13 22.4 30 56 26.3 84 23 32.3 101 22 42.2 108 57 57.5	35 sub - U.S.L.S. Long Sault W. T. 47 - I.W.C. W. Fill - Hydro-C.H.S. Rushford - U.S.L.S.	2,108.7 5,198.3 1,484.6 2,527.8 3,348.7	3.324010 3.715861 3.171600 3.402748 3.524870
Raw - Hydro-C.H.S. New York 1959	d.	44 58 05.791 74 55 42.232	69 10 12.1 88 14 16.6 275 09 16.1	249 08 34.3 268 13 08.4 95 09 50.9	Lon - U.S.E. Lon - Hydro-C.H.S. Tank	3,248.2 2,120.8 1,080.2	3.511637 3.326508 3.033509
Yellow - Hydro-C.H.S. New York 1959	d.m.	44 57 13.748 74 55 52.585	99 07 45.9 129 09 09.7 188 02 19.4	279 06 15.4 309 08 08.7 8 02 26.7	Lon - U.S.E. Lon - Hydro-C.H.S. Raw - Hydro-C.H.S.	2,845.0 2,441.0 1,622.5	3.454077 3.387575 3.210179
Red - Hydro-C.H.S. New York 1959	d.	44 58 10.485 74 55 09.106	28 33 15.7 78 42 49.2 279 07 14.3 304 40 29.4	208 32 45.0 258 42 25.8 99 08 03.5 124 40 40.8	Yellow - Hydro-C.H.S. Raw - Hydro-C.H.S. Alcoa - U.S.L.S. Tank	1,993.9 740.3 1,540.7 425.5	3.299705 2.869384 3.187732 2.628850

International boundary line Lake St. Lawrence Main Scheme *State* New York *Province* Ontario

STATION		LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
Sevring - U.S.L.S.		44 57 27.635	141 54 14.6	321 53 27.8	Croil Island-U.S.L.S.	2,350.0	3.371061
New York 1954	l.	74 57 35.210	224 04 02.6	44 05 10.3	35 sub - U.S.L.S.	3,018.5	3.479796
Ref. Mon. 21		44 58 52.109	247 53 14.8	67 55 18.2	Hydro 3901 = Park	4,125.9	3.615514
New York 1910; r. 1959	d.m.	74 58 22.203	252 13 16.9	72 16 07.9	47 - I.W.C.	5,565.5	3.745505
			277 58 29.5	98 00 10.5	35 sub - U.S.L.S.	3,159.6	3.499638
Croil Island - U.S.L.S.		44 58 27.539	208 58 49.1	28 59 02.6	Ref. Mon. 21	867.0	2.938040
New York 1872; r. 1958	d.m.	74 58 41.377	264 50 34.9	84 52 29.4	35 sub - U.S.L.S.	3,563.6	3.551893
Bridge - U.S.L.S.		44 57 34.966	110 19 09.5	290 16 48.0	Croil Island-U.S.L.S.	4,677.8	3.670046
New York 1954 p.l. 1958	d.m.	74 55 21.181	156 40 43.2	336 40 16.2	35 sub - U.S.L.S.	2,115.1	3.325326
McLeod - U.S.L.S.		44 57 04.236	204 50 31.1	24 51 09.5	Croil Island-U.S.L.S.	2,833.8	3.452372
New York 1872; r. 1959	d.m.	74 59 35.708	238 36 16.9	58 38 49.8	35 sub - U.S.L.S.	5,552.6	3.744498
Ingleside W. T.		45 00 04.383	1 30 06.6	181 30 01.9	McLeod - U.S.L.S.	5,562.9	3.745305
Ontario 1958; r. 1959	d.	74 59 29.057	300 09 06.0	120 11 34.2	35 sub - U.S.L.S.	5,312.8	3.725322
			326 42 43.7	146 43 30.9	Ref. Mon. 21	2,668.8	3.426316
			340 44 09.1	160 44 42.8	Croil Island-U.S.L.S.	3,166.8	3.500617
Lon - U.S.E.		44 57 28.351	70 19 59.2	250 18 52.1	McLeod - U.S.L.S.	2,210.8	3.344558
New York I.B.C. 1959	d.m.	74 58 00.737	219 00 30.0	39 02 18.2	Park = 3901 C.H.S.	5,325.7	3.726378
			231 04 43.0	51 06 08.8	35 sub - U.S.L.S.	3,417.4	3.533692
			244 54 25.8	64 57 56.0	Rushford-U.S.L.S.(comp)	7,199.6	3.857311
Lon Hydro - C.H.S.		44 58 03.667	40 01 44.4	220 01 14.9	Lon - U.S.E.	1,423.7	3.153405
New York 1958; r. 1959	d.m.	74 57 18.962	58 32 33.9	238 30 57.3	McLeod - U.S.L.S.	3,514.1	3.545815
			218 38 49.9	38 40 08.6	Park = C.H.S. 3901	3,902.4	3.591327
			238 47 04.8	58 48 01.1	35 sub - U.S.L.S.	2,038.5	3.309313
Picnic		44 59 34.904	64 42 10.1	244 40 39.8	Ref. Mon. 21	3,096.6	3.490891
Ontario 1958; r. 1959	d.m.	74 56 14.420	257 25 51.2	77 26 24.2	Park = C.H.S. 3901	1,048.5	3.020571
			349 25 21.5	169 25 32.1	35 sub - U.S.L.S.	1,793.4	3.253688
67 - I.W.C. (Cat.-C.H.S.)		44 57 07.117	194 00 28.6	14 01 12.7	Ingleside W. T.	5,640.0	3.751280
New York 1910; r. 1959	d.m.	75 00 31.389	224 09 07.7	44 10 25.5	Croil Island-U.S.L.S.	3,460.7	3.539169
			234 12 24.5	54 15 59.2	Hydro 3901=Park	8,201.0	3.913868
			244 47 52.1	64 51 04.4	35 sub - U.S.L.S.	6,586.7	3.818668
			247 29 46.0	67 32 02.0	Lon Hydro-C.H.S.	4,564.6	3.659402
			258 45 27.9	78 47 14.4	Lon U.S.E.	3,366.7	3.527202
			274 09 35.7	94 10 15.1	McLeod - U.S.L.S.	1,223.8	3.087716
Last		44 58 28.905	16 09 26.9	196 09 09.4	Lon U.S.E.	1,946.1	3.289170
New York 1959	d.m.	74 57 36.028	56 42 53.8	236 40 49.8	67 - I.W.C.	4,598.4	3.662607
			231 05 30.2	51 07 00.9	Hydro 3901-C.H.S.	3,612.4	3.557791
			262 32 00.5	82 33 08.8	35 sub - U.S.L.S.	2,135.5	3.329492

International boundary line Lake St. Lawrence — Main Scheme — *State* New York — *Province* Ontario

STATION	LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
Morrison	44 58 22.924	195 23 14.8	15 23 42.6	Ingleside W. T.	3,248.5	3.511683
Ontario 1958; r. 1959 d.m.	75 00 08.413	248 49 36.7	68 50 51.7	Ref. Mon. 21	2,495.5	3.397157
		343 33 21.4	163 33 44.5	McLeod - U.S.L.S.	2,532.6	3.403566
Steen	44 57 50.323	196 14 06.9	16 14 45.8	Ingleside W. T.	4,310.4	3.634515
Ontario 1958; 1. 1959 d.	75 00 24.079	198 50 08.0	18 50 19.1	Morrison	1,063.3	3.026665
		323 18 00.9	143 18 35.1	McLeod - U.S.L.S.	1,774.3	3.249023
Far	44 58 03.850	63 43 15.9	243 42 48.6	Steen	943.0	2.974518
New York 1958; r. 1959 d.m.	75 59 45.498	139 32 38.4	319 32 22.2	Morrison	773.8	2.888656
		353 20 53.2	173 21 00.1	McLeod - U.S.L.S.	1,852.7	3.267807
Isle	44 57 52.023	85 42 11.3	265 41 48.8	Steen	699.6	2.844835
New York 1958; r. 1959 d.m.	74 59 52.248	202 03 22.0	22 03 26.8	Far	393.9	2.595437
		346 11 25.2	166 11 36.9	McLeod - U.S.L.S.	1,519.0	3.181565
Whalen = 72 I.W.C.	44 56 10.279	204 12 01.4	24 13 46.2	Ingleside W. T.	7,923.9	3.898937
New York 1872 U.S.L.S.; r. 1959 d.m.	75 01 57.364	227 02 35.0	47 03 35.7	67 I.W.C.	2,575.1	3.410796
		241 46 49.5	61 48 29.6	McLeod - U.S.L.S.	3,524.1	3.547051
Ault - U.S.L.S.	44 57 42.026	20 11 11.0	200 10 37.4	72-I.W.C.=Whalen - U.S.L.S.	3,017.4	3.479639
Ontario 1872; r. 1959 d.m.	75 01 09.877	246 38 05.3	66 39 59.2	Croils Island-U.S.L.S.	3,544.7	3.549574
		299 27 51.6	119 28 58.1	McLeod - U.S.L.S.	2,370.9	3.374918
Wells - U.S.L.S.	44 56 46.424	238 59 11.0	59 00 43.1	Ault - U.S.L.S.	3,332.5	3.522772
Ontario 1872; r. 1958 d.m.	75 03 20.191	301 33 33.0	121 34 31.5	72 - IWC = Whalen - U.S.L.S.	2,131.4	3.328657
Ault Point	44 56 48.762	85 01 43.2	265 01 16.5	Wells - U.S.L.S.	832.2	2.920238
Ontario 1958; r. 1959 d.m.	75 02 42.373	258 49 29.6	78 51 02.1	67 - I.W.C.	2,926.8	3.466388
		320 16 46.0	140 17 17.8	72 - I.W.C. = Whalen - U.S.L.S.	1,544.3	3.188744
74 sub	44 55 50.805	169 41 39.5	349 41 29.5	Wells - U.S.L.S.	1,745.1	3.241819
New York 1939; r. 1959 d.m.	75 03 05.951	196 06 51.1	16 07 07.8	Ault Point	1,862.3	3.270049
		248 12 20.1	68 13 08.6	72 - I.W.C. = Whalen - U.S.L.S.	1,619.7	3.209423
Wilson - U.S.L.S.	44 55 50.047	171 10 23.9	351 10 15.2	Wells - U.S.L.S.	1,761.2	3.245806
New York 1872; r. 1957 d.m.	75 03 07.864	240 51 28.2	60 51 29.5	74 sub	48.043	1.681627
		247 59 38.7	68 00 28.5	72 - I.W.C. = Whalen - U.S.L.S.	1,677.3	3.222017
76 - I.W.C.=Bradford U.S.L.S.	44 55 15.707	216 06 10.2	36 07 16.0	Wells - U.S.L.S.	3,466.4	3.539876
New York 1872; r. 1959 d.m.	75 04 53.359	245 17 21.2	65 18 37.0	74 sub	2,592.8	3.413764
		245 22 23.3	65 23 37.8	Wilson - U.S.L.S.	2,544.9	3.405667
Brad	44 55 26.602	220 34 40.1	40 35 48.1	Wells - U.S.L.S.	3,244.7	3.511172
New York 1958; r. 1959 d.m.	75 04 56.464	252 51 21.5	72 52 39.5	74 sub	2,536.1	3.404173
		348 33 05.8	168 33 08.0	76 - I.W.C.=Bradford-U.S.L.S.	343.1	2.535472

INTERNATIONAL BOUNDARY COMMISSION—UNITED STATES, ALASKA, AND CANADA
GEOGRAPHIC POSITIONS—NORTH AMERICAN DATUM 1927

International boundary line Lake St. Lawrence Main Scheme *State* New York *Province* Ontario

STATION		LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
Morrisburg Tank		44 53 59.005	3 42 09.3	183 42 02.8	Bump	3,138.5	3.496719
Ontario 1959; r. 1960	d.	75 11 25.707	263 49 55.4	83 51 27.5	Doran-C.H.S.	2,878.1	3.459108
			285 31 45.0	105 33 33.0	Allison - U.S.L.S.	3,484.7	3.542160
Graph (Den C.H.S.)		44 52 29.149	218 03 15.3	38 04 25.1	Morrisburg Tank	3,523.1	3.546920
New York 1959; r. 1960	d.m.	75 13 04.683	238 29 55.8	58 32 37.7	Doran-C.H.S.	5,902.9	3.771065
			251 34 20.6	71 37 18.4	Allison - U.S.L.S.	5,828.2	3.765538
Ogden		44 51 53.953	23 42 28.0	203 42 10.3	Ames - U.S.L.S.	1,371.8	3.137302
New York 1959; r. 1960	d.m.	75 14 00.008	220 34 19.9	40 36 08.7	Morrisburg Tank	5,205.2	3.716434
			225 50 27.7	45 51 06.7	Graph	1,692.7	3.228585
			255 31 49.9	75 33 32.2	Bump	3,288.8	3.517033
Leish		44 51 22.446	225 28 36.2	45 29 04.9	Ogden	1,255.0	3.098660
New York 1959; r. 1960	d.m.	75 14 40.766	247 20 57.2	67 23 08.2	Bump	4,420.1	3.645429
			317 36 07.7	137 36 18.7	Ames - U.S.L.S.	509.3	2.706968
			225 40 52.8	45 42 00.5	Graph (comp.)	2,947.7	3.469490
			221 31 04.9	41 33 22.4	Morrisburg Tank	6,456.5	3.809997
Ames - U.S.L.S.		44 51 10.263	239 36 09.8	59 40 04.4	90-I.W.C.=Allison-USLS	8,457.1	3.927219
New York 1872; r. 1960	d.m.	75 14 25.126					
Base A.		44 51 11.268	73 20 06.0	253 20 02.7	Ames - U.S.L.S.	108.20	2.034232
New York 1959; r. 1960	d.m.	75 14 20.406	127 40 01.6	307 39 47.3	Leish	564.7	2.751849
Pine Tree - U.S.L.S.		44 51 24.677	278 04 18.7	98 05 59.3	Ames - U.S.L.S.	3,163.4	3.500154
Ontario 1872; r. 1959	d.m.	75 16 47.761	288 38 25.0	108 38 37.3	Point	405.0	2.607438
Jinks - U.S.L.S.		44 50 12.025	152 27 06.8	332 26 29.2	Pine Tree - U.S.L.S.	2,529.6	3.403049
New York 1872; r. 1959	d.m.	75 15 54.479	227 29 52.7	47 30 55.7	Ames - U.S.L.S.	2,661.3	3.425096
Sharps - U.S.L.S.		44 49 06.837	229 12 24.8	49 13 39.7	Jinks - U.S.L.S.	3,080.7	3.488645
New York 1872; r. 1959	d.m.	75 17 40.663					
Binion - U.S.L.S.		44 49 15.440	251 27 11.1	71 29 58.4	Jinks - U.S.L.S.	5,498.0	3.740205
Ontario 1873; r. 1959	d.m.	75 19 51.791	275 15 13.5	95 16 45.9	Sharps - U.S.L.S.	2,893.2	3.461382
114 sub		44 50 20.535	206 18 54.6	26 19 26.0	Pine Tree - U.S.L.S.	2,209.0	3.344192
New York 1939; r. 1959	d.m.	75 17 32.360	249 30 36.7	69 32 48.7	Ames - U.S.L.S.	4,389.1	3.642372
			276 57 24.6	96 58 33.6	Jinks - U.S.L.S.	2,165.9	3.335633
Wad		44 52 17.650	89 19 39.1	269 19 30.4	Bump	270.3	2.431814
New York 1959; r. 1960	d.m.	75 11 22.628	219 05 58.3	39 07 28.2	Doran-C.H.S.	4,430.0	3.646408
			236 16 46.7	56 18 32.5	Allison - U.S.L.S.	3,955.3	3.597183
Waddington Tank		44 51 42.562	80 44 50.0	260 42 47.8	Leish	3,855.1	3.586036
New York 1959; r. 1960	d.	75 11 47.479	182 30 18.9	2 30 22.9	Ref. Mon. 35-59	2,891.5	3.461127
			194 17 48.1	14 17 56.9	Bump	1,114.5	3.047064
			216 26 47.5	36 28 34.9	Doran-C.H.S.	5,620.7	3.749787
			229 28 06.6	49 30 09.9	Allison - U.S.L.S.	5,045.9	3.702942

International boundary line Lake St. Lawrence — Main Scheme — *State* New York — *Province* Ontario

STATION	LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
78 sub	44 54 54.186	228 53 44.4	48 54 21.3	Brad	1,522.2	3.182473
New York 1939; r. 1959 d.m.	75 05 48.762	241 19 49.9	61 20 29.0	76 - I.W.C.=Bradford-U.S.L.S.	1,385.0	3.141438
Wood	44 56 03.704	304 46 47.9	124 47 41.0	Brad	2,007.5	3.302655
Ontario 1958; r. 1959 d.m.	75 06 11.646	310 47 12.3	130 48 07.6	76 - I.W.C.= Bradford-U.S.L.S.	2,267.8	3.355603
		346 50 07.4	166 50 23.6	78 sub	2,203.9	3.343189
Morrisburg east base-U.S.L.S.	44 55 11.222	239 11 00.2	59 12 27.7	Wood	3,163.6	3.500177
Ontario 1872; 1959 d.m.	75 08 15.550	268 11 31.6	88 13 54.4	76 - I.W.C.=Bradford-U.S.L.S.	4,436.8	3.647069
		279 15 44.4	99 17 28.1	78 sub	3,262.3	3.513522
Law	44 54 37.920	110 47 30.6	290 46 03.4	Morrisburg E.B.-U.S.L.S.	2,897.7	3.462049
New York 1958; r. 1959 d.m.	75 06 12.040	180 11 11.9	0 11 12.2	Wood	2,648.1	3.422940
		225 28 32.6	45 28 49.1	78 sub	716.1	2.854989
East	44 55 08.271	184 14 43.1	4 14 43.3	Morrisburg E.B.-USLS	91.34	1.960659
Ontario 1958; r. 1959 d.m.	75 08 15.858	237 51 05.8	57 52 33.5	Wood	3,216.9	3.507439
		277 39 38.6	97 41 22.5	78 sub	3,255.6	3.512627
		289 01 15.3	109 02 42.7	Law	2,873.0	3.458341
90-I.W.C.=Allison-U.S.L.S.	44 53 28.753	194 26 50.7	14 27 16.9	Morrisburg E.B.-USLS	3,266.5	3.514082
New York 1872; r; 1960 d.m.	75 08 52.707	194 44 21.9	14 44 47.9	East	3,176.6	3.501968
		216 26 03.9	36 27 57.6	Wood	5,946.5	3.774264
		236 49 03.0	56 51 12.9	78 sub	4,820.9	3.683130
		238 46 52.3	58 48 45.7	Law	4,121.3	3.615032
Martin	44 54 29.644	240 14 33.8	60 15 46.1	Morrisburg E.B.-USLS	2,586.7	3.412754
Ontario 1958; r. 1959 d.m.	75 09 57.936	267 01 36.8	87 04 16.3	Law	4,962.1	3.695664
		322 42 28.5	142 43 14.6	90-I.W.C.=Allison-USLS	2,362.5	3.373373
Doran - C.H.S. 1959	44 54 09.001	215 27 49.0	35 28 30.9	East	2,246.5	3.351514
Ontario 1959; r. 1960 d.m.	75 09 15.284	252 52 02.5	72 54 28.3	78 sub	4,740.4	3.675812
		338 15 33.0	158 15 48.9	Allison-USLS=90-I.W.C.	1,337.5	3.126306
Riverside - 1958	44 55 45.854	5 43 40.3	185 43 36.6	East	1,166.0	3.066689
Ontario d.m.	75 08 10.553	5 51 13.4	185 51 09.9	Morrisburg E.B.-USLS	1,074.7	3.031274
		258 03 20.2	78 04 44.2	Wood	2,665.0	3.425702
Heights - 1958	44 56 16.745	38 17 06.2	218 16 12.5	East	2,692.6	3.430172
Ontario d.m.	75 06 59.798	58 25 51.9	238 25 01.9	Riverside	1,821.1	3.260339
		290 51 57.6	110 52 31.6	Wood	1,130.0	3.053061
Bump	44 52 17.547	221 40 52.3	41 42 30.9	Doran-C.H.S.	4,607.6	3.663479
New York 1959; r. 1960 d.m.	75 11 34.940	238 17 45.0	58 19 39.5	Allison - U.S.L.S.	4,184.5	3.621642

INTERNATIONAL BOUNDARY COMMISSION—UNITED STATES, ALASKA, AND CANADA

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International boundary line Lake St. Lawrence Main Scheme *State* New York *Province* Ontario

STATION		LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
Ref. Mon. 35-59		44 53 16.143	243 03 47.6	63 05 31.0	Doran-C.H.S.	3,603.7	3.556748
Ontario 1959; r. 1960	d.m.	75 11 41.718	263 59 30.2	84 01 29.5	Allison - USLS	3,729.2	3.571622
			346 56 03.7	166 56 17.2	Wad	1,853.6	3.268020
			355 17 52.2	175 17 57.0	Bump	1,814.9	3.258859
Ref. Mon. 36 ecc.		44 52 35.748	81 28 00.0	261 27 16.4	Graph	1,371.6	3.137215
New York 1960	d.	75 12 02.891	200 26 07.5	20 26 22.4	Ref. Mon. 35-59	1,330.8	3.124106
			248 34 29.3	68 36 43.5	Allison - U.S.L.S.	4,483.2	3.651590
			312 28 39.7	132 28 59.4	Bump	831.9	2.920067
Burg		44 52 56.697	55 46 06.3	235 45 26.1	Graph = Den C.H.S.	1,511.4	3.179389
Ontario 1959; r. 1960; l. 1963	d.m.	75 12 07.754	256 57 48.2	77 00 05.8	Allison - U.S.L.S.	4,393.4	3.642800
			350 37 32.4	170 37 35.8	Ref. Mon. 36 ecc.	655.5	2.816542
Lock		44 52 28.305	15 53 33.9	195 53 23.4	Ogden	1,198.9	3.078777
Ontario 1959; r. 1960	d.m.	75 13 45.053	247 40 41.0	67 41 49.7	Burg	2,308.4	3.363320
			268 18 42.8	88 19 11.3	Graph = Den C.H.S.	886.5	2.947688
Drog - (C.H.S. Hill)		44 51 40.569	236 55 19.9	56 56 32.5	Lock	2,700.7	3.431471
Ontario 1959; r. 1960	d.m.	75 15 28.149	244 31 28.1	64 33 09.2	Graph = Den - C.H.S.	3,488.3	3.542609
			298 15 52.6	118 16 26.0	Leish	1,181.3	3.072349
Point		44 51 20.483	245 33 01.0	65 33 40.9	Drog - (C.H.S. Hill)	1,498.6	3.175689
Ontario 1959	d.m.	75 16 30.285	268 32 41.2	88 33 55.5	Leish	2,405.5	3.381212
Fill		44 50 52.023	60 58 38.7	240 57 42.5	114 sub	2,003.0	3.301677
New York 1959	d.m.	75 16 12.617	142 33 56.0	322 33 31.2	Pine Tree - U.S.L.S.	1,269.5	3.103630
			156 10 30.9	336 10 18.4	Point	960.4	2.982447
			245 01 21.2	65 02 23.0	Leish	2,224.9	3.347313
Yard		44 51 20.478	27 41 16.5	207 40 45.3	114 sub	2,089.6	3.320055
Ontario 1959	d.m.	75 16 48.154	183 48 38.9	3 48 39.1	Pine Tree - U.S.L.S.	129.91	2.113654
			269 58 23.6	89 58 36.1	Point	392.4	2.593701
			318 22 39.5	138 23 04.5	Fill	1,174.9	3.070019
Brick		44 50 49.435	236 46 57.9	56 47 44.9	Yard	1,749.5	3.242926
Ontario 1959	d.m.	75 17 54.813	267 57 04.3	87 58 16.3	Fill	2,245.7	3.351357
			331 03 53.7	151 04 09.5	114 sub	1,019.3	3.008312
Dam		44 50 06.324	180 34 57.1	0 34 57.5	Brick	1,330.9	3.124130
New York 1959	d.m.	75 17 55.429	229 06 49.1	49 07 05.3	114 sub	670.2	2.826223
Iroquois Tank		44 51 02.659	280 59 58.3	101 01 05.6	Brick	2,137.8	3.329961
Ontario 1959	d.	75 19 30.370	296 37 57.8	116 39 20.9	114 sub	2,899.6	3.462339
			309 49 09.4	129 50 16.3	Dam	2,715.1	3.433789
Ref. Mon. 42-59		44 50 05.414	141 51 21.6	321 50 37.1	Iroquois Tank	2,247.1	3.351622
Ontario 1959	d.m.	75 18 27.167	207 36 10.8	27 36 33.6	Brick	1,533.5	3.185670
			248 48 04.1	68 48 42.7	114 sub	1,291.2	3.110977
			267 41 22.6	87 41 45.0	Dam	697.7	2.843665

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STATION	LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
Ref. Mon. 43-59	44 50 05.539	89 38 32.5	269 38 12.8	Ref. Mon. 42-59	612.756	2.787288
New York 1959 d.m.	75 17 59.271	131 23 54.6	311 22 50.4	Iroquois Tank	2,666.8	3.425997
		253 58 34.8	73 58 37.5	Dam	87.8	1.943476
Iroquois - C.H.S. 1298	44 49 52.246	154 02 00.5	334 00 26.5	Iroquois Tank	2,418.4	3.383534
Ontario 1958; r. 1959 d.m.	75 18 42.126	218 56 54.7	38 57 05.2	Ref. Mon. 42-59	522.7	2.718248
		247 02 02.4	67 02 35.3	Dam	1,114.0	3.046886
Putney	44 48 53.784	183 50 04.1	3 50 08.0	Iroquois-C.H.S. 1298	1,808.7	3.257366
New York 1959 d.m.	75 18 47.632	207 06 52.8	27 07 29.6	Dam	2,515.8	3.400682
Toussaint	44 48 49.068	59 06 28.1	239 05 15.9	125 - I.W.C.	2,624.5	3.419040
Ontario 1959 d.m.	75 19 52.806	218 31 16.9	38 32 06.8	Iroquois-C.H.S. 1298	2,492.9	3.396712
		264 11 20.4	84 12 06.4	Putney	1,439.5	3.158200
Ref. Mon. 45-59	44 48 16.374	148 34 45.8	328 34 26.0	Toussaint	1,182.7	3.072864
New York 1959; r. 1961 d.m.	75 19 24.747	215 13 44.3	35 14 10.5	Putney	1,413.8	3.150382
123-I.W.C. (Cardinal E.B.)	44 48 40.077	257 44 54.9	77 45 35.9	Toussaint	1,308.5	3.116763
Ontario 1912; r. 1939,1959 d.m.	75 20 50.998	291 05 59.0	111 06 59.8	Ref. Mon. 45-59	2,031.7	3.307866
Top	44 47 46.288	174 39 25.7	354 39 20.7	123 - I.W.C.	1,667.6	3.222101
New York 1959 d.m.	75 20 43.932	210 05 57.1	30 06 33.1	Toussaint	2,240.1	3.350262
125-I.W.C. (Cardinal W.B.)	44 48 05.403	3 58 32.0	183 58 25.5	130 - I.W.C.	2,906.8	3.463408
Ontario 1912; r. 1939,1959 d.m.	75 21 35.279	222 16 20.3	42 16 51.5	123-I.W.C. (Cardinal E. Base)	1,446.57	3.160339
		297 35 51.1	117 36 27.3	Top	1,273.5	3.105003
128 - I.W.C.	44 47 16.038	18 29 16.0	198 28 58.0	130 - I.W.C.	1,776.3	3.249509
New York 1911; r. 1939; d.m.	75 21 18.827	163 25 46.2	343 25 34.7	125 - I.W.C.	1,267.8	3.103051
p.l. 1959		194 58 47.3	14 59 07.0	123 - I.W.C.	2,365.9	3.373995
Elevator	44 47 08.460	28 44 21.3	208 43 18.6	132-I.W.C.=Red Mills-U.S.L.S.	4,073.8	3.610005
Ontario 1939; r. 1959 d.m.	75 22 28.066	213 25 26.9	33 26 04.1	125 - I.W.C.	2,106.2	3.323499
		242 57 47.0	62 59 00.4	Top	2,569.7	3.409886
		250 22 19.6	70 23 08.3	128 - I.W.C.	1,615.9	3.208418
		319 58 17.5	139 58 48.2	130 - I.W.C.	1,491.3	3.173567
129 - sub	44 46 37.598	248 24 15.7	68 25 32.8	Elevator	2,589.5	3.413224
Ontario 1939; r. 1959 d.m.	75 24 17.590	350 14 47.5	170 15 01.9	132-I.W.C.=Red Mills-U.S.L.S.	2,658.1	3.424568
131 - sub	44 45 45.801	235 09 43.5	55 10 57.1	129 - sub	2,799.6	3.447095
Ontario 1939; p.l. 1959 d.m.	75 26 02.098	290 21 37.9	110 23 05.9	132-I.W.C.=Red Mills-U.S.L.S.	2,932.3	3.467204

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International boundary line Lake St. Lawrence — Main Scheme — *State* New York — *Province* Ontario

STATION	LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
134 - sub	44 43 51.630	200 32 25.3	20 33 07.5	131 - sub	3,763.7	3.575615
New York, 1939 d.m.	75 27 02.143	238 23 23.4	58 25 33.6	132-I.W.C.=Red Mills-U.S.L.S.	4,778.9	3.679324
135 - sub	44 43 18.990	251 38 32.9	71 40 10.1	134 - sub	3,201.4	3.505337
Ontario 1939; r. 1960 d.m.	75 29 20.225	339 08 33.8	159 08 56.4	Ogdensburg west base Z U.S.L.S.	1,987.8	3.298375
		356 32 55.6	176 33 01.6	Ogdensburg, Notre Dame Ch. Spire C&GS	3,148.9	3.498159
Wort - U.S.L.S.	44 48 52.210	242 00 32.3	62 01 15.6	Binion - U.S.L.S.	1,528.2	3.184175
Ontario 1873; r. 1933, 1959 d.m.	75 20 53.210					
Stethem - U.S.L.S.	44 48 05.003	226 11 17.6	46 12 06.3	Wort - U.S.L.S.	2,105.1	3.323282
Ontario 1873; r. 1933, 1957 d.m.	75 22 02.345					
Wagner - U.S.L.S.	44 46 24.788	52 59 58.1	232 58 23.6	132-I.W.C.=Red Mills-U.S.L.S.	3,694.7	3.567582
New York 1873; r. 1933, 1959 d.m.	75 21 42.971	172 09 45.3	352 09 31.7	Stethem - U.S.L.S.	3,122.7	3.494526
Drummond Island - U.S.L.S.	44 44 58.747	197 10 59.2	17 11 13.6	131 - sub	1,520.4	3.181945
Ontario 1873; r. 1939 d.m.	75 26 22.520	262 17 56.9	82 19 39.3	132-I.W.C.=Red Mills-U.S.L.S.	3,227.4	3.508853
Chimney Point - U.S.L.S.	44 43 55.526	200 45 41.7	20 46 05.4	Drummond Island -USLS	2,087.1	3.319538
New York 1871; r. 1934 d.m.	75 26 56.152	238 48 22.7	58 50 28.8	132-I.W.C.=Red Mills-U.S.L.S.	4,603.7	3.663104
Johnstown - U.S.L.S.	44 44 30.036	247 26 50.1	67 27 58.4	Drummond Island-USLS	2,311.6	3.363920
Ontario 1871; r. 1934, 1957 d.m.	75 27 59.569	307 21 12.8	127 21 57.4	Chimney Point-USLS	1,755.5	3.244400
Frazers - U.S.L.S.	44 43 33.704	209 14 39.3	29 15 10.4	Johnstown - U.S.L.S.	1,993.0	3.299500
Ontario 1871; r. 1933, 1957 d.m.	75 28 43.824					
130 - sub	44 46 33.780	18 06 57.8	198 06 57.0	130 - I.W.C.	75.231	1.876396
New York 1939; r. 1959 d.m.	75 21 43.380	49 37 40.2	229 36 06.0	132-I.W.C.=Red Mills-U.S.L.S.	3,861.3	3.586732
		137 27 35.4	317 27 03.9	Elevator	1,453.0	3.162265
Lalone	44 46 44.824	84 47 31.9	264 46 13.7	129 sub	2,452.0	3.389520
New York 1959 d.m.	75 22 26.531	177 21 08.0	357 21 06.9	Elevator	730.4	2.863558
Sismey	44 46 50.632	64 41 45.8	244 41 18.6	129 sub	941.2	2.973662
Ontario 1959 d.m.	75 23 38.892	250 31 42.7	70 32 32.6	Elevator	1,651.5	3.217877
		276 25 22.9	96 26 13.9	Lalone	1,601.0	3.204395

International boundary line Lake St. Lawrence — Main Scheme — *State* New York — *Province* Ontario

STATION		LATITUDE AND LONGITUDE			AZIMUTH			BACK AZIMUTH			TO STATION	DISTANCE (METERS)	LOGARITHM
		°	′	″	°	′	″	°	′	″			
Dupuis		44	46	15.684	19	17	52.2	199	17	30.4	132-I.W.C.=Red Mills-U.S.L.S.	2,058.9	3.313627
New York 1959	d.m.	75	23	26.185	120	54	15.7	300	53	39.5	129 - sub	1,317.3	3.119675
					165	28	51.3	345	28	42.3	Sismey	1,114.4	3.047033
					218	06	16.4	38	06	57.3	Elevator	2,070.5	3.316070
					256	06	34.7	76	07	47.1	130 - sub	2,328.5	3.367083
Pitt		44	46	09.659	213	58	17.7	33	58	36.3	129 - sub	1,040.0	3.017022
New York, 1959	d.m.	75	24	44.020	263	47	27.6	83	48	22.4	Dupuis	1,721.7	3.235945
					329	34	55.3	149	35	28.3	132-I.W.C.=Red Mills-U.S.L.S.	2,037.6	3.309124
Johns		44	45	47.227	247	16	42.6	67	17	35.6	Pitt	1,793.3	3.253643
Ontario 1959	d.m.	75	25	59.239	291	36	46.4	111	38	12.4	132-IWC = Red Mills-U.S.L.S.	2,889.3	3.460798
Drum		44	45	10.744	188	56	40.2	8	56	45.8	Johns	1,140.0	3.056919
Ontario 1959	d.m.	75	26	07.300	225	11	43.8	45	12	42.4	Pitt	2,581.1	3.411803
					268	45	34.2	88	47	05.8	132-I.W.C.=Red Mills-U.S.L.S.	2,864.2	3.456996
Adams		44	46	22.868	35	03	49.3	215	02	59.3	Drum	2,719.8	3.434532
Ontario, 1939; r. 1959	d.m.	75	24	56.266	51	32	25.8	231	31	41.4	Johns	1,768.7	3.247645
					241	51	50.6	61	52	17.8	129 - sub	964.3	2.984223
					326	33	28.5	146	33	37.1	Pitt	488.6	2.688994
					328	59	43.2	149	00	24.8	132-I.W.C.=Red Mills-U.S.L.S.	2,525.7	3.402386
Bench Mark 27		44	42	28.332	173	38	15.7	353	38	10.1	135 - sub	1,573.4	3.196844
New York 1939; r.1960	d.m.	75	29	12.303	228	04	37.5	48	06	09.1	134 - sub	3,849.4	3.585394
137 - I.W.C.		44	42	47.110	237	21	49.9	57	22	39.0	135 - sub	1,825.0	3.261273
Canada 1911; r. 1939,1956	d.m.	75	30	30.058	288	42	07.3	108	43	02.0	Bench Mark 27	1,807.1	3.256977
					291	15	05.6	111	16	17.3	Ogdensburg west base 2 U.S.L.S.	2,408.9	3.381816
					321	20	19.9	141	21	15.0	Ogdensburg, Notre Dame Ch, Sp. C.&G.S.	2,764.8	3.441662
Ferry-U.S.L.S.=Burg-C.H.S.		44	41	54.866	167	28	21.9	347	28	10.5	137 - I.W.C.	1,652.0	3.218014
New York 1933;r.1939,1957	d.m.	75	30	13.779	204	24	41.7	24	25	19.4	135 - sub	2,851.8	3.455119
					232	38	26.2	52	39	09.5	Bench Mark 27	1,702.6	3.231112
Windmill Point-U.S.L.S.		44	43	15.415	27	32	50.3	207	32	08.8	Ferry - U.S.L.S.	2,804.2	3.447803
Ontario,1871; r.1939,1957	d.m.	75	29	14.876	62	10	24.9	242	09	32.0	137 - I.W.C.	1,871.3	3.272133
					341	20	29.9	161	20	48.7	Ogdensburg west base 2 U.S.L.S.	1,844.1	3.265789
					357	46	05.4	177	46	07.2	Bench Mark 27	1,454.5	3.162704

