

**HYDRAULICS RESEARCH DIVISION**

Technical Note



**DATE:** March 1980 **REPORT NO:** 80-13

**TITLE:** Nearshore Sample Stations and Shore Reference Fixes for the Pickering Area, Lake Ontario

**AUTHOR:** N. A. Rukavina

**REASONS FOR REPORT:** Requested by the Ontario Ministry of the Environment

**CORRESPONDENCE FILE NO:** 2242-1

## **1.0 INTRODUCTION**

This report answers a request by the Ontario Ministry of the Environment (Appendix 1) for the locations of nearshore sample stations and of shoreline reference sites in the vicinity of Pickering, Ontario. Information is to be used to plan a sediment sampling survey off the mouth of Duffin Creek which will reoccupy the sites of the original nearshore survey of the area in 1968.

## **2.0 DATA SOURCE**

The Pickering area was sampled as part of the nearshore sediment survey of 1968 (Rukavina, 1969). Samples were collected on a 1-km grid with control to  $\pm 10$  m supplied by a Cubic Autotape range-positioning system. Shore stations were established at West Hill and Moore Points at sites selected to keep all nearshore sample stations south of the baseline. The Moore Point site was pegged and subsequently tied into the local grid. The West Hill site was located at Topographic Monument No. 59.

## **3.0 DATA PROVIDED**

1. A map of sample sites at a scale of 1:50,000 (Appendix 2).
2. A listing of U.T.M. coordinates and ranges for the sample sites (Appendix 3).
3. The description and location of the shore reference sites (Appendix 4).

## **4.0 REFERENCES CITED**

Rukavina, N. A., 1969. "Nearshore Sediment Survey of Western Lake Ontario, Methods and Preliminary Results". Proc. 12th Conf. Great Lakes Research, IAGLR, pp. 317-324.

## **APPENDIX 1**



Ontario

Ministry  
of the  
Environment

965-6957

1980 03 13

135 St. Clair Avenue West  
Suite 100  
Toronto, Ontario  
M4V 1P5

Dr. Milne Dick, Chief  
Hydraulic Research Division  
Canada Centre for Inland Waters  
P.O. Box 5050  
BURLINGTON, Ontario L7R 4A6

*Lin:*  
2642

Dear Dr. Dick:

Re: DATA REQUEST - LAKE ONTARIO AND GEORGIAN BAY

This is further to a telephone conversation with Dr. N. Rukavina. The MOE Great Lakes Surveys Unit will be conducting a detailed, baseline sediment survey during the 1980 field season in the vicinity of the new York-Durham STP outfall, just east of the Pickering Nuclear Generating Station on the north shore of Lake Ontario. In order to prepare the cruise plan for the survey and to aid in the eventual assessment of the data, I would appreciate if you could send me a map, as soon as possible, showing station locations for the sediment survey conducted several years ago by Dr. Rukavina for the area extending from just west of Moore Point to just east of Simcoe Point. A summary of the sample characteristics and size data for these stations would also be appreciated, if this could be provided some time later this year.

As a general aid in assessment of requirements for the IJC Lake Ontario Surveillance Plan and for future MOE nearshore surveillance needs, I would also like to eventually receive station location maps and sediment data for the Lake Ontario nearshore zone east from the Scarborough Bluffs. Could you please let me know if this can be provided.

A final request is with regard to Lake Huron and Georgian Bay material provided to Marta Griffiths of this Unit. She would like to have an accurate station location map for the sediment stations in Georgian Bay if this could also be provided.

Thank you for your kind attention.

