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**RECONNAISSANCE GEOCHEMICAL DATA FOR  
TILL AND OTHER SURFICIAL SEDIMENTS,  
MUSKOKA REGION, ONTARIO:  
APPLICATIONS TO ACID RAIN RESEARCH  
AND MINERAL EXPLORATION**

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**Canada**

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## RECONNAISSANCE GEOCHEMICAL DATA FOR TILL AND OTHER SURFICIAL SEDIMENTS, MUSKOKA REGION, ONTARIO: APPLICATIONS TO ACID RAIN RESEARCH AND MINERAL EXPLORATION

I.M. Kettles

### INTRODUCTION

In 1984, a programme of systematic overburden sampling was initiated in the Muskoka region (parts of NTS map sheets 41H/1, 41H/8, 41H/9, 31E/5, 31E/4, 31E/13) (Figure 1). This work was a continuation of similar surveys carried out in adjoining parts of southeastern Ontario including the Frontenac Arch area (Kettles and Shilts, 1983), and in the St. John valley, New Brunswick (Kettles and Wyatt, 1984; 1985). The project was designed to quantify regional variation in drift composition in order to provide baseline data for use in assessing the sensitivity of the terrain to the effects of acid rain. For this purpose, two groups of compositional characteristics were mapped: (1) textural and carbonate composition (the buffering components) and (2) concentrations of naturally occurring trace and minor elements (potential sources of environmental contamination if released by acid leaching or by exchange reactions with groundwaters). Much of the information obtained from the study can also be used as an aid to mineral exploration in the area.

The rationale behind the sampling plan was to collect, wherever possible, the surficial sediments most representative of the debris load carried by the last glacier to pass over the sample site, or where true glacial sediments are covered by a continuous mantle of post glacial sediments, to sample those sediments which have the greatest influence on the near-surface environment. As a result of these strategies, the database generated as part of this project comprises information for samples of disparate sediment types. Till, which has been transported only by ice, is considered to be most representative of the debris load carried by the last glacier to cross the sample site. In upland areas, till was generally readily available for sampling, but where absent or inaccessible, glaciofluvial or outwash sands and gravels were collected. At low altitudes adjacent to some major lakes in the area, glaciolacustrine silty clay or fine sand was sampled where it formed the predominant surface cover.

### GEOLOGICAL SETTING

The Muskoka area is underlain by quartzo-feldspathic gneisses of the Ontario Gneiss Belt, except along the

southern margin of the field area, where it is underlain by Paleozoic limestone (Sanford and Baer, 1981). More recently, Davidson and others (Davidson et al., 1982; Culshaw et al., 1983) have undertaken more detailed bedrock mapping in Parry Sound and surrounding areas.

The predominant ice flow direction during the Wisconsinan (last) Glaciation was southerly to southwesterly. The Precambrian Highlands are covered by a discontinuous blanket of till, 0-3 m thick.

Stratigraphically, only one unit of till, which is associated with the last (Late Wisconsinan) glacial expansion of the Laurentide Ice Sheet, has been identified in the area (Sharpe, 1978). Valleys are filled with till covered by or reworked into outwash, esker, or ice contact sand and gravels. Along low-lying areas adjacent to some large lakes, lacustrine silty clay or fine sand sediments predominate.

#### PROCEDURES

Samples were collected from road and stream cuts and from sand and gravel pits. Care was taken to sample below signs of frost disturbance to ensure that the sample was uncontaminated. In nearly all cases, samples were collected below the post glacial solum, although some samples were collected in profile from unweathered glacial sediment up through the solum developed on it. Where possible, one sample was taken every 10 sq. kilometres areally, but sampling density varied, being controlled largely by degree of road access. Sampling density averaged about one per 27 sq. km with samples being collected from over 200 sites over 5,500 sq. km.

In this study, the clay-sized (< 2 $\mu$ m) fraction of the sediments was selected for trace element analyses. Results of experiments undertaken to study trace element partitioning in till (Shilts, 1984) indicate that there is a disproportionate amount of metal in clay-sized compared to coarser parts of the till matrix. Because of its large internal surface area, the fine component reacts preferentially with solutions passing through the drift; even small amounts of clay-sized detritus can have a major effect on the chemistry of ground or surface waters. In addition, high concentrations in the clay fraction may reflect mineralization (Shilts, 1973).

Clay separated by centrifugation and decantation was analyzed by Bondar-Clegg and Co. Ltd. for Cu, Pb, Zn, Co, Ni, Ag, Cr, Mo, Cd, Fe, Mn, and Hg after treatment with a hot (HNO<sub>3</sub>-HCl leach), using standard atomic absorption techniques. As and U were analyzed using colourimetric and fluorimetric techniques, respectively.

The carbonate content of the silt plus clay-sized fraction (< 63  $\mu\text{m}$ ) was determined for most samples. Although carbonate minerals tend to occur in the silt-size portion of the glacial sediment matrix (Dreimanis and Vagners, 1971), the entire silt plus clay-sized fraction was analyzed because it is very difficult and time consuming to remove all clay from the silt-sized fraction. Measurements were made using a Leco Carbon Analyzer. Samples were burned twice at high temperatures - once untreated and once after treatment with hydrochloric acid. Each time, the amount of carbon dioxide evolved was measured. The portion from the HCl-treated run is thought to represent the non-carbonate carbon such as graphite, Quaternary or modern plant detritus and other organic compounds. The difference between the two values is converted to the CaCO<sub>3</sub> equivalent, calculated as if all carbon were derived from calcite.

Grain size composition of the <2000  $\mu\text{m}$  fraction was determined using standard sieve and hydrometer procedures.

## RESULTS

Results of trace element, carbonate, and textural analyses of samples are presented and explained in the data list for this report.

Tills in the Muskoka region are sandy and stony. Textural composition of 105 samples analyzed, averaged 69% sand (2000-63  $\mu\text{m}$ ), 27% silt (63-4  $\mu\text{m}$ ), and 4% clay (<4  $\mu\text{m}$ ), with ranges of 11-93%, 5-60%, and 1-28%, respectively.

Concentrations of carbonate in all glacial sediments are low (<1 %) over all parts of the study area underlain by Canadian Shield terrane. In contrast, the only sample which was analyzed from drift overlying Paleozoic limestone, has a CaCO<sub>3</sub> equivalent concentration of 22.5%.

Concentrations of Cu are high (> 200 ppm) in drift over much of the northern half of the Muskoka region. Reasons for this enrichment are presently unknown. Numerous small areas with high or anomalous levels of the following elements: Zn (>200 ppm), U (>7 ppm), Cr (>85 ppm), Hg (>200 ppb), Ni (>80 ppm), Ag (>.5 ppm), Pb (>25 ppm), and As (>8 ppm), are also present. Concentrations of the other elements analyzed are generally low - Mo (<6 ppm), Mn (<1200 ppm), Fe (<6 %), and Cd (<.3 ppm).

In upland regions of this study region, drift cover was widespread and thick enough to generally allow collection of slightly weathered and unweathered till samples. In areas where only glaciofluvial or outwash sand and gravels were available for sampling, however, caution should be exercised when interpreting results of sample analyses. Some

variation in trace element concentrations among samples may reflect changes in sediment facies sampled or the degree of weathering.