International boundary line St. Lawrence River — Main Scheme — *State* New York — *Province* Ontario

STATION	LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
139 - sub	44 42 12.405	259 41 26.8	79 42 53.3	Bench Mark 27	2,750.3	3.439375
Canada 1939; r. 1957 d.m.	75 31 15.221	291 48 23.3	111 49 06.5	Ferry - U.S.L.S.	1,457.0	3.163472
140 - sub	44 40 46.722	188 53 44.4	8 53 57.6	139 - sub	2,677.1	3.427661
New York 1939 d.m.	75 31 34.025	200 45 01.9	20 45 46.9	137 - I.W.C.	3,974.1	3.599238
		220 01 30.0	40 02 26.4	Ferry - U.S.L.S.	2,747.2	3.438891
141 - sub	44 40 45.116	225 24 43.7	45 26 11.0	139 - sub	3,839.0	3.584221
Canada 1939; r. 1957 d.m.	75 33 19.410	242 12 21.4	62 14 31.9	Ferry - U.S.L.S.	4,620.1	3.664650
		268 45 59.3	88 47 13.4	140 - sub	2,321.6	3.365782
Nevins - U.S.L.S.	44 40 08.895	131 06 00.1	311 05 19.2	141 - sub	1,701.0	3.230708
New York 1873; r.1939,1957 d.m.	75 32 21.210	200 51 31.2	20 52 17.6	139 - sub	4,080.1	3.610667
		221 40 03.2	41 40 36.4	140 - sub	1,563.2	3.194011
143 - sub	44 39 33.690	218 23 06.2	38 24 02.0	141 - sub	2,813.0	3.449175
Canada 1939; r. 1957 d.m.	75 34 38.719	240 59 27.9	61 01 37.8	140 - sub	4,651.3	3.667573
		250 15 08.6	70 16 45.3	Nevins - U.S.L.S.	3,218.4	3.507634
H2-1902 - U.S.L.S.	44 38 31.129	178 21 11.7	358 21 09.9	143 - sub	1,931.9	3.285990
New York 1902;r.1939,1957 d.m.	75 34 36.199	202 14 21.7	22 15 15.7	141 - sub	4,468.5	3.650165
		224 34 13.3	44 35 48.2	Nevins - U.S.L.S.	4,237.2	3.627075
145 - sub	44 38 22.663	223 11 55.8	43 13 01.5	143 - sub	3,008.0	3.478274
Canada 1939; r. 1957 d.m.	75 36 12.177	262 56 53.7	82 58 01.2	H 1902 - U.S.L.S.	2,131.3	3.328650
146 - sub = Brook C.H.S.	44 37 36.335	161 03 32.6	341 03 16.9	145 sub	1,511.9	3.179529
New York 1939; r. 1957 d.m.	75 35 49.910	203 24 38.1	23 25 28.1	143 - sub	3,947.6	3.596336
		223 50 27.7	43 51 19.5	H 1902 - U.S.L.S.	2,345.3	3.370190
147 - sub	44 37 55.323	225 48 01.4	45 48 29.0	145 - sub	1,210.6	3.082999
Canada 1939; r. 1957 d.m.	75 36 51.556	249 39 31.2	69 41 06.3	H 1902 - U.S.L.S.	3,181.5	3.502627
		293 19 31.7	113 20 15.0	146 - sub	1,479.9	3.170234
Guernsey 2 - U.S.L.S.	44 40 08.309	14 09 37.1	194 09 13.0	H 1902 - U.S.L.S.	3,093.7	3.490476
Ontario 1935;r.1939,1957 d.m.	75 34 01.858	37 14 07.7	217 13 41.8	143 - sub	1,342.1	3.127797
		269 31 21.0	89 32 31.8	Nevins - U.S.L.S.	2,217.2	3.345801
I-U.S.L.S.	44 37 39.725	50 24 03.8	230 23 59.8	146 - sub	164.1	2.215229
New York 1873;r.1939,1957 d.m.	75 35 44.172	107 58 01.4	287 57 14.1	147 - sub	1,561.4	3.193526
		155 01 48.9	335 01 29.2	145 - sub	1,462.1	3.164977
		223 20 59.5	43 21 47.3	H 1902 - U.S.L.S.	2,182.3	3.338907
		224 08 48.1	44 11 10.8	Necins - U.S.L.S.	6,419.1	3.807474
148 - sub	44 36 55.563	169 36 07.0	349 35 56.2	147 - sub	1,875.5	3.273108
New York 1939; r. 1957 d.m.	75 36 36.199	191 08 25.0	11 08 41.8	145 - sub	2,740.2	3.437787
		219 02 00.8	39 02 33.3	146 - sub	1,620.3	3.209597

INTERNATIONAL BOUNDARY COMMISSION—UNITED STATES, ALASKA, AND CANADA

GEOGRAPHIC POSITIONS—NORTH AMERICAN DATUM 1927

International boundary line St. Lawrence River — Main Scheme — *State* New York — *Province* Ontario

STATION	LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
149 - Sub	44 37 22.484	228 29 06.2	48 29 42.7	147 - sub	1,529.5	3.184544
Canada 1939; r. 1957 d.m.	75 37 43.513	260 18 03.0	80 19 22.8	146 - sub	2,540.6	3.404940
		299 14 22.5	119 15 09.8	148 - sub	1,700.9	3.230675
150 (IWC) (Morristown Point - U.S.L.S.)	44 35 55.368	202 05 34.9	22 06 09.7	149 - sub	2,902.3	3.462737
New York, 1873;r.1939,1957 d.m.	75 38 33.027	234 11 17.4	54 12 39.5	148 - sub	3,176.4	3.501936
Finley (U.S.L.S.)	44 37 40.136	10 11 56.8	190 11 38.2	150 (IWC) (Morristown Point-U.S.L.S.)	3,285.9	3.516648
Canada 1873 d.m.	75 38 06.646	304 35 49.1	124 36 52.6	148 - sub	2,422.6	3.384287
Brennan (U.S.L.S.)	44 37 58.486	54 56 16.9	234 55 51.2	Finley (U.S.L.S.)	985.9	2.993834
Canada 1873 d.m.	75 37 30.038	328 34 00.0	148 34 37.8	148 - sub	2,276.2	3.357215
Maitland SW base (U.S.L.S.)	44 37 54.352	261 45 47.5	81 46 15.6	Brennan (U.S.L.S.)	891.2	2.949976
Canada, 1873 d.m.	75 38 10.053	350 17 19.4	170 17 21.8	Finley (U.S.L.S.)	445.2	2.648531
Maitland NE base (U.S.L.S.)	44 38 06.409	61 32 40.3	241 32 18.4	Maitland SW base(USLS)	781.0	2.892653
Canada, 1873 d.m.	75 37 38.902	321 22 40.0	141 22 46.2	Brennan (U.S.L.S.)	313.0	2.495553
151 (I.W.C.)	44 36 27.600	227 28 11.1	47 29 10.0	149 - sub	2,506.6	3.399084
Canada 1911; r. 1939 d.m.	75 39 07.301	255 27 40.2	75 29 26.4	148 - sub	3,441.8	3.536783
		322 46 22.8	142 46 46.9	150 (IWC) (Morristown Point - U.S.L.S.)	1,249.5	3.096727
		348 39 15.6	168 39 30.1	Morristown, standpipe	2,306.6	3.362981
153 (IWC - Ref. Mon. 55)	44 35 36.576	79 43 58.8	259 42 58.2	Brockville Presbyterian Church Spire	1,936.8	3.287082
Canada 1911;r.1939 = Murray C.H.S. 1957 d.m.	75 39 45.700	208 15 46.6	28 16 13.5	151 (I.W.C.)	1,788.2	3.252427
		250 05 52.8	70 06 43.8	150 (IWC) (Morristown Point - U.S.L.S.)	1,704.6	3.231623
		297 49 14.0	117 49 55.4	Morristown, standpipe	1,470.9	3.167570
152 - Sub	44 35 27.765	106 41 35.8	286 41 06.9	153 (IWC Ref Mon 55)	947.0	2.976339
New York 1939; r. 1957 d.m.	75 39 04.577	178 08 13.0	358 08 11.0	151 (IWC)	1,847.9	3.266686
154 (I.W.C.)	44 34 25.395	144 09 58.5	324 09 16.0	Brockville Presbyterian Church, spire	2,284.2	3.358730
New York 1911;r.1939 1957 d.m.	75 40 11.475	194 30 24.0	14 30 42.1	153 (IWC Ref Mon 55)	2,269.6	3.355941
		217 28 00.9	37 28 47.9	152 - sub	2,425.8	3.384859
		231 03 17.3	51 04 16.8	Morristown, standpipe	2,403.6	3.380866
155 - Sub	44 35 12.893	224 59 02.1	45 00 15.4	151 (I.W.C.)	3,260.9	3.513335
Canada 1939; r. 1957 d.m.	75 40 51.836	243 22 39.4	63 23 25.8	153 (IWC Ref Mon 55)	1,631.7	3.212648
		259 00 31.8	79 01 47.1	152 - sub	2,410.1	3.382036
		328 43 28.9	148 43 57.2	154 (I.W.C.)	1,715.4	3.234354

International boundary line St. Lawrence River — Main Scheme — *State* New York — *Province* Ontario

STATION	LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
157 (I.W.C.) Canada 1911; r. 1939,1957 d.m.	44 34 35.740 75 41 34.365	219 17 01.5 231 54 55.6 279 53 47.3	39 17 31.4 51 56 11.9 99 54 45.5	155 - sub 153 (IWC Ref Mon 55) 154 (I.W.C.)	1,481.7 3,045.1 1,856.5	3.170765 3.483600 3.268702
156 (I.W.C.) New York 1911; r.1939,1957 = Lack - C.H.S. d.m.	44 33 44.675 75 41 29.592	176 10 39.7 187 04 32.5	356 10 36.3 7 04 44.8	157 (I.W.C.) Brockville Presbyterian Church, spire	1,579.8 3,132.5	3.198590 3.495895
		197 00 23.4 233 53 39.0	17 00 49.9 53 54 33.8	155 - sub 154 (I.W.C.)	2,847.6 2,133.3	3.454483 3.329060
159 (I.W.C.) Canada 1911; r. 1939,1957 d.m.	44 34 02.047 75 42 12.270	218 48 08.3 299 39 02.2	38 48 34.9 119 39 32.2	157 (I.W.C.) 156 (I.W.C.)	1,334.6 1,083.8	3.125355 3.034934
R.M. No. 2 (Taylor-USLS) New York 1939;r.1957 d.m.	44 33 05.273 75 42 23.125	187 47 00.2 201 04 07.9 224 09 56.2	7 47 07.8 21 04 42.1 44 10 33.8	159 (I.W.C.) 157 (I.W.C.) 156 (I.W.C.)	1,768.7 2,992.6 1,695.6	3.247663 3.476050 3.229333
Mollys Gut (U.S.L.S.) Canada 1872;r.1939,1957 d.m.	44 32 51.336 75 44 01.696	227 53 01.3 258 48 22.4	47 54 18.1 78 49 31.6	159 (I.W.C.) R.M. No.2 (Taylor-USLS)	3,255.2 2,217.9	3.512583 3.345948
Birch New York 1939; r. 1957 d.m.	44 31 37.929 75 44 09.248	184 12 27.9 210 07 20.5 220 58 49.9	4 12 33.2 30 08 42.6 41 00 04.4	Mollys Gut (U.S.L.S.) 159 (I.W.C.) R.M. No.2(Taylor-USLS)	2,272.0 5,143.7 3,571.9	3.356411 3.711272 3.552894
163 - Sub Canada 1939;r. 1957 d.m.	44 31 57.487 75 45 26.143	228 16 22.1 289 33 58.2	48 17 21.3 109 34 52.1	Mollys Gut (U.S.L.S.) Birch	2,497.7 1,802.0	3.397541 3.255765
162 - Sub New York 1939; r. 1957 d.m.	44 30 54.935 75 45 20.528	176 19 34.8 205 50 25.5 229 51 37.7	356 19 30.9 25 51 20.8 49 52 27.7	163 - sub Mollys Gut (U.S.L.S.) Birch	1,934.8 3,992.4 2,058.9	3.286635 3.601235 3.313641
165 (I.W.C.) Canada 1911; r. 1940,1957 d.m.	44 30 23.906 75 47 21.946	221 30 35.2 250 20 07.4	41 31 56.4 70 21 32.5	163 - sub 162 - sub	3,858.1 2,847.8	3.586370 3.454506
Peach (U.S.L.S.) New York 1872;r.1940,1957 d.m.	44 29 27.764 75 46 07.285	136 25 15.7 191 07 13.8 200 59 47.9	316 24 23.4 11 07 42.7 21 00 20.7	165 (I.W.C.) 163 - sub 162 - sub	2,392.4 4,710.0 2,882.1	3.378838 3.673021 3.459715
166 (I.W.C.) New York 1911; r. 1940,1957 d.m.	44 28 19.671 75 47 05.322	174 31 47.9 211 23 11.2	354 31 36.3 31 23 51.9	165 (I.W.C.) Peach (U.S.L.S.)	3,852.3 2,462.2	3.585719 3.391329
Sifton (U.S.L.S.) Canada 1925;r.1940,1957 d.m.	44 29 33.390 75 48 24.036	273 16 34.4 322 35 45.9	93 18 10.3 142 36 41.1	Peach (U.S.L.S.) 166 (I.W.C.)	3,026.5 2,864.2	3.480946 3.457005
168 (I.W.C.) New York 1911;r.1940,1957 d.m.	44 28 23.365 75 48 10.695	172 14 03.9 274 30 18.0	352 13 54.5 94 31 03.8	Sifton (U.S.L.S.) 166 (I.W.C.)	2,181.5 1,449.4	3.338754 3.161194

International boundary line St. Lawrence River — Main Scheme — *State* New York — *Province* Ontario

STATION	LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
169 - Sub	44 28 07.190	219 07 53.0	39 09 01.6	Sifton (U.S.L.S.)	3,430.6	3.535366
Canada 1911; r. 1957 d.m.	75 50 02.024	244 21 47.7	64 24 32.2	Peach (U.S.L.S.)	5,753.0	3.759897
		258 31 12.4	78 32 30.4	168 (I.W.C.)	2,510.8	3.399820
Gull (U.S.L.S.)	44 27 31.650	133 42 15.1	313 41 38.7	169 - sub	1,587.9	3.200813
Canada 1925; r.1940,1957 d.m.	75 49 10.092	195 09 07.9	15 09 40.1	Sifton (U.S.L.S.)	3,893.2	3.590303
		219 25 56.9	39 26 38.5	168 (I.W.C.)	2,066.9	3.315313
		241 43 59.9	61 45 27.3	166 (I.W.C.)	3,131.2	3.495705
170 - Sub	44 27 01.230	114 08 27.8	294 07 21.4	Gull (U.S.L.S.)	2,296.7	3.361098
New York 1940; r. 1957 d.m.	75 47 35.292	122 07 42.0	302 05 59.2	169 - sub	3,829.9	3.583182
		162 50 52.1	342 50 27.3	168 (I.W.C.)	2,653.3	3.423783
171 - Sub	44 26 26.733	196 43 45.7	16 44 04.8	Gull (U.S.L.S.)	2,092.4	3.320635
Canada 1940; r. 1957 d.m.	75 49 37.335	208 00 28.1	28 01 28.8	168 (I.W.C.)	4,077.9	3.610437
		248 27 21.0	68 28 46.5	170 - sub	2,901.2	3.462573
172 - Sub	44 25 28.757	148 10 27.0	328 09 51.8	171 - sub	2,106.3	3.323526
New York 1940; r. 1957 d.m.	75 48 47.108	172 22 14.2	352 21 58.1	Gull (U.S.L.S.)	3,827.2	3.582884
		209 05 09.8	29 06 00.1	170 - sub	3,266.5	3.514081
173 (I.W.C.)	44 25 26.407	207 54 27.3	27 54 58.5	171 - sub	2,107.2	3.323709
Canada 1911; r.1940,1957 d.m.	75 50 21.934	268 00 38.2	88 01 44.6	172 - sub	2,098.9	3.321984
Elissa 1940	44 23 49.643	174 00 30.4	354 00 20.5	173 (I.W.C.)	3,003.2	3.477579
New York 1940; r. 1957 d.m.	75 50 07.763	187 54 02.2	7 54 23.5	171 - sub	4,895.3	3.689782
		210 14 53.3	30 15 49.8	172 - sub	3,541.7	3.549214
175 - Sub	44 24 59.318	251 49 01.4	71 50 29.0	172 - sub	2,913.8	3.464456
Canada 1940; r. 1957 d.m.	75 50 52.252	335 23 58.5	155 24 29.6	Elissa 1940	2,365.2	3.373872
177 (I.W.C.)	44 24 09.754	225 42 33.2	45 43 22.8	175 - sub	2,191.1	3.340666
Canada 1911; r.1940,1957 d.m.	75 52 03.146	283 39 09.0	103 40 29.7	Elissa 1940	2,627.8	3.419591
176 (I.W.C.)	44 23 06.348	37 54 16.9	217 53 00.0	178 (I.W.C.)	3,962.1	3.597928
New York 1911; r.1940,1957 d.m.	75 51 48.735	170 44 43.2	350 44 33.1	177 (I.W.C.)	1,982.9	3.297309
		199 42 53.6	19 43 33.1	175 - sub	3,704.2	3.568699
		239 06 43.0	59 07 53.6	Elissa 1940	2,603.9	3.415628
179 (I.W.C.)	44 23 26.534	8 03 56.5	188 03 39.7	178 (I.W.C.)	3,787.2	3.578319
Canada 1911;r.1940,1957 d.m.	75 53 14.653	229 51 45.3	49 52 35.3	177 (I.W.C.)	2,069.8	3.315931
		288 07 54.4	108 08 54.5	176 (I.W.C.)	2,001.2	3.301294
181 (IWC) (Bluff-USLS)	44 22 29.206	43 04 55.2	223 03 11.6	Waterloo	4,804.1	3.681616
Canada 1902;r.1940,1957 d.m.	75 54 46.328	228 54 16.9	48 55 21.0	179 (I.W.C.)	2,692.5	3.430150
		253 43 33.9	73 45 38.1	176 (I.W.C.)	4,095.2	3.612276
		322 52 32.1	142 53 19.4	178 (I.W.C.)	2,483.4	3.395054

INTERNATIONAL BOUNDARY COMMISSION—UNITED STATES, ALASKA, AND CANADA
GEOGRAPHIC POSITIONS—NORTH AMERICAN DATUM 1927

International boundary line St. Lawrence River — Main Scheme — *State* New York — *Province* Ontario

STATION		LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
183 (I.W.C.)		44 20 35.033	176 42 22.0	356 42 22.0	Waterloo	14.431	1.159296
Canada 1911;r.1940,1957	d.m.	75 57 14.429	222 55 44.1	42 57 27.7	181 (IWC). (Bluff-USLS)	4,814.1	3.682516
			252 04 40.1	72 07 11.0	178 (I.W.C.)	5,022.4	3.700914
180 (I.W.C.)		44 19 38.932	124 39 43.1	304 38 24.0	183 (I.W.C.)	3,045.6	3.483668
New York 1911	n.d.	75 55 21.341	214 46 14.7	34 47 26.5	178 (I.W.C.)	3,987.9	3.600743
182 (I.W.C.)		44 19 33.518	227 10 21.4	47 11 26.0	183 (I.W.C.)	2,793.6	3.446163
New York 1911	n.d.	75 58 46.921	267 52 44.8	87 55 08.5	180 (I.W.C.)	4,558.2	3.658794
184 (I.W.C.)		44 20 07.240	253 08 55.3	73 10 24.7	183 (I.W.C.)	2,961.4	3.471491
New York 1911	n.d.	75 59 22.376	322 57 20.9	142 57 45.7	182 (I.W.C.)	1,304.0	3.115289
185 (I.W.C.)		44 22 16.341	294 57 40.4	115 01 12.2	183 (I.W.C.)	7,401.7	3.869330
Canada 1911	n.d.	76 02 17.359	315 46 49.5	135 48 51.9	184 (I.W.C.)	5,558.6	3.744965
187 (I.W.C.)		44 21 36.079	232 23 40.9	52 24 31.8	185 (I.W.C.)	2,036.8	3.308959
Canada 1911	n.d.	76 03 30.240	296 30 59.1	116 33 52.4	184 (I.W.C.)	6,136.8	3.787943
186 (I.W.C.)		44 19 47.123	143 48 17.6	323 46 59.9	187 (I.W.C.)	4,167.9	3.619914
New York 1911	n.d.	76 01 39.096	169 34 41.2	349 34 14.4	185 (I.W.C.)	4,683.1	3.670532
188 (I.W.C.)		44 18 27.834	194 39 53.4	14 40 41.3	187 (I.W.C.)	6,006.2	3.778601
New York 1911; r. 1940	d.m.	76 04 38.904	238 25 28.4	58 27 34.0	186 (I.W.C.)	4,676.2	3.669892
189 (I.W.C.)		44 19 42.620	226 04 04.2	46 05 58.9	187 (I.W.C.)	5,049.1	3.703210
Canada 1911	n.d.	76 06 14.437	317 27 54.2	137 29 01.0	188 (I.W.C.)	3,132.2	3.495843
191 (I.W.C.)		44 18 53.124	236 34 19.7	56 35 32.6	189 (I.W.C.)	2,774.0	3.443100
Canada 1911	n.d.	76 07 58.923	279 58 01.0	100 00 20.7	188 (I.W.C.)	4,501.3	3.653338
190 (I.W.C.)		44 17 21.760	154 09 45.2	334 09 02.2	191 (I.W.C.)	3,133.4	3.496013
New York 1911	n.d.	76 06 57.305	236 22 25.5	56 24 02.2	188 (I.W.C.)	3,684.1	3.566329
192 (I.W.C.)		44 16 15.986	196 45 43.4	16 46 29.4	191 (I.W.C.)	5,065.6	3.704628
New York 1911	n.d.	76 09 04.842	234 18 54.5	54 20 23.5	190 (I.W.C.)	3,481.4	3.541751
193 (I.W.C.)		44 17 39.730	239 29 32.0	59 31 33.2	191 (I.W.C.)	4,464.6	3.649783
Canada 1911	n.d.	76 10 52.487	317 16 08.5	137 17 23.7	192 (I.W.C.)	3,518.3	3.546338
195 (I.W.C.)		44 16 55.972	242 01 47.3	62 03 07.4	193 (I.W.C.)	2,880.8	3.459510
Canada 1911	n.d.	76 12 47.251	284 01 38.0	104 04 13.3	192 (I.W.C.)	5,084.3	3.706230
196 (I.W.C.)		44 14 47.695	130 24 08.4	310 21 41.9	195 (I.W.C.)	6,111.2	3.786129
New York 1911;r.1940,1957	d.m.	76 09 17.378	158 20 37.3	338 19 30.9	193 (I.W.C.)	5,713.6	3.756911
Ref. Mon. 81		44 14 35.972	269 34 52.28	89 39 36.26	Forr Farm 1914(USLS)	9.031.3	3.9557514
Canada 1911;r.1933,1957	d.m.	76 10 07.798	344 09 44.42	164 10 26.73	Hogsback (U.S.L.S.)	4,935.8	3.6933539

International boundary line St. Lawrence River — Main Scheme — *State* New York — *Province* Ontario

STATION		LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
Finis (I.W.C.)		44 14 07.772	147 00 53.3	327 00 35.5	Ref. Mon. 81	1,037.7	3.016068
New York 1911	n.d.	76 09 42.337	204 11 57.3	24 12 14.8	196 (I.W.C.)	1,351.0	3.130647
197 (I.W.C.)		44 14 19.634	154 34 28.0	334 33 15.8	195 (I.W.C.)	5,343.4	3.727817
Canada 1912	n.d.	76 11 03.792	247 54 16.4	67 54 55.4	Ref. Mon. 81	1,340.9	3.127408
			249 50 47.3	69 52 01.6	196 (I.W.C.)	2,515.1	3.400549
			281 26 32.8	101 27 29.6	Finis (I.W.C.)	1,844.3	3.265830
198 (I.W.C.)		44 13 07.422	140 15 05.1	320 14 06.8	197 (I.W.C.)	2,899.3	3.462289
New York 1912	n.d.	76 09 40.250	189 18 41.7	9 18 57.7	196 (I.W.C.)	3,136.3	3.496420
199 (I.W.C.)		44 13 37.684	240 10 34.8	60 12 33.4	196 (I.W.C.)	4,347.2	3.638211
Canada 1912	n.d.	76 12 07.359	285 56 56.3	105 58 38.9	198 (I.W.C.)	3,396.3	3.531003
200 (I.W.C.)		44 12 13.890	189 52 00.7	9 52 14.8	199 (I.W.C.)	2,625.2	3.419161
New York 1912	n.d.	76 12 27.627	246 00 40.7	66 02 37.4	198 (I.W.C.)	4,066.7	3.609244
201 (I.W.C.)		44 12 58.643	229 42 40.1	49 43 24.7	199 (I.W.C.)	1,863.7	3.270383
Canada 1912	n.d.	76 13 11.412	324 51 39.7	144 52 10.2	200 (I.W.C.)	1,689.1	3.227652
203 (I.W.C.)		44 12 35.369	238 08 49.3	58 09 25.6	201 (I.W.C.)	1,361.4	3.133985
Canada 1912	n.d.	76 14 03.503	287 17 23.1	107 18 29.9	200 (I.W.C.)	2,229.5	3.348215
202 (I.W.C.)		44 11 13.762	164 58 51.6	344 58 30.4	203 (I.W.C.)	2,608.0	3.416302
New York 1912;r.1940,1957	d.m.	76 13 33.062	218 03 13.7	38 03 59.3	200 (I.W.C.)	2,357.1	3.372372
205 (I.W.C.)		44 12 19.633	257 48 41.6	77 49 52.3	203 (I.W.C.)	2,302.3	3.362163
Canada 1912	n.d.	76 15 44.866	304 46 21.7	124 47 53.6	202 (I.W.C.)	3,563.8	3.551910
204 (I.W.C.)		44 11 04.936	193 49 58.5	13 50 16.3	205 (I.W.C.)	2,374.4	3.375559
New York 1912;r.1940,1957	d.m.	76 16 10.435	265 31 43.7	85 33 33.4	202 (I.W.C.)	3,505.9	3.544801
205 - Sub		44 12 19.618	13 51 04.1	193 50 46.3	204 (I.W.C.)	2,374.1	3.375496
Canada, 1940;r. 1957	d.m.	76 15 44.846	304 46 14.5	124 47 46.4	202 (I.W.C.)	3,563.1	3.551833
206 - Sub		44 11 23.573	228 25 20.6	48 26 21.8	205 - Sub	2,607.1	3.416153
New York 1940; r. 1957	d.m.	76 17 12.683	292 35 04.7	112 35 48.1	204 (I.W.C.)	1,497.4	3.175338
207 (IWC Ref Mon 85)		44 12 20.614	270 52 58.8	90 54 00.8	205 - Sub	1,975.1	3.295579
Canada 1912; r. 1957	d.m.	76 17 13.790	328 55 56.3	148 56 40.5	204 (I.W.C.)	2,726.8	3.435651
			359 11 59.6	179 12 00.4	206 - Sub	1,760.8	3.245699
209 (IWC Ref. Mon. 86)		44 12 08.438	258 22 19.6	78 23 16.9	207 (IWC Ref Mon 85)	1,865.7	3.270850
Canada 1912; r. 1957	d.m.	76 18 36.097	306 46 24.7	126 47 22.8	206 - Sub	2,312.7	3.364126
211 - Sub		44 11 23.023	224 35 17.8	44 36 01.2	209 (IWC Ref Mon 86)	1,968.5	3.294133
Canada 1940	d.	76 19 38.332	241 00 29.1	61 02 09.8	207 (IWC Ref Mon 85)	3,669.0	3.564552
			269 41 07.3	89 42 48.8	206 - Sub	3,234.8	3.509841

International boundary line St. Lawrence River — Main Scheme — *State* New York — *Province* Ontario

STATION	LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
208 (I.W.C.)	44 10 48.025	129 21 54.4	309 21 13.1	211 - Sub	1,703.3	3.231299
New York 1912;r.1940,1957 d.m.	76 18 39.038	181 30 25.7	1 30 27.8	209 (IWC Ref Mon 86)	2,482.8	3.394947
210 - Sub	44 10 10.046	151 01 48.8	331 01 09.7	211 - Sub	2,574.7	3.410731
New York 1940; r. 1957 d.m.	76 18 42.181	183 24 31.7	3 24 33.9	208 (I.W.C.)	1,174.3	3.069781
215 - Sub	44 09 39.988	219 26 08.7	39 27 30.8	211 - Sub	4,118.3	3.614718
Canada 1940 d.m.	76 21 36.122	227 10 04.1	47 10 05.4	Rainy (U.S.L.S.)	56.630	1.753047
		241 53 25.3	61 55 28.7	208 (I.W.C.)	4,459.5	3.649290
		256 29 03.0	76 31 04.2	210 - Sub	3,974.5	3.599278
		312 02 56.1	132 04 49.4	Cape Vincent WB(USLS)	4,869.4	3.687476
212 - Sub	44 08 28.055	54 03 27.2	234 02 42.2	Cape Vincent WB(USLS)	1,775.2	3.249239
New York 1940; r. 1957 d.m.	76 17 48.822	113 44 55.0	293 42 16.7	215 - Sub	5,517.8	3.741767
		155 45 24.7	335 44 08.5	211 - Sub	5,923.2	3.772559
		159 21 54.2	339 21 17.1	210 - Sub	3,363.9	3.526842
		216 34 27.1	36 34 31.7	Ellis (U.S.L.S.)	245.6	2.390295
		346 05 10.8	166 05 21.9	Cape Vincent EB(USLS)	1,468.7	3.166927
218 - Sub	44 07 25.727	166 40 16.0	346 39 45.2	215 - Sub	4,258.7	3.629282
New York 1940; r. 1957 d.m.	76 20 51.936	209 36 37.5	29 38 07.9	210 - Sub	5,834.3	3.765986
217 (I.W.C.)	44 07 34.524	209 55 27.7	29 56 37.5	215 - Sub	4,468.6	3.650167
Canada 1912; r. 1940 d.m.	76 23 16.446	274 48 58.4	94 50 39.0	218 - Sub	3,224.4	3.508447
221 - Sub	44 07 27.093	174 08 35.1	354 08 34.4	217 (I.W.C.)	230.6	2.362803
Canada 1940; r. 1957 d.m.	76 23 15.388	270 44 34.5	90 46 14.4	218 - Sub	3,189.7	3.503755
219 (I.W.C.)	44 08 09.267	63 08 21.5	243 07 01.0	221 - Sub	2,879.9	3.459370
Canada 1912;r.1940,1957 d.m.	76 21 19.836	262 55 53.0	82 58 19.9	212 - Sub	4,726.2	3.674511
		278 04 15.2	98 05 57.1	Cape Vincent WB(USLS)	3,286.4	3.516717
		335 13 15.7	155 13 35.1	218 - Sub	1,480.1	3.170277
Tibbets Point lighthouse(USLS) (222 (IWC))	44 06 02.237	152 20 15.3	332 19 30.3	Wolf (U.S.L.S.)	3,095.7	3.490757
New York 1872;r.1912,1940;d. r. 1963	76 22 14.204	152 33 14.3	332 32 31.7	221 - Sub	2,951.4	3.470029
		197 07 52.5	17 08 30.4	219 (I.W.C.)	4,102.9	3.613091
		219 54 43.1	39 55 55.4	Vincent (U.S.L.S.)	3,599.8	3.556280
223 (I.W.C.)	44 05 44.815	232 09 05.9	52 11 18.1	Wolf (U.S.L.S.)	5,346.9	3.728106
Canada 1912;r.1940,1957 d.m.	76 26 28.750	233 41 54.9	53 44 09.5	221 - Sub	5,334.5	3.727091
		264 33 01.3	84 35 58.5	Tibbets Point LH	5,687.4	3.754915

International boundary line St. Lawrence River Marked Stations *State* New York *Province* Ontario

STATION		LATITUDE AND LONGITUDE			AZIMUTH			BACK AZIMUTH			TO STATION	DISTANCE (METERS)	LOGARITHM
		°	′	″	°	′	″	°	′	″			
Charles R.M. 1		45	00	29.937	7	26	30.7	187	26	30.7	Charles	10.781	1.032651
New York 1959	d.m.	74	50	37.990									
Charles R.M. 2		45	00	29.595	87	51	30.8	267	51	30.7	Charles	3.621	0.558832
New York 1959	d.m.	74	50	37.889									
Ingle		44	59	21.067	41	04	53.3	221	04	28.2	Ref. Mon. 21	1,185.9	3.074034
Ontario 1958	d.m.	74	57	46.636	59	59	39.6	239	57	59.4	Morrison	3,587.6	3.554799
					120	48	21.2	300	47	08.8	Ingleside *N.T.*	2,611.7	3.416930
					257	58	33.7	77	59	38.9	Picnic	2,065.3	3.314985
					299	33	31.7	119	34	47.6	35-sub - U.S.L.S.	2,701.3	3.431580
Isle R.M.		44	57	57.045	53	39	01.5	233	38	54.7	Isle	261.6	2.417578
New York 1959	d.m.	74	59	42.636	163	22	33.7	343	22	31.7	Far	219.2	2.340926
Far R.M.		44	58	00.871	0	11	05.7	180	11	05.7	Isle R.M.	118.1	2.072298
New York 1959	d.m.	74	59	42.618	37	41	31.2	217	41	24.4	Isle	345.2	2.538046
					145	32	36.4	325	32	34.4	Far	111.5	2.047411
Law R.M.		44	54	40.688	207	22	30.6	27	22	31.5	Ref. Mon. 31	58.6	1.767557
New York 1959	d.m.	75	06	13.761	336	09	53.1	156	09	54.3	Law	93.4	1.970431
Yard R.M.		44	51	21.001	196	22	09.0	16	22	10.0	Pine Tree-U.S.L.S.	118.3	2.072857
Ontario 1959	d.m.	75	16	49.279	303	11	25.7	123	11	26.5	Yard	29.511	1.469981
Iroquois-U.S.L.S. Tablet		44	50	05.566	277	50	28.4	97	50	28.6	Ref. Mon. 43	5.998	0.778041
New York 1959	d.m.	75	17	59.542									
McLeod ecc. (Hydro)		44	57	04.238	271	40	45.6	91	40	45.7	McLeod - U.S.L.S.	1.582	0.199183
New York 1959	d.m.	74	59	35.780									
Muff - C.H.S.		44	55	00.198	39	07	13.6	219	06	32.3	Doran	2,037.0	3.308983
Ontario 1959	d.m.	75	08	16.704	184	15	35.3	4	15	35.9	East	249.9	2.397764
					273	15	32.0	93	17	16.5	78 - sub	3,250.3	3.511928
Brooks Point-U.S.L.S.		44	36	54.300	54	27	50.9	234	26	29.8	150-I.W.C (Morristown Point-U.S.L.S.)	3,129.0	3.495402
New York 1873;r.1939	d.m.	75	36	37.578	217	57	03.2	37	57	04.2	148 - sub	49.433	1.694013
K-U.S.L.S.		44	37	20.836	19	43	19.9	199	42	49.8	150-I.W.C (Morristown Point-U.S.L.S.)	2,802.5	3.447548
Ontario 1873; r. 1939	d.m.	75	37	50.146	45	59	57.7	225	59	03.5	151 - I.W.C.	2,365.2	3.373871
					250	48	48.3	70	48	53.0	149 - sub	154.8	2.189855
					295	33	49.9	115	34	41.9	148 - sub	1,807.3	3.257042
					297	06	11.5	117	07	02.5	Brooks Point-U.S.L.S.	1,797.4	3.254646