Yours very truly,

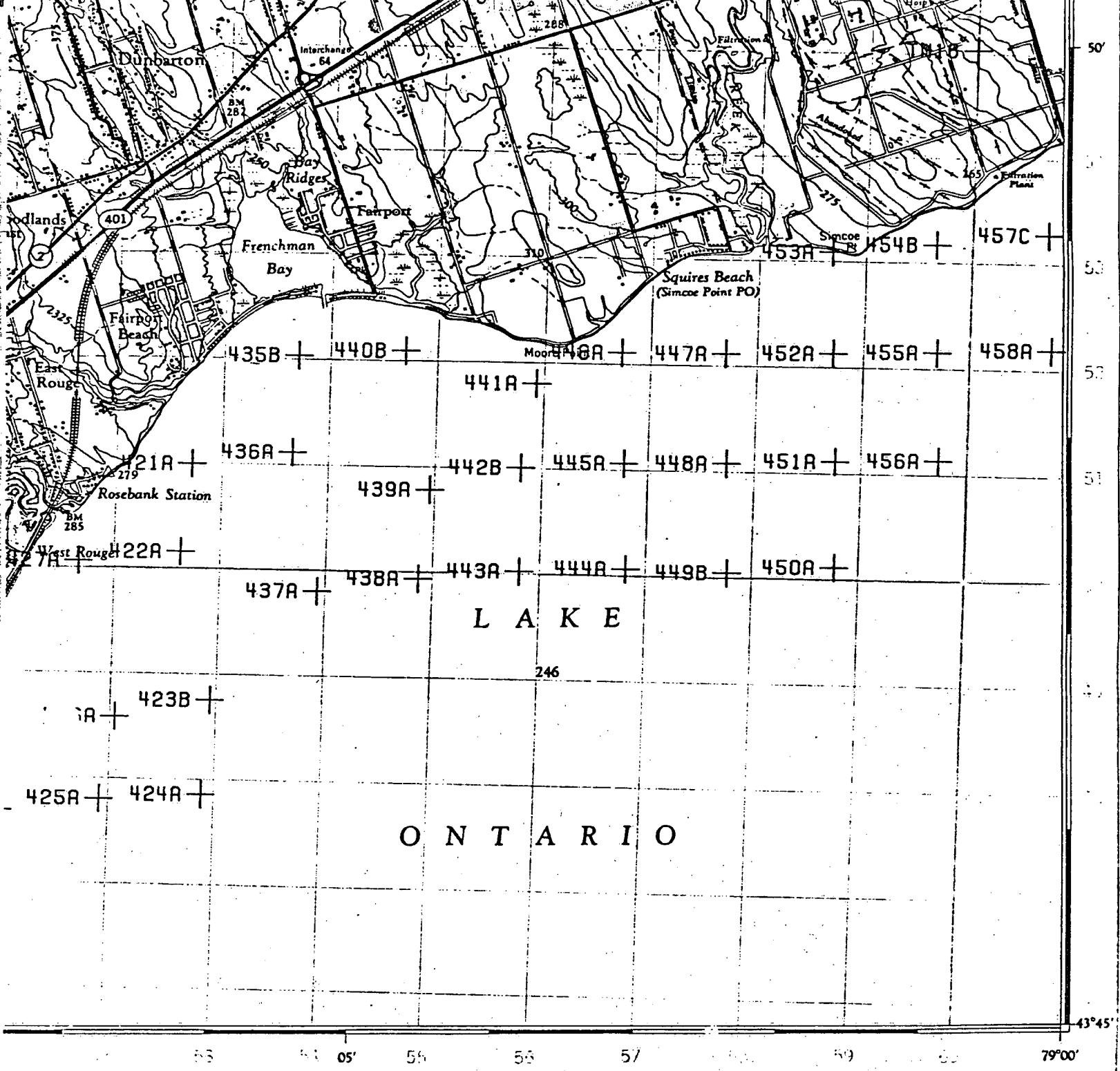
W. S. Richardson, P.Eng.  
Senior Environmental Scientist  
Great Lakes Surveys Unit  
Water Resources Branch

WSR/vs

cc: M. Griffiths

MAR 19 1980

**APPENDIX 2**  
**Map of Sample Sites**



# HAM RIO

ÉCHELLE 16

2 Miles  
200' 3000' 4000' Mètres  
2000' 3000' 4000' Verges

ÉQUIDISTANCE DES COURBES 25 PIEDS  
en pieds au-dessus du niveau moyen de la mer

Projection transversale de Mercator  
Réseau planimétrique nord-américain unifié 1927

Publiée par le SERVICE TOPOGRAPHIQUE DE L'ARMÉE  
(G.R.C.). Renseignements à jour en 1960. Imprimée en 1964.

Ces cartes sont en vente au Bureau de distribution des cartes,  
ministère des Mines et des Relevés techniques, Ottawa.

Building .....	Bâtiment .....	Church .....	Église .....	8
School .....	École .....	Post Office .....	Bureau de poste .....	P
Cemetery .....	Cimetière .....			C
Mine or Open cut .....	Mine ou fosse à ciel ouvert .....			X
Lighthouse .....	Phare .....			*
Power transmission line .....	Ligne de transport d'énergie .....			
River with bridge .....	Rivière avec pont .....			/
Stream, intermittent or dry .....	Cours d'eau intermittent, sec à sec .....			
Lake intermittent, sublimate .....	Lac intermittent, lac sublimate .....			