A larger number of glaciofluvial or outwash sand and gravel samples and very weathered till samples have higher concentrations of some trace elements, particularly Fe, than do samples of slightly weathered to unweathered till. A large proportion of the clay-sized detritus in the first group of samples is likely composed of secondary minerals consisting primarily of Fe-Mn oxides and hydroxides, and may include some authigenic clay. These secondary minerals form as primary silicate and sulphide minerals break down (Shilts, 1973). Because these secondary clay-sized materials have a high cation exchange capacity compared to the clay-sized fraction of adjacent unweathered till, they act like a sponge, scavenging cations from ground water solutions that contact them. In this way, metal levels are built up in coarse-grained and weathered sediment which are in excess of those in primary "glacial" clay fractions of adjacent deposits.

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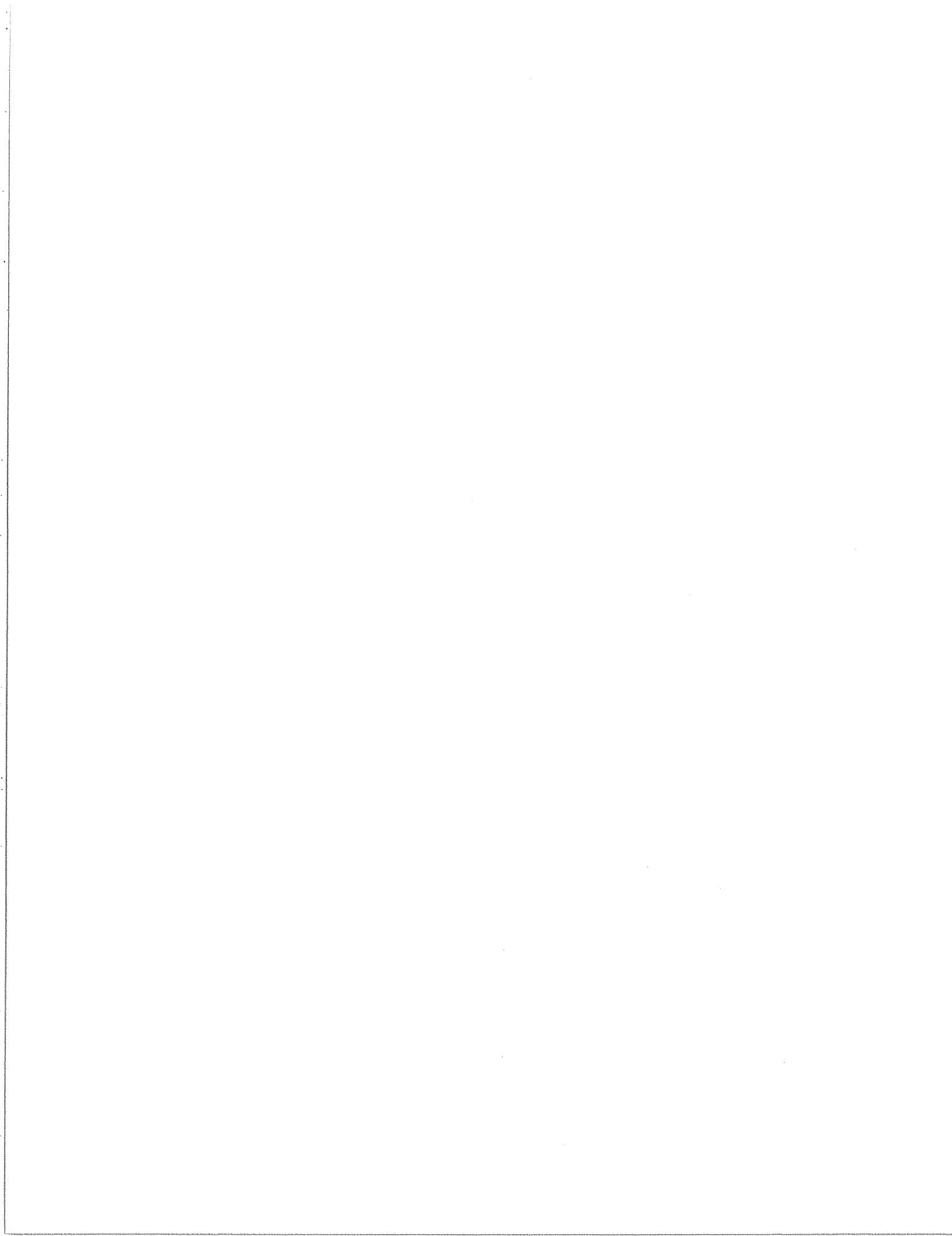
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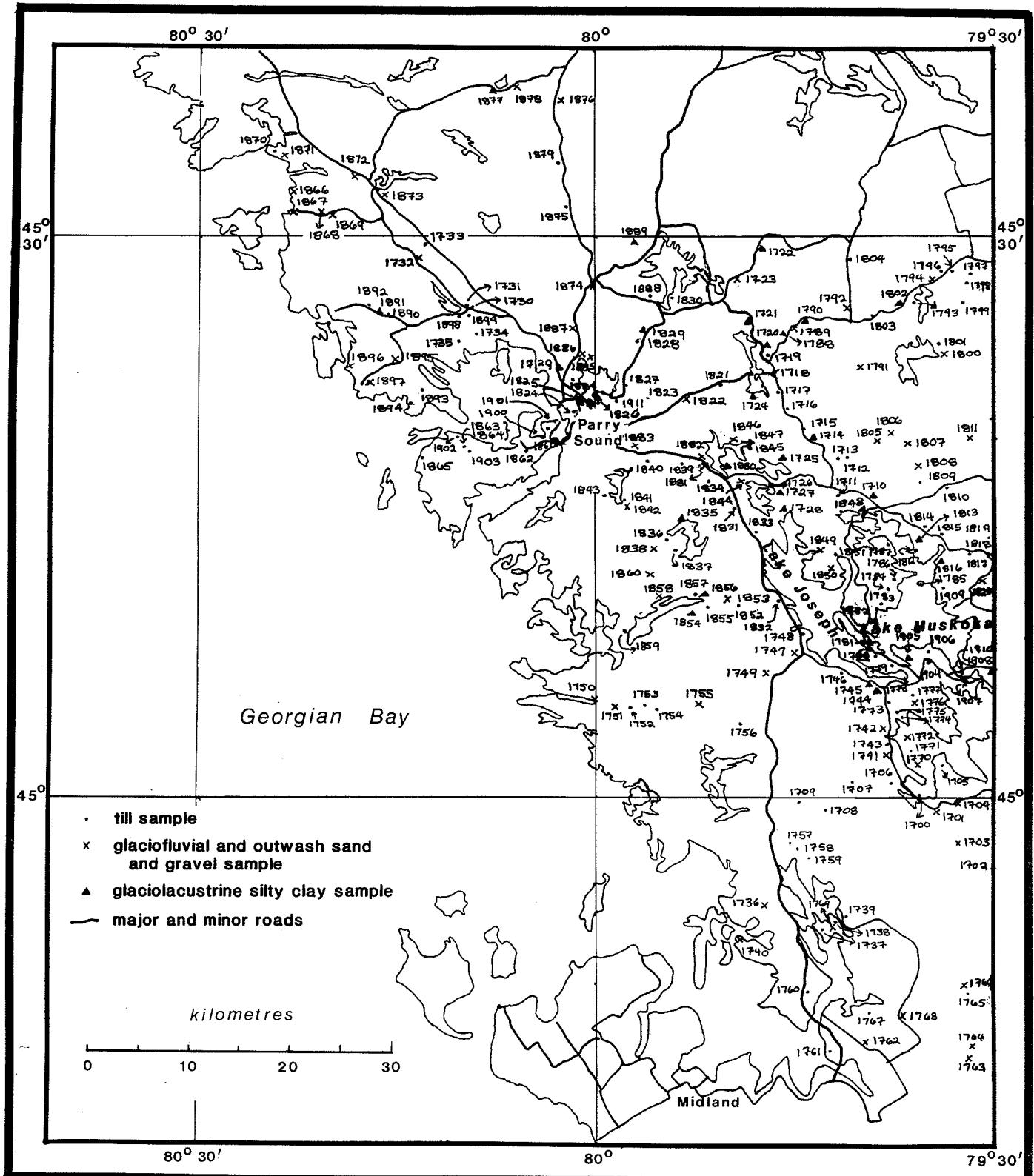
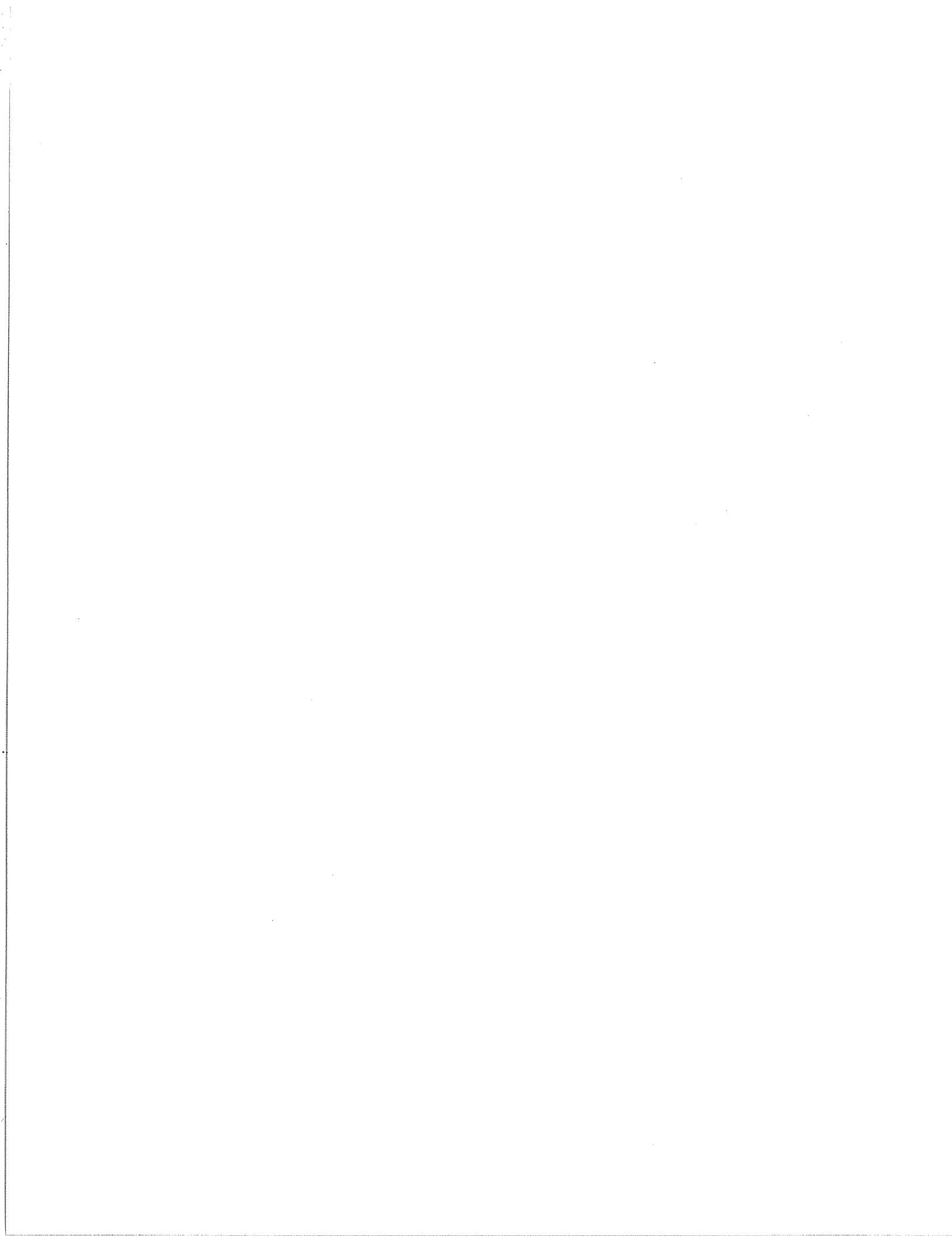