INTERNATIONAL BOUNDARY COMMISSION—UNITED STATES, ALASKA, AND CANADA

GEOGRAPHIC POSITIONS—NORTH AMERICAN DATUM 1927

International boundary line St. Lawrence River — Marked Stations — *State* New York — *Province* Ontario

STATION		LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
Eaton - U.S.L.S.		44 36 32.569	258 53 42.5	78 55 31.4	Brooks Point-U.S.L.S.	3,487.4	3.542503
Ontario 1873; r. 1939	d.m.	75 39 12.786	322 37 57.4	142 38 25.3	150-IWC (Morristown Point-U.S.L.S.)	1,444.8	3.159800
			354 49 38.6	174 49 44.4	152 - sub	2,008.5	3.302874
Taylor - U.S.L.S.		44 33 05.068	186 32 45.6	6 32 45.6	R.M. No.2 (Taylor-USLS)	6.369	0.804058
New York 1872; r. 1939	d.m.	75 42 23.158					
Chapman - U.S.L.S.		44 33 32.234	44 30 47.0	224 30 21.0	R.M. No.2(Taylor-USLS)	1,167.0	3.067053
New York 1902; r. 1939	d.m.	75 41 46.060	147 51 07.1	327 50 48.7	159 - I.W.C.	1,086.9	3.036197
Moulson - U.S.L.S.		44 33 42.185	215 22 01.5	35 22 15.3	159 - I.W.C.	751.9	2.876136
Ontario 1872; r. 1939	d.m.	75 42 31.991	286 51 09.7	106 51 41.9	Chapman - U.S.L.S.	1,059.2	3.024968
			350 15 12.9	170 15 19.1	R.M. No.2(Taylor-USLS)	1,156.0	3.062966
McDonald - U.S.L.S.		44 33 21.770	54 38 13.0	234 37 30.9	Mollys Gut - U.S.L.S.	1,622.9	3.210297
		75 43 01.740	226 10 24.4	46 10 45.3	Moulson - U.S.L.S.	910.0	2.959047
Ontario 1872; r. 1939	d.m.		259 02 54.2	79 03 47.3	Chapman - U.S.L.S.	1,701.2	3.230760
			300 51 09.6	120 51 36.7	R.M. No.2(Taylor-USLS)	992.8	2.996875
Halls Dock - U.S.L.S.		44 32 46.583	94 58 54.8	274 58 01.2	Mollys Gut - U.S.L.S.	1,692.0	3.228400
New York 1872; r. 1939	d.m.	75 42 45.335	161 33 51.1	341 33 39.6	McDonald - U.S.L.S.	1,144.9	3.058764
			220 21 21.4	40 21 37.0	R.M. No.2(Taylor-USLS)	757.1	2.879149
164 - I.W.C.		44 29 27.217	31 14 15.1	211 13 35.0	166 - I.W.C.	2,438.3	3.387088
New York 1911; r. 1940	d.m.	75 46 08.113	137 01 01.0	317 00 09.3	165 - I.W.C.	2,392.2	3.378794
			201 12 50.1	21 13 23.5	162 - sub	2,904.5	3.463068
			227 16 51.4	47 16 52.0	Peach - U.S.L.S.	24.890	1.396025
Whaleback - U.S.L.S.		44 30 20.485	7 30 51.4	187 30 44.6	Peach - U.S.L.S.	1,641.4	3.215220
New York 1925; r. 1940	d.m.	75 45 57.570	65 49 21.2	245 47 38.5	Sifton - U.S.L.S.	3,547.3	3.549901
			93 15 02.5	273 14 03.4	165 - I.W.C.	1,866.8	3.271104
			217 34 23.6	37 34 49.6	162 - sub	1,341.7	3.127659
Oak Point - U.S.L.S.		44 30 56.804	23 47 43.0	203 47 04.5	Peach - U.S.L.S.	3,003.6	3.477641
New York 1872; r. 1940	d.m.	75 45 12.440	41 38 55.6	221 38 23.9	Whaleback - U.S.L.S.	1,500.2	3.176139
			72 06 11.0	252 06 05.3	162 - sub	187.7	2.273540
			170 49 27.6	350 49 18.0	163 - sub	1,897.4	3.278162
			203 49 50.9	23 50 40.5	Mollys Gut - U.S.L.S.	3,865.0	3.587150
162 - I.W.C.		44 30 54.937	21 00 43.3	201 00 10.5	Peach - U.S.L.S.	2,882.3	3.459741
New York 1911; r. 1940	d.m.	75 45 20.512	70 21 37.9	250 20 12.8	165 - I.W.C.	2,848.1	3.454560
			82 18 34.8	262 18 34.8	162 - sub	0.360	9.555940
Ingall - U.S.L.S.		44 28 58.358	161 53 44.4	341 53 33.1	Sifton - U.S.L.S.	1,137.7	3.056024
Ontario 1925; r. 1940	d.m.	75 48 08.035	201 05 02.2	21 05 34.5	165 - I.W.C.	2,830.2	3.451810
			251 12 03.0	71 13 27.6	Peach - U.S.L.S.	2,818.4	3.450002
			310 44 26.4	130 45 10.3	166 - I.W.C.	1,829.5	3.262327

International boundary line St. Lawrence River — Marked Stations — *State* New York — *Province* Ontario

STATION		LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
Blind Bay - U.S.L.S. New York 1925; r. 1940	d.m.	44 28 37.222 75 46 45.572	109 42 14.2 166 17 16.8 208 28 06.2	289 41 16.4 346 16 51.3 28 28 33.0	Ingall - U.S.L.S. 165 - I.W.C. Peach - U.S.L.S.	1,935.7 3,389.6 1,774.7	3.286832 3.530154 3.249130
Chippewa - U.S.L.S. New York 1872; r. 1940	d.m.	44 28 07.476 75 47 16.644	89 52 38.6 144 07 48.3 150 41 14.3 211 43 50.0 216 47 34.2	269 50 42.8 324 07 12.4 330 40 27.1 31 44 38.7 36 47 56.1	169 - sub Ingall - U.S.L.S. Sifton - U.S.L.S. Peach - U.S.L.S. Blind Bay - U.S.L.S.	3,655.6 1,938.2 3,041.5 2,913.9 1,146.6	3.562955 3.287401 3.483085 3.464481 3.059405
Griswold - U.S.L.S. Ontario 1925; r. 1940	d.m.	44 27 57.219 75 49 14.674	106 23 30.8 200 39 02.8 240 16 50.8 263 04 07.1 352 41 12.8	286 22 57.6 20 39 38.2 60 17 35.6 83 05 29.7 172 41 16.0	169 - sub Sifton - U.S.L.S. 168 - I.W.C. Chippewa - U.S.L.S. Gull - U.S.L.S.	1,091.0 3,172.5 1,628.2 2,628.1 795.7	3.037812 3.501396 3.211718 3.419648 2.900743
Lyons - U.S.L.S. New York 1902; r. 1940	d.m.	44 25 02.715 75 49 01.627	112 22 54.6 163 03 54.8 177 40 08.3 201 46 46.4	292 21 58.4 343 03 29.8 357 40 02.4 21 46 56.6	173 - I.W.C. 171 - sub Gull - U.S.L.S. 172 - sub	1,921.2 2,711.0 4,601.0 865.6	3.283566 3.433127 3.662848 2.937325
Point - U.S.L.S. Ontario 1931; r .1940	d.m.	44 25 31.887 75 50 21.256	209 50 36.0 272 38 50.1	29 51 06.7 92 39 56.0	171 - sub 172 - sub	1,951.8 2,084.6	3.290444 3.319073
174 - I.W.C. New York 1911; r. 1940	d.m.	44 23 50.606 75 50 05.806	55 32 31.8 173 07 13.4	235 32 30.4 353 07 02.1	Elissa 1940 173 - I.W.C.	52.535 2,978.5	1.720449 3.473995
Sport - I.W.C. New York 1911; r. 1940	d.m.	44 22 37.406 75 53 48.126	78 53 34.4 206 02 19.0	258 52 53.7 26 02 42.4	181-IWC (Bluff-USLS) 179 - I.W.C.	1,313.2 1,687.7	3.118318 3.227302
Grenadier - Sub Ontario 1940	d.m.	44 22 58.209 75 54 19.170	33 53 17.0 313 03 10.9	213 52 58.0 133 03 32.6	181-IWC (Bluff-USLS) Sport - I.W.C.	1,078.4 940.5	3.032768 2.973374
Whiskey - I.W.C. New York 1911; r. 1940	d.m.	44 22 56.301 75 53 03.352	59 31 59.0 92 01 04.8 164 59 40.6	239 31 27.7 272 00 11.8 344 59 32.7	Sport - I.W.C. Grenadier - sub 179 - I.W.C.	1,150.0 1,679.4 966.1	3.060713 3.225152 2.985037
Whiskey - U.S.L.S. New York 1933; r. 1940	d.m.	44 22 55.496 75 53 02.208	134 26 20.6 258 21 19.2	314 26 19.8 78 22 10.6	Whiskey - I.W.C. 176 - I.W.C.	35.476 1,660.5	1.549932 3.220246
Yeo - Sub Ontario 1940	d.m.	44 22 31.914 75 54 48.662	218 48 39.7 230 58 43.7 262 47 05.9	38 49 00.3 50 59 49.4 82 47 48.2	Grenadier - Sub 179 - I.W.C. Sport - I.W.C.	1,041.7 2,678.2 1,350.9	3.017722 3.427848 3.130619
Little - I.W.C. Ontario 1911; r. 1940	d.m.	44 22 46.641 75 55 18.538	254 47 38.9 278 05 46.4 304 29 49.2	74 48 20.4 98 06 49.6 124 30 10.1	Grenadier - sub Sport - I.W.C. Yeo - sub	1,361.9 2,021.7 802.5	3.134139 3.305727 2.904471

International boundary line St. Lawrence River — Marked Stations — *State* New York — *Province* Ontario

STATION		LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
Club - I.W.C. Ontario 1911; r. 1940	d.m.	44 22 18.664 75 55 56.610	224 18 07.6 254 47 02.7	44 18 34.2 74 47 50.2	Little - I.W.C. Yeo - sub	1,206.7 1,559.0	3.081605 3.192834
Mary - I.W.C. New York 1911; r. 1940	d.m.	44 21 53.189 75 55 24.683	138 02 45.4 184 42 48.6	318 02 23.1 4 42 52.9	Club - I.W.C. Little - I.W.C.	1,057.4 1,655.4	3.024222 3.218916
Pole - Sub Ontario 1940	d.m.	44 21 46.340 75 55 56.596	179 58 54.6 253 20 31.3	359 58 54.6 73 20 53.6	Club - I.W.C. Mary - I.W.C.	997.7 737.6	2.999000 2.867823
Park - I.W.C. New York 1911; r. 1940	d.m.	44 21 24.331 75 55 57.963	182 33 08.0 219 36 01.4	2 33 09.0 39 36 24.7	Pole - sub Mary - I.W.C.	680.0 1,156.1	2.832517 3.062993
Point - sub Ontario 1940	d.	44 21 26.577 75 56 10.769	256 11 55.0 283 44 28.1	76 12 15.2 103 44 37.0	Ref. Mon. 65 Park - I.W.C.	660.6 291.9	2.819924 2.465287
Laundry - I.W.C. New York 1911; r. 1940	d.m.	44 21 21.499 75 56 09.722	171 35 14.1 251 26 51.6	351 35 13.4 71 26 59.8	Point - sub Park - I.W.C.	158.4 274.7	2.199875 2.438815
Mon - I.W.C.		44 21 22.979	33 15 48.8	213 15 32.1	Wells Island, standpipe	966.5	2.985187
Ontario 1911; r. 1940	d.m.	75 56 23.076	247 49 49.8 278 46 51.1	67 49 58.4 98 47 00.4	Point - sub Laundry - I.W.C.	294.3 299.2	2.468802 2.476027
Sand - Sub		44 21 13.511	49 59 33.6	229 59 14.2	Wells Island, standpipe	802.4	2.904398
New York 1940	d.m.	75 56 19.260	163 52 18.5 204 59 51.3	343 52 15.8 24 59 57.2	Mon - I.W.C. Point - sub	304.2 445.0	2.483193 2.648347
Hunt Ontario 1940	d.m.	44 21 01.713 75 56 53.688	225 55 22.5 315 43 39.0	45 55 43.9 135 43 43.7	Mon - I.W.C. Wells Island, standpipe	943.7 211.9	2.974822 2.326140
Chris Ontario 1940	d.m.	44 20 58.753 75 56 58.498	229 22 56.3 283 20 39.1	49 22 59.7 103 20 47.2	Hunt Wells Island, standpipe	140.3 261.5	2.147206 2.417507
Craft Ontario 1940	d.m.	44 20 56.456 75 57 05.424	17 12 25.1 245 11 57.2 268 31 13.1	197 12 18.8 65 12 02.0 88 31 26.0	Waterloo - U.S.L.S. Chris Wells Island, standpipe	677.1 169.0 408.0	2.830677 2.227885 2.610672
Hill - U.S.L.S. Ontario 1902;r.1911,1933	d.m.	44 21 21.536 75 57 29.916	240 00 56.1 318 01 18.1 346 27 30.1 346 33 28.8	60 02 50.5 138 02 48.0 166 27 40.9 166 33 39.6	181-IWC (Bluff-USLS) 180 - I.W.C. Waterloo - U.S.L.S. 183 - I.W.C.	4,181.4 4,259.3 1,461.6 1,475.8	3.621317 3.629343 3.164826 3.169026
Island - I.W.C. New York 1911	n.d.	44 20 42.178 75 57 39.482	35 11 23.7 291 40 13.7	215 10 36.6 111 40 31.2	182 - I.W.C. 183 - I.W.C.	2,593.0 597.2	3.413800 2.776095

International boundary line St. Lawrence River. Marked Stations *State* New York *Province* Ontario

STATION		LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
Tank - I.W.C. New York 1911	n.d.	44 20 57.004 75 56 46.947	41 54 55.5 68 32 16.1 128 30 45.7	221 54 36.3 248 31 39.4 308 30 15.7	183 - I.W.C. Island - I.W.C. Hill - U.S.L.S.	911.3 1,250.4 1,216.2	2.959654 3.097046 3.084998
Rock - I.W.C. New York 1911; r. 1940	d.m.	44 20 16.040 75 58 24.170	230 48 59.2 248 44 15.9 249 12 49.6	50 49 30.4 68 45 04.6 69 13 38.3	Island - I.W.C. Waterloo - U.S.L.S. 185 - I.W.C.	1,277.0 1,656.8 1,652.4	3.106204 3.219271 3.218118
Lower - I.W.C. New York 1911	n.d.	44 20 29.114 75 58 13.782	29 41 45.4 242 02 27.3 262 04 59.8	209 41 38.2 62 02 51.3 82 05 41.3	Rock - I.W.C. Island - I.W.C. 183 - I.W.C.	464.5 860.2 1,327.4	2.667023 2.934578 3.123001
Isles Ontario 1940	d.m.	44 20 50.104 75 57 34.773	46 08 54.1 253 12 45.9 315 03 33.1	226 08 19.6 73 13 06.4 135 03 47.3	Rock - I.W.C. Craft Waterloo - U.S.L.S.	1,517.5 679.0 636.8	3.181124 2.831869 2.803996
Marsh - I.W.C. Ontario 1911; r. 1940	d.m.	44 21 25.332 75 56 30.368	22 42 30.3 294 12 55.8 326 00 37.9	202 42 18.7 114 13 00.9 146 00 45.7	Wells Island, standpipe Mon - I.W.C. Sand - sub	954.8 177.1 440.1	2.979901 2.248161 2.643520
Nims New York 1940	d.m.	44 20 57.993 75 56 55.706	77 34 20.9 110 46 10.7 201 16 21.7	257 34 14.1 290 46 08.7 21 16 23.1	Craft Chris Hunt	220.4 66.1 123.2	2.343236 1.820399 2.090654
Lower - Sub New York 1940	d.m.	44 20 29.286 75 58 13.475	30 05 40.2 246 04 51.0 261 38 46.6	210 05 32.7 66 05 51.4 81 39 27.8	Rock - I.W.C. Wells Island, standpipe Waterloo - U.S.L.S.	472.5 2,095.1 1,321.1	2.674422 3.321200 3.120945
QQ - I.W.C. New York 1912; r. 1940	d.m.	44 20 25.849 75 58 26.927	250 24 14.3 348 35 47.0	70 24 23.7 168 35 48.9	Lower - sub Rock - I.W.C.	316.3 308.9	2.500103 2.489748
Shack - I.W.C. New York 1911; r. 1940	d.m.	44 20 25.763 75 58 26.979	203 34 20	23 34 20	QQ - I.W.C.	2.886	0.460296
Upper - Sub New York 1940	d.m.	44 20 29.912 75 58 19.296	14 09 20.9 53 25 46.2	194 09 17.5 233 25 40.9	Rock - I.W.C. QQ - I.W.C.	441.6 210.5	2.645005 2.323231
PP - Sub New York 1940	d.m.	44 20 43.549 75 58 31.467	316 43 50.1 349 34 08.7	136 43 57.5 169 34 11.9	Ref. Mon. 68 QQ - I.W.C.	341.8 555.5	2.533795 2.744697
CC - Sub Ontario 1940	d.m.	44 20 48.754 75 58 30.353	8 43 48.5 332 53 42.5	188 43 47.7 152 53 49.1	PP - sub Ref. Mon. 68	162.5 460.1	2.210962 2.662831
DD - Sub Ontario 1940	d.m.	44 20 39.944 75 58 21.480	15 29 56.7 116 42 06.9 144 08 32.7	195 29 52.9 296 41 59.9 324 08 26.5	QQ - I.W.C. PP - sub CC - sub	451.5 247.6 335.5	2.654651 2.393774 2.525704
OO - Sub New York 1940	d.m.	44 20 45.629 75 58 37.440	238 25 42.2 295 53 05.5	58 25 47.2 115 53 09.7	CC - sub PP - sub	184.2 147.1	2.265375 2.167476

International boundary line St. Lawrence River — Marked Stations — *State* New York — *Province* Ontario

STATION		LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
		° ′ ″	° ′ ″	° ′ ″			
BB - Sub		44 20 50.846	284 09 42.8	104 09 50.9	CC - sub	263.9	2.421465
Ontario 1940	d.m.	75 58 41.906	328 26 08.3	148 26 11.4	OO - sub	189.0	2.276446
NN - I.W.C.		44 20 48.217	235 28 19.1	55 28 22.8	BB - sub	143.2	2.155839
Ontario 1912; r. 1940	d.m.	75 58 47.231	290 13 12.4	110 13 19.2	OO - sub	231.1	2.363843
Z - Sub		44 20 44.627	166 53 45.5	346 53 44.7	NN - I.W.C.	113.8	2.056042
New York 1940	d.m.	75 58 46.066	205 38 38.6	25 38 41.5	BB - sub	212.9	2.328241
AA - Sub		44 20 51.335	272 37 30.9	92 37 41.3	BB - sub	329.3	2.517531
Ontario 1940	d.m.	75 58 56.755	311 10 07.6	131 10 15.1	Z - sub	314.5	2.497649
Y - Sub		44 20 47.845	212 26 28.4	32 26 30.6	AA - sub	127.6	2.105973
New York 1940	n.d.	75 58 59.846	288 01 29.4	108 01 39.1	Z - sub	321.0	2.506487
X - Sub		44 20 48.088	246 25 43.6	66 25 48.9	Ref. Mon. 71	183.9	2.264489
New York 1940	d.m.	75 59 10.239	271 51 48.3	91 51 55.5	Y - sub	230.3	2.362354
L - Sub		44 20 50.050	12 05 19.6	192 05 19.2	X - sub	61.9	1.791944
Ontario 1940	d.m.	75 59 09.654	265 14 13.0	85 14 17.9	Ref. Mon. 71	156.1	2.193370
M - Sub		44 20 48.564	239 28 19.2	59 28 21.7	L - sub	90.3	1.955658
New York 1940	d.m.	75 59 13.165	282 46 39.7	102 46 41.8	X - sub	66.5	1.822512
K - Sub		44 20 50.372	275 14 21.7	95 14 25.1	L - sub	108.8	2.036452
Ontario 1940	d.m.	75 59 14.543	331 19 07.6	151 19 08.5	M - sub	63.6	1.803462
V - Sub		44 20 49.194	246 42 46.8	66 42 49.5	K - sub	92.0	1.963641
New York 1940	d.m.	75 59 18.357	279 35 37.3	99 35 40.9	M - sub	116.6	2.066821
J - Sub		44 20 50.053	263 32 31.7	83 32 34.5	K - sub	87.5	1.941914
Ontario 1940	d.m.	75 59 18.468	354 43 24.2	174 43 24.3	V - sub	26.6	1.425411
I - Sub		44 20 49.944	264 10 19.0	84 10 20.0	J - sub	33.3	1.522283
Ontario 1940	d.m.	75 59 19.963	303 02 57.1	123 02 58.2	V - sub	42.4	1.627673
U - Sub		44 20 49.163	241 35 28.8	61 35 30.2	I - sub	50.7	1.704776
New York 1940	d.m.	75 59 21.975	269 18 26.7	89 18 29.2	V - sub	80.1	1.903858
H - Sub		44 20 50.057	7 56 34.4	187 56 34.3	U - sub	27.9	1.445198
Ontario 1940	d.m.	75 59 21.801	274 54 38.5	94 54 39.8	I - sub	40.9	1.611394
G - Sub		44 20 49.607	262 24 16.3	82 24 19.6	H - sub	105.1	2.021686
Ontario 1940	d.m.	75 59 26.505	277 46 51.8	97 46 55.0	U - sub	101.3	2.005520
T-I.W.C.=Ref. Mon. 72		44 20 49.108	159 49 49.1	339 49 48.9	G - sub	16.4	1.214829
New York 1911; r. 1940	d.m.	75 59 26.250	268 58 57.2	88 59 00.2	U - sub	94.7	1.976382

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International boundary line St. Lawrence River Marked Stations *State* New York *Province* Ontario

STATION		LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
F - Sub		44 20 49.667	274 14 34.7	94 14 35.5	G - sub	25.1	1.399080
Ontario 1940	d.m.	75 59 27.634	299 22 05.1	119 22 06.1	T-I.N.C=Ref. Mon. 72	35.2	1.546176
S - Sub		44 20 49.187	247 44 39.6	67 44 40.7	F - Sub	39.2	1.592902
New York 1940	d.m.	75 59 29.270	272 04 01.3	92 04 03.4	T-I.N.C=Ref. Mon. 72	66.9	1.825697
E - Sub		44 20 50.971	292 58 24.6	112 58 27.6	F - sub	103.1	2.013068
Ontario 1940	d.m.	75 59 31.917	313 11 52.6	133 11 54.5	S - sub	80.4	1.905423
R - I.N.C.		44 20 49.399	223 30 21.4	43 30 22.9	E - sub	66.9	1.825333
New York 1912; r. 1940	d.m.	75 59 33.996	266 38 00.2	86 38 04.7	F - sub	141.2	2.149745
D - Sub		44 20 55.685	295 08 11.6	115 08 21.4	E - sub	342.5	2.534692
Ontario 1940	d.m.	75 59 45.917	306 18 26.4	126 18 34.7	R - I.N.C.	327.7	2.515419
Q - I.N.C.		44 20 49.579	194 03 35.5	14 03 37.0	D - sub	194.3	2.288438
New York 1912; r. 1940	d.m.	75 59 48.048	271 01 14.1	91 01 23.9	R - I.N.C.	311.3	2.493169
P - I.N.C.		44 20 45.607	234 50 58.4	54 51 12.4	D - sub	540.3	2.732645
New York 1912; r. 1940	d.m.	76 00 05.863	252 44 22.1	72 44 34.6	Q - I.N.C.	413.2	2.616165
C-I.N.C.=Ref. Mon. 73		44 20 56.793	273 51 36.6	93 51 52.6	D - sub	507.8	2.705676
Ontario 1911; r. 1940	d.m.	76 00 08.791	295 51 19.5	115 51 34.0	Q - I.N.C.	510.6	2.708039
			349 21 44.5	169 21 46.5	P - I.N.C.	351.3	2.545675
B - I.N.C.		44 20 57.402	277 44 20.5	97 44 24.9	C-I.N.C=Ref. Mon. 73	139.7	2.145259
Ontario 1912; r. 1940	d.m.	76 00 15.041	330 49 13.6	150 49 20.0	P - I.N.C.	417.0	2.620127
O - I.N.C.		44 20 49.344	216 41 07.6	36 41 13.4	B - I.N.C.	310.2	2.491586
Ontario 1912; r. 1940	d.m.	76 00 23.407	234 37 07.0	54 37 17.2	C-I.N.C=Ref. Mon. 73	397.1	2.598876
			286 31 52.3	106 32 04.5	P - I.N.C.	405.4	2.607847
N - I.N.C.		44 20 55.097	260 30 32.1	80 30 57.2	B - I.N.C.	806.1	2.906409
Ontario 1911; r. 1940	d.m.	76 00 50.939	280 45 11.6	100 45 30.9	O - I.N.C.	620.7	2.792903
A - Sub		44 21 03.406	25 49 11.7	205 49 06.1	N - I.N.C.	353.5	2.548376
Ontario 1940	d.m.	76 00 43.988	286 07 09.5	106 07 29.7	B - I.N.C.	667.4	2.824376
			313 35 39.2	133 35 53.6	O - I.N.C.	629.4	2.798956
Stone - I.N.C.		44 20 20.834	124 16 12.9	304 14 25.3	187 - I.N.C.	4,126.1	3.615542
New York 1911; r. 1940	d.m.	76 00 56.265	153 16 17.1	333 15 20.4	185 - I.N.C.	3,992.1	3.601197
			186 45 20.8	6 45 24.5	N - I.N.C.	1,002.8	3.001218
			191 41 27.9	11 41 36.5	A - sub	1,341.9	3.127717
View - I.N.C.		44 20 03.529	149 01 17.1	329 00 23.0	187 - I.N.C.	3,332.2	3.522729
New York 1911	n.d.	76 02 12.790	178 35 11.6	358 35 08.4	185 - I.N.C.	4,100.6	3.612851
			252 30 17.3	72 31 10.8	Stone - I.N.C.	1,777.5	3.249805

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International boundary line St. Lawrence River Marked Stations *State* New York *Province* Ontario

STATION		LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
Sir - I.M.C.		44 20 43.815	37 52 08.2	217 51 37.7	View - I.M.C.	1,575.1	3.197303
Ontario 1911; r. 1940	d.m.	76 01 29.148	238 50 26.6	58 50 58.2	A - sub	1,168.9	3.067763
			251 17 37.4	71 18 04.1	N - I.M.C.	893.5	2.951105
			257 18 32.0	77 19 28.2	C-IMC=Ref. Mon. 73	1,824.4	3.261127
			314 14 09.4	134 14 32.4	Stone - I.M.C.	1,016.7	3.007208
Ref. Mon. 74 ecc.-I.M.C.		44 20 36.244	51 26 45.9	231 26 27.1	Stone - I.M.C.	763.1	2.882599
New York 1911; r. 1940	d.m.	76 00 29.326	66 14 01.3	246 12 49.0	View - I.M.C.	2,504.6	3.398744
			100 00 24.6	279 59 42.8	Sir - I.M.C.	1,345.6	3.128908
			205 50 52.6	25 51 02.6	B - I.M.C.	725.7	2.860746
			215 38 38.9	35 38 53.3	C-IMC=Ref. Mon. 73	780.5	2.892371
View - Sub		44 20 03.523	217 51 26.9	37 51 57.4	Sir - I.M.C.	1,575.2	3.197348
New York 1940	d.m.	76 02 12.792	252 29 58.9	72 30 52.4	Stone - I.M.C.	1,777.6	3.249826
Spill - Sub		44 20 25.295	245 49 38.9	65 50 19.1	Sir - I.M.C.	1,396.3	3.144982
Ontario 1940	d.m.	76 02 26.658	335 25 54.5	155 26 34.2	View - sub	738.9	2.868578
Row - I.M.C.		44 20 05.680	241 44 36.5	61 45 12.1	Spill - sub	1,279.1	3.106892
Ontario 1911; r. 1940	d.m.	76 03 17.517	243 52 11.4	63 53 27.2	Sir - I.M.C.	2,673.7	3.427111
			272 39 05.0	92 39 50.3	View - sub	1,435.5	3.157006
Grand - I.M.C.		44 19 14.646	47 36 14.6	227 35 24.8	188 - I.M.C.	2,142.7	3.330952
New York 1911, r. 1940	d.	76 03 27.513	103 09 21.9	283 07 25.3	189 - I.M.C.	3,798.2	3.579578
Grand - Sub		44 19 14.652	47 40 42.2	227 39 52.3	188 - I.M.C.	2,146.0	3.331627
New York 1940	d.m.	76 03 27.317	87 28 56.7	267 26 56.6	Grand - I.M.C.	4.340	0.637526
189 - Sub		44 19 42.893	283 13 18.0	103 15 14.7	Grand - sub	3,806.6	3.580534
Ontario 1940	d.m.	76 06 14.542	283 14 22.0	103 16 18.6	Grand - I.M.C.	3,802.4	3.580057
			317 32 15.9	137 33 22.7	188 - I.M.C.	3,139.9	3.496922
191 - Sub		44 18 53.116	236 23 52.4	56 25 05.3	189 - sub	2,776.9	3.443562
Ontario 1940	d.m.	76 07 58.930	279 57 49.4	100 00 09.1	188 - I.M.C.	4,501.4	3.653347
Jones - I.M.C.		44 18 23.422	123 53 17.8	303 52 34.8	191 - sub	1,644.0	3.215908
Ontario 1911; r. 1940	d.m.	76 06 57.349	123 53 54.7	303 53 11.7	191 - I.M.C.	1,644.0	3.215911
			201 08 21.4	21 08 51.3	189 - sub	2,630.0	3.419951
			201 15 12.9	21 15 42.8	189 - I.M.C.	2,623.0	3.418794
Leek - I.M.C.		44 17 46.901	208 06 15.5	28 06 49.9	191 - sub	2,317.1	3.364937
Ontario 1911; r. 1940	d.m.	76 08 48.182	208 06 17.5	28 06 51.9	191 - I.M.C.	2,317.4	3.364993
			245 20 33.2	65 21 50.6	Jones - I.M.C.	2,703.1	3.431859
Melville - I.M.C.		44 18 33.198	246 58 48.5	66 59 34.1	191 - I.M.C.	1,573.1	3.196765
Ontario 1911	n.d.	76 09 04.254	276 06 39.9	96 08 08.5	Jones - I.M.C.	2,828.9	3.451621
			345 59 58.5	166 00 09.7	Leek - I.M.C.	1,472.7	3.168127

International boundary line St. Lawrence River — Marked Stations — *State* New York — *Province* Ontario

STATION		LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
Long - I.W.C.		44 19 06.361	263 53 44.8	83 55 00.3	Grand - I.W.C.	2,408.8	3.381799
Ontario, 1911; r. 1940	d.m.	76 05 15.598	263 54 07.9	83 55 23.5	Grand - sub	2,413.1	3.382579
			325 37 47.1	145 38 12.8	188 - I.W.C.	1,440.6	3.158558
Round - I.W.C.		44 18 16.609	195 38 33.7	15 38 47.2	Long - I.W.C.	1,594.7	3.202682
Ontario 1911; r. 1940	d.m.	76 05 35.001	237 36 48.1	57 38 17.1	Grand - I.W.C.	3,345.5	3.524460
			254 25 28.9	74 26 08.1	188 - I.W.C.	1,290.8	3.110850
End - Sub		44 18 04.473	16 52 10.2	196 52 06.2	Ref. Mon. 76	433.9	2.637434
Ontario 1940	d.m.	76 05 48.842	219 18 59.6	39 19 09.2	Round - I.W.C.	484.2	2.685022
Mion - Sub		44 18 00.800	256 32 43.7	76 32 58.7	End - sub	487.4	2.687847
Ontario 1940	d.m.	76 06 10.224	310 56 03.9	130 56 14.9	Ref. Mon. 76	460.8	2.663472
Peak - I.W.C.		44 17 51.062	210 20 35.1	30 20 40.6	Mion - sub	348.3	2.541930
New York 1911; r. 1940	d.m.	76 06 18.161	270 08 33.2	90 08 49.7	Ref. Mon. 76	524.0	2.719361
Grind - I.W.C.		44 17 43.852	191 53 51.6	11 53 54.1	Ref. Mon. 77	382.0	2.582013
New York 1911; r. 1940	d.m.	76 06 49.848	239 13 20.9	59 13 48.6	Mion - sub	1,022.4	3.009607
Death - I.W.C.		44 17 46.153	241 09 02.1	61 09 19.4	Ref. Mon. 77	627.5	2.797584
Ontario 1911; r. 1940	d.m.	76 07 11.088	278 34 30.0	98 34 44.8	Grind - I.W.C.	476.2	2.677779
Dock - I.W.C.		44 17 29.475	104 12 40.0	284 11 33.0	Leek - I.W.C.	2,192.3	3.340906
New York 1911; r. 1940	d.m.	76 07 12.316	158 11 29.1	338 10 56.5	191 - sub	2,780.7	3.444158
			183 01 39.6	3 01 40.5	Death - I.W.C.	515.5	2.712228
			228 18 01.2	48 18 16.9	Grind - I.W.C.	667.1	2.824199
Ref. Mon. 79, ecc.-I.W.C.		44 17 42.702	95 50 02.9	275 49 22.9	Leek - I.W.C.	1,276.1	3.105891
New York 1911; r. 1940	d.m.	76 07 50.917	263 07 04.7	83 07 32.6	Death - I.W.C.	889.4	2.949083
			282 37 43.8	102 38 18.7	Ref. Mon. 78	1,136.0	3.055380
			295 30 03.5	115 30 30.5	Dock - I.W.C.	948.2	2.976888
Punt		44 17 56.472	9 36 01.7	189 35 59.4	Ref. Mon. 79 ecc.IWC	431.1	2.634535
Ontario, 1940	d.m.	76 07 47.674	77 35 06.2	257 34 23.9	Leek - I.W.C.	1,373.5	3.137833
			171 52 46.5	351 52 38.6	191 - sub	1,766.0	3.247003
			233 17 02.6	53 17 37.7	Jones - I.W.C.	1,391.5	3.143484
			316 44 50.9	136 45 15.6	Dock - I.W.C.	1,144.0	3.058438
194 - I.W.C.		44 15 32.684	138 42 55.1	318 41 44.0	195 - I.W.C.	3,421.6	3.534229
Ontario 1911; r. 1940	d.m.	76 11 05.440	184 11 18.3	4 11 27.3	193 - I.W.C.	3,931.9	3.594599
			243 26 21.6	63 27 45.8	192 - I.W.C.	2,990.3	3.475710
193 - Sub		44 17 39.122	3 49 59.9	183 49 51.7	194 - I.W.C.	3,911.4	3.592328
Ontario 1940	d.m.	76 10 53.652	316 45 11.3	136 46 27.3	192 - I.W.C.	3,522.2	3.546820
			338 00 52.0	158 01 59.2	196 - I.W.C.	5,705.8	3.756318