**APPENDIX 3**  
**Sample Site Coordinates, Ranges**

Sample Station	Range 1, m (West Hill)	Range 2, m (Moore)	UTM Northing	UTM Easting
441A	8920	445	4851776	655934
442B	8735	1240	4850981	655809
443A	7910	2205	4849997	655816
444A	8839	2257	4850038	656818
445A	9242	1326	4851038	656780
446A	9748	629	4852082	656732
447A	10572	1602	4852085	657712
448A	10102	1984	4851053	657744
449B	9718	2727	4850019	657774
450A	10684	3391	4850084	658779
451A	11036	2865	4851086	658762
452A	11450	2606	4852100	658720
453A	11919	2722	4853059	658693
454B	12786	3676	4853137	659667
455A	12323	3579	4852124	659695
456A	11935	3774	4851105	659733
457C	900	8420	4853248	660712
458A	1638	8871	4852166	660764

**APPENDIX 4**  
**Shore Reference Sites**

WESCHILL Point #3

MONUMENT RECORD

TOPOGRAPHICAL SURVEY  
SURVEYS AND MAPPING BRANCH

DEPARTMENT OF MINES AND TECHNICAL SURVEYS

FILE CODE 43-79 25

2062

Toronto - East

MONUMENT Sta. 59

MAP SHEET	30-M-14				
PROVINCE	Ontario	DATE	June, 1964		
FIELD OFFICER	L.E. Pelton	LATITUDE	43 45 33.397		
TYPE OF SURVEY	E.D.M. Traverse	LONGITUDE	79 09 11.323		
SOURCE	Topographic	DATUM	N.A. 1927		
MONUMENT TYPE	Bronze Tablet	UTM NORTHTINGS	4,846,578.5		
DATE PLANTED	1963	UTM EASTINGS	648,672.8		
FIELD BOOK NO.	63161-190	ZONE	17		
AIR PHOTO NO.	Not Ident.	ELEVATIONS	None		
THEODOLITE		LEVELLING METHOD			

G.R.O.O.M.

Station 59

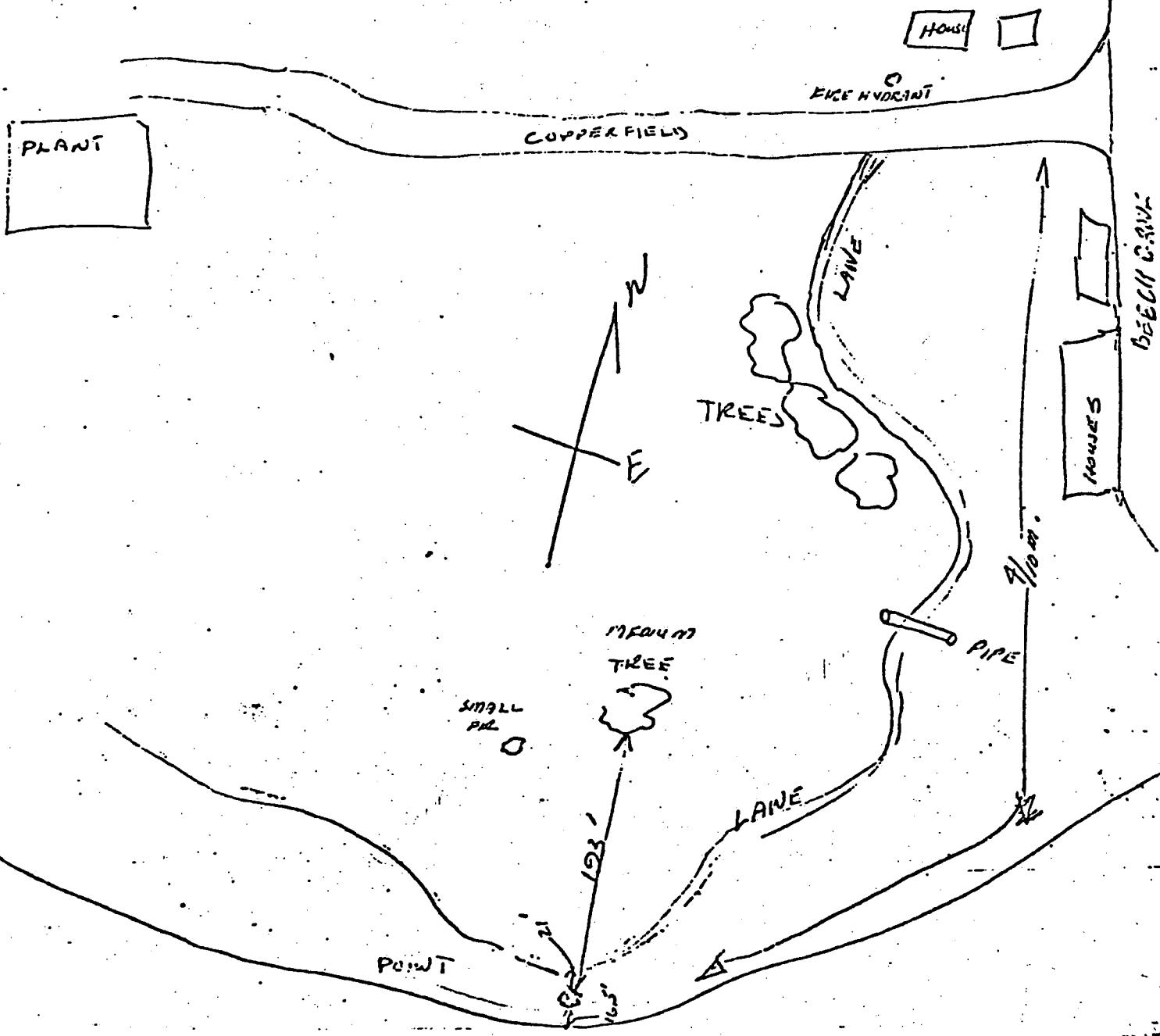
Description: Monument is located about 4/10 mile from Copperfield on a point which protrudes out over Lake Ontario. To reach this one turns east on Copperfield from Beechgrove and then south at the first fire hydrant onto a lane which leads one for 4/10 mile to the monument. It is 16.5 feet north of cliff edge and 21 feet south of lane, and 193 feet south of lone tree in field.