Figure 1. Map of sample locations, Muskoka region, Ontario.





Sample	UTM	NTS	Sediment Type	Ag	As	Cr	Cu	Hg	Mn	Mo	Ni	Pb	U	Zn	
85KAR1728	17 595500 5011850	3IE05	Till	0.05	1.0	0.10	7.0	60.0	29.0	3.60	20.0	270.0	2.6	75.0	
85KAR1729	17 574545 5025170	4IH08	Lacustrine Silt/Clay	0.10	2.0	0.10	25.0	100.0	106.0	6.80	15.0	620.0	2.0	133.0	
85KAR1730	17 565360 5031775	4IH08	Till	0.05	2.0	0.10	17.0	59.0	95.0	5.00	60.0	700.0	2.0	436.0	
85KAR1731	17 565590 5031355	4IH08	Till	0.05	2.0	0.10	11.0	80.0	63.0	3.30	75.0	280.0	2.0	152.0	
85KAR1732A	17 565590 5031365	4IH08	Sand and/or Gravel	0.10	3.0	0.10	8.0	47.0	72.0	2.50	20.0	195.0	2.0	96.0	
85KAR1733	17 562475 5031455	4IH08	Till	0.10	2.0	0.10	16.0	58.0	249.0	3.00	50.0	480.0	3.0	111.0	
85KAR1733A	17 562475 5031455	4IH08	Till	0.10	3.0	0.10	19.0	58.0	208.0	3.10	65.0	475.0	2.0	119.0	
=5KAR1735	17 564700 5029535	4IH08	Till	0.20	2.0	0.10	22.0	45.0	97.0	3.20	240.0	480.0	4.0	110.0	
85KAR1736	17 595790 4972590	3IE03	Sand and/or Gravel	0.10	3.0	0.10	19.0	67.0	81.0	2.30	200.0	95.0	5.0	93.0	
85KAR1737	17 601575 4970340	3IE03	Till	0.10	2.0	0.10	33.0	90.0	153.0	4.60	40.0	240.0	4.0	15.0	
85KAR1738	17 602450 4970900	3IE04	Sand and/or Gravel	0.20	2.0	0.10	13.0	82.0	66.0	3.70	90.0	135.0	5.0	4.2	
85KAR1739	17 603110 4971320	3IE03	Till	0.10	1.0	0.10	11.0	63.0	94.0	5.00	80.0	180.0	4.0	155.0	
85KAR1740	17 593145 4963080	3IE03	Sand and/or Gravel	0.30	15.0	0.80	16.0	70.0	26.0	3.60	110.0	880.0	3.0	152.0	
85KAR1741	17 601960 4981970	3IE04	Sand and/or Gravel	0.10	1.0	0.20	5.0	60.0	63.0	3.00	165.0	150.0	6.0	156.0	
85KAR1742	17 607200 4990000	3IE04	Sand and/or Gravel	0.05	3.0	0.10	17.0	55.0	196.0	3.30	30.0	310.0	1.0	4.9	
85KAR1743	17 607940 4988960	3IE04	Till	0.05	2.0	0.10	27.0	56.0	257.0	5.00	105.0	500.0	4.0	65.0	
85KAR1744	17 607025 4991295	3IE04	Lacustrine Silt/Clay	0.05	2.0	0.10	14.0	56.0	69.0	3.70	40.0	240.0	2.0	94.0	
85KAR1745	17 608160 4994780	3IE04	Lacustrine Silt/Clay	0.10	1.0	0.10	7.0	64.0	47.0	3.80	35.0	155.0	1.0	85.0	
85KAR1746	17 603995 499515	3IE04	Till	0.10	1.0	0.10	20.0	46.0	193.0	3.80	95.0	600.0	1.0	127.0	
85KAR1747	17 598700 4997830	3IE04	Sand and/or Gravel	0.10	1.0	0.10	23.0	72.0	78.0	3.60	900.0	300.0	3.0	97.0	
85KAR1748	17 599160 4999480	3IE04	Till	0.10	1.0	0.10	13.0	57.0	367.0	6.00	276.0	400.0	6.0	6.4	
85KAR1749	17 593650 4995660	3IE04	Sand and/or Gravel	0.30	3.0	0.10	24.0	60.0	122.0	4.40	700.0	300.0	3.0	100.0	
85KAR1750	17 5702954991870	4IE01	Sand and/or Gravel	0.30	1.0	0.10	150.0	117.0	45.0	133.0	7.0	53.0	22.0	80.0	
85KAR1751	17 581000 4992120	3IE04	Sand and/or Gravel	0.05	0.10	0.10	10.0	88.0	30.0	6.50	83.0	12.0	1.0	127.0	
85KAR1752	17 581900 4992200	3IE04	Till	0.05	1.0	0.10	22.0	67.0	128.0	5.80	35.0	600.0	1.0	58.0	
85KAR1753	17 583890 4992350	3IE04	Till	0.05	1.0	0.10	22.0	62.0	197.0	6.30	40.0	820.0	1.0	150.0	
85KAR1754	17 584690 4992350	3IE04	Till	0.05	1.0	0.10	19.0	52.0	171.0	3.60	95.0	310.0	3.0	100.0	
85KAR1755	17 583275 4992055	3IE04	Sand and/or Gravel	0.20	0.10	0.10	11.0	70.0	56.0	4.90	124.0	7.0	150.0	5.0	56.0
85KAR1756	17 597950 4990350	3IE04	Till	0.05	1.0	0.10	19.0	52.0	200.0	5.00	110.0	640.0	1.0	158.0	
85KAR1757	17 598955 4978600	3IE03	Till	0.10	1.0	0.10	17.0	44.0	120.0	2.90	210.0	60.0	1.0	110.0	
85KAR1757A	17 598955 4978600	3IE03	Till	0.05	51.0	0.10	18.0	46.0	129.0	3.40	45.0	250.0	2.0	130.0	
85KAR1758	17 598445 4978820	3IE03	Till	0.05	2.0	0.10	90.0	90.0	124.0	7.00	20.0	900.0	1.0	240.0	
85KAR1758A	17 590445 4978820	3IE03	Till	0.05	1.0	0.10	27.0	87.0	172.0	7.00	10.0	800.0	1.0	250.0	
85KAR1759	17 593500 4977925	3IE03	Till	0.05	1.0	0.10	15.0	35.0	7.50	3.50	40.0	300.0	2.0	94.0	
85KAR1760	17 600155 4963555	3IE03	Till	0.10	2.0	0.10	16.0	95.0	93.0	4.10	100.0	200.0	2.0	90.0	
85KAR1761	17 602780 4952220	3IE03	Till	0.10	1.0	0.10	14.0	55.0	50.0	3.20	25.0	110.0	2.0	80.0	
85KAR1762	17 603745 4953915	3IE03	Sand and/or Gravel	0.05	1.0	0.10	18.0	45.0	70.0	4.60	60.0	740.0	1.0	105.0	
85KAR1763	17 615970 4956170	3IE03	Colluvium	0.20	1.0	0.30	7.0	26.0	20.0	1.60	40.0	680.0	4.0	120.0	
85KAR1764	17 616300 4955520	3IE03	Sand and/or Gravel	0.30	0.50	0.50	65.0	50.0	40.0	7.50	2075.0	3.0	18.0		
85KAR1765	17 615545 4961550	3IE03	Till	0.10	3.0	0.10	15.0	95.0	78.0	5.40	60.0	160.0	4.0	80.0	
85KAR1766	17 615295 4961925	3IE03	Sand and/or Gravel	0.20	2.0	0.10	10.0	46.0	5.60	65.0	100.0	28.0	3.0	70.0	
85KAR1767	17 606380 4961710	3IE03	Till	0.20	4.0	0.10	19.0	60.0	42.0	4.60	80.0	37.0	3.0	65.0	
85KAR1768	17 610050 4988345	3IE04	Sand and/or Gravel	0.10	4.0	0.10	14.0	58.0	44.0	4.40	220.0	300.0	3.0	110.0	
85KAR1769	17 609310 4965020	3IE03	Sand and/or Gravel	0.10	12.0	0.10	22.0	44.0	249.0	4.00	50.0	420.0	4.0	220.0	
85KAR1770	17 615970 4988745	3IE04	Sand and/or Gravel	0.05	4.0	0.10	17.0	50.0	54.0	3.40	195.0	90.0	2.0	115.0	
85KAR1771	17 610755 4988445	3IE04	Till	0.50	3.0	0.10	24.0	52.0	195.0	4.50	80.0	440.0	2.0	110.0	
85KAR1772	17 608315 4997650	3IE04	Sand and/or Gravel	0.05	2.0	0.10	12.0	28.0	90.0	2.40	30.0	280.0	2.0	135.0	
85KAR1773	17 608825 4992035	3IE04	Till	0.05	1.0	0.10	5.0	27.0	35.0	1.50	20.0	140.0	0.5	80.0	
85KAR1774	17 608385 4970815	3IE03	Sand and/or Gravel	0.10	2.0	0.30	5.0	53.0	22.0	2.50	51.0	82.0	3.0	23.0	
85KAR1775	17 610920 4986774	3IE04	Sand and/or Gravel	0.05	1.0	0.10	15.0	44.0	90.0	3.30	38.0	240.0	1.0	115.0	
85KAR1776	17 610970 4988345	3IE04	Till	0.50	3.0	0.10	24.0	52.0	195.0	4.50	80.0	440.0	2.0	110.0	
85KAR1777	17 607755 4988445	3IE04	Sand and/or Gravel	0.05	2.0	0.10	12.0	28.0	90.0	2.40	30.0	280.0	2.0	115.0	
85KAR1778	17 605315 4997650	3IE04	Till	0.05	1.0	0.10	8.0	55.0	33.0	3.70	30.0	35.0	1.0	115.0	
85KAR1779	17 605695 4988525	3IE04	Lacustrine Silt/Clay	0.05	2.0	0.10	8.0	55.0	33.0	3.70	30.0	35.0	1.0	115.0	
85KAR1780	17 606115 5001440	3IE04	Lacustrine Silt/Clay	0.10	1.0	0.30	12.0	34.0	112.0	2.60	35.0	340.0	1.0	105.0	
85KAR1781	17 606115 5001440	3IE04	Sand and/or Gravel	0.05	2.0	0.10	12.0	56.0	60.0	3.50	29.0	734.0	1.0	110.0	
85KAR1782	17 606115 5001440	3IE04	Sand and/or Gravel	0.05	2.0	0.40	2.0	60.0	28.0	3.70	30.0	40.0	0.5	110.0	
85KAR1783A	17 606385 4970815	3IE04	Till	0.10	2.0	0.10	12.0	56.0	60.0	3.50	29.0	734.0	1.0	110.0	