International boundary line St. Lawrence River — Marked Stations — *State* New York — *Province* Ontario

STATION		LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
197 - Sub		44 14 19.627	182 05 55.3	2 06 02.3	193 - sub	6,161.7	3.789701
Ontario 1940	d.m.	76 11 03.831	247 54 34.4	67 55 13.5	Ref. Mon. 81	1,341.8	3.127694
			249 50 54.2	69 52 08.4	196 - I.W.C.	2,516.0	3.400702
Hickory - I.W.C.		44 15 02.850	30 57 02.7	210 56 37.5	197 - I.W.C.	1,555.3	3.191809
Ontario 1911	n.d.	76 10 27.746	138 27 58.1	318 26 20.7	195 - I.W.C.	4,665.3	3.668883
195 - Sub		44 16 55.989	241 58 03.7	61 59 22.5	193 - sub	2,833.8	3.452376
Ontario 1940	d.m.	76 12 46.481	272 22 31.7	92 25 00.0	Ref. Mon. 80	4,715.3	3.673506
			310 28 10.2	130 30 36.2	196 - I.W.C.	6,098.6	3.785229
			318 55 01.2	138 56 11.8	194 - I.W.C.	3,410.8	3.532851
			334 43 54.7	154 45 06.5	197 - sub	5,336.4	3.727249
Mermaid - I.W.C.		44 17 37.862	297 24 59.2	117 26 29.5	Ref. Mon. 80	3,233.6	3.509691
Ontario 1911	n.d.	76 11 23.470	354 05 24.3	174 05 36.9	194 - I.W.C.	3,884.3	3.589318
Howe - I.W.C.		44 17 29.955	259 08 56.7	79 09 36.8	Mermaid - I.W.C.	1,297.1	3.112980
Ontario 1911	n.d.	76 12 20.932	286 42 33.7	106 44 44.1	Ref. Mon. 80	4,327.4	3.636225
			335 10 15.9	155 11 08.6	194 - I.W.C.	3,988.1	3.600763
Finis - Sub		44 14 07.620	101 36 00.6	281 35 03.8	197 - sub	1,844.3	3.265843
New York 1940	d.m.	76 09 42.415	147 14 07.5	327 13 49.8	Ref. Mon. 81	1,040.7	3.017331
			204 11 01.4	24 11 18.8	196 - I.W.C.	1,356.0	3.132252
198 - Sub		44 13 07.387	140 16 59.9	320 16 01.7	197 - sub	2,899.0	3.462252
New York 1940	d.m.	76 09 40.352	167 26 36.7	347 26 17.6	Ref. Mon. 81	2,801.2	3.447350
			189 20 56.9	9 21 12.9	196 - I.W.C.	3,137.7	3.496617
			178 35 22.0	358 35 20.6	Finis-sub	1,859.7	3.269434
200 - Sub		44 12 13.889	38 04 01.1	218 03 15.5	202 - I.W.C.	2,357.1	3.372369
New York 1940	d.m.	76 12 27.626	221 38 04.4	41 40 17.0	196 - I.W.C.	6,353.5	3.803016
			246 00 43.5	66 02 40.1	198 - sub	4,064.2	3.608974
213 - Sub		44 10 19.661	39 27 08.3	219 26 36.7	215 - sub	1,585.8	3.200238
Ontario 1940	d.	76 20 50.773	219 26 23.4	39 27 13.9	211 - sub	2,532.5	3.403557
			275 55 06.4	95 56 36.0	210 - sub	2,872.2	3.458214
220 - Sub		44 06 43.600	124 36 27.1	304 35 26.2	221 - sub	2,364.1	3.373663
New York 1940	d.m.	76 21 47.873	193 15 45.8	13 16 05.4	219 - I.W.C.	2,716.6	3.434021
			223 43 22.5	43 44 01.5	218 - sub	1,799.4	3.255120
215 - Sub, reference mark		44 09 40.284	46 17 27.4	226 17 27.1	215 - sub	13.218	1.121166
Ontario 1940	d.m.	76 21 35.692	227 26 05.4	47 26 06.4	Rainy-U.S.L.S.	43.414	1.637630
Bear Point - U.S.L.S.		44 05 43.732	232 15 14.5	52 17 28.5	Wolf - U.S.L.S.	5,414.0	3.733516
Ontario 1874; r. 1940	d.m.	76 26 31.397	240 24 19.1	60 24 20.9	223 - I.W.C.	67.724	1.830743
			264 16 25.6	84 19 24.6	Tibbetts Point, light= 222 - I.W.C.	5,749.3	3.759614

International boundary line Lake St. Lawrence 1963 Marked Stations *State* New York *Province* Ontario

STATION	LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
	° ′ ″	° ′ ″	° ′ ″			
Burg 2-63	44 52 57.376	55 36 12.0	235 35 31.1	Ref. Mon. 37-59	1,542.6	3.188267
1963 d.m.	75 12 07.218	355 58 03.0	175 58 04.4	Ref. Mon. 36-59	641.9	2.807442
MV2 - C.H.S.	44 52 47.037	281 31 19.3	101 32 09.9	Ref. Mon. 36-59	1,606.6	3.205915
1963 d.m.	75 13 16.884	335 06 52.8	155 07 01.0	Ref. Mon. 37-59	609.0	2.784596
Lock 2-63	44 52 28.864	12 50 03.4	192 50 03.3	Ref. Mon. 38-59	14.1	1.150066
1963 d.m.	75 13 45.052	269 26 08.3	89 26 36.4	Ref. Mon. 37-59	874.6	2.941812
Point 2-63	44 51 21.152	30 42 36.9	210 42 36.5	Point	24.1	1.382467
1963 d.m.	75 16 29.724	88 23 57.9	268 21 40.9	Ref. Mon. 40-59	36.6	1.563902

International boundary line St. Lawrence River U.S.L.S. Stations *State* New York *Province* Ontario

STATION	LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
Ogdensburg Lighthouse-U.S.L.S.	44 41 52.160	41 17 14.7	221 15 45.3	Nevins - U.S.L.S.	4,241.3	3.627500
New York 1871; p.l. 1933 d.	75 30 14.165	206 55 02.2	26 55 43.9	Windmill Point-U.S.L.S.	2,882.4	3.459754
		245 20 05.6	65 20 49.6	2 - U.S.L.S.	1,514.7	3.180335
Henry - U.S.L.S.	44 41 19.841	22 21 26.3	202 20 18.0	H-1902-U.S.L.S.	5,630.7	3.750561
Ontario 1871; p.l. 1933 d.	75 32 59.015	234 06 38.2	54 09 15.9	Windmill Point-U.S.L.S.	6,089.0	3.784544
		254 36 58.8	74 38 54.8	Ogdensburg Lighthouse-U.S.L.S.	3,764.4	3.575699
		339 10 45.5	159 11 12.1	Nevins - U.S.L.S.	2,342.9	3.369753
Ogdensburg, east base 2	44 42 33.564	127 29 59	307 29 05	Windmill Point-U.S.L.S.	2,122.5	3.326846
New York 1902; r. 1939 d.m.	75 27 58.365	179 34 41	359 34 40	Johnstown - U.S.L.S.	3,595.4	3.555743
Railroad - U.S.L.S.	44 41 17.327	256 02 13.0	76 04 31.3	Ogdensburg Lighthouse-U.S.L.S.	4,462.0	3.649531
Ontario 1871, 1873 d.m.	75 33 30.836	324 00 54.0	144 01 42.9	Nevins - U.S.L.S.	2,610.3	3.416688
G-U.S.L.S.	44 39 47.797	10 40 27.1	190 40 03.3	I - U.S.L.S.	4,022.9	3.604536
Ontario 1873 d.m.	75 35 10.370	218 24 52.9	38 26 02.9	Railroad - U.S.L.S.	3,527.5	3.547472
		260 04 14.6	80 06 13.5	Nevins - U.S.L.S.	3,782.9	3.577830
Maitland - U.S.L.S.	44 37 55.749	249 53 27.9	69 55 03.1	H-1902-U.S.L.S.	3,178.5	3.502216
Ontario 1873; r. 1902 d.m.	75 36 51.630	288 23 33.9	108 24 21.3	I - U.S.L.S.	1,567.1	3.195095
Brockville Rock 2-U.S.L.S.	44 34 48.08					
New York 1902; n.r. 1933 d.m.	75 40 37.73					
Birch Point - U.S.L.S.	44 31 52.296	47 29 06.1	227 28 06.8	Oak Point - U.S.L.S.	2,534.3	3.403859
New York 1872; p.l. 1933 d.	75 43 47.860	170 29 10.8	350 29 01.1	Molly's Gut - U.S.L.S.	1,847.8	3.266659
		219 28 30.6	39 29 14.5	Halls Dock - U.S.L.S.	2,171.0	3.336668
Fulford - U.S.L.S.	44 32 09.437	234 30 13.4	54 31 11.0	Mollys Gut - U.S.L.S.	2,227.8	3.347874
Ontario 1872; r. 1902, 1933 d.m.	75 45 23.863	284 00 20.2	104 01 27.5	Birch Point - U.S.L.S.	2,184.7	3.339395
		353 34 45.9	173 34 53.9	Oak Point - U.S.L.S.	2,256.1	3.353364
Slide - U.S.L.S.	44 30 51.975	223 21 35.1	43 22 46.8	Fulford - U.S.L.S.	3,289.2	3.517089
Ontario 1872; r. 1933, 1957 d.m.	75 47 06.146	266 35 32.1	86 36 51.8	Oak Point - U.S.L.S.	2,515.8	3.400677
		333 25 04.8	153 25 46.0	Peach - U.S.L.S.	2,906.4	3.463358
Whitney - U.S.L.S.	44 29 37.173	216 42 58.2	36 43 53.0	Slide - U.S.L.S.	2,880.6	3.459483
Ontario 1872; r. 1933, 1957 d.m.	75 48 24.119	275 28 26.5	95 30 02.5	Peach - U.S.L.S.	3,037.3	3.482483
		331 41 14.2	151 42 01.5	Chippewa - U.S.L.S.	3,144.7	3.497577
Chimney - U.S.L.S.	44 28 10.670	228 32 02.0	48 33 37.8	Whitney - U.S.L.S.	4,033.3	3.605663
Ontario 1872; r. 1933, 1957 d.m.	75 50 40.911	271 13 51.8	91 16 14.9	Chippewa - U.S.L.S.	4,516.2	3.654769
		339 15 42.6	159 16 52.1	Lyons-1902-U.S.L.S.	6,203.1	3.792607

International boundary line St. Lawrence River U.S.L.S. Stations *State* New York *Province* Ontario

STATION		LATITUDE AND LONGITUDE			AZIMUTH			BACK AZIMUTH			TO STATION	DISTANCE (METERS)	LOGARITHM
		°	′	″	°	′	″	°	′	″			
Grenadier - U.S.L.S.		44	23	40.295	36	50	21.0	216	49	29.1	181-I.W.C.=Bluff-USLS	2,741.5	3.437982
Ontario 1872; r. 1933, 1957	d.m.	75	53	32.085	204	23	05.9	24	25	05.7	Chimney - U.S.L.S.	9,164.2	3.962094
					247	22	26.4	67	25	36.8	Lyons (1872)-U.S.L.S.	6,522.1	3.814386
Dingman - U.S.L.S.		44	21	18.985	171	48	07.4	351	47	47.6	Grenadier - U.S.L.S.	4,406.8	3.644119
New York 1873	d.m.	75	53	03.693	218	07	32.8	38	10	23.3	Lyons (1872)-U.S.L.S.	8,733.5	3.941189
Darling - U.S.L.S.		44	22	15.959	245	36	21.7	65	39	23.3	Grenadier - U.S.L.S.	6,309.0	3.799958
Ontario 1872; r. 1933, 1957	d.m.	75	57	51.697	285	23	16.8	105	26	38.1	Dingman - U.S.L.S.	6,615.5	3.820564
					343	58	44.5	163	58	59.8	Hill - U.S.L.S.	1,747.7	3.242468
Alexandria - U.S.L.S.		44	19	38.880	125	10	51.3	305	09	33.1	Waterloo - U.S.L.S.	3,034.0	3.482018
New York 1872; p.l. 1933	d.	75	55	22.518	138	19	20.1	318	17	51.1	Hill - U.S.L.S.	4,243.1	3.627688
					145	44	25.3	325	42	41.0	Darling - U.S.L.S.	5,867.3	3.768435
					198	09	30.7	18	10	47.9	Grenadier - U.S.L.S.	7,842.6	3.894459
Wells No. 2 - U.S.L.S.		44	19	07.623	34	08	19.8	214	05	22.3	Dorr Farm (1873)-USLS	10,055.5	4.002402
New York 1873; r. 1933, 1957	d.m.	75	59	06.451	195	53	31.1	15	54	23.3	Darling - U.S.L.S.	6,044.4	3.781354
					222	26	21.4	42	27	39.6	Waterloo - U.S.L.S.	3,676.0	3.565372
					258	58	32.6	79	01	09.0	Alexandria - U.S.L.S.	5,055.0	3.703721
Smoke - U.S.L.S.		44	20	28.557	37	39	35.1	217	36	16.7	Grindstone - U.S.L.S.	10,310.6	4.013282
Ontario 1872; r. 1933, 1957	d.m.	76	04	12.729	248	30	55.8	68	35	22.1	Darling - U.S.L.S.	9,066.3	3.957430
					290	10	49.1	110	14	23.1	Wells No. 2 - U.S.L.S.	7,231.2	3.859209
					353	55	13.3	173	55	49.6	Dorr Farm (1873)-USLS	10,884.4	4.036803
Cherry - U.S.L.S.		44	25	57.326	171	13	54.1	351	13	34.0	Chimney - U.S.L.S.	4,164.6	3.619573
Ontario 1902; r. 1933, 1957	d.m.	75	50	12.190	205	14	38.1	25	15	21.6	Gull - U.S.L.S.	3,219.1	3.507730
					317	11	38.0	137	12	27.4	Lyons 1902 - U.S.L.S.	2,297.3	3.361224
Dark Island - U.S.L.S.		44	27	05.861	3	58	00.6	183	57	52.2	Lyons 1902 - U.S.L.S.	3,810.2	3.580952
New York 1925; r. 1940	d.m.	75	48	49.713	40	46	30.0	220	45	32.2	Cherry - U.S.L.S.	2,793.2	3.446099
					150	29	30.0	330	29	15.7	Gull - U.S.L.S.	914.7	2.961278
					160	48	34.5	340	48	17.0	Griswold - U.S.L.S.	1,678.5	3.224933
Manz - U.S.L.S.		44	26	55.206	40	11	25.2	220	09	52.4	Lyons 1902 - U.S.L.S.	4,544.5	3.657484
New York 1933; r. 1957	d.m.	75	46	49.067	68	19	51.2	248	17	29.0	Cherry - U.S.L.S.	4,834.2	3.684327
B - U.S.L.S.		44	26	27.001	22	31	54	202	30	46	Grenadier - U.S.L.S.	5,570.5	3.745894
Ontario 1902; r. 1933, 1957	d.m.	75	51	55.638	207	18	02	27	18	54	Chimney - U.S.L.S.	3,601.3	3.556454
A - U.S.L.S.		44	25	58.500	133	35	20	313	34	51	B - U.S.L.S.	1,276.0	3.105857
Ontario 1902; r. 1933, 1957	d.m.	75	51	13.845	190	07	02	10	07	25	Chimney - U.S.L.S.	4,144.1	3.617433
Poole - U.S.L.S.		44	25	20.094	8	34	30	188	34	15	Grenadier - U.S.L.S.	3,115.3	3.493494
Ontario 1902; r. 1933, 1957	d.m.	75	53	11.099	218	56	13	38	57	06	B - U.S.L.S.	2,655.3	3.424118
					245	25	28	65	26	50	A - U.S.L.S.	2,851.7	3.455101

International boundary line St. Lawrence River U.S.L.S. Stations *State* New York *Province* Ontario

STATION	LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
	° ′ ″	° ′ ″	° ′ ″			
Thousand Island House - U.S.L.S.	44 20 15.260	8 08 21	188 08 16	Alexandria - U.S.L.S.	1,134.3	3.054730
New York 1902 l.d.	75 55 15.270	103 19 22	283 17 59	Waterloo - U.S.L.S.	2,713.4	3.433512
		124 27 36	304 26 02	Hill - U.S.L.S.	3,616.6	3.558300
Excelsior - U.S.L.S.	44 21 59.062	112 34 56.8	292 33 46.1	181-I.W.C.=Bluff-USLS	2,423.9	3.384517
New York 1902; r. 1933,1957 d.m.	75 53 05.239	169 14 01.4	349 13 42.6	Grenadier - U.S.L.S.	3,180.7	3.502523
		182 12 22.0	2 12 24.1	Whiskey - U.S.L.S.	1,743.2	3.241341
Turkey - U.S.L.S.	44 23 01.864	50 52 35.3	230 51 20.0	Excelsior - U.S.L.S.	3,071.4	3.487334
New York 1902; r. 1933,1957 d.m.	75 51 17.630	77 42 43.8	257 40 17.8	181-I.W.C.=Bluff-USLS	4,728.8	3.674751
		111 44 41.6	291 43 07.5	Grenadier - U.S.L.S.	3,203.7	3.505657
Ironsides - U.S.L.S.	44 23 39.749	5 26 26	185 26 22	Turkey - U.S.L.S.	1,174.6	3.069906
New York 1933; r. 1957 d.m.	75 51 12.599	38 45 10	218 43 51	Excelsior - U.S.L.S.	3,984.5	3.600375
Cooks Point - U.S.L.S.	44 24 48.138	308 58 21	129 00 29	Turkey - U.S.L.S.	5,213.5	3.717132
Ontario 1902; r. 1933,1957 d.m.	75 54 20.736	332 47 14	152 47 48	Grenadier - U.S.L.S.	2,354.6	3.371916
Ina - U.S.L.S.	44 22 18.884	219 17 52	39 18 21	Wiskey - U.S.L.S.	1,460.4	3.164463
New York 1933; r. 1957 d.m.	75 53 43.990	305 29 15	125 29 42	Excelsior - U.S.L.S.	1,053.8	3.022760
Deer - U.S.L.S.	44 21 37.133	211 49 28	31 49 53	Ina - U.S.L.S.	1,516.7	3.180910
New York 1933 d.m.	75 54 20.114	247 47 09	67 48 01	Excelsior - U.S.L.S.	1,790.8	3.253059
Third Brother - U.S.L.S.	44 24 38.360	22 20 29.0	202 19 50.3	Turkey - U.S.L.S.	3,220.1	3.507868
New York 1902; r. 1933,1957 d.m.	75 50 22.334	185 15 33.9	5 15 41.0	Cherry - U.S.L.S.	2,447.7	3.388758
		247 09 39.3	67 10 35.8	Lyons 1902 - U.S.L.S.	1,937.4	3.287220
Tuesday - U.S.L.S.	44 24 16.315	250 06 43.2	70 08 48.5	Lyons 1902 - U.S.L.S.	4,213.7	3.624659
Ontario 1902; r. 1933,1957 d.m.	75 52 00.730	252 38 03.8	72 39 12.6	Third Brother-U.S.L.S.	2,281.1	3.358138
		337 27 10.9	157 27 41.0	Turkey - U.S.L.S.	2,488.1	3.395874
Echo - U.S.L.S.	44 21 56.261	247 51 27.9	67 52 15.1	Darling - U.S.L.S.	1,613.6	3.207809
Ontario 1902; r. 1933,1957 d.m.	75 58 59.203	298 27 10.1	118 28 12.6	Hill - U.S.L.S.	2,249.0	3.351997
Rift - U.S.L.S.	44 20 34.295	184 54 23.6	4 54 30.4	Echo - U.S.L.S.	2,539.3	3.404714
New York 1902; r. 1933,1957 d.m.	75 59 09.011	208 36 40.0	28 37 34.0	Darling - U.S.L.S.	3,574.8	3.553246
		236 23 30.7	56 24 40.0	Hill - U.S.L.S.	2,635.1	3.420792
Rock - U.S.L.S.	44 21 37.843	263 41 51.7	83 44 34.8	Echo - U.S.L.S.	5,197.5	3.715791
Ontario 1902; r. 1933,1957 d.m.	76 02 52.508	291 35 40.6	111 38 16.9	Rift - U.S.L.S.	5,324.5	3.726278
Wind - U.S.L.S.	44 19 42.027	140 43 04.0	320 41 31.6	Rock - U.S.L.S.	4,619.2	3.664566
New York 1902; r. 1933,1957 d.m.	76 00 40.441	208 24 47.7	28 25 58.4	Echo - U.S.L.S.	4,711.2	3.673129
		231 27 18.1	51 28 22.0	Rift - U.S.L.S.	2,589.5	3.413216

International boundary line St. Lawrence River U.S.L.S. Stations *State* New York *Province* Ontario

STATION	LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
St. Lawrence - U.S.L.S. New York 1902; r. 1933,1957 d.m.	44 17 32.922 75 58 31.689	165 14 10.8 227 08 34.3	345 13 46.5 47 10 46.4	Wells No. 2 - U.S.L.S. Alexandria - U.S.L.S.	3,022.9 5,717.9	3.480422 3.757235
Fisher - U.S.L.S. New York 1902; r. 1933,1957 d.m.	44 16 26.753 76 00 37.943	202 12 37.4 233 52 33.3	22 13 41.3 53 54 01.5	Wells No. 2 - U.S.L.S. St. Lawrence-U.S.L.S.	5,363.7 3,465.3	3.729462 3.539745
Park - U.S.L.S. New York 1902; r. 1933,1957 d.m.	44 17 32.032 76 01 13.848	223 43 51.2 269 32 48.3 338 26 09.4	43 45 20.2 89 34 41.6 158 26 34.5	Wells No. 2 - U.S.L.S. St. Lawrence-U.S.L.S. Fisher - U.S.L.S.	4,084.0 3,595.2 2,166.5	3.611090 3.555727 3.335755
Garlock - U.S.L.S. New York 1902; r. 1933,1957 d.m.	44 15 18.209 76 01 57.771	55 58 00.5 193 15 55.3 219 55 09.4	235 57 02.6 13 16 26.0 39 56 05.2	Dorr Farm 1873-U.S.L.S. Park - U.S.L.S. Fisher - U.S.L.S.	2,222.5 4,243.8 2,758.8	3.346834 3.627760 3.440727
Crawford - U.S.L.S. New York 1902; r. 1933,1957 d.m.	44 16 18.203 76 04 00.833	266 37 25.5 304 08 24.3 343 58 52.5	86 39 47.2 124 09 50.2 163 59 20.5	Fisher - U.S.L.S. Garlock - U.S.L.S. Dorr Farm 1873-U.S.L.S.	4,507.4 3,298.5 3,220.9	3.653924 3.518317 3.507972
Beckwith - U.S.L.S. New York 1933; r. 1957 d.m.	44 15 39.430 76 04 38.896	317 36 30.0 357 30 27.2	137 37 24.5 177 30 31.2	Dorr Farm 1914-U.S.L.S. Clayton, South Base-U.S.L.S.	2,570.7 2,945.2	3.410057 3.469109
Cal - U.S.L.S. New York 1933; r. 1957 d.m.	44 14 55.916 76 05 34.563	222 35 33.4 280 35 32.5	42 36 12.3 100 37 05.9	Beckwith 1933-U.S.L.S. Dorr Farm 1914-U.S.L.S.	1,824.5 3,019.8	3.261153 3.479979
Chapman - U.S.L.S. New York 1933; r. 1957 d.m.	44 15 26.809 76 04 22.528	59 11 02.4 317 46 02.1	239 10 12.1 137 46 45.2	Cal - U.S.L.S. Dorr Farm 1914-U.S.L.S.	1,861.0 2,038.2	3.269735 3.309256
Round Island - U.S.L.S. New York 1933; r. 1957 d.m.	44 15 08.921 76 04 02.936	78 50 21.2 139 44 02.8	258 49 17.2 319 43 37.7	Cal - U.S.L.S. Beckwith 1933-U.S.L.S.	2,072.1 1,234.2	3.316411 3.091372
Washington Island Pier light-U.S.L.S. New York 1933 n.d.	44 14 47.531 76 04 46.613	186 06 00 278 51 18	6 06 05 98 52 18	Beckwith 1933-U.S.L.S. Dorr Farm 1914-U.S.L.S.	1,611.0 1,927.4	3.207099 3.284969
Bartlett Point, light-U.S.L.S. New York 1933 n.d.	44 14 21.886 76 06 29.942	225 49 04 245 59 33	45 50 22 66 01 16	Beckwith 1933-U.S.L.S. Round Island - U.S.L.S.	3,434.9 3,570.2	3.535911 3.552698
Union Park, front range light, U.S.L.S. Ontario 1931 n.d.	44 31 09.840 75 46 54.534	280 06 31 341 40 02	100 07 43 161 40 35	Oak Point - U.S.L.S. Peach - U.S.L.S.	2,290.5 3,319.2	3.359921 3.521028
Sunken Rock Shoal, light U.S.L.S. New York 1933 d.	44 20 33.103 75 55 11.136	209 45 18 226 24 33	29 45 54 46 26 01	Deer - U.S.L.S. Excelsior - U.S.L.S.	2,276.6 3,848.9	3.357293 3.585336

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International boundary line St. Lawrence River U.S.L.S. Stations *State* New York *Province* Ontario

STATION	LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
Sunken Rock, light U.S.L.S.	44 20 44.626	206 27 13	26 27 39	Deer - U.S.L.S.	1,810.3	3.257749
New York 1933 d.	75 54 56.531	226 59 58	47 01 16	Excelsior - U.S.L.S.	3,369.5	3.527567
Tripod Shoal, light U.S.L.S.	44 17 00.673	32 47 59	212 46 30	Dorr Farm 1914-U.S.L.S.	5,241.5	3.719457
New York 1933 n.d.	76 01 12.821	55 28 04	235 25 52	Chapman - U.S.L.S.	5,108.4	3.708289
Timber Island - U.S.L.S.	43 57 42.699	212 21 02.3	32 26 57.3	Amherst - U.S.L.S.	21,216.9	4.326682
Ontario 1874; r. 1934,1957 d.m.	76 49 55.882	280 02 55.9	100 11 40.0	Duck Island - U.S.L.S.	17,107.4	4.233184
Galloo - U.S.L.S.	43 55 07.949	95 59 04.5	275 50 12.9	Duck Island - U.S.L.S.	17,185.5	4.235161
New York 1874; r. 1934, d.m. 1957	76 24 34.362	184 11 11.7	4 12 04.2	Wolf - U.S.L.S.	22,997.4	4.361678
		191 50 12.6	11 51 38.1	Grenadier - U.S.L.S.	13,360.9	4.125835
Cooper - U.S.L.S.	43 57 48.129	64 58 53.8	244 53 24.9	Galloo - U.S.L.S.	11,670.0	4.067070
New York 1874; r. 1934 , d.m. 1957	76 16 40.370	136 09 43.5	316 05 39.7	Grenadier - U.S.L.S.	11,281.0	4.052349
Gleason - U.S.L.S.	43 52 48.757	109 34 53.3	289 28 37.0	Galloo - U.S.L.S.	12,851.2	4.108942
New York 1874; r. 1934,1957d.m.	76 15 31.661	170 35 14.1	350 34 26.4	Cooper - U.S.L.S.	9,366.0	3.971555
Deuel - U.S.L.S.	43 54 23.265	54 38 53.5	234 36 45.9	Gleason - U.S.L.S.	5,039.1	3.702353
New York 1874; r. 1934,1957d.m.	76 12 27.564	138 17 52.7	318 14 57.3	Cooper - U.S.L.S.	8,471.9	3.927983
Fox - U.S.L.S.	43 58 05.907	4 39 06.3	184 38 48.9	Deuel - U.S.L.S.	6,894.3	3.838488
New York 1874; r. 1934,1957d.m.	76 12 02.508	84 57 53.0	264 54 40.1	Cooper - U.S.L.S.	6,218.6	3.793693
Snowshoe - U.S.L.S.	43 52 48.355	155 20 48.6	335 18 36.5	Cooper - U.S.L.S.	10,181.6	4.007815
New York 1874;p.l.1934 d.m.	76 13 29.869	191 14 17.2	11 15 17.8	Fox - U.S.L.S.	9,992.8	3.999685

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International boundary line Lake St. Lawrence Intersection Stations — *State* New York — *Province* Ontario

STATION	LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
Light 2	45° 00' 12.258	27 28' 42.1	207 28 26.8	Twain	1,026.1	3.011194
Ontario, 1959	74 40 28.365	67 21 34.0	247 21 31.5	Boots	86.6	1.937536
		202 19 21.6	22 19 30.2	Ref. Mon. 1	701.1	2.845786
Light 11	44 59 47.037	74 07 58.4	254 07 25.4	Ref. Mon. 6-59	1,062.5	3.026327
New York, 1959	74 43 06.453	137 28 51.6	317 28 40.8	Ref. Mon. 5	493.7	2.693449
		235 21 51.9	55 22 32.1	Ref. Mon. 4	1,511.6	3.179445
Light 13	44 59 35.310	67 09 58.0	247 09 16.4	Andora	1,396.4	3.144998
New York, 1959	74 43 24.393	96 28 51.6	276 28 31.3	Ref. Mon. 6-59	633.1	2.801467
		184 40 06.9	04 40 08.8	Ref. Mon. 5	728.3	2.862300
Light 14	44 59 37.514	40 41 24.3	220 41 00.8	12 - I.W.C.	1,116.7	3.047920
Ontario, 1959	74 43 52.908	127 31 47.8	307 31 47.7	Ref. Mon. 6-59	5.6	0.747292
Blue Lt., Eisenhower Locks	44 58 42.897	75 38 39.1	255 36 02.8	Tank	5,004.2	3.699333
New York, 1959 d.	74 51 11.925	79 04 53.4	259 01 42.3	Raw	6,032.9	3.780525
		79 07 35.1	259 04 47.4	Red	5,292.6	3.723672
Red Lt., Eisenhower Locks	44 58 43.803	74 03 29.4	254 01 06.2	Tank	4,620.4	3.664676
New York, 1959 d.	74 51 30.417	77 54 27.6	257 51 53.0	Red	4,901.1	3.690296
		78 01 08.7	257 58 10.7	Raw	5,641.3	3.751380
Tank, E. end of pier	44 58 25.262	154 16 21.9	334 15 52.6	W. Fill - Hydro	2,089.7	3.320082
New York, 1959 d.	74 52 53.157	178 26 58.1	358 26 55.9	E. Fill - Hydro	2,473.6	3.393336
Light 41	44 58 23.834	159 28 35.1	339 28 11.8	W. Fill - Hydro	2,057.2	3.313266
New York, 1959 d.	74 53 01.642	178 36 34.3	358 36 33.2	Rushford - U.S.L.S.	1,337.6	3.126330
		210 05 16.5	30 06 26.7	R. M. 15A	3,153.4	3.498777
Light 42	44 58 28.778	56 47 55.9	236 47 16.0	Alcoa - U.S.L.S.	1,477.4	3.169493
New York, 1959 d.	74 53 03.280	180 09 51.9	0 09 52.0	Rushford - U.S.L.S.	1,184.6	3.073569
		212 06 51.2	32 08 02.6	R. M. 15A	3,041.2	3.483045
Light 43	44 58 15.942	36 37 40.3	216 37 31.4	Alcoa - U.S.L.S.	514.4	2.711342
New York, 1959 d.	74 53 45.684	74 29 12.6	254 28 24.9	Tank	1,534.2	3.185883
		210 31 52.9	30 32 23.0	Rushford - U.S.L.S.	1,835.4	3.263723
Light 44	44 58 21.630	24 18 19.0	204 18 10.4	Alcoa - U.S.L.S.	645.7	2.810005
New York, 1959 d.	74 53 47.563	203 30 53.5	23 31 29.8	E. Fill - Hydro	2,819.0	3.450100
		214 42 45.0	34 43 16.4	Rushford - U.S.L.S.	1,709.6	3.232895
Light 45	44 58 07.105	66 18 36.0	246 18 25.8	Tank	342.7	2.534935
New York, 1959 d.	74 54 38.820	228 30 47.0	48 31 54.6	Rushford - U.S.L.S.	2,798.7	3.446951
		279 16 19.3	99 16 46.9	Alcoa - U.S.L.S.	868.9	2.938972
Light 46	44 58 12.799	41 06 15.3	221 06 06.5	Tank	416.0	2.619116
New York, 1959 d.	74 54 40.660	231 51 16.7	51 52 25.6	Rushford - U.S.L.S.	2,717.0	3.434097
		289 22 34.7	109 23 03.6	Alcoa - U.S.L.S.	951.8	2.978533

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STATION		LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
Light 47		44 57 56.249	190 03 27.5	10 03 29.2	Raw	299.2	2.475894
New York, 1959	d.	74 55 44.616	240 32 29.6	60 32 54.7	Red	893.7	2.951199
			260 04 07.4	80 04 43.9	Tank	1,145.2	3.058900
Light 48		44 58 01.842	5 09 42.8	185 09 38.5	Yellow	1,490.7	3.173377
New York, 1959	d.	74 55 46.467	217 16 46.4	37 16 49.4	Raw	153.2	2.185334
			268 46 47.8	88 47 25.6	Tank	1,168.9	3.067785
Light 51		44 57 37.976	62 35 22.7	242 35 04.3	Lon - U.S.E.	645.3	2.809790
New York, 1959	d.	74 57 34.600	203 22 13.5	23 22 24.6	Lon - C.H.S.	864.0	2.936494
			288 29 00.7	108 30 12.8	Yellow	2,357.8	3.372511
Light 54		44 57 40.419	23 05 23.3	203 05 18.2	Lon - U.S.E.	405.0	2.607433
New York, 1959	d.	74 57 53.491	63 30 46.7	243 29 34.5	McLeod - U.S.L.S.	2,503.5	3.398546
			226 30 57.2	46 31 21.6	Lon - C.H.S.	1,042.9	3.018252
Light 55		44 57 33.402	66 20 08.8	246 19 02.6	McLeod - U.S.L.S.	2,242.3	3.350697
New York, 1959	d.	74 58 02.019	225 17 00.2	45 17 30.6	Lon - C.H.S.	1,327.9	3.123165
			349 47 06.0	169 47 06.9	Lon - U.S.E.	158.5	2.199904
Light 57		44 57 11.817	82 09 15.3	262 08 41.4	67 I.W.C.	1,062.5	3.026330
New York, 1959		74 59 43.373	165 57 55.5	345 57 37.8	Morrison	2,262.6	3.354606
			324 19 19.1	144 19 24.5	McLeod - U.S.L.S.	288.1	2.459524
Light 58		44 57 04.230	116 27 59.2	296 27 53.4	67 I.W.C.	199.9	2.300883
New York, 1959		75 00 23.224	187 36 35.9	07 36 [illegible]	Morrison	2,450.8	3.389316
			269 59 01.8	89 59 35.3	McLeod - U.S.L.S.	1,041.6	3.017705
Light 63		44 56 21.512	10 23 24.3	190 23 22.3	Ref. Mon. 26	352.7	2.547398
New York, 1959		75 01 54.790	58 43 42.1	238 42 51.8	74 sub	1,825.7	3.261434
			128 53 07.8	308 52 34.2	Ault Point	1,340.1	3.127142
Light 65		44 55 58.554	167 58 42.1	347 58 31.9	Wells - U.S.L.S.	1,510.9	3.179224
New York, 1959		75 03 05.837	198 21 37.9	18 21 54.4	Ault Point	1,633.0	3.212997
			256 22 59.3	76 23 47.4	Ref. Mon. 26	1,537.4	3.186800
Light 68		44 55 55.747	49 00 17.7	228 59 44.4	Brad	1,371.4	3.137155
Ontario, 1959		75 04 09.269	214 31 03.7	34 31 38.4	Wells - U.S.L.S.	1,898.7	3.278463
Light 70		44 55 51.286	16 49 00.7	196 48 53.3	Brad	796.0	2.900922
Ontario, 1959		75 04 45.963	38 00 37.7	217 59 53.4	78 sub	2,236.9	3.349653
			101 32 26.4	281 31 25.8	Wood	1,917.6	3.282755
Light 74		44 55 25.771	202 26 38.2	22 26 53.8	Wood	1,267.0	3.102760
Ontario, 1959		75 06 33.705	269 18 07.6	89 19 16.3	Brad	2,132.8	3.328949
			314 40 59.1	134 41 30.8	78 sub	1,386.5	3.141911
Light 81		44 54 01.629	44 31 40.5	224 29 59.0	Wad	4,501.3	3.653334
Ontario, 1960	d.	75 08 58.833	122 13 52.1	302 13 40.5	Doran - C.H.S.	426.7	2.630131
			352 27 19.1	172 27 23.4	Allison - U.S.L.S.	1,023.7	3.010177