Closest Road Intersection: Beechgrove and Copperfield Roads.

Monument Height: Ground level.

Intervisible With: Stations 58T, 60, 48, 146.

CIVIC TRAVELS



# MOORE POINT

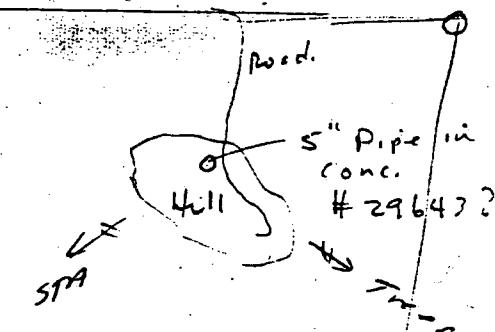
# 4

Latitude:  $43^{\circ} 48' 29.667''$   
Longitude:  $79^{\circ} 03' 32.955''$

23665

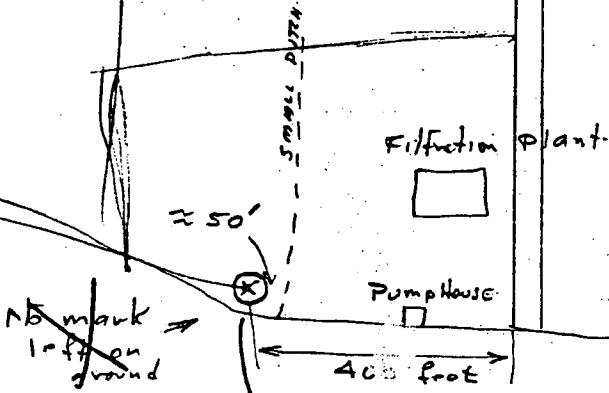
U.T.M. ( $6^{\circ}$ )

Northing: 4852185.6  
Easting: 656111.6



- OK TO DRIVE TRUCK ACROSS GRASS TO POINT -
- Talked to operator)

NUCLEAR Power Sta. Site



WESTERLY -  
ALL GRID POINTS VISIBLE

EASTERLY -  
ALL GRID POINTS VISIBLE

Note: - iron pipe driven into ground to grass level to mark site.  
- pile of boulders around it.

B.B.B.

- Note that the aluminium Mast should be used to gain an extra four feet of height
- Estimated Top of Bank is 30 ft above water.
- Have to check with Ontario Hydro for survey of Nuclear site on Ontario grid.