Sample	UTM	NFS	Sediment Type	Depth Plot									
				0	10	20	30	40	50	60	70	80	90
85KAR1783	17 606900 5003020	3IE04	Till	0.20	2.0	0.40	17.0	50.0	60.0	2.0	44.0	17.0	3.0
85KAR1784	17 607380 5064145	3IE04	Till	0.10	1.0	0.10	14.0	44.0	128.0	3.00	65.0	420.0	1.0
85KAR1785	17 610845 5004905	3IE04	Till	0.20	2.0	0.10	14.0	53.0	112.0	4.40	160.0	340.0	4.0
85KAR1786A	17 607835 5004800	3IE04	Till	0.20	4.0	0.10	9.0	75.0	32.0	4.20	225.0	200.0	3.0
85KAR1786B	17 607835 5004800	3IE04	Sand and/or Gravel	0.20	2.0	0.10	13.0	50.0	30.0	3.20	35.0	320.0	1.0
85KAR1787	17 607770 5008850	3IE04	Till	0.10	2.0	0.10	27.0	126.0	203.0	4.20	170.0	660.0	1.0
85KAR1788	17 536640 5028850	3IE05	Lacustrine Silt/Clay	0.05	4.0	0.10	11.0	52.0	68.0	3.40	10.0	480.0	0.5
85KAR1789	17 537315 5030110	3IE05	Sand and/or Gravel	0.10	5.0	0.10	15.0	76.0	67.0	3.80	220.0	300.0	3.0
85KAR1790	17 538810 5031105	3IE05	Lacustrine Silt/Clay	0.10	4.0	0.10	12.0	60.0	45.0	3.50	20.0	400.0	1.0
85KAR1791	17 604410 5026930	3IE05	Sand and/or Gravel	0.10	5.0	0.10	9.0	65.0	70.0	5.40	220.0	240.0	3.0
85KAR1792	17 603040 5022250	3IE05	Sand and/or Gravel	0.05	2.0	0.10	6.0	28.0	34.0	1.50	35.0	195.0	1.0
85KAR1793	17 609765 5032855	3IE05	Till	0.10	6.0	0.10	8.0	84.0	48.0	4.00	140.0	200.0	3.0
85KAR1794	17 611570 5034860	3IE05	Sand and/or Gravel	0.05	1.0	0.10	11.0	52.0	49.0	3.50	70.0	240.0	2.0
85KAR1795	17 612000 5035340	3IE05	Till	0.10	1.0	0.10	17.0	65.0	141.0	3.60	70.0	440.0	3.0
85KAR1796	17 612570 5035915	3IE05	Till	0.10	2.0	0.10	13.0	45.0	98.0	3.40	30.0	340.0	4.0
85KAR1797	17 614880 5036160	3IE05	Till	0.10	4.0	0.10	19.0	57.0	66.0	4.50	80.0	440.0	3.0
85KAR1798	17 614515 5035375	3IE05	Till	0.10	2.0	0.10	8.0	60.0	50.0	4.80	90.0	140.0	3.0
85KAR1800	17 612355 5027750	3IE05	Sand and/or Gravel	0.20	6.0	0.50	16.0	52.0	22.0	4.00	265.0	370.0	3.0
85KAR1801	17 611980 5028370	3IE05	Till	0.20	4.0	0.20	6.0	84.0	26.0	5.30	215.0	170.0	5.0
85KAR1802	17 608175 5023240	3IE05	Lacustrine Silt/Clay	0.10	2.0	0.10	13.0	92.0	37.0	4.60	10.0	500.0	1.0
85KAR1803	17 605810 5031405	3IE05	Till	0.20	1.0	0.20	20.0	113.0	313.0	3.60	45.0	480.0	1.0
85KAR1805	17 606015 5019280	3IE05	Sand and/or Gravel	0.10	5.0	0.20	16.0	86.0	13.0	5.90	50.0	150.0	1.0
85KAR1806	17 606900 5019625	3IE05	Sand and/or Gravel	0.30	5.0	1.20	1.0	58.0	27.0	0.30	240.0	68.0	3.0
85KAR1807	17 609000 5018510	3IE05	Sand and/or Gravel	0.30	7.0	0.10	18.0	77.0	190.0	4.40	100.0	850.0	3.0
85KAR1808	17 610230 5016470	3IE05	Sand and/or Gravel	0.20	5.0	0.10	32.0	100.0	447.0	5.60	180.0	390.0	6.0
85KAR1810	17 612880 5014425	3IE05	Till	0.20	2.0	0.20	14.0	42.0	112.0	3.60	120.0	360.0	4.0
85KAR1810A	17 612880 5014425	3IE05	Till	0.10	2.0	0.10	13.0	48.0	92.0	3.60	140.0	360.0	4.0
85KAR1811	17 615135 5019800	3IE05	Sand and/or Gravel	0.30	3.0	0.10	20.0	100.0	133.0	3.50	130.0	630.0	3.0
85KAR1812	17 612800 5009515	3IE04	Till	0.10	2.0	0.10	14.0	30.0	63.0	2.60	50.0	370.0	1.0
85KAR1813	17 612670 5007195	3IE04	Lacustrine Silt/Clay	0.10	3.0	0.10	13.0	58.0	34.0	3.60	50.0	540.0	0.5
85KAR1817	17 615550 5008120	3IE04	Till	0.05	1.0	0.10	11.0	70.0	30.0	3.70	10.0	420.0	1.0
85KAR1817A	17 615550 5008120	3IE04	Lacustrine Silt/Clay	0.10	1.0	0.10	20.0	66.0	169.0	3.50	50.0	480.0	1.0
85KAR1817A	17 611080 5010380	3IE04	Till	0.10	2.0	0.10	21.0	65.0	137.0	3.80	55.0	540.0	1.0
85KAR1818	17 617590 5007500	3IE04	Sand and/or Gravel	0.20	1.0	0.10	15.0	50.0	72.0	3.30	75.0	380.0	1.0
85KAR1818	17 617550 5009515	3IE04	Till	0.30	4.0	0.20	32.0	70.0	111.0	4.20	115.0	540.0	2.0
85KAR1819	17 617550 5007195	3IE04	Lacustrine Silt/Clay	0.10	5.0	0.10	25.0	60.0	132.0	4.50	45.0	930.0	2.0
85KAR1820	17 617780 5005645	3IE04	Sand and/or Gravel	0.05	2.0	0.10	12.0	57.0	32.0	3.50	10.0	480.0	0.5
85KAR1820A	17 617780 5005645	3IE04	Lacustrine Silt/Clay	0.05	2.0	0.10	14.0	73.0	65.0	4.30	25.0	480.0	3.0
85KAR1821	17 580480 5024480	3IE05	Till	0.20	3.0	0.10	33.0	48.0	441.0	3.60	50.0	550.0	1.0
85KAR1822	17 586870 5022895	3IE05	Sand and/or Gravel	0.30	10.0	0.30	13.0	72.0	60.0	2.80	520.0	3.0	22.0
85KAR1823	17 581235 5022330	3IE05	Till	0.20	3.0	0.10	25.0	54.0	325.0	3.20	110.0	480.0	1.0
85KAR1824	17 516680 5022250	41HH8	Till	0.10	4.0	0.10	32.0	46.0	378.0	3.40	85.0	440.0	2.0
85KAR1825	17 578115 5022300	3IE05	Lacustrine Silt/Clay	0.20	4.0	0.10	12.0	50.0	47.0	2.90	75.0	280.0	2.0
85KAR1826	17 581985 5012105	3IE05	Till	0.20	12.0	0.20	13.0	66.0	132.0	4.00	225.0	135.0	2.0
85KAR1827	17 580220 5024140	3IE05	Till	0.10	8.0	0.20	25.0	64.0	195.0	3.40	120.0	410.0	2.0
85KAR1828	17 582640 5029195	3IE05	Till	0.10	5.0	0.20	46.0	80.0	350.0	3.40	90.0	875.0	5.0
85KAR1829	17 583295 5029725	3IE05	Lacustrine Silt/Clay	0.05	3.0	0.10	14.0	73.0	65.0	4.30	25.0	480.0	3.0
85KAR1830	17 585495 5032665	3IE05	Till	0.05	6.0	0.10	26.0	70.0	290.0	5.20	75.0	500.0	4.0
85KAR1831	17 581985 5012105	3IE05	Till	0.05	6.0	0.10	38.0	73.0	395.0	6.70	20.0	1100.0	3.0
85KAR1831A	17 591985 5012105	3IE05	Sand and/or Gravel	0.05	2.0	0.10	9.0	25.0	80.0	3.40	120.0	410.0	2.0
85KAR1832	17 586480 5005545	3IE04	Till	0.05	5.0	0.10	16.0	55.0	320.0	6.60	55.0	550.0	6.0
85KAR1833	17 584025 5009590	3IE04	Till	0.05	3.0	0.10	23.0	54.0	250.0	4.40	90.0	950.0	4.0
85KAR1833A	17 584025 5009590	3IE04	Lacustrine Silt/Clay	0.05	9.0	0.10	10.0	65.0	50.0	5.10	25.0	310.0	5.0
85KAR1834	17 569380 5014480	3IE05	Till	0.05	3.0	0.10	19.0	57.0	180.0	4.80	85.0	850.0	3.0
85KAR1835	17 568565 5011040	3IE04	Lacustrine Silt/Clay	0.05	3.0	0.10	15.0	73.0	122.0	4.40	35.0	300.0	3.0
85KAR1836	17 5685465 5009015	3IE04	Till	0.05	4.0	0.10	16.0	72.0	193.0	5.70	50.0	500.0	2.0