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STATION		LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
Light 82		44 54 05.288	40 31 39.4	220 30 08.1	Wad	4,370.6	3.640546
Ontario, 1960	d.	75 09 13.247	158 41 40.6	338 41 39.2	Doran - C.H.S.	123.0	2.089959
			338 12 55.8	158 13 10.3	Allison - U.S.L.S.	1,214.5	3.084408
Light 85		44 53 32.836	39 38 16.5	219 37 14.7	Wad	3,013.5	3.479072
New York, 1960	d.	75 09 55.053	218 00 29.3	38 00 57.4	Doran - C.H.S.	1,416.9	3.151348
			275 15 28.1	95 16 12.1	Allison - U.S.L.S.	1,373.9	3.137953
Light 88		44 53 08.609	5 24 53.4	185 24 48.6	Wad	1,580.1	3.198683
Ontario, 1960	d.	75 11 15.835	14 53 56.9	194 53 43.4	Bump	1,631.0	3.212467
			234 48 47.6	54 50 12.7	Doran - C.H.S.	3,236.2	3.510034
Light 91		44 52 53.594	233 35 07.2	53 36 48.8	Doran - C.H.S.	3,922.6	3.593575
New York, 1960	d.	75 11 39.164	341 53 04.7	161 53 16.4	Wad	1,167.4	3.067224
			355 14 11.2	175 14 14.2	Bump	1,116.6	3.047894
Light 92		44 52 55.921	67 34 27.5	247 33 21.1	Lock	2,233.7	3.349035
Ontario, 1960	d.	75 12 10.985	251 20 43.5	71 20 45.8	Burg	74.9	1.874215
Light 96		44 52 35.761	24 26 52.8	204 26 32.6	Ogden	1,519.4	3.181679
Ontario, 1960	d.	75 13 31.362	52 33 03.4	232 32 53.7	Lock	378.5	2.578062
			289 12 40.6	109 12 59.4	Graph=Den C.H.S.	620.1	2.792521
Light 97		44 51 59.189	49 17 44.0	229 16 30.6	Fill	3,178.7	3.502251
New York, 1960	d.	75 14 22.886	68 08 51.0	248 08 05.1	Drog=Hill C.H.S.	1,543.8	3.188588
			222 44 05.7	42 44 32.4	Lock	1,223.7	3.087688
Light 106		44 51 19.511	35 48 10.2	215 47 28.0	114 sub	2,244.5	3.351118
Ontario, 1960	d.	75 16 32.578	62 47 58.7	242 47 00.7	Brick	2,030.5	3.307600
			332 40 36.0	152 40 50.0	Fill	955.0	2.980022
Light 107		44 50 24.936	16 38 28.9	196 38 27.6	114 sub	141.8	2.151601
New York, 1959	d.	75 17 30.512	144 47 24.3	324 47 07.2	Brick	925.6	2.966438
			243 56 38.8	63 57 33.7	Fill	1,904.1	3.279696
Light 110		44 50 12.076	218 20 53.9	38 21 23.2	Brick	1,470.6	3.167489
Ontario, 1959	d.	75 18 36.360	259 28 11.2	79 28 56.3	114 sub	1,429.8	3.155269
			281 10 00.7	101 10 29.6	Dam	916.4	2.962091
Light 114		44 48 47.108	216 16 33.4	36 17 20.8	Hydro 1298	2,494.4	3.396962
Ontario, 1959		75 19 49.313	261 20 51.2	81 21 34.7	Putney	1,370.9	3.137002
			330 21 28.4	150 21 45.7	Ref. Mon. 45-59	1,091.5	3.038036
Light 115		44 47 56.728	104 16 15.1	284 15 41.3	125 - I.W.C.	1,086.8	3.036130
New York, 1959		75 20 47.358	176 34 43.7	356 34 41.1	123 - I.W.C.	1,340.5	3.127273
			216 35 29.5	36 34 51.0	Toussaint	2,011.9	3.303596
Light 118		44 47 04.284	38 46 48.3	218 46 09.7	Dupuis	1,924.3	3.284275
Ontario, 1959		75 22 31.375	74 09 24.2	254 08 36.6	Sismey	1,543.1	3.188381
			349 56 52.8	169 56 56.2	Lalone	610.1	2.785400

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STATION		LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
Light 119		44 46 34.646	70 18 30.6	250 17 19.7	Pitt	2,287.9	3.359446
New York, 1959		75 23 06.059	124 21 34.0	304 21 10.9	Sismey	874.4	2.941710
			250 07 23.8	70 07 51.7	Lalone	924.1	2.965722
Light 121		44 46 01.148	112 40 54.2	292 40 34.1	Pitt	681.4	2.833419
New York, 1959		75 24 15.429	177 34 52.9	357 34 51.5	129 sub	1,126.2	3.051607
			207 44 17.6	27 44 43.4	Sismey	1,725.9	3.237011
Ball on Chevrolet Tank		44 58 56.158	114 53 14.1	294 50 24.1	Ref. Mon. 10 - 1959	5,806.1	3.763888
New York, 1959	d.	74 43 58.166	121 46 25.8	301 43 54.8	Ref. Mon. 11 - 1959	5,502.6	3.740570
Reynolds Tank		44 58 56.786	121 45 45.4	301 43 39.1	Ref. Mon. 10 - 1959	4,603.1	3.663052
New York, 1959	d.	74 44 59.954	130 52 22.1	310 50 34.8	Ref. Mon. 11 - 1959	4,397.0	3.643152
Tank, Moses Dam		45 00 17.128	113 40 45.5	293 39 40.7	Hart - C.H.S.	2,187.0	3.339840
New York, 1959	d.	74 48 30.820	252 57 20.4	72 58 02.1	Ref. Mon. 11 - 1959	1,352.4	3.131109
			274 43 29.2	94 43 51.9	Ref. Mon. 10 - 1959	706.8	2.849309
St. Regis Reef back light		45 01 01.035	33 19 09	213 18 18	Twain	2,891.2	3.461074
Ontario, 1938	n.d.	74 39 37.477	35 53 57	215 53 20	Ref. Mon. 2 - 1910	1,950.9	3.290230
St. Regis Church, Quebec		45 00 10.297	85 26 22.2	265 24 39.6	Ref. Mon. 3 - 1910	3,189.7	3.503745
1923; r. 1938	n.d.	74 38 34.203	107 37 15.3	287 36 03.2	Ref. Mon. 1	2,343.7	3.369902
			107 54 59.0	287 52 01.8	Cornwall east church, Catholic	5,769.0	3.761102
Morrisburg Cath. Ch. Sp.		44 53 43.736					
Ontario, 1939; r. 1960	n.d.	75 11 03.497					
Morrisburg United Ch. Sp.		44 53 36.948	275 17 43.4	95 19 10.9	Allison = 90 I.N.C.	2,735.0	3.436963
Ontario, 1939; r. 1960	n.d.	75 10 56.813					
Morrisburg Anglican Ch. Sp.		44 53 40.612	277 04 53.6	97 06 28.2	Allison = 90 I.N.C.	2,964.3	3.471918
Ontario, 1939; r. 1960	n.d.	75 11 06.761					
Waddington Cath. Ch. Cross		44 51 52.998	217 53 58.2	37 54 17.1	Bump	960.3	2.982428
New York, 1960	d.	75 12 01.814	234 31 31.8	54 33 45.2	Allison = 90 I.N.C.	5,095.7	3.707200
Iroquois Church Cross		44 50 54.204	276 40 59.5	96 41 39.8	Brick	1,264.1	3.101769
Ontario, 1959	d.	75 18 51.982	319 57 08.5	139 57 48.4	Dam	1,930.6	3.285694
			322 22 33.0	142 23 10.2	Ref. Mon. 43 - 1959	1,896.6	3.277970
E. Dyke - C.H.S.		45 01 34.864	2 26 57.9	182 26 55.1	Ref. Mon. 11 - 1959	2,005.3	3.302170
Ontario, 1959	d.	74 47 27.863	15 20 34.3	195 20 12.5	Ref. Mon. 10 - 1959	2,548.8	3.406329
			65 47 03.0	245 45 13.7	Hart - C.H.S.	3,707.7	3.569103
Road - C.H.S.*		44 57 57.832	99 55 27.2	279 54 59.8	Tank	862.2	2.935588
New York, 1959	d.	74 54 14.388	216 06 43.0	36 07 33.4	Rushford - U.S.L.S.	2,649.0	3.423087
			245 35 25.4	65 35 35.8	Alcoa - U.S.L.S.	353.7	2.548692

* = Occupied

International boundary line St. Lawrence River Intersection Stations *State* New York *Province* Ontario

STATION	LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
North - C.H.S. *	45° 00' 16.810	22° 06' 11.8	202° 05' 51.3	N. Fill - C.H.S.	1,684.8	3.226538
Ontario, 1959 d.	74 53 05.626	348 00 24.3	168 00 30.9	E. Fill - C.H.S.	992.4	2.996675
Sheek - C.H.S. *	45 00 44.700	38 30 52.0	218 29 34.6	Rushford - U.S.L.S.	3,847.9	3.585223
Ontario, 1959 d.	74 51 13.751	50 47 12.3	230 45 59.8	E. Fill - C.H.S.	2,896.6	3.461893
		70 38 56.1	250 37 37.0	North - C.H.S.	2,596.8	3.414446
		59 11 00.4	339 09 42.1	Long	2,818.5	3.450017
Cardinal Church, Sp.	44 47 18.419	222 08 13.9	42 08 56.0	125-I.W.C.-Cardinal west base	1,956.0	3.291370
Ontario, 1939 n.d.	75 22 34.989	236 59 35.9	57 00 47.6	126 - sub	2,669.3	3.426390
		299 06 01.2	119 06 21.7	Ref. Mon. 47 - 1911	728.3	2.862325
North Channel Dyke lighthouse	44 46 07.270	34 49 47	214 49 32	131 sub	807.3	2.907049
Ontario, 1939 n.d.	75 25 41.132	306 20 25	126 21 38	132-I.W.C. (Red Mills-U.S.L.S.)	2,840.3	3.453365
Windmill Point lighthouse	44 43 15.614	17 24 19.0	197 23 55.1	Ref. Mon. 53	2,506.5	3.399065
Ontario, 1939; r. 1959 n.d.	75 29 14.921	27 28 18.3	207 27 36.9	Ferry - U.S.L.S.	2,809.2	3.448578
		53 37 41.9	233 36 17.3	139 - sub	3,289.3	3.517097
		234 34 09.7	54 34 26.6	Ref. Mon. 52 - 1911	647.2	2.811063
		357 44 23.4	177 44 25.3	Bench Mark 27	1,460.7	3.164548
Johnson Elevator, flagpole	44 43 55.512	37 47 52.2	217 47 31.0	Ref. Mon. 52 - 1911	1,083.7	3.034919
Ontario, 1939; r. 1959 n.d.	75 28 20.775	49 15 14.0	229 14 32.2	135 sub	1,727.0	3.237291
		225 16 47.0	45 19 13.3	Ref. Mon. 53	6,431.3	3.808301
		227 40 26.3	47 42 49.2	Weir	6,036.8	3.780805
Prescott, St. Johns Anglican	44 42 40.994	11 41 20.9	191 40 57.6	140 sub	3,602.0	3.556544
Church, Sp. Ontario, 1939 n.d.	75 31 00.890	254 27 03.6	74 27 25.3	137 - I.W.C.	704.4	2.847848
		309 52 44.7	129 53 35.3	Ref. Mon. 53	2,063.3	3.314557
		323 55 34.1	143 56 07.2	Ferry - U.S.L.S.	1,761.6	3.245896
Ogdensburg, lighthouse	44 41 52.152	167 58 06.5	347 57 54.9	137 - I.W.C.	1,734.6	3.239192
New York, 1939; r. 1959 n.d.	75 30 13.632	203 40 33.6	23 41 11.1	135 sub	2,927.0	3.466422
		230 23 53.5	50 24 36.6	Bench Mark 27	1,752.2	3.243584
		251 13 19.9	71 13 37.2	Ref. Mon. 53	573.4	2.758455
Catholic School, chimney, East of Brockville,	44 37 36.945	15 31 41.8	195 31 14.0	150-I.W.C. (Morristown Point-U.S.L.S.)	3,254.2	3.512442
Ontario, 1939 n.d.	75 37 53.526	270 23 02.5	90 24 29.3	146 sub	2,725.1	3.435383
		306 50 10.8	126 51 05.1	148 sub	2,130.2	3.328430
Brockville, Asylum, chimney	44 36 20.399	3 30 56.9	183 30 50.0	154 - I.W.C.	3,556.6	3.551035
Ontario, 1939 n.d.	75 40 01.591	291 34 31.2	111 35 33.4	150-I.W.C. (Morristown Point-U.S.L.S.)	2,100.4	3.322304
		322 15 22.1	142 16 02.2	152 sub	2,054.5	3.312696

* = Occupied

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STATION	LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
Brockville, United Church Sp.	44 35 27.931	261 34 07.0	81 35 04.3	153-I.N.C.=Ref. Mon.55	1,821.7	3.260466
Ontario, 1939 n.d.	75 41 07.397	270 05 45.5	90 07 11.7	152 sub	2,709.1	3.432833
		327 24 40.9	147 25 20.1	154 - I.N.C.	2,290.9	3.360003
Bay State Shoal, light	44 30 16.805	100 49 03.3	280 48 26.9	165 - I.N.C.	1,168.5	3.067616
New York, 1940 n.d.	75 46 29.989	232 30 04.8	52 30 53.5	162 sub	1,933.7	3.286396
		341 39 51.3	161 40 07.2	Peach - U.S.L.S.	1,594.7	3.202670
Crossover Island Light	44 29 48.872	141 27 13.4	321 26 46.1	165 - I.N.C.	1,382.8	3.140744
New York, 1940 n.d.	75 46 42.939	225 45 42.0	45 46 13.8	Whaleback - U.S.L.S.	1,398.8	3.145765
		309 35 23.7	129 35 48.7	Peach - U.S.L.S.	1,022.3	3.009561
Superior Shoal, light	44 27 52.127	45 35 33.0	225 34 05.2	Ref. Mon. 61	3,882.8	3.589140
New York, 1940 n.d.	75 47 38.100	143 14 08.6	323 13 45.8	168 - I.N.C.	1,203.7	3.080501
		220 26 06.4	40 26 29.4	166 - I.N.C.	1,117.1	3.048079
		357 44 12.0	177 44 14.0	170 sub	1,572.2	3.196520
Bridge Island, light	44 28 01.683	156 30 45.3	336 30 43.0	169 sub	185.3	2.267964
Ontario, 1940 n.d.	75 49 58.682	254 06 44.5	74 08 08.4	Ref. Mon. 60	2,751.0	3.439486
		254 19 37.2	74 20 52.9	168 - I.N.C.	2,478.9	3.394263
Sister Island, light	44 24 50.740	24 55 08.8	204 54 21.5	176 - I.N.C.	3,552.8	3.550570
New York, 1940 n.d.	75 50 41.109	48 31 33.0	228 30 25.4	Ref. Mon. 62	2,855.3	3.455658
		55 08 01.2	235 07 03.8	177 - I.N.C.	2,212.6	3.344895
		137 02 34.8	317 02 27.0	175 sub	361.8	2.558455
Excelsior Group, light	44 22 20.751	175 19 20.8	355 19 15.5	179 - I.N.C.	2,037.3	3.309047
New York, 1940 n.d.	75 53 07.147	201 45 06.6	21 45 41.1	Ref. Mon. 62	2,948.2	3.469563
		230 57 28.9	50 58 23.7	176 - I.N.C.	2,234.7	3.349228
Grenadier Island, light	44 22 58.259	44 56 12	224 56 12	Grenadier-sub	2.164	0.335274
Ontario, 1940 n.d.	75 54 19.101					
Rockport, Presbyterian Church Sp.	44 22 42.540	280 43 44.4	100 44 39.1	Yeo-sub	1,760.6	3.245649
Ontario, 1940 n.d.	75 56 06.794	317 45 30.6	137 45 06.9	Ref. Mon. 64	1,706.0	3.231986
		328 31 32.6	148 32 02.1	Mary - I.N.C.	1,786.0	3.251871
Club Island, stone water tank,	44 22 05.996	225 05 10.9	45 05 50.7	Little - I.N.C.	1,777.1	3.249708
Ontario, 1940 n.d.	75 56 15.386	247 22 22.0	67 23 22.7	Yeo-sub	2,080.1	3.318084
		275 44 55.2	95 45 37.5	Ref. Mon. 64	1,344.3	3.128485
Lindoe Island light,	44 20 59.556	29 20 49.9	209 20 44.3	O - I.N.C.	361.6	2.558261
Ontario, 1940 n.d.	76 00 15.405	75 47 17.0	255 46 52.1	N - I.N.C.	811.9	2.909502
		100 38 00.2	280 37 40.2	A sub	644.1	2.808967
Gananoque Narrows, light	44 19 27.772	240 50 43.1	60 51 49.2	Row - I.N.C.	2,402.4	3.380654
Ontario, 1940; r. 1955 n.d.	76 04 52.220	256 09 53.0	76 11 24.0	Ref. Mon. 75	2,971.4	3.472962
		282 10 19.0	102 11 18.2	Grand - I.N.C.	1,920.3	3.283358

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STATION	LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
Jackstraw Shoal, light	44 19 31.286	15 35 35.3	195 35 09.6	Punt	3,038.3	3.482628
Ontario, 1940 n.d.	76 07 10.832	33 49 05.3	213 47 57.3	Leek - I.W.C.	3,877.6	3.588568
		351 52 50.1	171 52 59.5	Jones - I.W.C.	2,115.9	3.325494
Gananoque, Church of England Sp.	44 19 30.145	296 44 37.4	116 46 46.1	Jones - I.W.C.	4,573.8	3.660278
Ontario, 1940 n.d.	76 10 01.628	314 13 44.9	134 15 18.5	Punt	4,144.1	3.617430
		314 46 05.7	134 48 04.0	Dock - I.W.C.	5,287.2	3.723229
Burnt Island, light	44 17 46.998	300 26 05.7	120 27 40.5	Ref. Mon. 80	3,495.9	3.543558
Ontario, 1940 n.d.	76 11 29.951	332 00 23.4	152 01 55.9	196 - I.W.C.	6,266.9	3.797051
		352 31 40.7	172 31 57.8	194 - I.W.C.	4,181.2	3.621300
Wolfe Island, light	44 14 19.636	247 58 21.4	67 59 00.6	Ref. Mon. 81	1,344.7	3.128623
Ontario, 1940 n.d.	76 11 03.976	249 52 47.4	69 54 01.7	196 - I.W.C.	2,518.9	3.401206
		320 13 18.9	140 14 17.2	198 sub	2,901.3	3.462594
Linda Island, light	44 12 15.487	37 36 15.5	217 35 29.5	202 - I.W.C.	2,404.6	3.381034
New York, 1940 n.d.	76 12 26.997	93 58 07.2	273 56 30.8	Ref. Mon. 84	3,080.8	3.488662
		176 45 12.0	356 45 09.7	Ref. Mon. 83	1,307.4	3.116408
Wolfe Island, Catholic Church Sp.	44 12 32.813	40 07 26.5	220 06 14.8	204 - I.W.C.	3,546.6	3.549818
Ontario, 1940 n.d.	76 14 27.530	282 21 49.4	102 23 13.0	200 sub	2,725.5	3.435445
		333 37 36.9	153 38 14.9	202 - I.W.C.	2,723.3	3.435093
Riverview Church, Sp.	44 10 18.783	135 58 21.9	315 56 27.8	207-I.W.C.=Ref.Mon.85	5,231.3	3.718609
New York, 1940 n.d.	76 14 30.039	155 59 45.0	335 58 52.9	205 sub	4,082.9	3.610972
Cape Vincent Breakwater, east end light	44 07 57.111	100 35 29.4	280 34 26.5	219 - I.W.C.	2,042.9	3.310245
New York, 1940 n.d.	76 19 49.500	196 31 29.4	16 32 18.5	208 - I.W.C.	5,502.8	3.740583
		200 01 35.0	20 02 21.9	210 sub	4,367.3	3.640216
Cape Vincent Breakwater, west end light	44 07 53.183	107 04 01.3	287 03 10.6	219 - I.W.C.	1,692.1	3.228421
New York, 1940 n.d.	76 20 07.068	199 54 59.5	19 56 00.8	208 - I.W.C.	5,740.1	3.758922
		204 03 23.4	24 04 22.5	210 sub	4,626.4	3.665244
Carleton Island, General Electric Co., watertank	44 10 48.145	37 11 48.0	217 08 48.6	220 sub	9,472.4	3.976461
New York, 1940; r. 1942, C.&G.S. d.	76 17 30.362	258 24 14.1	78 30 04.9	Hogsback - U.S.L.S.	11,407.0	4.057170
		283 04 25.4	103 12 38.1	Depauville - C.&G.S.	16,135.9	4.207792

International boundary line Lake St. Lawrence — Unmarked C.H.S. Stations — *State* New York — *Province* Ontario

STATION		LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
Isle H		45 01 17.112	312 11 12.9	132 12 04.7	Ref. Mon. 11-59	2,166.9	3.335847
Ontario, 1959	d.	74 48 45.095	331 57 49.7	151 58 22.5	Ref. Mon. 10-59	2,163.8	3.335215
Dyke 1 H		45 01 29.226	46 25 39.0	226 24 46.7	32 - I.W.C.	2,232.8	3.348849
Ontario, 1959	d.	74 48 51.983	316 09 39.2	136 10 35.9	Ref. Mon. 11-59	2,535.9	3.404137
			332 54 54.7	152 55 32.4	Ref. Mon. 10-59	2.565.1	3.409106
Dyke 2 H		45 01 29.993	60 05 01.7	240 03 44.7	Hart - C.H.S.	2,748.7	3.439134
Ontario, 1959	d.	74 48 13.482	333 45 42.4	153 46 11.9	Ref. Mon. 11-59	2,065.9	3.315099
			351 59 25.5	171 59 36.0	Ref. Mon. 10-59	2,330.3	3.367415
Dyke 3 H		45 01 44.650	29 24 39.2	209 24 06.0	Hart - C.H.S.	2,093.5	3.320871
Ontario, 1959	d.	74 49 15.335	38 00 53.6	218 00 01.8	Charles	2,940.7	3.468456
			328 40 45.9	148 41 40.2	Ref. Mon. 10-59	3,230.6	3.509283
E. Sheek H		45 01 07.690	288 17 16.3	108 19 10.0	Ref. Mon. 11-59	3,708.1	3.569153
Ontario, 1959	d.	74 50 12.550	298 53 40.7	118 55 15.4	Ref. Mon. 10-59	3,349.4	3.524961
			341 46 35.3	161 46 42.5	Hart - CHS	718.9	2.856649
S. Sheek H.		45 00 48.726	275 43 53.9	95 44 25.2	Hart - C.H.S.	974.8	2.988922
Ontario, 1959	d.	74 50 46.577	287 57 08.4	107 57 37.2	32 - I.W.C.	937.4	2.971918
			342 25 53.3	162 26 06.0	Charles	619.7	2.792165
Charles H.		45 00 30.671	4 42 17.0	184 42 16.9	Charles	33.48	1.524758
New York, 1959	d.	74 50 37.912	60 06 38.8	240 05 58.2	Ref. Mon. 15	1,448.7	3.160988
R.M. 15 H		45 00 10.320	0 26 25.9	180 26 25.9	Ref. Mon. 15	93.8	1.972323
New York, 1959	d.	74 51 35.227	209 11 28.6	29 11 45.4	Sheek	1,067.2	3.028226
			244 35 20.1	64 36 00.5	Charles	1,386.6	3.141946
W. Sheek H		45 00 27.271	267 58 48.5	87 59 54.3	Charles	2,040.6	3.309751
Ontario, 1959	d.	74 52 11.158	308 07 32.5	128 07 57.9	Ref. Mon. 15	999.5	2.999763
			336 17 50.6	156 18 05.9	Ref. Mon. 15A-59	1,181.8	3.072554
E. Long H.		44 59 46.369	235 24 53.0	55 25 23.3	Ref. Mon. 15	1,137.3	3.055894
New York, 1959	d.	74 52 18.013	253 53 46.0	73 54 06.2	Ref. Mon. 15A-59	650.8	2.813421
Long H.		44 59 55.384	22 19 00.7	202 18 48.9	W. Fill - C.H.S.	972.4	2.987851
New York, 1959	d.	74 53 17.710	243 15 16.2	63 16 45.5	Sheek	3,095.9	3.490788
			255 09 53.9	75 10 03.4	Long	304.6	2.483737
Tank H.		44 58 04.155	20 35 37.8	200 35 37.3	Tank	49.8	1.697499
New York, 1959	d.	74 54 52.341	92 38 56.2	272 38 20.9	Raw - C.H.S.	1,094.5	3.039225
			118 00 30.4	298 00 18.5	Red - C.H.S.	416.1	2.619241
H-1		45 01 43.442	296 18 08.8	116 20 36.9	Ref. Mon. 11-59	5,115.1	3.708854
Ontario, 1959	d.	74 51 01.168	304 14 56.7	124 17 05.8	Ref. Mon. 10-59	4,835.7	3.684458
			355 46 49.1	175 46 52.3	27 - U.S.L.S.	1,318.9	3.120208

International boundary line Lake St. Lawrence Unmarked C.H.S. Stations *State* New York *Province* Ontario

STATION		LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
H-2		45 01 35.133	26 13 21.6	206 12 33.9	Long	3,345.3	3.524440
Ontario, 1959	d.	74 51 56.779	308 50 32.7	128 51 15.3	27 - U.S.L.S.	1,688.0	3.227367
			357 06 52.3	177 06 57.5	Ref. Mon. 15A-59	3,181.1	3.502572
H-3		45 01 09.402	26 43 00.1	206 42 24.2	Long	2,470.6	3.392804
Ontario, 1959	d.	74 52 13.554	278 55 48.5	98 56 42.9	27 - U.S.L.S.	1,702.7	3.231137
			347 30 53.9	167 31 10.9	Ref. Mon. 15-A-59	2,440.4	3.387469
H-4		45 01 27.456	39 37 20.4	219 36 06.4	Long	3,588.1	3.554867
Ontario, 1959	d.	74 51 19.794	312 30 43.1	132 31 35.3	32 - I.W.C.	2,196.6	3.341742
			328 25 57.7	148 26 14.0	27 - U.S.L.S.	964.5	2.984303
H-5		45 00 00.166	272 52 09.2	92 52 53.9	Long	1,387.9	3.142366
Ontario, 1959	d.	74 54 07.554	325 23 25.0	145 23 48.4	W. Fill - C.H.S.	1,272.3	3.104590
H-6		44 59 27.140	143 42 28.1	323 42 13.5	47 - I.W.C.	764.0	2.883099
New York, 1959	d.	74 53 59.604	272 53 13.2	92 53 30.9	W. Fill - C.H.S.	549.2	2.739728
H-7		44 59 42.730	162 07 34.9	342 07 33.5	47 - I.W.C.	141.4	2.150352
Ontario, 1959	d.	74 54 18.268	297 59 27.5	117 59 58.4	W. Fill - C.H.S.	1,084.2	3.035110
H-8		44 58 49.454	229 44 33.2	49 45 41.0	47 - I.W.C.	2,753.7	3.439912
New York, 1959	d.	74 55 56.189	249 52 55.8	69 54 35.9	W. Fill - C.H.S.	3,304.0	3.519043
H-9		44 58 48.424	13 47 57.2	193 47 46.0	Alcoa - U.S.L.S.	1,457.6	3.163642
New York, 1959	d.	74 53 43.824	47 04 15.9	227 03 26.9	Tank	2,074.6	3.316943
			233 22 48.5	53 23 17.3	Rushford - U.S.L.S.	1,673.8	3.223716
H-10		44 57 59.377	96 12 56.4	276 12 17.3	Lon - C.H.S.	1,224.3	3.087872
New York, 1959	d.	74 56 23.427	257 37 32.1	77 38 01.2	Raw - C.H.S.	924.2	2.965785
			334 21 35.9	154 21 57.7	Yellow - C.H.S.	1,562.3	3.193775
H-11		44 57 57.332	125 12 08.9	305 11 57.0	Raw - C.H.S.	453.0	2.656059
New York, 1959	d.	74 55 25.343	221 13 42.6	41 13 54.1	Red - C.H.S.	539.9	2.732295
			256 55 00.6	76 55 23.5	Tank	724.5	2.860052
H-12		44 57 53.997	187 50 40.9	7 50 42.5	Raw - C.H.S.	367.5	2.565287
New York, 1959	d.	74 55 44.521	236 44 18.1	56 44 43.1	Red - C.H.S.	928.1	2.967614
			256 39 29.2	76 40 05.6	Tank	1,157.2	3.063424
W. Dyke H.		44 56 44.843	168 31 28.4	348 31 12.5	Lon - C.H.S.	2,482.9	3.394963
New York, 1959	d.	74 56 56.421	213 02 51.0	33 03 43.3	Raw - C.H.S.	2,981.4	3.474416
			221 38 59.1	41 40 14.8	Red - C.H.S.	3,538.7	3.548842
S. Croil Is. H		44 57 47.359	14 03 05.7	194 02 55.0	McLeod - U.S.L.S.	1,372.2	3.137431
New York, 1959	d.	74 59 20.510	259 17 12.3	79 18 38.2	Lon - C.H.S.	2,711.0	3.433123
			288 32 40.3	108 33 36.7	Lon - U.S.E.	1,844.3	3.265822

International boundary line Lake St. Lawrence Unmarked C.H.S. Stations *State* New York *Province* Ontario

STATION	LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
	° ′ ″	° ′ ″	° ′ ″			
Morrison H	44 58 23.086	321 09 13.3	141 09 28.7	Far	762.4	2.882192
Ontario, 1959 d.	75 00 07.319	340 59 37.4	160 59 48.0	Isle	1,014.2	3.006127
		344 06 30.2	164 06 52.5	McLeod - U.S.L.S.	2,530.7	3.403246
Far H.	44 58 17.452	349 36 29.1	169 36 31.6	Far	426.9	2.630320
New York, 1959 d.	74 59 49.012	352 38 50.7	172 39 00.1	McLeod - U.S.L.S.	2,278.9	3.357718
Steen H.	44 57 50.144	243 55 37.4	63 56 05.3	Far	962.8	2.983531
Ontario, 1959 d.	75 00 24.960	265 22 21.2	85 22 44.3	Isle	719.3	2.856889
		322 41 44.2	142 42 19.0	McLeod - U.S.L.S.	1,781.5	3.250784

International boundary line St. Lawrence River Reference Monuments *State* New York *Province* Ontario

STATION	LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
Airis - U.S.L.S. Quebec, 1954; r. 1959 d.m.	45 00 40.188 74 39 37.950	41 40 30.4	221 39 39.5	Twain	2,372.9	3.375280
Mon. 774 New York-Quebec, 1902; r. 1959 d.m.	44 59 57.810 74 39 40.223	73 06 03.4 182 10 43.6 271 54 01.4	253 05 14.1 2 10 45.2 91 54 06.5	Twain Airis - U.S.L.S. St. Regis E. Base	1,596.9 1,309.1 159.3	3.203286 3.116985 2.202340
Ref. Mon. 1 Ontario, 1910; r. 1959 d.m.	45 00 33.267 74 40 16.204	9 10 32.8 25 23 17.8 255 41 19.7 319 15 28.2 324 14 39.4	189 10 21.5 205 22 54.0 75 41 46.8 139 15 58.8 144 15 04.9	St. Regis W. Base Twain Airis - U.S.L.S. St. Regis E. Base Mon. 774	2,209.9 1,725.5 864.5 1,451.5 1,348.7	3.344380 3.236924 2.936779 3.161827 3.129917
Boots Ontario, 1959 d.m.	45 00 11.178 74 40 32.014	24 09 57.4 73 10 31.9 206 55 03.8 289 59 07.0	204 09 44.8 253 09 08.0 26 55 15.0 109 59 43.7	Twain Mott Ref. Mon. 1 Mon. 774-1902	961.3 2,976.1 764.8 1,207.1	2.982840 3.473644 2.883530 3.081727
Ref. Mon. 2-59 Ontario, 1959 d.m.	45 00 11.465 74 40 32.548	23 18 59.2 72 56 46.7 208 00 11.5 290 11 17.1 307 08 44.2	203 18 46.9 252 55 15.1 28 00 23.0 110 11 54.1 127 08 44.5	Twain Mott Ref. Mon. 1 Mon. 774 Boots	964.7 2,967.5 762.3 1,221.1 14.675	2.984375 3.472386 2.882126 3.086746 1.166588
Ref. Mon. 3-59 New York, 1959 d.m.	44 59 42.212 74 40 49.932	90 45 37.4 176 27 42.9 202 51 35.6 252 29 23.2	270 44 18.1 356 27 42.9 22 51 47.9 72 30 12.5	Mott Twain Ref. Mon. 2-59 Mon. 774	2,456.4 17.160 980.0 1,601.0	3.390307 1.234524 2.991227 3.204388
McCree New York, 1959 d.m.	44 59 41.913 74 43 06.132	60 43 56.4	240 42 59.8	12 - I.J.C.	2,009.3	3.303040
Ref. Mon. 4 Ontario, 1910; r. 1959 d.m.	45 00 14.865 74 42 09.663	36 01 48.1 50 34 13.7 154 41 07.1 272 48 56.5 299 34 37.9 299 59 08.0 307 05 59.9	216 01 25.2 230 33 33.8 334 40 42.2 92 50 05.2 119 35 34.3 120 00 04.4 127 07 08.8	Mott McCree Cornwall E. Ch. Ref. Mon. 2 Twain Ref. Mon. 3 St. Regis W. Base	1,206.6 1,601.4 1,804.7 2,129.5 2,003.1 2,016.4 2,674.4	3.081576 3.204487 3.256404 3.328281 3.302534 3.304570 3.427231
Ref. Mon. 5 Ontario, 1910; r. 1959 d.m.	44 59 58.824 74 43 21.686	43 11 05.9 252 33 56.8 270 20 53.1 278 28 11.0 278 45 20.3 298 58 43.9 326 52 03.3	223 10 20.3 72 34 47.7 90 23 29.7 98 29 58.3 98 47 07.6 118 59 11.9 146 52 14.3	12 - I.J.C. Ref. Mon. 4 Mon. 774 Twain Ref. Mon. 3-59 Mott McCree	2,063.3 1,653.3 4,847.4 3,356.1 3,363.3 992.1 623.4	3.314556 3.218356 3.685807 3.526296 3.526764 2.996538 2.794749

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International boundary line St. Lawrence River Reference Monuments *State* New York *Province* Ontario

STATION	LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
Ref. Mon. 6-59	44 59 37.624	40 24 13.2	220 23 49.8	12 - I.W.C.	1,116.4	3.047805
Ontario, 1959 d.m.	74 43 53.110	226 26 28.6	46 26 50.8	Ref. Mon. 5	949.8	2.977612
		243 05 16.1	63 06 29.2	Ref. Mon. 4	2,540.7	3.404958
		262 39 48.1	82 40 21.3	McCree	1,037.5	3.016000
Ref. Mon. 7-59	44 59 10.501	221 15 37.9	41 16 01.7	Ref. Mon. 6-59	1,113.9	3.046841
New York, 1959 d.m.	74 44 26.646	319 12 21.9	139 12 22.3	12 - I.W.C.	16.987	1.230104
Watt	44 59 26.432	5 55 21.0	185 55 19.3	12 - I.W.C.	507.4	2.705314
Ontario, 1959 d.m.	74 44 23.749	7 21 05.7	187 21 03.6	Ref. Mon. 7-59	495.9	2.695363
		233 39 27.8	53 40 11.7	Ref. Mon. 5	1,687.6	3.227268
		242 45 32.1	62 45 53.8	Ref. Mon. 6-59	754.9	2.877875
		254 17 33.4	74 18 28.3	McCree	1,766.1	3.247022
Andorra	44 59 17.752	15 31 05.7	195 31 03.5	12 - I.W.C.	245.7	2.390357
New York, 1959 d.m.	74 44 23.139	177 08 30.8	357 08 30.3	Watt	268.3	2.428566
		226 59 46.8	47 00 08.0	Ref. Mon. 6-59	899.4	2.953976
		246 08 25.6	66 09 20.0	McCree	1,844.4	3.265860
Ref. Mon. 8	44 59 44.389	290 23 57.5	110 24 45.6	Watt	1,589.9	3.201361
Ontario, 1910; r. 1959 d.m.	74 45 31.774	298 40 03.6	118 40 52.2	Andorra	1,713.7	3.233926
		306 14 39.0	126 15 25.0	Ref. Mon. 7-59	1,769.1	3.247764
		306 21 58.7	126 22 45.1	12 - I.W.C.	1,785.7	3.251810
Ref. Mon. 9-59	45 00 31.677	17 19 15.6	197 19 05.7	Massena Point - U.S.L.S.	1,023.3	3.010015
Ontario, 1959 d.m.	74 45 52.749	57 19 24.0	237 18 20.7	17 - U.S.L.S.	2,327.8	3.366939
		79 35 10.8	259 33 41.7	Ref. Mon. 10-59	2,803.7	3.447727
		88 36 50.8	268 35 40.7	Ref. Mon. 11-59	2,169.3	3.336316
		342 31 45.0	162 31 59.8	Ref. Mon. 8	1,530.3	3.184789
Ref. Mon. 10-59	45 00 15.241	72 32 13.6	252 28 38.3	Rushford - U.S.L.S.	6,992.6	3.844640
New York, 1959 d.m.	74 47 58.656	104 58 47.5	284 57 17.5	32 - I.W.C.	2,883.4	3.459911
		109 05 19.4	289 03 51.9	Hart - C.H.S.	2,864.7	3.457074
		109 51 44.5	289 49 38.6	27 - U.S.L.S.	4,145.9	3.617616
		115 43 27.3	295 39 36.0	Long Sault W.T.	7,945.8	3.900140
		141 56 22.0	321 55 06.9	Dyke - C.H.S.	3,769.2	3.576245
		231 47 23.1	51 47 38.9	Dam - C.H.S.	623.7	2.794941
		280 49 33.4	100 50 52.6	Massena Point-U.S.L.S.	2,497.5	3.397500
		294 50 24.1	114 53 14.1	Ball,Chevrolet Tank	5,806.1	3.763888
		301 43 39.1	121 45 45.4	Reynolds Tank	4,603.1	3.663052
		313 11 36.6	133 12 02.4	17 - U.S.L.S.	1,095.2	3.039499

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STATION		LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
Ref. Mon. 11-59		45 00 29.965	52 19 44.8	232 19 25.8	Ref. Mon. 10-59	743.72	2.871412
Ontario, 1959	d.m.	74 47 31.777	94 55 49.1	274 54 00.1	32 - I.W.C.	3,386.6	3.529763
			98 19 49.1	278 18 02.6	Hart - C.H.S.	3,330.9	3.522560
			102 00 24.1	281 57 59.2	27 - U.S.L.S.	4,588.2	3.661639
			111 08 13.4	291 04 03.1	Long Sault W. T.	8,305.5	3.919367
			130 47 50.1	310 46 16.0	Dyke - C.H.S.	3,846.7	3.585092
			296 21 36.3	116 22 36.5	Massena Point-U.S.L.S.	2,080.6	3.318196
			301 43 54.8	121 46 25.8	Ball, Chevrolet Tank	5,502.6	3.740570
			310 50 34.8	130 52 22.1	Reynolds Tank	4,397.0	3.643152
			350 07 16.7	170 07 23.5	17 - U.S.L.S.	1,222.3	3.087192
Ref. Mon. 12-59		45 00 44.931	22 32 24.6	202 32 22.3	32 - I.W.C.	186.1	2.269632
New York, 1959	d.m.	74 50 02.598	199 17 12.9	19 17 13.1	Hart - C.H.S.	20.894	1.320023
			288 38 47.3	108 40 15.0	Ref. Mon. 10-59	2,864.8	3.457097
			119 38 37.2	299 36 13.6	Long Sault W. T.	5,114.8	3.708830
Ref. Mon. 14		45 00 24.023	180 05 05.9	0 05 05.9	Charles	171.9	2.235176
New York, 1910; r. 1959	d.m.	74 50 38.048	230 15 18.3	50 15 43.4	Ref. Mon. 12-59	1,009.6	3.004148
Ref. Mon. 13-59		45 00 40.221	231 30 25.7	51 30 26.0	Sheek	13.725	1.137518
Ontario, 1959	d.m.	74 51 11.950	303 57 30.2	123 57 54.1	Ref. Mon. 14	895.1	2.951874
Ref. Mon. 15		45 00 07.280	46 02 50.3	226 01 48.2	Rushford - U.S.L.S.	2,673.9	3.427141
New York, 1910; r. 1959	d.m.	74 51 35.260	80 13 46.1	260 11 49.5	47 - I.W.C.	3,667.1	3.564327
			81 34 09.6	261 33 06.6	Long	1,970.8	3.294642
			146 46 51.1	326 45 33.0	Long Sault W. T.	4,412.0	3.644638
			206 39 19.8	26 39 36.3	Ref. Mon. 13-59	1,137.8	3.056076
			206 56 34.0	26 56 50.8	Sheek	1,150.2	3.060810
			207 01 57.0	27 02 24.3	27 - U.S.L.S.	1,856.0	3.268578
			216 57 33.6	36 58 51.7	Dyke - C.H.S.	4,021.6	3.604395
			241 12 13.7	61 12 54.1	Charles	1,430.0	3.155333
			247 34 44.4	67 35 24.8	Ref. Mon. 14	1,355.4	3.132066
			267 00 47.6	87 03 20.8	Ref. Mon. 10-59	4,750.3	3.676719
Ref. Mon. 15A-59		44 59 52.215	49 14 28.1	229 13 36.1	Rushford - U.S.L.S.	2,130.4	3.328457
New York, 1959	d.m.	74 51 49.468	81 46 29.2	261 45 42.1	E. Fill - C.H.S.	1,477.2	3.169438
			96 07 56.4	276 07 03.5	Long	1,647.7	3.216887
			153 07 32.5	333 06 24.5	Long Sault W. T.	4,659.1	3.668306
			208 35 37.0	28 36 14.4	27 - U.S.L.S.	2,412.7	3.382481
			209 10 46.1	29 11 13.0	Sheek	1,707.1	3.232277
			213 47 14.7	33 47 24.8	Ref. Mon. 15	559.7	2.747851
			40 08 25.7	220 06 53.7	Alcoa - U.S.L.S.	4,426.8	3.646089
Ref. Mon. 16-59		44 59 57.745	173 17 14.4	353 16 59.3	Long Sault W. T.	4,012.4	3.603406
New York, 1959	d.m.	74 53 04.255	177 42 13.1	357 42 13.1	Long	5.093	0.706992
			261 24 16.8	81 25 19.8	Ref. Mon. 15	1,971.4	3.294764
			275 56 32.5	95 57 25.4	Ref. Mon. 15A-59	1,647.0	3.216693

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International boundary line Lake St. Lawrence Reference Monuments *State* New York *Province* Ontario

STATION	LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
Ref. Mon. 17-59	44 59 46.392	45 55 55.4	225 54 45.0	35-Sub - U.S.L.S.	3,040.1	3.482892
Ontario, 1959 d.m.	74 54 19.703	150 53 06.6	330 53 06.2	47 - I.W.C.	24.600	1.390943
		257 50 50.4	77 51 43.6	Long	1,690.2	3.227930
		258 01 03.1	78 01 56.3	Ref. Mon. 16-59	1,689.3	3.227708
Ref. Mon. 18-58	44 59 42.254	157 16 56.6	337 16 56.6	Park - C.H.S.	4.32	0.635385
Ontario, 1958; r. 1959 d.m.	74 55 27.624	264 13 10.6	84 13 58.2	47 - I.W.C.	1,483.3	3.171230
		265 05 10.6	85 05 58.6	Ref. Mon. 17	1,493.2	3.174125
Ref. Mon. 19-59	44 58 39.247	17 34 54.3	197 34 53.9	35-sub - U.S.L.S.	44.150	1.644934
New York, 1959 d.m.	74 55 58.786	199 20 18.2	19 20 40.2	Ref. Mon. 18	2,061.3	3.314149
		226 18 45.3	46 19 55.3	Ref. Mon. 17	3,001.3	3.477315
		119 43 38.8	299 41 10.2	Ingleside W. T.	5,303.3	3.724548
Ref. Mon. 20-59	44 59 32.058	70 26 13.2	250 25 42.3	Ingle	1,013.0	3.005626
Ontario, 1959 d.m.	74 57 03.061	265 07 57.0	85 08 31.4	Picnic	1,069.4	3.029123
		319 10 27.4	139 11 12.8	Ref. Mon. 19	2,154.2	3.333286
		320 09 49.2	140 10 34.2	35-sub - U.S.L.S.	2,177.7	3.337991
Ref. Mon. 21	44 58 52.109	28 59 02.6	208 58 49.1	Croil Island - U.S.L.S.	867.0	2.938040
New York, 1910; r. 1959 d.m.	74 58 22.203	68 50 51.7	248 49 36.7	Morrison	2,495.5	3.397157
		146 43 30.9	326 42 43.7	Ingleside W. T.	2,668.8	3.426316
		221 04 28.2	41 04 53.3	Ingle	1,185.9	3.074034
		234 34 08.4	54 35 04.4	Ref. Mon. 20-59	2,127.6	3.327897
		244 40 39.2	64 42 10.1	Picnic	3,096.6	3.490891
		247 53 14.8	67 55 18.2	Park - C.H.S.	4,125.9	3.615514
		252 13 16.9	72 16 07.9	47 - I.W.C.	5,565.5	3.745505
		277 11 14.2	97 12 55.6	Ref. Mon. 19-59	3,167.3	3.500688
		277 58 29.5	98 00 10.5	35-sub - U.S.L.S.	3,159.6	3.499638
Ref. Mon. 22-58	44 58 22.521	198 47 36.3	18 47 36.4	Morrison	13.13	1.118392
Ontario, 1958 d.m.	75 00 08.606	248 35 47.4	68 37 02.5	Ref. Mon. 21	2,504.0	3.398626
		318 41 47.3	138 42 03.6	Far	767.2	2.884918
Ref. Mon. 23-58	44 57 51.879	200 48 04.0	20 48 15.6	Ref. Mon. 22-58	1,011.9	3.005122
Ontario, 1958; r. 1959 d.m.	75 00 25.004	200 46 31.1	20 46 42.8	Morrison	1,025.0	3.010719
		246 52 58.8	66 53 26.7	Far	941.4	2.973754
		323 41 27.9	143 42 02.7	McLeod - U.S.L.S.	1,825.0	3.261254
		337 07 05.4	157 07 06.0	Steen	52.142	1.717190
		196 40 35.4	16 41 14.9	Ingleside W. T.	4,270.1	3.630433
Ref. Mon. 24-58	44 57 01.450	99 12 06.0	279 11 31.1	67 - I.W.C.	1,094.3	3.039117
New York, 1958; r. 1959 d.m.	74 59 42.113	148 37 59.2	328 37 29.5	Steen	1,767.0	3.247231
		148 52 32.8	328 52 02.5	Ref. Mon. 23-58	1,818.6	3.259729
		177 47 40.3	357 47 37.9	Far	1,927.7	3.285032
		238 30 45.6	58 30 50.1	McLeod - U.S.L.S.	164.7	2.216504
		182 53 56.0	2 54 05.2	Ingleside W.T.	5,654.3	3.752377

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STATION	LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
Ref. Mon. 25-58	44 56 48.461	147 38 04.6	327 38 04.4	Ault Point	11.01	1.041764
Ontario, 1958; r. 1959 d.m.	75 02 42.104	258 37 25.4	78 38 57.7	67 - I.W.C.	2,922.8	3.465800
		264 10 46.2	84 12 53.4	Ref. Mon. 24-58	3,966.1	3.598364
Ref. Mon. 26-59	44 56 10.274	68 07 47.5	248 06 59.2	74 sub	1,612.9	3.207618
New York, 1959 d.m.	75 01 57.691	140 26 45.6	320 26 14.2	Ref. Mon. 25-58	1,529.0	3.184402
		227 08 55.8	47 09 56.7	67 - I.W.C.	2,580.5	3.411700
		241 59 48.0	62 01 23.8	Ref. Mon. 24-58	3,366.2	3.527136
		268 41 43.4	88 41 43.6	72-I.W.C.=Whalen-U.S.L.S.	7.172	0.855638
Ref. Mon. 27-58	44 55 52.559	71 33 14.5	251 31 57.2	Brad	2,531.0	3.403297
New York, 1958; r. 1959 d.m.	75 03 06.988	170 07 28.5	350 07 19.2	Wells - U.S.L.S.	1,687.8	3.227317
		197 32 32.7	17 32 50.3	Ref. Mon. 25-58	1,809.8	3.257640
		250 12 02.0	70 12 51.0	Ref. Mon. 26-59	1,614.9	3.208150
		250 16 51.2	70 17 40.4	72-I.W.C.=Whelen-U.S.L.S.	1,621.7	3.209976
		337 13 38.4	157 13 39.1	74 sub	58.7	1.768947
Ref. Mon. 28 = Gen. Chrysler Mon.	44 56 30.764	25 18 32.4	205 18 02.3	Brad	2,190.8	3.340610
Ontario, 1959 d.	75 04 13.759	281 57 22.2	101 58 58.4	Ref. Mon. 26-59	3,049.7	3.484258
		308 50 41.6	128 51 28.8	Ref. Mon. 27-58	1,880.0	3.274156
		309 40 21.8	129 41 09.7	74 sub	1,931.9	3.285980
Ref. Mon. 30-58	44 56 03.653	96 39 18.2	276 39 17.8	Wood	13.567	1.132474
Ontario, 1958; r. 1959 d.m.	75 06 11.032	251 57 38.7	71 59 01.5	Ref. Mon. 28-59	2,704.1	3.432020
		347 10 04.8	167 10 20.6	78 sub	2,199.3	3.342289
Ref. Mon. 29-59	44 55 25.844	49 38 59.4	229 38 22.4	78 sub	1,509.2	3.178752
New York, 1959 d.m.	75 04 56.327	125 17 24.4	305 16 31.2	Wood	2,023.4	3.306077
		125 28 30.8	305 27 38.0	Ref. Mon. 30-58	2,011.5	3.303515
		172 41 43.4	352 41 43.3	Brad	23.576	1.372476
		204 58 17.1	24 58 47.1	Ref. Mon. 28-59	2,210.7	3.344537
		251 00 35.7	71 01 52.9	Ref. Mon. 27-58	2,535.7	3.404098
		348 14 56.5	168 14 48.6	76-I.W.C.=Bradford-U.S.L.S.	319.6	2.504647
Ref. Mon. 31-58	44 54 42.372	57 07 32.9	237 05 39.8	90-I.W.C.=Allison-U.S.L.S.	4,185.0	3.621696
New York, 1958; r. 1959 d.m.	75 06 12.533	75 36 27.3	255 34 18.3	Doran	4,139.4	3.616938
		108 16 38.7	288 15 11.8	Morrisburg E.B.-U.S.L.S.	2,841.5	3.453547
		180 45 06.4	0 45 07.4	Ref. Mon. 30-58	2,509.3	3.399555
		231 14 00.4	51 14 54.2	Ref. Mon. 29-59	2,143.5	3.331127
		235 01 38.6	55 01 55.4	78 sub	636.3	2.803652
		355 29 46.5	175 29 46.8	Law	137.9	2.139480

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STATION	LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
Ref. Mon. 32-58	44 55 07.600	14 59 31.8	194 59 05.5	90-I.W.C.=Allison-U.S.L.S.	2,815.3	3.449524
Ontario, 1958; r. 1959 d.m.	75 08 15.469	157 36 06.2	337 36 05.9	East	22.406	1.350362
		179 05 24.0	359 05 23.9	Morrisburg E. B. - U.S.L.S.	111.8	2.048514
		286 05 48.1	106 07 14.9	Ref. Mon. 31-58	2,806.8	3.448208
Ref. Mon. 33-58	44 53 27.724	106 15 12.5	286 13 25.9	Morrisburg W. T.	3,452.9	3.538182
New York, 1958; r. 1960 d.m.	75 08 54.624	143 59 54.3	323 59 09.6	Martin	2,362.9	3.373440
		160 25 03.3	340 24 48.8	Doran	1,352.4	3.131104
		201 22 36.4	21 22 47.6	Old Ref. Mon. 32 (lost)	945.9	2.975855
		195 33 54.3	15 34 22.0	Ref. Mon. 32-58	3,200.5	3.505220
		232 57 36.3	52 57 37.7	90-I.W.C.= Allison-U.S.L.S.	52.709	1.721886
		237 02 33.8	57 04 28.3	Ref. Mon. 31-58	4,237.6	3.627117
		238 42 27.1	58 44 21.9	Law	4,173.7	3.620522
Ref. Mon. 34-59	44 54 09.136	83 43 05.7	263 41 34.4	Morrisburg W. T.	2,852.7	3.455259
Ontario, 1959; r. 1960 d.m.	75 09 16.469	216 32 56.8	36 33 39.8	Ref. Mon. 32	2,246.7	3.351548
		255 42 58.5	75 45 08.3	Ref. Mon. 31	4,163.6	3.619465
		279 06 34.8	99 06 35.6	Doran	26.335	1.420530
		339 26 37.8	159 26 53.1	Ref. Mon. 33	1,365.2	3.135208
Ref. Mon. 35-59	44 53 16.143	2 30 22.9	182 30 18.9	Waddington W. T.	2,891.5	3.461127
Ontario, 1959; r. 1960 d.m.	75 11 41.718	242 48 55.8	62 50 38.4	Ref. Mon. 34	3,582.4	3.554177
		243 03 47.6	63 05 31.0	Doran	3,603.7	3.556748
		263 59 30.2	84 01 29.5	Allison-U.S.L.S.=90-I.W.C.	3,729.3	3.571622
		264 24 52.4	84 26 50.3	Ref. Mon. 33	3,684.2	3.566344
		346 56 03.7	166 56 17.2	Wad	1,853.6	3.268020
		355 17 52.2	175 17 57.0	Bump	1,814.9	3.258859
Ref. Mon. 36-59	44 52 36.635	79 58 32.0	259 57 50.0	Graph - Den C.H.S.	1,326.8	3.122790
New York, 1959; r. 1960 d.m.	75 12 05.162	174 45 07.6	354 45 05.8	Burg	621.9	2.793714
		198 48 05.7	18 48 33.5	Morrisburg W. T.	2,686.1	3.429121
		202 52 22.9	22 52 39.4	Ref. Mon. 35	1,323.7	3.121791
Ref. Mon. 37-59	44 52 29.141	88 18 49.1	268 18 21.0	Lock	875.0	2.941993
New York, 1959; r. 1960 d.m.	75 13 05.209	218 11 57.5	38 13 07.7	Morrisburg W. T.	3,530.4	3.547822
		235 59 39.5	56 00 20.1	Burg	1,521.1	3.182168
		260 02 22.5	80 03 04.9	Ref. Mon. 36	1,338.2	3.126512
		268 46 37.7	88 46 38.1	Graph - Den C.H.S.	11.56	1.062770
Ref. Mon. 38-59	44 52 28.418	56 50 39.9	236 49 27.4	Drog - Hill C.H.S.	2,700.0	3.431357
Ontario, 1959; r. 1960 d.m.	75 13 45.195	268 32 19.5	88 32 47.7	Ref. Mon. 37	878.0	2.943488
		268 32 30.3	88 32 58.9	Graph - Den C.H.S.	899.5	2.949164
		318 09 46.0	138 09 46.1	Lock	4.67	0.669275

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Ref. Mon. 39-59		44 51 40.757	58 23 32.0	238 23 31.7	Drog = Hill C.H.S.	11.09	1.044759
Ontario, 1959	d.m.	75 15 27.719	65 30 33.2	245 29 52.0	Point	1,509.6	3.178866
			236 49 04.4	56 50 16.6	Ref. Mon. 38-59	2,688.9	3.429573
			244 27 56.7	64 29 37.1	Ref. Mon. 37-59	3,466.7	3.539919
			244 32 38.6	64 34 19.4	Graph = Den C.H.S.	3,477.3	3.541236
			298 43 55.0	118 44 28.1	Leish	1,175.7	3.070313
Ref. Mon. 40-59		44 51 21.118	35 36 18.4	215 35 35.5	114 sub	2,300.1	3.361745
Ontario, 1959	d.m.	75 16 31.392	61 54 29.7	241 53 31.0	Brick	2,076.7	3.317365
			106 58 57.4	286 58 45.9	Pine Tree - U.S.L.S.	375.8	2.574981
			246 33 01.3	66 33 43.3	Ref Mon. 39-59	1,523.8	3.182932
			269 01 24.4	89 02 39.5	Leish	2,429.4	3.385502
			309 01 23.7	129 01 24.5	Point	31.28	1.495248
			335 20 38.8	155 20 52.1	Fill	988.3	2.994900
Ref. Mon. 41-59		44 50 49.436	0 24 46.8	180 24 46.5	Dam	1,330.8	3.124124
Ontario, 1959	d.m.	75 17 54.992	101 02 16.8	281 01 09.6	Iroquois Tank	2,133.9	3.329173
			241 56 36.4	61 57 35.2	Ref. Mon. 40-59	2,080.1	3.318090
			270 14 37.9	90 14 38.0	Brick	3.94	0.595447
			330 52 18.9	150 52 34.8	114 sub	1,021.2	3.009132
Ref. Mon. 42-59		44 50 05.414	38 57 05.2	218 56 54.7	1298 C.H.S.	522.7	2.718248
Ontario, 1959	d.m.	75 18 27.167	141 51 21.6	321 50 37.1	Iroquois Tank	2,247.1	3.351622
			207 28 19.7	27 28 42.4	Ref. Mon. 41-59	1,531.6	3.185158
			207 36 10.8	27 36 33.6	Brick	1,533.5	3.185670
			248 48 04.1	68 48 42.7	114 sub	1,291.2	3.110977
			267 41 22.6	87 41 45.0	Dam	697.7	2.843665
Ref. Mon. 43-59		44 50 05.539	89 38 32.5	269 38 12.8	Ref. Mon. 42-59	612.756	2.787288
New York, 1959	d.m.	75 17 59.271	131 23 54.8	311 22 50.4	Iroquois Tank	2,666.8	3.425997
			183 57 59.7	3 58 02.7	Ref. Mon. 41-59	1,358.3	3.132992
			253 58 34.8	73 58 37.5	Dam	87.8	1.943476
Ref. Mon. 44-59		44 49 17.443	59 20 03.5	239 19 24.0	Putney	1,431.7	3.155861
New York, 1959	d.m.	75 17 51.585	134 03 39.3	314 03 03.7	No. 1298 - C.H.S. (Iroquois)	1,545.0	3.188918
			146 15 51.8	326 14 42.2	Iroquois W. T.	3,906.0	3.591733
			152 10 32.7	332 10 07.6	Ref. Mon. 42-59	1,674.4	3.223871
			173 30 45.9	353 30 40.5	Ref. Mon. 43-59	1,494.2	3.174417
			176 47 49.8	356 47 47.1	Dam	1,511.3	3.179337
Ref. Mon. 45-59		44 48 16.374	83 16 49.8	263 15 17.8	125 - I.W.C.	2,888.7	3.460696
New York, 1959; r. 1961	d.m.	75 19 24.747	111 06 59.8	291 05 59.0	123 - I.W.C.	2,031.7	3.307866
			148 34 45.8	328 34 26.0	Toussaint	1,182.7	3.072864
			178 37 40.6	358 36 36.7	Iroquois W. T.	5,135.1	3.710551
			197 33 18.2	17 33 48.3	1298 - C.H.S. = Iroquois	3,104.1	3.491933
			210 01 39.3	30 02 42.3	Dam	3,920.5	3.593345
			215 13 44.3	35 14 10.5	Putney	1,413.8	3.150382

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STATION	LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
Ref. Mon. 46	44 48 39.688	37 10 44.7	217 09 36.2	Elevator	3,534.0	3.548269
Ontario, 1911; r. 1959 d.m.	75 20 50.921	42 39 07.6	222 38 36.3	125 - I.W.C.	1,438.9	3.158019
		171 58 59.3	351 58 59.2	123 - I.W.C.	12.113	1.083244
		257 13 12.1	77 13 53.0	Toussaint	1,309.4	3.117078
		290 48 01.7	110 49 02.4	Ref. Mon. 45-59	2,025.9	3.306610
		354 40 31.1	174 40 36.0	Top	1,655.5	3.218938
Ref. Mon. 47-59	44 46 44.732	96 33 57.0	276 33 06.2	Sisney	1,594.7	3.202678
New York, 1959 d.m.	75 22 26.835	177 53 03.8	357 53 02.9	Elevator	733.0	2.865084
		204 27 56.7	24 28 33.0	125 - I.W.C.	2,736.0	3.437114
		210 42 20.4	30 43 28.0	Ref. Mon. 46	4,127.6	3.615694
		246 54 08.8	66 54 09.0	Lalone	7.266	0.861322
Ref. Mon. 48-59	44 46 50.444	64 52 54.0	244 52 26.9	129 sub	934.0	2.970345
Ontario, 1959 d.m.	75 23 39.128	221 48 19.9	41 48 20.0	Sisney	7.779	0.890896
		250 23 57.6	70 24 47.6	Elevator	1,658.3	3.219668
		276 19 26.8	96 20 17.7	Ref. Mon. 47-59	1,599.2	3.203902
Ref. Mon. 49-59	44 46 37.688	33 17 57.0	213 17 38.8	Pitt	1,035.2	3.015006
Ontario, 1959 d.m.	75 24 12.176	61 21 33.6	241 21 06.8	Adams	954.3	2.979692
		245 21 31.9	65 21 59.4	Ref. Mon. 48-59	944.5	2.975207
		245 10 17.9	65 10 45.5	Sisney	951.6	2.978475
		248 33 56.9	68 35 14.4	Elevator	2,600.5	3.415059
		264 54 52.1	84 56 10.5	Ref. Mon. 47-59	2,457.7	3.390523
		282 12 19.8	102 12 20.2	129 sub	13.180	1.119902
		300 42 44.0	120 43 20.6	Dupuis	1,329.8	3.123774
Ref. Mon. 50	44 46 22.062	36 36 31.4	216 35 39.1	Drum	2,742.3	3.438109
Ontario, 1911; r. 1959 d.m.	75 24 52.953	45 19 13.3	225 16 47.0	Johnson Elevator Pole	6,431.3	3.808301
		108 50 58.9	288 50 56.6	Adams	77.0	1.886317
		237 45 14.5	57 45 39.0	Ref. Mon. 49-59	904.1	2.956214
		238 19 58.2	58 20 23.1	129 sub	913.6	2.960733
		332 50 21.1	152 50 27.4	Pitt	430.3	2.633308
Ref. Mon. 51-59	44 45 10.341	33 44 46.0	213 42 52.9	Ogdensburg W. Base 2	6,366.5	3.803903
Ontario, 1959 d.m.	75 26 07.424	188 58 59.5	8 59 05.2	Johns	1,152.8	3.061736
		192 27 00.6	12 27 0[illegible].7	Drum	12.741	1.105192
		216 29 08.7	36 30 01.1	Ref. Mon. 50	2,753.9	3.439947
		225 02 35.2	45 03 33.9	Pitt	2,591.8	3.413604
		268 30 43.6	88 32 15.3	Red Mills - U.S.L.S.	2,867.2	3.457457
Ref. Mon. 52-59	44 43 15.880	56 18 01.1	236 18 00.4	Windmill Point-U.S.L.S.	25.850	1.412462
Ontario, 1959 d.m.	75 29 13.899	69 58 33.5	249 58 32.7	Windmill Point-L.H.	23.9	1.378648
		229 14 54.4	49 17 05.6	Ref. Mon. 51-59	5,414.6	3.733564
		242 36 24.6	62 40 07.5	Red Mills - U.S.L.S.	7,848.0	3.894757
		342 06 52.6	162 07 10.7	Ogdensburg W. Base 2	1,851.0	3.267405
		358 37 43.9	178 37 45.0	Bench Mark 27	1,468.1	3.166764

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STATION	LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
Ref. Mon. 53	44 41 58.130	46 23 34.4	226 22 20.5	140 sub	3,195.3	3.504511
New York, 1911; r. 1961 d.m.	75 29 48.974	71 13 37.2	251 13 19.9	Ogdensburg L.H.	573.4	2.758455
		79 32 51.7	259 32 34.2	Ferry - U.S.L.S.	555.3	2.744562
		103 04 21.8	283 03 21.1	139 sub	1,949.3	3.289872
		129 53 35.3	309 52 44.7	St. Johns Anglican Ch. Sp.	2,063.3	3.314557
		149 06 57.6	329 06 28.7	137 - I.W.C.	1,761.8	3.245950
		197 23 55.1	17 24 19.0	Windmill Point L.H.	2,506.5	3.399065
		197 49 48.3	17 50 13.0	Ref. Mon. 52-59	2,521.1	3.401593
Ref. Mon. 54	44 37 23.029	19 02 16.2	199 01 32.6	Morristown Standpipe	4,202.3	3.623483
Ontario, 1911; r. 1959 d.m.	75 37 44.590	21 32 39.8	201 32 05.8	150 - I.W.C.	2,909.1	3.463752
		46 50 02.4	226 49 04.3	151 - I.W.C.	2,500.6	3.398048
		61 04 11.6	241 04 07.7	K - U.S.L.S.	140.0	2.145974
		223 48 08.7	43 52 42.4	139 sub	12,384.3	4.092870
		225 25 37.3	45 27 47.9	143 sub	5,748.7	3.759566
		230 55 55.0	51 01 29.5	Ref. Mon. 53	13,487.3	4.129926
		232 22 00.1	52 26 20.6	140 sub	10,305.7	4.013076
		260 45 39.4	80 47 0[illegible].0	146 sub	2,561.3	3.408456
		305 18 35.4	125 18 36.2	149 sub	29.10	1.463859
Ref. Mon. 55 (153 I.W.C.)	44 35 36.576	14 30 42.1	194 30 24.0	154 - I.W.C.	2,269.6	3.355941
Ontario, 1911; r. 1959 = d.m.	75 39 45.700	51 56 11.9	231 54 55.6	157 - I.W.C.	3,045.1	3.483600
Murray - C.H.S.		63 23 25.8	243 22 39.4	155 sub	1,631.7	3.212648
		208 15 46.6	28 16 13.5	151 - I.W.C.	1,788.2	3.252427
		219 05 24.9	39 06 49.9	Ref. Mon. 54	4,334.4	3.626788
		250 05 52.8	70 06 43.8	150 - I.W.C.	1,704.6	3.231623
		286 41 06.9	106 41 35.8	152 sub	947.0	2.976339
		297 49 14.0	117 49 55.4	Morristown Standpipe	1,470.9	3.167570
		79 43 58.8	259 42 58.2	Brockville Presb. Ch. Sp.	1,936.8	3.287082
		81 35 04.3	261 34 07.0	Brockville United Ch. Sp.	1,821.7	3.260466
Ref. Mon. 56	44 34 04.555	14 10 10.5	194 09 55.8	Taylor R.M.2-U.S.L.S.	1,887.3	3.275831
Ontario, 1911; r. 1959 d.m.	75 42 02.195	49 25 04.9	229 23 41.0	Mollys Gut	3,473.3	3.540744
		70 48 08.1	250 48 01.0	159 - I.W.C.	235.4	2.371836
		216 20 34.0	36 21 23.4	155 sub	2,619.0	3.418143
		226 39 32.7	46 41 08.5	Ref. Mon. 55	4,139.6	3.616956
		243 26 29.0	63 28 46.2	Morristown Standpipe	4,820.5	3.683090
		255 14 16.2	75 15 33.9	154 - I.W.C.	2,526.4	3.402494
		310 27 26.2	130 27 49.1	156 - I.W.C.	945.6	2.975714
Ref. Mon. 57	44 32 51.093	24 03 05.6	204 02 33.6	Birch	2,473.0	3.393224
Ontario, 1911; r. 1959 d.m.	75 43 23.605	35 46 01.5	215 44 39.5	162 sub	4,418.2	3.645249
		90 30 57.6	270 30 30.9	Mollys Gut - U.S.L.S.	840.9	2.924729
		218 23 03.4	38 24 [illegible].6	Ref. Mon. 56	2,893.1	3.461368
		251 50 27.6	71 51 10.1	Taylor R. M. No. 2 - U.S.L.S.	1,404.9	3.147655

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Ref. Mon. 58	44 32 41.782	21 28 47.5	201 28 22.8	Birch	2,118.0	3.325931
Ontario, 1911; r. 1959 d.m.	75 43 34.126	35 28 31.5	215 27 16.8	162 sub	4,049.3	3.607384
		61 04 28.5	241 03 09.9	163 sub	2,825.8	3.451148
		115 51 25.0	295 51 05.6	Mollys Gut - U.S.L.S.	676.3	2.830139
		218 56 26.0	38 56 33.3	Ref. Mon. 57	369.5	2.567632
		245 09 53.5	65 10 43.3	Taylor R.M.2-U.S.L.S.	1,726.9	3.237265
Ref. Mon. 59-50	44 30 49.482	27 18 03.6	207 16 47.9	166 - I.M.C.	5,203.4	3.716285
New York, 1950; r. 1959 d.m.	75 45 17.345	44 47 41.8	224 47 13.6	Whaleback - U.S.L.S.	1,261.2	3.100783
		60 21 25.1	240 19 14.2	Sifton - U.S.L.S.	4,746.1	3.676339
		157 19 30.8	337 19 28.6	162 sub	182.4	2.261037
		174 42 45.2	354 42 39.1	163 sub	2,108.1	3.323891
		205 36 36.2	25 36 39.7	Oak Point - U.S.L.S.	250.6	2.399021
		213 18 55.2	33 20 07.7	Ref. Mon. 58	4,148.5	3.617895
Ref. Mon. 60	44 28 26.064	43 06 53.7	223 06 03.9	Gull - U.S.L.S.	2,300.6	3.361836
New York, 1911; r. 1959 d.m.	75 47 58.969	61 59 25.7	241 58 32.7	Griswold - U.S.L.S.	1,895.5	3.277713
		72 10 50.7	252 10 42.5	168 - I.M.C.	272.2	2.434925
		74 08 08.4	254 06 44.5	Bridge Is. Lt.	2,751.0	3.439486
		77 55 21.2	257 53 55.0	169 sub	2,781.6	3.444287
		165 04 38.7	345 04 21.1	Sifton	2,150.7	3.332586
		218 52 35.2	38 54 28.5	Ref. Mon. 59-50	5,687.7	3.754935
		279 26 33.2	99 27 10.8	166 - I.M.C.	1,202.1	3.079925
		348 41 37.7	168 41 54.3	170 sub	2,670.3	3.426566
Ref. Mon. 61	44 26 24.085	6 25 11.3	186 24 54.3	Elissa	4,797.1	3.680982
Ontario, 1911; r. 1959 d.m.	75 49 43.526	24 25 29.1	204 24 01.5	176 - I.M.C.	6,702.7	3.826251
		172 40 45.3	352 40 32.3	169 sub	3,208.7	3.506329
		211 32 15.8	31 33 29.0	Ref. Mon. 60	4,418.1	3.645232
		225 34 05.2	45 35 33.0	Superior Shoal Lt.	3,882.8	3.589140
		239 09 25.5	59 09 29.8	171 sub	159.5	2.202655
		247 58 19.4	67 59 49.2	170 sub	3,058.6	3.485529
		323 50 24.5	143 51 04.0	172 sub	2,115.1	3.325333
Ref. Mon. 62	44 23 49.463	21 45 41.1	201 45 06.6	Excelsior Group Lt.	2,948.2	3.469563
Ontario, 1911; r. 1959 d.m.	75 52 17.778	30 33 34.8	210 33 03.7	Whiskey - U.S.L.S.	1,934.4	3.286546
		207 20 18.5	27 20 28.7	177 - I.M.C.	705.1	2.848223
		215 33 01.2	35 34 49.1	Ref. Mon. 61	5,867.1	3.768426
		228 30 25.4	48 31 33.0	Sister Island Lt.	2,855.3	3.455658
		269 52 36.3	89 54 07.2	Elissa	2,877.4	3.458997
		334 12 55.3	154 13 15.6	176 - I.M.C.	1,477.9	3.169656
Ref. Mon. 63 ecc.	44 22 09.799	149 34 29.8	329 34 08.7	Little - I.M.C.	1,318.8	3.120182
Ontario, 1940; r. 1957 d.m.	75 54 48.369	184 18 53.1	4 18 54.5	181-I.M.C. (Bluff - U.S.L.S.)	600.7	2.778677
		203 23 30.7	23 23 51.1	Grenadier sub	1,628.1	3.211676
		221 12 25.4	41 13 30.9	179 - I.M.C.	3,148.6	3.498124
		311 48 37.7	131 49 26.4	178 - I.M.C.	2,071.6	3.316308