Sample	NTS	Sediment Type	Zn	Depth	Plot
UTH	3IE04	Sand and/or Gravel	0.05	11.0	4.7
85KAR1838	17 584575 5008190	3IE04	0.05	60.0	117.0
85KAR1839	17 587310 50 61405	3IE05	0.05	6.0	8.0
85KAR1840	17 587310 50 61405	Till	0.05	0.30	7.0
85KAR183A	17 587310 50 61405	3IE05	0.05	2.0	4.0
85KAR1840	17 582395 50 16570	3IE05	0.05	0.10	3.5
85KAR1840A	17 583455 50 16695	3IE05	0.05	0.30	13.0
85KAR1840B	17 583455 50 16695	3IE05	0.05	0.30	120.0
85KAR1840C	17 583455 50 16695	3IE05	0.05	4.0	1.4
85KAR1841	17 583355 50 12640	3IE05	0.05	0.20	120.0
85KAR1841	17 583355 50 12640	Till	0.05	0.30	113.0
85KAR1842A	17 581440 50 12550	3IE05	0.05	0.40	1.25
85KAR1842	17 579350 50 13250	3IE05	0.05	0.30	0.0
85KAR1843	17 579350 50 13250	Till	0.05	0.10	182.0
85KAR1844	17 592455 50 14660	3IE05	0.05	0.20	0.0
85KAR1844	17 592455 50 14660	Sand and/or Gravel	0.05	0.20	0.0
85KAR1845	17 593195 50 18250	3IE05	0.05	0.20	0.0
85KAR1845	17 593195 50 18250	Sand and/or Gravel	0.05	0.20	0.0
85KAR1846	17 592680 50 18550	3IE05	0.05	0.10	0.0
85KAR1846	17 592680 50 18550	Sand and/or Gravel	0.05	0.10	0.0
85KAR1847	17 592680 50 18550	3IE05	0.05	0.10	0.0
85KAR1847	17 592680 50 18550	Lacustrine Silt/Clay	0.05	0.10	0.0
85KAR1848	17 605160 50 11850	3IE05	0.05	0.20	0.0
85KAR1849	17 605940 50 08175	3IE04	0.05	0.10	0.0
85KAR1850	17 602100 50 06310	3IE04	0.05	0.30	0.0
85KAR1850	17 602100 50 06310	Sand and/or Gravel	0.05	0.30	0.0
85KAR1851	17 602295 50 07885	3IE04	0.05	0.10	0.0
85KAR1851A	17 602295 50 07885	Till	0.05	0.20	0.0
85KAR1852	17 592650 50 02575	3IE04	0.05	0.10	0.0
85KAR1853	17 591550 50 03010	3IE04	0.05	0.30	0.0
85KAR1853	17 591550 50 03010	Sand and/or Gravel	0.05	0.30	0.0
85KAR1854	17 581860 50 01780	3IE04	0.05	0.10	0.0
85KAR1854	17 581860 50 01780	Sand and/or Gravel	0.05	0.10	0.0
85KAR1855	17 582265 50 02240	3IE04	0.05	0.10	0.0
85KAR1855	17 582265 50 02240	Till	0.05	0.20	0.0
85KAR1855	17 582265 50 02240	Lacustrine Silt/Clay	0.05	0.20	0.0
85KAR1855	17 582265 50 02240	3IE04	0.05	0.10	0.0
85KAR1855	17 582265 50 02240	Till	0.05	0.20	0.0
85KAR1856	17 588475 50 03350	3IE04	0.05	0.20	0.0
85KAR1856	17 588475 50 03350	Till	0.05	0.20	0.0
85KAR1856	17 584850 50 03220	3IE04	0.05	0.30	0.0
85KAR1856	17 584850 50 03220	Sand and/or Gravel	0.05	0.30	0.0
85KAR1857	17 583730 50 01135	3IE04	0.05	0.20	0.0
85KAR1857	17 583730 50 01135	Till	0.05	0.20	0.0
85KAR1857	17 583730 50 01135	Lacustrine Silt/Clay	0.05	0.20	0.0
85KAR1858	17 588695 50 03490	3IE04	0.05	0.40	0.0
85KAR1858	17 588695 50 03490	Till	0.05	0.40	0.0
85KAR1858	17 588695 50 03490	Lacustrine Silt/Clay	0.05	0.40	0.0
85KAR1859	17 574400 50 18545	4H08	0.05	0.20	0.0
85KAR1859	17 574400 50 18545	Till	0.05	0.20	0.0
85KAR1859	17 5717805 50 17615	4H08	0.05	0.30	0.0
85KAR1859	17 569710 50 17600	4H08	0.05	0.20	0.0
85KAR1860	17 569710 50 17600	Till	0.05	0.20	0.0
85KAR1860	17 561540 50 17010	4H08	0.05	0.20	0.0
85KAR1860	17 561540 50 17010	Till	0.05	0.20	0.0
85KAR1861	17 548125 50 42950	4H09	0.05	0.10	0.0
85KAR1861	17 548125 50 42950	Sand and/or Gravel	0.05	0.10	0.0
85KAR1861	17 548430 50 04930	4H09	0.05	0.20	0.0
85KAR1861	17 548430 50 04930	Sand and/or Gravel	0.05	0.20	0.0
85KAR1862	17 546820 50 47100	4H09	0.05	0.30	0.0
85KAR1862	17 546820 50 47100	Till	0.05	0.30	0.0
85KAR1863	17 550925 50 040650	4H09	0.05	0.50	0.0
85KAR1863	17 550925 50 040650	Sand and/or Gravel	0.05	0.50	0.0
85KAR1864	17 567180 50 17760	4H08	0.05	0.20	0.0
85KAR1864	17 567180 50 17760	Till	0.05	0.20	0.0
85KAR1865	17 552245 50 07550	4H09	0.05	0.20	0.0
85KAR1865	17 552245 50 07550	Sand and/or Gravel	0.05	0.20	0.0
85KAR1866	17 546500 50 47250	4H09	0.05	0.10	0.0
85KAR1866	17 546500 50 47250	Till	0.05	0.10	0.0
85KAR1867	17 546820 50 47100	4H09	0.05	0.20	0.0
85KAR1867	17 546820 50 47100	Till	0.05	0.20	0.0
85KAR1868	17 554840 50 44750	4H09	0.05	0.50	0.0
85KAR1868	17 554840 50 44750	Sand and/or Gravel	0.05	0.50	0.0
85KAR1869	17 557150 50 17760	4H09	0.05	0.20	0.0
85KAR1869	17 557150 50 17760	Till	0.05	0.20	0.0
85KAR1870	17 557150 50 17760	Lacustrine Silt/Clay	0.05	0.20	0.0
85KAR1871	17 546820 50 47100	4H09	0.05	0.10	0.0
85KAR1871	17 546820 50 47100	Till	0.05	0.10	0.0
85KAR1872	17 554840 50 44750	4H09	0.05	0.50	0.0
85KAR1872	17 554840 50 44750	Sand and/or Gravel	0.05	0.50	0.0
85KAR1873	17 557150 50 17760	4H09	0.05	0.20	0.0
85KAR1873	17 557150 50 17760	Till	0.05	0.20	0.0
85KAR1874	17 577850 50 34250	4H09	0.05	0.10	0.0
85KAR1874	17 577850 50 34250	Sand and/or Gravel	0.05	0.10	0.0
85KAR1875	17 577550 50 42260	4H09	0.05	0.30	0.0
85KAR1875	17 577550 50 42260	Till	0.05	0.30	0.0
85KAR1876	17 574050 50 32145	4H09	0.05	0.10	0.0
85KAR1876	17 574050 50 32145	Sand and/or Gravel	0.05	0.10	0.0
85KAR1877	17 568280 50 33550	4H09	0.05	0.10	0.0
85KAR1877	17 568280 50 33550	Till	0.05	0.10	0.0
85KAR1878	17 569395 50 33525	4H09	0.05	0.20	0.0
85KAR1878	17 569395 50 33525	Sand and/or Gravel	0.05	0.20	0.0
85KAR1879	17 574830 50 59555	4H08	0.05	0.30	0.0
85KAR1879	17 574830 50 59555	Till	0.05	0.30	0.0
85KAR1880	17 591095 50 15960	3IE05	0.05	0.10	0.0
85KAR1880	17 591095 50 15960	Lacustrine Silt/Clay	0.05	0.10	0.0
85KAR1881	17 539190 50 15920	3IE05	0.05	0.10	0.0
85KAR1881	17 539190 50 15920	Sand and/or Gravel	0.05	0.10	0.0
85KAR1882	17 568770 50 16955	3IE05	0.05	0.20	0.0
85KAR1882	17 568770 50 16955	Till	0.05	0.20	0.0
85KAR1883	17 580356 50 17780	3IE05	0.05	0.10	0.0
85KAR1883	17 580356 50 17780	Sand and/or Gravel	0.05	0.10	0.0
85KAR1884	17 576345 50 24775	4H08	0.05	0.20	0.0
85KAR1884	17 576345 50 24775	Till	0.05	0.20	0.0
85KAR1885	17 578900 50 26700	4H08	0.05	0.10	0.0
85KAR1885	17 578900 50 26700	Sand and/or Gravel	0.05	0.10	0.0
85KAR1886	17 577100 50 27075	4H08	0.05	0.20	0.0
85KAR1886	17 577100 50 27075	Till	0.05	0.20	0.0
85KAR1887	17 576340 50 3150	4H08	0.05	0.20	0.0
85KAR1887	17 576340 50 3150	Sand and/or Gravel	0.05	0.20	0.0
85KAR1888	17 583630 50 32950	3IE05	0.05	0.10	0.0
85KAR1888	17 583630 50 32950	Till	0.05	0.10	0.0
85KAR1889	17 581835 50 38150	3IE05	0.05	0.10	0.0
85KAR1889	17 581835 50 38150	Lacustrine Silt/clay	0.05	0.10	0.0
85KAR1890	17 557500 50 30850	4H08	0.05	0.10	0.0