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STATION	LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
Ref. Mon. 63	44 22 09.553	149 50 24.3	329 50 03.3	Little - I.W.C.	1,324.0	3.121896
Ontario, 1911; r. 1959 d.m.	75 54 48.489	184 30 35.2	4 30 36.7	181 - I.W.C. (Bluff - U.S.L.S.)	608.5	2.784258
		199 14 57.0	19 14 57.1	Ref. Mon. 63 ecc.	8.038	0.905148
		227 14 09.9	47 15 55.3	Ref. Mon. 62	4,543.1	3.657357
Ref. Mon. 64	44 22 01.629	62 53 11.2	242 52 42.1	Pole	1,035.3	3.015056
New York, 1911; r. 1959 d.m.	75 55 14.981	95 45 37.5	275 44 55.2	Club Is. Stone M.T.	1,344.3	3.128485
		119 42 25.5	299 41 56.4	Club - I.W.C.	1,061.1	3.025775
		137 45 06.9	317 44 30.6	Rockport Presby. Ch. Sp.	1,706.0	3.231986
		176 45 23.1	356 45 20.6	Little - I.W.C.	1,391.6	3.143510
		246 49 36.2	66 49 54.8	Ref. Mon. 63 ecc.	640.9	2.806815
		247 21 42.1	67 22 00.6	Ref. Mon. 63	635.5	2.803144
Ref. Mon. 65	44 21 31.682	57 37 49.0	237 37 37.7	Park - I.W.C.	423.8	2.627163
New York, 1911; r. 1959 d.m.	75 55 41.801	63 03 33.0	243 03 13.5	Laundry - I.W.C.	693.6	2.841128
		76 12 15.2	256 11 55.0	Point sub	660.6	2.819924
		144 05 24.8	324 05 14.5	Pole sub	558.6	2.747108
		167 15 32.0	347 15 21.7	Club - I.W.C.	1,486.8	3.172238
		212 43 03.7	32 43 22.5	Ref. Mon. 64	1,098.7	3.040867
Ref. Mon. 66	44 21 22.893	45 14 34.6	225 14 13.8	Hunt	928.4	2.967757
Ontario, 1911; r. 1959 d.m.	75 56 23.921	117 48 11.9	297 48 07.4	Marsh - I.W.C.	161.4	2.207935
		253 46 52.5	73 47 21.9	Ref. Mon. 65	971.4	2.987409
		261 55 51.2	81 55 51.8	Mon. - I.W.C.	18.904	1.276548
		265 35 08.0	85 35 26.1	Park - I.W.C.	576.6	2.760844
		277 47 29.3	97 47 39.2	Laundry - I.W.C.	317.4	2.501585
		340 22 50.2	160 22 53.5	Sand sub	307.4	2.487767
Ref. Mon. 67	44 20 54.002	28 38 47.6	208 38 37.8	Waterloo - U.S.L.S.	650.7	2.813407
New York, 1911; r. 1959 d.m.	75 57 00.383	81 01 34.3	261 01 10.3	Isles	771.2	2.887149
		124 09 16.5	304 09 13.0	Craft	134.9	2.130049
		195 54 03.6	15 54 04.9	Chris	152.5	2.183166
		211 55 42.4	31 55 47.1	Hunt	280.4	2.447814
		222 09 37.4	42 10 02.9	Ref. Mon. 66	1,203.1	3.080292
		222 43 45.6	42 44 11.7	Mon. - I.W.C.	1,217.7	3.085528
Ref. Mon. 68	44 20 35.485	6 54 12.1	186 54 09.8	Rock - I.W.C.	604.6	2.781452
Ontario, 1911; r. 1959 d.m.	75 58 20.890	24 12 29.9	204 12 25.7	Q Q - I.W.C.	326.1	2.513376
		136 43 57.5	316 43 50.1	P P sub	341.8	2.533795
		152 53 49.1	332 53 42.5	C C sub	460.1	2.662831
		246 09 52.8	66 10 25.0	Isles	1,116.7	3.047947
		252 13 17.5	72 14 13.7	Ref. Mon. 67	1,872.6	3.272446
		269 58 34.9	89 59 21.3	Waterloo - U.S.L.S.	1,471.4	3.167720
		348 23 48.5	168 23 49.6	Upper sub	175.6	2.244564

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STATION	LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
	° ′ ″	° ′ ″	° ′ ″			
Ref. Mon. 69	44 20 43.306	129 29 16.8	309 29 16.5	P P sub	11.789	1.071477
New York, 1911; r. 1959 d.m.	75 58 31.056	134 04 52.3	314 04 44.7	B B sub	334.5	2.524452
		185 17 26.8	5 17 27.3	C C sub	168.9	2.227562
		296 04 00.8	116 04 07.5	D D sub	236.1	2.373153
		316 59 19.0	136 59 26.1	Ref. Mon. 68	330.1	2.518681
		350 21 53.7	170 21 56.6	Q Q - I.W.C.	546.5	2.737617
Ref. Mon. 70	44 20 46.414	99 55 34.2	279 55 26.2	Y sub	256.3	2.408745
Ontario, 1911; r. 1959 d.m.	75 58 48.449	205 51 23.6	25 51 24.5	N N - I.W.C.	61.8	1.791328
		226 38 59.9	46 39 04.5	B B sub	199.3	2.299490
		259 46 59.2	79 47 11.9	C C sub	407.3	2.609887
		283 58 49.6	103 59 01.8	Ref. Mon. 69	397.0	2.598806
		316 15 58.2	136 15 59.9	Z sub	76.3	1.882706
Ref. Mon. 71	44 20 50.470	66 25 48.9	246 25 43.6	X sub	183.9	2.264489
Ontario, 1911; r. 1959 d.m.	75 59 02.631	85 14 17.9	265 14 13.0	L sub	156.1	2.193370
		258 24 21.5	78 24 25.6	A A sub	132.9	2.123414
		291 43 34.8	111 43 44.7	Ref. Mon. 70	338.2	2.529140
		322 42 46.6	142 42 48.5	Y sub	101.827	2.007865
Ref. Mon. 72 (T - I.W.C.)	44 20 49.108	92 04 03.4	272 04 01.3	S sub	66.9	1.825697
New York, 1911; r. 1959 d.m.	75 59 26.250	92 59 23.8	272 59 18.3	R - I.W.C.	171.8	2.235054
		114 36 00.8	294 35 56.8	E sub	138.1	2.140074
		119 22 06.1	299 22 05.1	F sub	35.2	1.546176
		159 49 49.1	339 49 48.9	G sub	16.4	1.214829
		265 24 26.0	85 24 42.5	Ref. Mon. 71	525.3	2.720387
		268 58 57.2	88 59 00.2	U sub	94.7	1.976382
Ref. Mon. 73 (C - I.W.C.)	44 20 56.793	54 37 17.2	234 37 07.0	O - I.W.C.	397.1	2.598876
Ontario, 1911; r. 1959 d.m.	76 00 08.791	77 19 28.2	257 18 32.0	Sir - I.W.C.	1,824.4	3.261127
		97 44 24.9	277 44 20.5	B - I.W.C.	139.7	2.145259
		273 51 36.6	93 51 52.6	D sub	507.8	2.705676
		282 24 21.3	102 24 47.1	E sub	836.3	2.922338
		284 07 28.8	104 07 58.6	Ref. Mon. 72	971.6	2.987507
		286 29 32.2	106 29 56.5	R - I.W.C.	803.8	2.905124
		295 51 19.5	115 51 34.0	Q - I.W.C.	510.6	2.708039
		349 21 44.5	169 21 46.5	P - I.W.C.	351.3	2.545675
Ref. Mon. 74 ecc. - I.W.C.	44 20 36.244	51 26 45.9	231 26 27.1	Stone - I.W.C.	763.1	2.882599
New York, 1911; r. 1957 d.m.	76 00 29.326	66 14 01.3	246 12 49.0	View - I.W.C.	2,504.6	3.398744
		100 00 24.6	279 59 42.8	Sir - I.W.C.	1,345.6	3.128908
		205 50 52.6	25 51 02.6	B - I.W.C.	725.7	2.860746
		215 38 38.9	35 38 53.3	Ref. Mon. 73	780.5	2.892371
Ref. Mon. 74	44 20 36.017	82 46 11.9	262 44 49.7	Spill sub	2,625.6	3.419225
New York, 1911; r. 1959 d.m.	76 00 29.078	100 15 32.0	280 14 50.0	Sir - I.W.C.	1,352.2	3.131045
		141 55 11.4	321 55 11.2	Ref. Mon. 74 ecc - I.W.C.	8.903	0.949548
		215 01 07.7	35 01 21.9	Ref. Mon. 73	783.0	2.893783
		52 06 52.2	232 06 33.2	Stone - I.W.C.	763.1	2.882587

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STATION	LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
Ref. Mon. 75	44 19 50.772	76 11 24.0	256 09 53.0	Grananoque Narrows Lt.	2,971.4	3.472962
New York, 1911; r. 1959 d.m.	76 02 41.998	120 19 09.6	300 18 44.7	Row - I.W.C.	911.6	2.959802
		197 41 13.5	17 41 24.2	Spill sub	1,118.5	3.048620
		224 34 51.7	44 35 42.6	Sir - I.W.C.	2,298.9	3.361524
		238 41 14.0	58 41 34.4	View sub	757.4	2.879308
		244 36 50.4	64 38 23.3	Ref. Mon. 74	3,259.0	3.513091
Ref. Mon. 76	44 17 51.019	90 08 49.7	270 08 33.2	Peak - I.W.C.	524.0	2.719361
New York, 1911; r. 1959 d.m.	76 05 54.522	130 56 14.9	310 56 03.9	Mion sub	460.8	2.663472
		196 52 06.2	16 52 10.2	End sub	433.9	2.637434
		208 42 51.0	28 43 04.6	Round - I.W.C.	900.6	2.954549
		229 04 44.5	49 06 59.0	Ref. Mon. 75	564.5	2.751676
		235 51 30.8	55 52 23.6	188 - I.W.C.	2,025.1	3.306439
Ref. Mon. 77	44 17 55.961	11 53 54.1	191 53 51.6	Grind - I.W.C.	382.0	2.582013
Ontario, 1911; r. 1959 d.m.	76 06 46.296	61 09 19.4	241 09 02.1	Death - I.W.C.	627.5	2.797584
		259 25 03.8	79 25 29.0	Mion sub	813.5	2.910341
		277 33 57.9	97 34 34.1	Ref. Mon. 76	1,157.8	3.063647
		283 37 35.0	103 37 54.7	Peak - I.W.C.	641.8	2.807388
Ref. Mon. 78	44 17 34.652	57 41 46.7	237 41 38.7	Dock - I.W.C.	299.0	2.475709
New York, 1911; r. 1959 d.m.	76 07 00.916	147 34 28.0	327 34 20.9	Death - I.W.C.	420.5	2.623812
		206 13 56.8	26 14 07.0	Ref. Mon. 77	733.2	2.865240
Ref. Mon. 79	44 17 42.763	95 45 10.0	275 44 30.0	Leak - I.W.C.	1,275.8	3.105775
New York, 1911; r. 1959 d.m.	76 07 50.924	282 43 03.0	102 43 37.9	Ref. Mon. 78	1,136.6	3.055592
		189 39 40.0	9 39 43.2	Punt	429.3	2.632734
Ref. Mon. 79 ecc. - I.W.C.	44 17 42.702	95 50 02.0	275 49 22.9	Leak - I.W.C.	1,276.1	3.105891
New York, 1911; r. 1957 d.m.	76 07 50.917	175 07 42.	355 07 42.	Ref. Mon. 79	1.844	0.265771
		189 35 59.4	9 36 01.7	Punt	431.1	2.634535
		263 07 04.7	83 07 32.6	Death - I.W.C.	889.4	2.949083
		282 37 43.8	102 38 18.7	Ref. Mon. 78	1,136.0	3.055380
		295 30 03.5	115 30 30.5	Dock - I.W.C.	948.2	2.976883
Ref. Mon. 80	44 16 49.602	26 24 02.8	206 23 11.4	Hickory - I.W.C.	3,678.4	3.565660
New York, 1911; r. 1959 d.r.	76 09 14.024	27 45 49.8	207 44 33.3	197 sub	5,230.8	3.718571
		46 09 25.1	226 08 07.4	194 - I.W.C.	3,426.8	3.534886
		92 24 05.9	272 21 37.1	195 - I.W.C.	4,732.3	3.675072
		92 25 00.0	272 22 31.7	195 sub	4,715.3	3.673506
		106 44 44.1	286 42 33.7	Howe - I.W.C.	4,327.4	3.636225
		117 26 29.5	297 24 59.2	Mermaid - I.W.C.	3,233.6	3.509691
		120 27 40.5	300 26 05.7	Burnt Island Lt.	3,495.9	3.543558
		125 20 07.1	305 18 58.4	193 - I.W.C.	2,675.8	3.427457
		197 56 55.5	17 57 13.6	Leek - I.W.C.	1,859.1	3.269293
		228 18 22.3	48 19 20.4	Ref. Mon. 79	2,467.2	3.392205

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STATION	LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
Ref. Mon. 81	44 14 35.972	67 54 55.4	247 54 16.4	197 - I.M.C.	1,340.9	3.127408
Ontario, 1911; r. 1959 d.m.	76 10 07.798	67 55 13.5	247 54 34.4	197 sub	1,341.8	3.127694
		67 59 00.6	247 58 21.4	Wolfe Island Lt.	1,344.7	3.128623
		196 07 27.0	16 08 04.4	Ref. Mon. 80	4,293.6	3.632821
		269 34 52.3	89 39 36.3	Dorr Farm-U.S.L.S.	9,031.3	3.955741
		327 00 35.5	147 00 53.3	Finis - I.M.C.	1,037.7	3.016068
		327 13 49.8	147 14 07.5	Finis sub	1,040.7	3.017331
		344 09 44.4	164 10 26.7	Hogsback - U.S.L.S.	4,935.8	3.693354
		347 26 17.6	167 26 36.7	198 sub	2,801.2	3.447350
Ref. Mon. 82	44 13 24.720	25 59 06.9	205 58 33.5	200 sub	2,432.0	3.385961
Ontario, 1912; r. 1959 d.m.	76 11 39.636	205 07 04.9	25 07 29.9	197 sub	1,871.8	3.272252
		222 48 50.6	42 49 54.7	Ref. Mon. 81	2,998.4	3.476893
		281 24 41.2	101 26 04.4	198 sub	2,701.3	3.431571
Ref. Mon. 83	44 12 57.777	23 27 34.5	203 26 50.8	202 - I.M.C.	3,499.6	3.544016
Ontario, 1912; r. 1959 d.m.	76 12 30.333	233 31 55.0	53 32 30.3	Ref. Mon. 82	1,399.3	3.145903
		265 29 20.6	85 31 19.1	198 sub	3,785.0	3.578064
		356 45 09.7	176 45 12.0	Linda Island Lt.	1,307.4	3.116408
		357 27 33.9	177 27 35.8	200 sub	1,356.0	3.132244
Ref. Mon. 84	44 12 22.371	38 18 46.3	218 17 47.0	204 - I.M.C.	3,045.7	3.483688
Ontario, 1912; r. 1959 d.m.	76 14 45.422	60 59 04.3	240 57 21.6	206 sub	3,739.9	3.572858
		86 19 15.3	266 18 33.8	205 sub	1,322.1	3.121267
		249 57 59.0	69 59 33.1	Ref. Mon. 83	3,192.0	3.504062
		273 56 30.8	93 58 07.2	Linda Island Lt.	3,080.8	3.488662
		274 52 40.0	94 54 16.0	200 sub	3,070.7	3.487237
		322 48 07.6	142 48 58.0	202 - I.M.C.	2,658.3	3.424602
Ref. Mon. 85	44 12 20.614	61 02 09.8	241 00 29.1	211 sub	3,669.0	3.564552
Ontario, 1912; r. 1959 d.m.	76 17 13.790	269 02 31.9	89 04 15.4	Ref. Mon. 84	3,294.6	3.517806
		270 52 58.8	90 54 00.8	205 sub	1,975.1	3.295579
		315 56 27.8	135 58 21.9	Riverview Ch. Sp.	5,231.3	3.718609
		328 55 56.3	148 56 40.5	204 - I.M.C.	2,726.8	3.435651
		359 11 59.6	179 12 03.4	206 sub	1,760.8	3.245699
Ref. Mon. 86	44 12 08.438	1 30 27.8	181 30 25.7	208 - I.M.C.	2,482.8	3.394947
Ontario, 1912; r. 1959 d.m.	76 18 36.097	2 07 06.4	182 07 02.1	210 sub	3,656.7	3.563089
		44 36 01.2	224 35 17.8	211 sub	1,968.5	3.294133
		258 22 19.6	78 23 16.9	Ref. Mon. 85	1,865.7	3.270850
		306 46 24.7	126 47 22.8	206 sub	2,312.7	3.364126
Ref. Mon. 87	44 08 09.809	17 22 26.1	197 21 47.5	Tibbetts Point, Lt.	4,125.6	3.615486
Ontario, 1912; r. 1959 d.m.	76 21 18.818	53 32 42.4	233 32 41.7	219 - I.M.C.	28.141	1.449340
		206 07 38.1	26 09 31.5	Ref. Mon. 86	8,204.7	3.914065
		223 09 03.9	43 10 53.0	210 sub	5,088.2	3.706562
		336 17 02.0	156 17 20.7	218 sub	1,486.0	3.172019

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	° ′ ″	° ′ ″	° ′ ″			
Ref. Mon. 88	44 05 46.586	47 27 15.8	227 27 13.9	223 - I.M.C.	80.824	1.907540
Ontario, 1912; r. 1959 d.m.	76 26 26.073	53 21 24.6	233 21 20.9	Bear Point - U.S.L.S.	147.6	2.169108
		237 04 02.1	57 07 36.0	Ref. Mon. 87	8,137.7	3.910500
		265 02 51.4	85 05 46.7	Tibbetts Point, Lt.	5,623.2	3.749981

International boundary line St. Lawrence River — Turning Points — *State* New York — *Province* Ontario

STATION	LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
Andrew Ellicott Monument	44 59 55.960 74 39 48.320	248 29 33.0	68 29 37.7	Origin	155.7	2.192286
T.P. No. 1	45 00 22.462 74 40 15.210	48 12 08.9	228 11 56.7	Ref. Mon. 2-59	509.4	2.707017
		176 15 58.0	356 15 57.3	Ref. Mon. 1	334.3	2.524081
		314 47 55.0	134 48 19.8	Mon. 774	1,079.9	3.033403
		324 14 51.8	144 15 10.8	Andrew Ellicott Mon.	1,008.0	3.003476
T.P. No. 2	45 00 02.862 74 40 25.098	40 28 33.7	220 28 16.2	Ref. Mon. 3-59	838.0	2.923231
		148 25 59.3	328 25 54.1	Ref. Mon. 2-59	311.7	2.493723
		199 41 29.7	19 41 36.7	T.P. No. 1	642.6	2.807972
		279 00 38.0	99 01 09.8	Mon. 774	995.2	2.997897
T.P. No. 3	44 59 58.012 74 41 02.086	109 22 25.6	289 21 37.9	Ref. Mon. 4	1,568.8	3.195581
		237 17 54.7	57 18 15.7	Ref. Mon. 2-59	768.8	2.885791
		259 31 29.0	79 31 55.2	T.P. No. 2	823.8	2.915844
		331 22 13.2	151 22 21.9	Ref. Mon. 3-59	555.7	2.744802
T.P. No. 4	45 00 11.756 74 42 09.510	39 01 28.2	219 01 05.2	Mott	1,132.6	3.054053
		75 50 05.9	255 49 14.9	Ref. Mon. 5	1,630.4	3.212297
		178 00 01.4	358 00 01.3	Ref. Mon. 4	96.0	1.982418
		286 01 24.9	106 02 12.6	T.P. No. 3	1,536.5	3.186525
		297 36 45.1	117 37 41.4	Ref. Mon. 3-59	1,967.2	3.293846
T.P. No. 5	44 59 54.223 74 43 19.761	54 57 18.9	234 56 55.4	Ref. Mon. 6 - 59	892.3	2.950504
		163 27 29.2	343 27 27.9	Ref. Mon. 5	148.2	2.170742
		247 27 10.5	67 28 00.1	Ref. Mon. 4	1,662.3	3.220693
		250 36 47.2	70 37 36.9	T.P. No. 4	1,631.1	3.212472
		292 17 56.6	112 18 23.3	Mott	892.4	2.950561
T.P. No. 6	44 59 25.504 74 43 52.729	56 57 54.7	236 57 31.1	12 I.W.C.	873.1	2.941058
		58 04 00.1	238 03 36.1	Ref. Mon. 7 - 59	875.5	2.942276
		92 25 00.7	272 24 38.8	Watt	680.1	2.832601
		178 43 16.4	358 43 16.2	Ref. Mon. 6-59	374.2	2.573146
		213 27 51.7	33 28 13.7	Ref. Mon. 5	1,233.0	3.090969
		219 09 43.3	39 10 06.6	T.P. No. 5	1,143.5	3.058218
East Tablet, Cornwall Bridge 1960 d.m.	44 59 25.950 74 44 23.692	175 11 34.3	355 11 34.3	Watt	14.93	1.174082
		241 43 09.8	61 43 31.5	Ref. Mon. 6-59	760.7	2.881212
		271 09 32.1	91 09 53.9	T.P. No. 6	678.4	2.831505
		357 15 23.7	177 15 24.2	Andorra	253.3	2.403711
West Tablet, Cornwall Bridge 1960 d.m.	44 59 25.956 74 44 24.148	6 32 21.2	186 32 19.3	Ref. Mon. 7-59	480.2	2.681464
		111 01 09.1	291 00 21.2	Ref. Mon. 8	1,586.9	3.200540
		210 45 53.1	30 45 53.4	Watt	17.1	1.232482
		271 09 31.8	91 09 32.1	E. Tab., Cornwall Br.	9.99	0.999559
		355 00 34.7	175 00 35.5	Andorra	254.2	2.405209

INTERNATIONAL BOUNDARY COMMISSION—UNITED STATES, ALASKA, AND CANADA
GEOGRAPHIC POSITIONS—NORTH AMERICAN DATUM 1927

International boundary line St. Lawrence River — Turning Points — *State* New York — *Province* Ontario

STATION	LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
T.P. No. 7	44 59 26.205 74 44 41.510	117 01 05.3 271 09 19.4 271 09 19.4 326 06 31.4	297 00 29.8 91 09 31.8 91 09 53.9 146 06 41.9	Ref. Mon. 8 W. Tab., Cornwall Br. T.P. No. 6 Ref. Mon. 7-59	1,235.9 380.4 1,068.8 584.0	3.091971 2.580245 3.028906 2.766431
T.P. No. 8	44 59 41.820 74 45 38.541	241 51 06.0 286 09 43.6 291 05 34.9 301 32 15.3	61 51 10.8 106 10 36.5 111 06 15.2 121 33 06.1	Ref. Mon. 8 Watt T.P. No. 7 Ref. Mon. 7-59	168.1 1,705.8 1,339.0 1,848.0	2.225588 3.231933 3.126794 3.266711
T.P. No. 9	45 00 20.461 74 45 48.562	32 08 51.7 66 03 45.2 86 46 31.7 97 24 19.4 165 10 03.4 349 34 21.0	212 08 38.9 246 02 39.0 266 44 59.7 277 23 06.4 345 10 00.5 169 34 28.1	Massena Point-U.S.L.S. 17 - U.S.L.S. Ref. Mon. 10 - 59 Ref. Mon. 11 - 59 Ref. Mon. 9 - 59 T.P. No. 8	744.9 2,244.1 2,853.7 2,279.4 359.0 1,212.8	2.872103 3.351036 3.455408 3.357811 2.554070 3.083807
T.P. No. 10	45 00 15.740 74 47 35.641	88 15 03.0 190 54 28.9 266 25 59.9	268 14 46.7 10 54 31.6 86 27 15.6	Ref. Mon. 10-59 Ref. Mon. 11-59 T.P. No. 9	504.3 447.2 2,349.6	2.702678 2.650506 3.370998
S.E. Line Point-Moses-Saunders Dam	45 00 23.325	52 19 36.2	232 19 25.8	Ref. Mon. 10-59	408.33	2.611022
New York-Ontario, 1959 d.m.	74 47 43.899	232 19 36.2 322 19 09.8	52 19 44.8 142 19 15.7	Ref. Mon. 11-59 T.P. No. 10	335.39 295.9	2.525544 2.471087
N.W. Line Point-Moses-Saunders Dam	45 00 23.672	322 19 09.3	142 19 09.8	S.E. Line Point-M.S. Dam	13.524	1.131105
1959 d.m.	74 47 44.276					
T.P. No. 11	45 00 38.755 74 48 00.698	293 11 19.5 322 18 58.0 322 18 58.0 356 28 27.6	113 11 39.9 142 19 09.3 142 19 15.7 176 28 29.0	Ref. Mon. 11-59 N.W. Line Point-M.S. Dam T.P. No. 10 Ref. Mon. 10-59	689.0 588.3 897.7 727.3	2.838236 2.769618 2.953136 2.861687
T.P. No. 12	45 00 52.242 74 48 06.620	312 01 25.1 342 41 53.1 351 19 03.0	132 01 49.7 162 41 57.3 171 19 08.6	Ref. Mon. 11-59 T.P. No. 11 Ref. Mon. 10-59	1,027.2 436.1 1,155.4	3.011643 2.639546 3.062750
T.P. No. 13	45 00 48.610 74 48 48.978	263 06 13.6 288 47 37.0 313 03 47.7	83 06 43.6 108 48 31.6 133 04 23.3	T.P. No. 12 Ref. Mon. 11-59 Ref. Mon. 10-59	934.3 1,785.9 1,508.5	2.970471 3.251851 3.178541
T.P. No. 14	45 00 41.518 74 49 02.781	94 36 18.1 234 04 56.2 280 08 13.0 300 00 20.3	274 35 358 54 05 06.0 100 09 17.4 120 01 05.7	Ref. Mon 12-59 T.P. No. 13 Ref. Mon. 11-59 Ref. Mon. 10-59	1,314.1 373.2 2,024.5 1,621.8	3.118628 2.571956 3.306327 3.209985

International boundary line Lake St. Lawrence Turning Points *State* New York *Province* Ontario

STATION	LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
T.P. No. 15	45 00 56.961 74 49 36.829	56 39 07.1 302 35 33.9	236 38 48.9 122 35 58.0	Ref. Mon. 12-59 T.P. No. 14	675.5 885.0	2.829628 2.946919
T.P. No. 16	45 00 52.537 74 50 06.455	258 06 30.6 340 12 45.9	78 06 51.6 160 12 48.7	T.P. No. 15 Ref. Mon. 12-59	662.9 249.5	2.821475 2.397115
T.P. No. 17	45 00 40.462 74 50 32.079	14 26 42.4 236 23 59.3 257 55 54.1	194 26 38.2 56 24 17.4 77 56 15.0	Ref. Mon. 14 T.P. No. 16 Ref. Mon. 12-59	524.0 673.6 660.2	2.719358 2.828424 2.819650
T.P. No. 18	45 00 36.966 74 50 47.253	100 31 44.4 252 00 23.4 333 13 36.5	280 31 27.0 72 00 34.1 153 13 43.0	Ref. Mon. 13-59 T.P. No. 17 Ref. Mon. 14	550.1 349.4 447.5	2.740417 2.543289 2.650812
T.P. No. 19	45 00 15.987 74 51 23.513	43 44 52.8 198 42 00.0 230 47 50.2 256 00 20.1	223 44 44.5 18 42 08.2 50 48 15.8 76 00 52.2	Ref. Mon. 15 Ref. Mon. 13-59 T.P. No. 18 Ref. Mon. 14	372.1 789.8 1,024.7 1,026.1	2.570622 2.897519 3.010589 3.011204
T.P. No. 20	45 00 16.229 74 51 46.652	270 50 35.0 317 54 42.9	90 50 51.4 137 54 51.0	T.P. No. 19 Ref. Mon. 15	506.8 372.2	2.704849 2.570828
T.P. No. 21	45 00 01.493 74 52 00.184	213 05 03.2 251 52 36.3 320 39 52.5	33 05 12.8 71 52 53.9 140 40 00.0	T.P. No. 20 Ref. Mon. 15 Ref. Mon. 15A-59	542.9 574.4 370.3	2.734750 2.759195 2.568547
T.P. No. 22	45 00 05.002 74 52 39.188	67 48 34.6 277 13 19.6 289 55 07.4	247 48 16.8 97 13 47.2 109 55 42.5	Ref. Mon. 16-59 T.P. No. 21 Ref. Mon. 15A-59	593.0 861.1 1,158.3	2.773071 2.935061 3.063832
T.P. No. 23	44 59 59.714 74 53 19.719	259 34 37.6 280 10 20.1	79 35 06.3 100 10 31.0	T.P. No. 22 Ref. Mon. 16-59	902.6 344.0	2.955495 2.536616
T.P. No. 24	44 59 33.047 74 54 05.024	142 01 17.2 230 19 06.4 240 11 21.4	322 01 06.9 50 19 38.4 60 12 04.3	Ref. Mon. 17-59 T.P. No. 23 Ref. Mon. 16-59	522.6 1,289.3 1,533.9	2.718158 3.110369 3.185800
T.P. No. 25	44 59 00.483 74 54 30.270	71 19 56.4 135 44 49.6 189 16 26.9 208 49 00.1 226 49 07.2	251 18 53.9 315 44 09.1 9 16 34.4 28 49 17.9 46 50 07.9	Ref. Mon. 19-59 Ref. Mon. 18-58 Ref. Mon. 17-59 T.P. No. 24 Ref. Mon. 16-59	2,047.2 1,800.4 1,435.9 1,147.3 2,583.5	3.311170 3.255363 3.157133 3.059693 3.412215
T.P. No. 26	44 59 05.349 74 56 51.330	78 24 22.9 162 41 04.6 238 08 26.9 272 46 10.3 304 59 12.9	258 23 18.7 342 40 56.4 58 09 26.1 92 47 50.0 124 59 50.1	Ref. Mon. 21 Ref. Mon. 20-59 Ref. Mon. 18-58 T.P. No. 25 Ref. Mon. 19-59	2,032.5 863.6 2,158.7 3,094.1 1,405.2	3.308031 2.936293 3.334195 3.490532 3.147733

International boundary line Lake St. Lawrence Turning Points *State* New York *Province* Ontario

STATION	LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
T.P. No. 27	44 59 00.368 74 58 22.431	265 35 02.1 358 52 39.0 63 20 41.1	85 36 06.5 178 52 39.2 243 19 26.2	T.P. No. 26 Ref. Mon. 21 Ref. Mon. 22-58	2,001.8 255.0 2,603.3	3.301430 2.406542 3.415519
T.P. No. 28	44 58 38.862 74 59 35.386	11 35 14.4 55 16 54.3 247 26 19.3 255 41 10.4	191 35 07.4 235 16 31.0 67 27 10.9 75 42 02.2	Far Ref. Mon. 22-58 T.P. No. 27 Ref. Mon. 21	1.103.3 885.6 1,730.8 1,654.8	3.042689 2.947245 3.238253 3.218744
T.P. No. 29	44 58 18.135 74 59 58.876	35 14 34.2 122 25 20.2 218 48 45.1 326 22 50.9	215 14 15.9 302 25 13.5 38 49 01.7 146 23 00.5	Ref. Mon. 23-58 Ref. Mon. 22-58 T.P. No. 28 Far	992.3 252.6 821.2 529.5	2.996661 2.402387 2.914443 2.723881
T.P. No. 30	44 57 57.908 74 59 59.212	71 46 45.9 180 40 35.9 238 36 08.7	251 46 27.8 0 40 36.1 58 36 18.5	Ref. Mon. 23-58 T.P. No. 29 Far	595.1 624.4 352.1	2.774581 2.795486 2.546680
T.P. No. 31	44 57 44.631 75 00 11.699	127 30 17.7 213 43 51.5 224 03 44.5 334 03 09.3	307 30 08.4 33 44 00.3 44 04 03.1 154 03 30.3	Ref. Mon. 23-58 T.P. No. 30 Far Ref. Mon. 24-58	367.5 492.8 825.7 1,482.3	2.565312 2.692700 2.916812 3.170947
T.P. No. 32	44 57 30.075 75 00 19.349	20 25 24.2 67 41 42.7 169 34 10.4 200 27 45.9 215 25 54.5 317 15 56.0	200 25 15.7 247 40 01.9 349 34 06.5 20 27 51.3 35 26 18.5 137 16 22.4	67 - I.N.C. Ref. Mon. 25-58 Ref. Mon. 23-58 T.P. No. 31 Far Ref. Mon. 24-58	756.2 3,382.6 684.4 479.6 1,279.7 1,202.9	2.878661 3.529257 2.835325 2.680890 3.107098 3.080234
T.P. No. 33	44 56 47.695 75 01 37.368	21 05 36.2 90 57 40.4 232 34 40.3 260 26 54.0 49 06 36.8	201 05 21.9 270 56 54.7 52 35 35.4 80 28 15.5 229 05 33.5	Ref. Mon. 26-59 Ref. Mon. 25-58 T.P. No. 32 Ref. Mon. 24-58 Ref. Mon. 27-58	1,238.1 1,419.4 2,153.2 2,562.1 2,599.6	3.092755 3.152092 3.333089 3.408596 3.414900
T.P. No. 34	44 56 03.932 75 03 37.018	55 56 53.9 221 12 36.9 242 44 27.9 298 03 21.7	235 55 57.9 41 13 15.7 62 45 52.4 118 03 42.9	Ref. Mon. 29-59 Ref. Mon. 25-58 T.P. No. 33 Ref. Mon. 27-58	2,099.3 1,827.4 2,950.8 746.3	3.322073 3.261826 3.469936 2.872903
T.P. No. 35	44 55 45.998 75 03 54.087	65 30 13.9 162 40 05.7 214 03 37.1 258 53 55.2	245 29 30.0 342 39 51.8 34 03 49.2 78 54 28.5	Ref. Mon. 29-59 Ref. Mon. 28=Chrysler Mon. T.P. No. 34 Ref. Mon. 27-58	1,500.0 1,447.7 668.3 1,052.6	3.176092 3.160665 2.824956 3.022255