Sample	UTM	NTS	Sediment Type	Ag	As	Cd	Cr	Cu	Fe	Hg	Mn	Mo	Ni	Pb	U	Zn	Depth	Plat	
85KAR1891	17 557375 5030600	4HH08	Lacustrine Silt/Clay	0.05	3.0	0.10	4.0	88.0	25.0	4.30	3.0	47.0	14.0	4.7	78.0	1			
85KAR1891A	17 557375 5030600	4HH08	Lacustrine Silt/Clay	0.05	0.05	0.10	12.0	72.0	35.0	3.60	15.0	375.0	2.0	37.0	11.0	1.0	85.0	1	
85KAR1892	17 555640 5031505	4HH08	Till	0.05	3.0	0.10	22.0	57.0	130.0	5.80	25.0	650.0	2.0	40.0	12.0	14.1	163.0	1	
85KAR1892A	17 555640 5031505	4HH08	Till	0.05	4.0	0.10	19.0	56.0	135.0	5.20	40.0	525.0	3.0	44.0	12.0	11.2	140.0	0	
85KAR1892B	17 555640 5031505	4HH08	Lacustrine Silt/Clay	0.05	4.0	0.10	15.0	170.0	28.0	4.10	165.0	280.0	3.0	31.0	13.0	1.2	82.0	0	
85KAR1893	17 561145 5023350	4HH08	Till	0.05	2.0	0.10	13.0	52.0	115.0	4.30	25.0	500.0	3.0	38.0	11.0	4.9	130.0	1	
85KAR1894	17 560150 5022175	4HH08	Till	0.05	2.0	0.10	15.0	54.0	75.0	4.40	75.0	350.0	3.0	45.0	11.0	5.1	85.0	1	
85KAR1895	17 559000 5025375	4HH08	Sand and/or Gravel	0.05	7.0	0.10	29.0	74.0	280.0	5.10	100.0	400.0	4.0	90.0	17.0	9.8	128.0	1	
85KAR1896	17 554260 5026245	4HH08	Sand and/or Gravel	0.05	4.0	0.20	25.0	60.0	122.0	4.00	100.0	650.0	5.0	57.0	6.0	3.3	105.0	1	
85KAR1898	17 564400 5031060	4HH08	Till	0.10	6.0	0.10	22.0	50.0	155.0	4.60	100.0	600.0	7.0	43.0	15.0	9.8	100.0	1	
85KAR1899	17 565675 5030975	4HH08	Till	0.05	2.0	0.10	13.0	43.0	102.0	2.80	125.0	340.0	6.0	41.0	9.0	7.4	68.0	0	
85KAR1899A	17 565675 5030975	4HH08	Till	0.05	1.0	0.10	14.0	36.0	85.0	2.70	180.0	325.0	0.5	44.0	8.0	7.4	63.0	1	
85KAR1899B	17 565675 5030975	4HH08	Till	0.05	2.0	0.30	9.0	40.0	68.0	3.20	120.0	260.0	3.0	28.0	13.0	8.5	58.0	0	
85KAR1903	17 566785 5017590	4HH08	Till	0.05	4.0	0.10	21.0	50.0	215.0	5.20	20.0	650.0	5.0	52.0	11.0	8.5	172.3	1	
85KAR1903B	17 566785 5017590	4HH08	Till	0.05	7	3.0	0.10	22.0	49.0	260.0	4.60	35.0	670.0	3.0	53.0	10.0	4.5	151.0	0
85KAR1905	17 603930 4997750	3IE04	Lacustrine Silt/Clay	0.05	2.0	0.10	10.0	58.0	27.0	2.30	175.0	3.0	26.0	9.0	2.2	108.0	1		
85KAR1906	17 611725 4998285	3IE04	Till	0.05	2.0	0.20	21.0	53.0	110.0	4.10	180.0	325.0	3.0	44.0	22.0	3.6	132.0	1	
85KAR1907	17 615545 4994970	3IE04	Till	0.10	4.0	0.10	29.0	60.0	40.0	4.30	250.0	800.0	5.0	33.0	21.0	3.7	158.0	1	
85KAR1908	17 617875 4998650	3IE04	Lacustrine Silt/Clay	0.05	5.0	0.10	8.0	45.0	47.0	4.20	25.0	250.0	3.0	20.0	11.0	2.2	60.0	1	
85KAR1910	17 614670 4995630	3IE04	Till	0.05	1.0	0.10	17.0	60.0	100.0	4.40	20.0	500.0	4.0	62.0	11.0	3.5	260.0	1	
85KAR1911	17 573855 5022650	3IE05	Till	0.05	1.0	0.10	10.0	55.0	90.0	4.60	10.0	350.0	0.5	38.0	6.0	2.2	125.0	1	
85KAR1911A	17 573855 5022650	3IE05	Till	0.05	1.0	0.10	11.0	50.0	128.0	5.40	15.0	410.0	3.0	37.0	9.0	2.6	143.0	1	
85KAR1911B	17 573855 5022650	3IE05	Till	0.05	4.0	0.10	12.0	40.0	100.0	3.80	20.0	350.0	4.0	29.0	9.0	3.4	105.0	1	
85KAR1911C	17 573855 5022650	3IE05	Till	0.05	3.0	0.10	14.0	70.0	70.0	4.20	20.0	400.0	4.0	43.0	13.0	1.5	80.0	0	
85KAR1911D	17 573855 5022650	3IE05	Till	0.05	3.0	0.10	14.0	41.0	225.0	3.90	20.0	410.0	3.0	51.0	7.0	2.2	115.0	0	
85KAR1911E	17 573855 5022650	3IE05	Till	0.05	2.0	0.10	14.0	37.0	175.0	3.40	50.0	325.0	4.0	40.0	7.0	2.2	82.0	0	
85KAR1911F	17 573855 5022650	3IE05	Till	0.05	5.0	0.10	16.0	45.0	225.0	4.50	20.0	600.0	3.0	38.0	8.0	2.3	145.0	0	
85KAR1911G	17 573855 5022650	3IE05	Lacustrine Silt/Clay	0.10	9.0	0.10	11.0	65.0	185.0	5.20	275.0	4.0	45.0	11.0	2.3	113.0	0		