International boundary line Lake St. Lawrence — Turning Points — *State* New York — *Province* Ontario

STATION	LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
	° ′ ″	° ′ ″	° ′ ″			
T.P. No. 36	44 55 37.239	17 22 23.7	197 22 06.7	Ref. Mon. 31-58	1,774.6	3.249098
	75 05 48.376	148 39 05.4	328 38 49.4	Ref. Mon. 30-58	954.8	2.979935
		231 27 26.8	51 28 33.6	Ref. Mon. 28=Chrysler Mon.	2,652.3	3.423621
		263 49 53.6	83 51 14.3	T.P. No. 35	2,520.9	3.401551
		287 07 10.7	107 07 47.5	Ref. Mon. 29-59	1,194.5	3.077171
T.P. No. 37	44 55 10.551	218 38 21.1	38 38 42.3	T.P. No. 36	1,054.8	3.023157
	75 06 18.408	255 17 48.2	75 18 46.2	Ref. Mon. 29-59	1,861.1	3.269776
		351 34 13.5	171 34 17.7	Ref. Mon. 31-58	879.3	2.944144
		185 38 09.9	5 38 15.1	Ref. Mon. 30-58	1,647.2	3.216758
T.P. No. 38	44 55 15.747	80 49 37.8	260 48 47.8	Ref. Mon. 32-58	1,576.2	3.197603
	75 07 04.525	218 25 07.3	38 25 45.1	Ref. Mon. 30-58	1,892.0	3.275929
		279 00 24.1	99 00 56.7	T.P. No. 37	1,024.1	3.010352
		312 05 17.0	132 05 53.8	Ref. Mon. 31-58	1,536.9	3.186637
T.P. No. 39	44 54 54.017	153 39 19.1	333 39 12.5	Ref. Mon. 32-58	467.9	2.670195
	75 08 06.000	243 32 39.8	63 33 23.2	T.P. No. 38	1,506.0	3.177828
		278 12 21.8	98 13 42.0	Ref. Mon. 31-58	2,514.8	3.400504
T.P. No. 40	44 53 48.827	44 15 15.8	224 14 56.3	Allison - U.S.L.S.	865.1	2.937070
	75 08 25.196	44 45 11.1	224 44 50.2	Ref. Mon. 33-58	917.2	2.962484
		119 08 04.2	299 07 28.0	Ref. Mon. 34-59	1,287.9	3.109874
		127 19 26.9	307 19 17.2	Old R.M. 32 - Lost	378.4	2.577951
		191 49 03.0	11 49 16.6	T.P. No. 39	2,056.0	3.313014
T.P. No. 41	44 53 36.591	220 10 47.8	40 11 15.1	Ref. Mon. 34-59	1,315.0	3.118929
	75 09 55.141	259 09 23.8	79 10 27.3	T.P. No. 40	2,009.4	3.303074
		281 38 22.7	101 39 05.3	Ref. Mon. 33-58	1,355.9	3.132212
T.P. No. 42	44 52 59.288	54 04 29.1	234 03 58.0	Ref. Mon. 36-59	1,191.8	3.076193
	75 11 21.196	139 07 10.5	319 06 55.9	Ref. Mon. 35-59	688.1	2.837683
		231 45 23.9	51 46 51.9	Ref. Mon. 34-59	3,484.2	3.542102
		238 37 07.6	58 38 08.3	T.P. No. 41	2,211.9	3.344757
		254 43 16.1	74 44 59.4	Ref. Mon. 33-58	3,334.2	3.522993
T.P. No. 43	44 52 57.453	40 25 47.0	220 25 29.3	Ref. Mon. 36-59	844.3	2.926486
	75 11 40.219	176 44 05.5	356 44 04.3	Ref. Mon. 35-59	577.8	2.761812
		262 16 25.6	82 16 39.0	T.P. No. 42	421.3	2.624621
T.P. No. 44	44 52 40.069	73 59 25.5	253 58 47.6	Ref. Mon. 37-59	1,223.0	3.087418
	75 12 11.656	210 32 24.8	30 32 45.8	Ref. Mon. 35-59	1,292.9	3.111571
		232 07 27.6	52 07 49.8	T.P. No. 43	874.1	2.941558
		306 39 47.2	126 39 51.7	Ref. Mon. 36-59	177.6	2.249563

INTERNATIONAL BOUNDARY COMMISSION—UNITED STATES, ALASKA, AND CANADA

GEOGRAPHIC POSITIONS—NORTH AMERICAN DATUM 1927

International boundary line Lake St. Lawrence Turning Points *State* New York *Province* Ontario

STATION	LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
T.P. No. 45	44 52 39.790 75 13 07.401	67 03 51.2 239 09 57.4 269 35 28.9 274 04 30.1 351 41 03.1	247 03 24.4 59 10 57.7 89 36 08.2 94 05 13.9 171 41 04.5	Ref. Mon. 38-59 Ref. Mon. 35-59 T.P. No. 44 Ref. Mon. 36-59 Ref. Mon. 37-59	900.9 2,189.8 1,223.6 1,369.5 332.3	2.954660 3.340411 3.087628 3.136569 2.521511
T.P. No. 46	44 52 05.799 75 13 42.890	71 26 32.8 175 51 02.8 216 35 17.4 228 56 15.0	251 25 18.8 355 51 01.0 36 35 42.4 48 56 41.4	Ref. Mon. 39-59 Ref. Mon. 38-59 T.P. No. 45 Ref. Mon. 37-59	2,427.8 700.0 1,306.8 1,096.9	3.385220 2.845089 3.116224 3.040167
T.P. No. 47	44 52 01.562 75 14 28.943	12 08 02.4 63 32 39.9 229 11 39.1 262 37 27.5	192 07 54.0 243 31 58.4 49 12 09.8 82 38 00.0	Leish Ref. Mon. 39-59 Ref. Mon. 38-59 T.P. No. 46	1,235.2 1,441.5 1,268.6 1,019.4	3.091727 3.158800 3.103316 3.008350
T.P. No. 48	44 51 26.240 75 15 23.100	167 14 29.0 227 28 23.9 277 11 00.3	347 14 25.7 47 29 02.1 97 11 30.1	Ref. Mon. 39-59 T.P. No. 47 Leish	459.4 1,613.3 936.9	2.662193 3.207710 2.971681
T.P. No. 49	44 51 17.475 75 16 07.111	8 45 00.1 101 54 05.1 230 16 22.5 254 21 17.5 265 22 03.8	188 44 59.1 281 53 50.8 50 16 50.2 74 21 48.5 85 23 04.6	Fill Ref. Mon. 40-59 Ref. Mon. 39-59 T.P. No. 48 Leish	795.1 544.9 1,124.4 1,003.5 1,902.1	2.900436 2.736323 3.050939 3.001523 3.279230
T.P. No. 50	44 50 53.744 75 17 06.733	28 46 01.8 82 50 22.1 222 33 44.3 240 45 58.4 272 33 51.2	208 45 46.6 262 49 51.0 42 34 12.0 60 46 40.4 92 34 32.2	114 sub Ref. Mon. 41-59 Ref. Mon. 40-59 T.P. No. 49 Fill	1,169.7 1,068.2 1,147.2 1,500.2 1,189.6	3.068068 3.028659 3.059630 3.176160 3.075383
T.P. No. 51	44 50 11.682 75 18 27.930	211 49 34.1 233 56 02.0 283 02 29.6 286 45 42.8 355 02 47.5	31 49 57.3 53 56 59.3 103 02 52.5 106 46 03.0 175 02 48.0	Ref. Mon. 41-59 T.P. No. 50 Dam Ref. Mon. 43-59 Ref. Mon. 42-59	1,371.7 2,205.9 732.8 657.4 194.2	3.137249 3.343584 2.864985 2.817862 2.288283
No. Line Tablet, Iroquois Dam 1959 d.m.	44 50 05.426 75 18 24.514	89 38 14.7 158 45 48.7 269 38 14.7	269 38 12.8 338 45 46.3 89 38 32.5	Ref. Mon. 42-59 T.P. No. 51 Ref. Mon. 43-59	58.282 207.2 554.474	1.765532 2.316370 2.743882
So. Line Tablet, Iroquois Dam 1959 d.m.	44 50 05.231 75 18 24.408	158 45 48.8	338 45 48.7	No. Line Tablet	6.447	0.809326
T.P. No. 52	44 49 35.141 75 18 07.977	155 43 18.5 158 46 00.4 158 46 00.4 191 31 07.8 195 58 40.5 326 36 23.8	335 43 04.9 338 45 48.8 338 45 46.3 11 31 13.9 15 58 49.3 146 36 35.3	Ref. Mon. 42-59 So. Line Tablet T.P. No. 51 Ref. Mon. 43-59 Dam Ref. Mon. 44-59	1,025.2 996.5 1,210.1 957.6 1,001.3 654.3	3.010794 2.998480 3.082837 2.981198 3.000547 2.815797

International boundary line Lake St. Lawrence Turning Points *State* New York *Province* Ontario

STATION	LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
T.P. No. 53	44 48 22.357	116 26 55.0	296 26 20.5	Ref. Mon. 46	1,201.4	3.079698
	75 20 01.969	193 43 20.8	13 43 27.2	Toussaint	848.8	2.928794
		239 17 14.1	59 18 06.5	Putney	1,899.9	3.278728
		228 05 45.0	48 07 05.3	T.P. No. 52	3,364.7	3.526948
		282 43 04.7	102 43 30.9	Ref. Mon. 45-59	838.6	2.923552
T.P. No. 54	44 48 32.350	2 32 00.8	182 31 58.8	Top	1,423.3	3.153287
	75 20 41.069	55 04 55.1	235 04 16.9	125 - I.W.C.	1,453.0	3.162266
		136 17 47.2	316 17 40.3	Ref. Mon. 46	313.3	2.496010
		137 32 56.6	317 32 49.6	123 - I.W.C.	323.3	2.509540
		244 02 54.6	64 03 28.6	Toussaint	1,179.4	3.071670
		289 44 47.9	109 45 15.5	T.P. No. 53	912.9	2.960445
T.P. No. 55	44 47 15.747	19 10 21.5	199 10 10.9	Ref. Mon. 47-59	1,013.6	3.005870
	75 22 11.695	57 59 49.5	237 59 38.0	Elevator	424.4	2.627782
		207 34 12.6	27 34 38.3	125 - I.W.C.	1,729.2	3.237857
		220 06 02.4	40 07 06.3	T.P. No. 54	3,091.8	3.490209
T.P. No. 56	44 46 58.513	35 33 37.5	215 33 27.8	Ref. Mon. 47-59	522.9	2.718430
	75 22 13.004	82 30 55.4	262 29 54.8	Ref. Mon. 48-59	1,909.8	3.280986
		132 50 29.3	312 50 18.7	Elevator	451.6	2.654754
		183 05 45.6	3 05 46.5	T.P. No. 55	532.8	2.726543
T.P. No. 57	44 46 46.293	105 07 10.9	285 06 55.8	Ref. Mon. 48-59	491.5	2.691503
	75 23 17.548					
		237 49 27.1	57 50 02.0	Elevator	1,285.2	3.108965
		255 06 25.1	75 07 10.6	T.P. No. 56	1,468.3	3.166822
		272 28 08.4	92 28 44.2	Ref. Mon. 47-59	1,116.0	3.047673
T.P. No. 58	44 46 24.396	87 05 06.9	267 04 21.8	Ref. Mon. 50	1,414.2	3.150505
	75 23 48.723	122 21 39.8	302 21 19.1	Ref. Mon. 49-59	766.6	2.884598
		194 42 03.2	14 42 10.0	Ref. Mon. 48-59	831.3	2.919746
		225 24 01.3	45 24 23.2	T.P. No. 57	962.6	2.983466
		250 46 19.2	70 47 16.9	Ref. Mon. 47-59	1,906.8	3.280303
T.P. No. 59	44 46 19.629	146 00 01.6	326 00 00.0	Ref. Mon. 50	90.6	1.957149
	75 24 50.649	232 01 00.6	52 01 23.5	Ref. Mon. 49-59	905.9	2.957061
		238 49 28.5	58 50 18.9	Ref. Mon. 48-59	1,837.9	3.264313
		263 49 36.6	83 50 20.2	T.P. No. 58	1,369.6	3.136595
		334 39 18.8	154 39 23.5	Pitt	340.5	2.532177
T.P. No. 60	44 45 21.738	38 11 32.7	218 09 10.7	Ogdensburg W. Base 2	7,182.6	3.856280
	75 25 26.346	68 43 49.4	248 43 20.5	Ref. Mon. 51-59	969.6	2.986602
		203 42 45.7	23 43 10.8	T.P. No. 59	1,951.9	3.290448
		212 10 37.7	32 11 07.5	Pitt	1,747.8	3.242482
		278 03 11.2	98 04 14.0	Red Mills-U.S.L.S.	1,982.2	3.297149
N.E. Tablet, Ogdensburg Bridge 1960 to Johnson d.m.	44 43 59.124	226 37 29.1	46 38 55.5	T.P. No. 60	3,714.1	3.569849
	75 27 29.083					

INTERNATIONAL BOUNDARY COMMISSION—UNITED STATES, ALASKA, AND CANADA
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International boundary line St. Lawrence River Turning Point *State* New York *Province* Ontario

STATION	LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
John Line Tablet	44 43 59.121	226 37 29.1	46 37 29.1	N.E. Tablet-(Bridge)	0.14	9.156114
1960 d.m.	75 27 29.088	226 37 29.1	46 38 55.5	T.P. No. 60	3,714.2	3.569867
Chim Line Tablet	44 43 58.919	226 37 28.9	46 37 29.1	John Line Tablet	9.056	0.956919
1960 d.m.	75 27 29.387	226 37 28.9	46 38 55.5	T.P. No. 60	3,723.3	3.570923
		331 10 13.1	151 10 14.4	Cable	87.115	1.940090
		331 10 13.1	151 10 15.5	Brig	156.57	2.194708
S.W. Tablet, Ogdensburg Bridge	44 43 56.905	226 37 28.9	46 37 28.9	Chim Line Tablet	0.65	9.812396
1960 to Johnson d.m.	75 27 29.409	226 37 28.9	46 37 29.1	N.E. Tablet-(Bridge)	9.85	0.993348
T.P. No. 61	44 43 14.566	9 20 25.0	189 20 15.9	Ogdensburg W. Base 2	1,744.1	3.241581
	75 28 35.219	92 43 50.6	272 43 23.4	Ref. Mon. 52-59	852.3	2.930571
		226 36 42.6	46 37 28.9	S.W. Tablet-(Bridge)	1,992.6	3.299429
		226 36 42.6	46 37 28.9	Chim Line Tablet	1,993.3	3.299571
		226 36 42.6	46 38 55.5	T.P. No. 60	5,716.6	3.757134
		229 03 39.7	49 04 27.3	Cable	1,973.2	3.295174
		231 02 48.7	51 03 37.4	Brig	1,959.8	3.292220
		239 10 22.2	59 13 37.9	Red Mills - U.S.L.S.	7,123.6	3.852699
T.P. No. 62	44 42 19.065	219 12 52.3	39 13 38.1	Ref. Mon. 52-59	2,263.7	3.354828
	75 30 18.928	233 06 08.9	53 07 21.0	T.P. No. 61	2,854.2	3.455480
		314 24 59.0	134 25 20.1	Ref. Mon. 53	923.3	2.965344
		351 22 12.3	171 22 15.9	Ferry - U.S.L.S.	755.5	2.878262
T.P. No. 63	44 37 07.157	38 26 58.6	218 26 02.6	150 I.M.C.	2,829.6	3.451729
	75 37 13.247	50 15 43.5	230 13 56.5	Ref. Mon. 55	4,372.9	3.640766
		125 19 23.4	305 19 01.4	Ref. Mon. 54	846.9	2.927825
		223 25 59.4	43 30 50.6	T.P. No. 62	13,266.8	4.122767
T.P. No. 64	44 35 33.612	17 10 14.4	197 09 53.7	154 - I.M.C.	2,203.9	3.343185
	75 39 41.987	48 20 10.9	228 21 32.4	Ref. Mon. 56	4,138.2	3.616813
		138 10 19.1	318 10 16.5	Ref. Mon. 55	122.8	2.089198
		217 27 29.1	37 28 51.5	Ref. Mon. 54	4,255.5	3.628948
		228 37 26.1	48 39 10.5	T.P. No. 63	4,370.1	3.640499
		246 10 12.1	66 11 00.5	150 - I.M.C.	1,662.7	3.220802
T.P. No. 65	44 33 56.371	18 46 49.8	198 46 32.7	Taylor R.M. 2	1,665.9	3.221651
	75 41 58.827	42 53 19.1	222 52 19.5	Ref. Mon. 57	2,749.8	3.439294
		163 36 22.3	343 36 19.9	Ref. Mon. 56	263.3	2.420491
		223 30 18.0	43 31 51.4	Ref. Mon. 55	4,265.4	3.629956
		225 09 09.1	45 10 45.1	T.P. No. 64	4,257.2	3.629123
		249 16 22.1	69 17 37.4	154 - I.M.C.	2,532.6	3.403561
T.P. No. 66	44 32 52.540	77 51 47.1	257 51 40.5	Ref. Mon. 57	212.4	2.327200
	75 43 14.197	215 33 11.4	35 34 02.0	Ref. Mon. 56	2,732.5	3.436561
		220 09 59.0	40 10 52.0	T.P. No. 65	2,578.6	3.411384
		250 46 24.9	70 47 00.8	Taylor R.M. 2	1,193.9	3.076964

INTERNATIONAL BOUNDARY COMMISSION—UNITED STATES, ALASKA, AND CANADA
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International boundary line St. Lawrence River — Turning Points — *State* New York — *Province* Ontario

STATION	LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
	° ′ ″	° ′ ″	° ′ ″			
T.P. No. 67	44 32 46.058	56 32 16.0	236 32 09.7	Ref. Mon. 58	239.4	2.379068
	75 43 25.080	191 49 58.1	11 49 59.1	Ref. Mon. 57	158.8	2.200825
		230 12 35.2	50 12 42.8	T.P. No. 66	312.6	2.495050
		246 32 49.7	66 33 33.2	Taylor R.M. 2	1,490.7	3.173380
T.P. No. 68	44 32 37.624	181 53 29.1	1 53 29.2	Ref. Mon. 58	128.4	2.108618
	75 43 34.318	209 37 53.4	29 38 00.8	Ref. Mon. 57	478.3	2.679705
		218 04 20.6	38 04 27.0	T.P. No. 67	330.7	2.519432
		241 29 15.3	61 30 05.2	Taylor R.M. 2	1,788.3	3.252447
T.P. No. 69	44 30 54.775	225 46 39.2	45 48 22.8	T.P. No. 68	4,553.0	3.658298
	75 46 02.120	266 43 41.4	86 44 16.2	Oak Point - U.S.L.S.	1,099.1	3.041018
		279 22 32.5	99 23 03.8	Ref. Mon. 59-50	1,002.4	3.001021
		354 34 33.7	174 34 36.8	Waleback - U.S.L.S.	1,063.2	3.026604
T.P. No. 70	44 28 17.944	57 56 56.0	237 56 23.7	Griswold - U.S.L.S.	1,205.3	3.081104
	75 48 28.457	213 43 29.7	33 45 12.3	T.P. No. 69	5,821.4	3.765024
		246 54 50.3	66 55 02.8	168 - I.W.C.	426.8	2.630190
		248 57 45.0	68 58 05.7	Ref. Mon. 60	698.3	2.844035
T.P. No. 71	44 25 55.150	147 50 04.3	327 49 46.5	Ref. Mon. 61	1,055.1	3.023290
	75 49 18.127	156 27 22.9	336 27 09.4	171 sub	1,063.4	3.026702
		193 59 11.7	13 59 46.5	T.P. No. 70	4,542.3	3.657280
		319 53 35.6	139 53 57.3	172 sub	1,065.1	3.027394
T.P. No. 72	44 23 46.034	134 25 20.9	314 25 17.5	Ref. Mon. 62	151.2	2.179552
	75 52 12.899	196 25 27.8	16 25 34.6	177 - I.W.C.	763.3	2.882684
		224 07 03.8	44 09 06.1	T.P. No. 71	5,552.9	3.744520
		336 24 41.8	156 24 58.7	176 - I.W.C.	1,336.7	3.126018
T.P. No. 73	44 22 03.900	83 28 07.6	263 27 48.3	Ref. Mon. 64	616.2	2.789701
	75 54 47.334	171 39 42.8	351 39 42.0	Ref. Mon. 63	176.4	2.246378
		172 49 27.0	352 49 26.3	R.M. 63 ecc.	183.5	2.263667
		227 18 16.8	47 20 04.8	T.P. No. 72	4,650.5	3.667486
T.P. No. 74	44 22 07.328	263 36 15.7	83 36 37.2	R.M. 63 ecc.	685.1	2.835774
	75 55 19.120	264 12 48.4	84 13 09.8	Ref. Mon. 63	681.7	2.833588
		278 32 43.1	98 33 05.3	T.P. No. 73	711.5	2.852304
		332 28 49.9	152 28 52.8	Ref. Mon. 64	198.3	2.297429
T.P. No. 75	44 21 33.252	40 19 30.1	220 19 22.7	Park - I.W.C.	361.2	2.557728
	75 55 47.410	210 46 26.4	30 46 46.2	T.P. No. 74	1,224.2	3.087863
		291 18 42.9	111 18 46.8	Ref. Mon. 65	133.3	2.124933
		153 16 19.7	333 16 13.3	Pole sub	452.3	2.655430
T.P. No. 76	44 21 16.616	206 03 30.7	26 03 33.7	Ref. Mon. 66	215.7	2.333793
	75 56 28.199	210 00 52.2	30 00 55.8	Mon. - I.W.C.	226.8	2.355677
		240 22 50.0	60 23 18.5	T.P. No. 75	1,039.1	3.016643
		295 49 58.7	115 50 05.0	Sand sub	220.0	2.342340

International boundary line St. Lawrence River — Turning Points — *State* New York — *Province* Ontario

STATION	LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
T.P. No. 77	44 20 56.133	4 36 23.6	184 36 23.4	Ref. Mon. 67	66.0	1.819544
	75 57 00.144	26 28 51.7	206 28 41.7	Waterloo - U.S.L.S.	711.5	2.852188
		94 51 58.8	274 51 55.1	Craft	117.4	2.069544
		228 12 46.7	48 13 09.0	T.P. No. 76	948.9	2.977201
T.P. No. 78	44 20 32.927	52 35 53.1	232 35 49.3	Upper sub	153.2	2.185352
	75 58 13.800	116 41 26.5	296 41 21.6	Ref. Mon. 68	175.8	2.244958
		246 17 24.4	66 18 15.9	T.P. No. 77	1,781.8	3.250861
T.P. No. 79	44 20 34.735	148 20 05.2	328 20 00.1	Ref. Mon. 69	310.8	2.492521
	75 58 23.689	249 31 32.1	69 31 34.1	Ref. Mon. 68	66.2	1.820849
		284 17 19.3	104 17 26.2	T.P. No. 78	226.1	2.354220
		326 49 15.7	146 49 18.8	Upper sub	177.9	2.250103
T.P. No. 80	44 20 45.376	323 00 40.5	143 00 47.8	Ref. Mon. 68	382.2	2.582296
	75 58 31.271	332 55 06.3	152 55 11.6	T.P. No. 79	368.9	2.566897
		355 44 14.1	175 44 14.3	Ref. Mon. 69	64.1	1.806655
T.P. No. 81	44 20 47.164	35 06 07.1	215 06 05.4	Z sub	95.7	1.980961
	75 58 43.582	77 52 51.7	257 52 48.3	Ref. Mon. 70	110.3	2.042427
		281 26 38.7	101 26 47.3	T.P. No. 80	278.2	2.444369
T.P. No. 82	44 20 45.445	118 50 57.5	298 50 48.6	Ref. Mon. 71	321.5	2.507124
	75 58 49.920	227 26 59.2	47 27 02.2	Ref. Mon. 70	44.2	1.645708
		249 17 44.1	69 17 48.5	T.P. No. 81	150.1	2.176323
		286 28 36.2	106 28 38.9	Z sub	89.0	1.949425
T.P. No. 83	44 20 50.663	75 45 47.6	255 45 37.7	X sub	323.2	2.509415
	75 58 56.098	87 38 31.9	267 38 27.3	Ref. Mon. 71	144.8	2.160865
		307 44 25.9	127 44 31.2	Ref. Mon. 70	214.3	2.330950
		319 38 40.1	139 38 44.4	T.P. No. 82	211.4	2.325005
E. Tablet-1959-T.I.Bridge 1959 d.m.	44 20 50.061	259 10 48.8	79 10 51.9	T.P. No. 83	99.034	1.995784
	75 59 00.489					
W. Tablet-1959-T.I.Bridge 1959 d.m.	44 20 49.960	259 10 48.3	79 10 48.8	E.Tab.-1959-T.I.Bridge	16.630	1.220890
	75 59 01.227					
E. Tablet-1937-T.I.Bridge 1937; r.1959 d.m.	44 20 49.875	136 38 10.4	316 38 09.8	Ref. Mon. 71	25.380	1.402772
	75 59 01.847	259 10 47.9	79 10 48.3	W.Tab.-1959-T.I.Bridge	13.993	1.145911
		259 10 47.9	79 10 51.9	T.P. No. 83	129.657	2.112795
W. Tablet-1937-T.I.Bridge 1937; r.1959 d.m.	44 20 49.800	165 31 29.0	345 31 28.8	Ref. Mon. 71	21.354	1.329475
	75 59 02.390	259 10 47.5	79 10 47.9	E.Tab.-1937-T.I.Bridge	12.238	1.087701
T.P. No. 84	44 20 48.612	252 54 36.4	72 54 42.3	Ref. Mon. 71	195.2	2.290447
	75 59 11.054	259 10 41.4	79 10 47.5	W.Tab.-1937-T.I.Bridge	195.379	2.290880
		259 10 41.4	79 10 51.9	T.P. No. 83	337.3	2.527983
		311 51 04.5	131 51 05.1	X sub	24.2	1.384318

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International boundary line St. Lawrence River Turning Pointd *State* New York *Province* Ontario

STATION	LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
T.P. No. 85	44 20 49.741 75 59 18.228	77 51 27.3 83 43 32.8 97 01 22.7 282 22 25.0	257 51 24.7 263 43 27.2 277 01 20.2 102 22 30.0	U sub Ref. Mon. 72 H sub T.P. No. 84	84.9 178.8 79.7 162.7	1.928876 2.252264 1.901680 2.311358
T.P. No. 86	44 20 49.463 75 59 26.262	129 27 46.2 259 29 24.6 267 14 18.8 358 36 37.6	309 27 46.0 79 29 27.7 87 14 24.4 178 36 37.6	G sub H sub T.P. No. 85 Ref. Mon. 72	7.0 100.5 178.2 11.0	0.843851 2.002145 2.250807 1.039838
T.P. No. 87	44 20 49.266 75 59 27.507	244 38 21.3 257 33 54.7 279 56 05.9	64 38 22.0 77 33 55.6 99 56 06.8	G sub T.P. No. 86 Ref. Mon. 72	24.6 28.2 28.3	1.390124 1.450850 1.451269
T.P. No. 88	44 20 50.195 75 59 33.846	276 22 16.9 281 16 36.9 281 32 30.6	96 22 22.0 101 16 42.2 101 32 35.0	G sub Ref. Mon. 72 T.P. No. 87	163.6 171.6 143.3	2.213800 2.234423 2.156264
T.P. No. 89	44 20 52.130 76 00 05.133	4 35 38.1 150 37 25.5 274 55 23.8 281 45 09.0	184 35 37.5 330 37 22.9 94 55 45.7 101 45 20.9	P - I.N.C. Ref. Mon. 73 T.P. No. 88 Q - I.N.C.	202.0 165.2 695.6 386.5	2.305310 2.217923 2.842333 2.587174
T.P. No. 90	44 20 38.937 76 00 29.957	210 05 51.6 220 23 04.5 233 28 31.3 347 48 34.1	30 06 02.0 40 23 19.3 53 28 48.7 167 48 34.7	B - I.N.C. Ref. Mon. 73 T.P. No. 89 Ref. Mon. 74	658.8 723.6 684.2 92.2	2.818743 2.859481 2.835200 1.964769
T.P. No. 91	44 19 54.247 76 02 44.978	116 05 05.1 202 57 03.7 245 13 46.7 328 23 06.0	296 04 42.3 22 57 16.5 65 15 21.1 148 23 08.1	Row - I.N.C. Spill sub T.P. No. 90 Ref. Mon. 75	802.6 1,040.7 3,293.9 126.0	2.904524 3.017333 3.517712 2.100204
T.P. No. 92	44 17 58.756 76 05 50.235	21 42 02.3 86 02 06.2 189 55 43.5 211 29 55.1 229 00 56.1	201 41 59.3 266 01 27.0 9 55 44.5 31 30 05.7 49 03 05.5	Ref. Mon. 76 Ref. Mon. 77 End sub Round - I.N.C. T.P. No. 91	257.0 1,245.7 179.1 646.3 5,437.2	2.409974 3.095429 2.253208 2.810433 3.735377
T.P. No. 93	44 17 52.878 76 06 43.732	25 57 09.5 34 06 27.7 149 09 00.6 261 17 50.8 273 00 24.5	205 57 05.2 214 06 15.7 329 08 58.8 81 18 28.2 93 00 58.9	Grind - I.N.C. Ref. Mon. 78 Ref. Mon. 77 T.P. No. 92 Ref. Mon. 76	390.1 679.4 110.8 1,199.7 1,092.4	2.591129 2.832127 2.044705 3.079080 3.038389
T.P. No. 94	44 17 41.538 76 07 06.611	92 12 19.5 225 19 49.8 235 23 22.5 259 07 14.2 329 17 15.6	272 11 48.6 45 20 04.0 55 23 38.5 79 07 25.9 149 17 19.6	Ref. Mon. 79 Ref. Mon. 77 T.P. No. 93 Grind - I.N.C. Ref. Mon. 78	983.1 633.2 616.2 378.4 247.2	2.992601 2.801569 2.789754 2.577976 2.393074

International boundary line St. Lawrence River — Turning Points — *State* New York — *Province* Ontario

STATION	LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
T.P. No. 95	44 17 42.273 76 07 47.166	100 16 09.3 173 31 39.7 271 26 24.5 282 54 55.0	280 16 06.7 358 31 39.4 91 26 52.8 102 55 27.3	Ref. Mon. 79 Punt T.P. No. 94 Ref. Mon. 78	84.7 438.4 899.4 1,052.0	1.927724 2.641893 2.953930 3.022004
T.P. No. 96	44 17 46.753 76 07 53.364	202 48 14.0 317 10 52.2 336 17 33.3	22 48 18.0 135 10 56.5 156 17 35.5	Punt T.P. No. 95 Ref. Mon. 79	325.4 194.9 134.5	2.512467 2.289899 2.128848
T.P. No. 97	44 16 50.392 76 09 43.660	7 21 19.6 37 06 17.1 234 33 46.6 272 07 19.5	187 21 02.9 217 05 20.1 54 35 03.6 92 07 40.2	Ref. Mon. 81 194 - I.M.C. T.P. No. 96 Ref. Mon. 80	4,183.4 3,007.1 3,001.1 657.6	3.621526 3.478150 3.477281 2.817980
T.P. No. 98	44 14 23.150 76 09 52.639	139 38 22.2 182 30 30.3 334 40 12.0 353 20 50.4	319 38 11.6 2 30 36.1 154 40 19.1 173 20 58.9	Ref. Mon. 81 T.P. No. 97 Finis sub 198 sub	519.4 4,549.1 530.3 2,354.3	2.715502 3.657925 2.724545 3.371860
T.P. No. 99	44 13 16.934 76 11 31.327	32 43 25.5 142 29 46.7 226 58 19.4 276 48 38.4	212 42 26.3 322 29 40.9 46 59 28.3 96 49 55.8	200 sub Ref. Mon. 82 T.P. No. 98 198 sub	2,312.7 302.9 2,995.7 2,481.0	3.364123 2.481346 3.476499 3.394619
T.P. No. 100	44 12 53.758 76 12 25.699	25 51 44.7 140 19 38.5 239 20 29.3 1 59 38.9	205 50 57.8 320 19 25.3 59 21 07.3 141 59 27.5	202 - I.M.C. Ref. Mon. 83 T.P. No. 99 200 sub	3,429.8 161.1 1,403.0 1,231.3	3.535267 2.207176 3.147060 3.090377
T.P. No. 101	44 12 13.600 76 14 44.312	41 52 09.1 177 06 22.7 248 30 50.9 319 15 05.7	221 51 09.4 357 06 22.3 68 11 27.7 139 15 55.1	204 - I.M.C. Ref. Mon. 84 T.P. No. 100 202 - I.M.C.	2,849.4 268.3 3,327.0 2,441.4	3.454746 2.428595 3.522044 3.387631
T.P. No. 102	44 12 13.504 76 17 13.142	95 09 23.0 176 14 56.3 269 53 28.5 326 38 [illegible] 359 37 15.4	265 08 25.2 356 14 55.9 90 54 51.6 146 39 41.3 179 37 15.7	Ref. Mon. 86 Ref. Mon. 85 T.P. No. 101 204 - I.M.C. 206 sub	1,848.5 219.9 3,293.5 2,533.4 1,541.2	3.266828 2.342272 3.517652 3.403704 3.187850
T.P. No. 103	44 11 56.365 76 18 46.877	212 43 08.6 250 05 09.7 255 43 52.4 295 48 41.3	32 43 16.1 70 06 14.5 75 44 57.7 115 49 46.9	Ref. Mon. 86 Ref. Mon. 85 T.P. No. 102 206 sub	442.9 2,198.3 2,147.6 2,323.8	2.646324 3.342084 3.331942 3.366203
T.P. No. 104	44 08 03.390 76 21 11.353	133 53 22.1 140 03 06.6 204 22 29.2 339 37 31.9	313 53 16.2 320 03 01.4 24 24 10.5 159 37 45.4	210 - I.M.C. Ref. Mon. 87 T.P. No. 103 218 sub	361.7 253.4 7,874.6 1,240.0	2.417744 2.412354 3.896230 3.093413

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International boundary line St. Lawrence River — Turning Points — *State* New York — *Province* Ontario

STATION	LATITUDE AND LONGITUDE	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE (METERS)	LOGARITHM
	° ′ ″	° ′ ″	° ′ ″			
T.P. No. 105	44 05 38.428	126 02 22.8	306 02 15.8	Bear Point - U.S.L.S.	278.2	2.444397
	76 26 21.283	139 53 10.2	319 53 05.0	223 - I.W.C.	257.8	2.411240
		157 03 54.9	337 03 51.6	Ref. Mon. 88	273.4	2.436798
		236 58 43.7	57 02 19.4	T.P. No. 104	8,217.0	3.914712

We certify that the foregoing is a true record of the work done by the Commissioners from 1925 to 1963, inclusive, on the maintenance of the International Boundary between Canada and the United States of America, along the St. Lawrence River from the 45th parallel boundary to Lake Ontario, under the terms of the Treaty of February 24, 1925, and that the tables submitted herein give the true locations and geodetic positions of all International Boundary reference monuments and turning points in this area based on the 1927 North American data.

A. F. Lambert
Canadian Commissioner

Edward J. King
United States Commissioner

ST. LAWRENCE RIVER

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