**Carbonate and Textural Composition Data for Glacial Sediment Samples**  
**Muskoka Region, Ontario**

Variables = Sample  
 UTM - Zone  
 Easting  
 Northing

NTS - National Topographic System

Sediment Type  
 Percent Non-Carbonate Carbon in Less Than 63 Micron Fraction  
 Percent CaCO<sub>3</sub> Equivalent in Less Than 63 Micron Fraction

Percent Sand (2000-63 um) in Less Than 2 mm Fraction

Percent Silt (63-4 um) in Less Than 2 mm Fraction

Percent Clay (< 4 um) in Less Than 2 mm Fraction

Depth - metres from surface; no value indicates depth less than 1.5 m

Plot - Plot Code - 1 - Representative sample at site

0 - Less to non-representative sample at site

Sample	UTM Zone	Easting	Northing	NTS	Sediment Type	Percent Non-Carbonate Carbon (63um)	Percent CaCO <sub>3</sub> Equivalent (63um)	Percent Sand (2000-63 um) In < 2mm	Percent Silt (63-4 um) In < 2mm	Percent Clay (< 4 um) In < 2mm	Depth (m)	Plot
85KAR1703	17	614440	4976850	31D13	Sand and/or Gravel	0.10	0.00	61.30	35.40	3.30		1
85KAR1706	17	608775	4980200	31E04	Till			92.10	6.30	1.60		1
85KAR1707	17	604190	4981060	31D13	Till			68.80	24.40	7.10		1
85KAR1708	17	601650	4982245	31D13	Till			55.00	30.50	14.50		1
85KAR1709	17	599120	4982925	31D13	Till			84.90	13.10	2.00		1
85KAR1711	17	602900	5013540	31E05	Till			84.30	14.50	1.30		1
85KAR1712	17	602975	5016995	31E05	Till			76.10	22.70	1.20		1
85KAR1715	17	598130	5019845	31E05	Till			84.70	12.40	2.90		1
85KAR1716	17	597440	5022020	31E05	Till	0.40	0.00	94.00	4.80	1.20		1
85KAR1717	17	596350	5022630	31E05	Till			87.20	11.90	0.90		1
85KAR1719	17	595335	5022970	31E05	Till	0.30	0.80	6.60	23.20	70.20		1
85KAR1720	17	594840	5023245	31E05	Lacustrine Silt/Clay			15.70	64.80	19.40		1
85KAR1728	17	596500	5011850	31E05	Till			80.80	15.10	4.00		1
85KAR1729	17	574545	5024170	41H08	Lacustrine Silt/Clay			66.70	27.40	5.90		1
85KAR1730	17	566360	5031775	41H08	Till			81.20	16.90	1.90		1
85KAR1731	17	566590	5031355	41H08	Till	0.20	0.00	81.60	31.70	6.80		1
85KAR1733	17	562475	5031455	41H08	Till			81.50	16.30	2.30		1
85KAR1734	17	566100	50284425	41H08	Till			58.30	26.30	15.40		1
85KAR1735	17	564700	5028535	41H08	Till			81.20	16.90	1.90		1
85KAR1736	17	595790	4977590	31D13	Sand and/or Gravel			96.20	3.00	0.80		1
85KAR1737	17	601575	4970340	31D13	Till			90.70	7.80	1.60		1
85KAR1738	17	602450	4970900	31D13	Till			75.00	22.80	2.20		1
85KAR1739	17	603110	4977320	31D13	Till			66.80	29.70	3.60		1
85KAR1746	17	603995	4995515	31E04	Till			81.00	16.90	2.10		2
85KAR1748	17	599160	4994460	31E04	Till			71.80	25.60	2.60		1
85KAR1752	17	581900	4992280	31E04	Till			68.70	23.80	7.70		1
85KAR1753	17	583890	4993350	31E04	Till			68.40	24.50	7.10		1
85KAR1754	17	584890	4993350	31E04	Till			84.70	12.80	2.60		1
85KAR1756	17	592950	4993350	31D13	Till			75.00	19.70	5.30		1
85KAR1757	17	598955	4976600	31D13	Till			77.00	21.40	1.60		1
85KAR1758	17	598445	4978820	31D13	Till	0.10	0.00	64.50	23.50	12.00		2
85KAR1759	17	599500	4977925	31D13	Till			72.00	24.00	4.00		1
85KAR1760	17	600155	4963555	31D13	Till			76.60	20.50	2.90		1
85KAR1761	17	602780	4956220	31D13	Till			62.50	25.20	12.30		1
85KAR1764	17	618300	4959520	31D13	Sand and/or Gravel			99.40	0.50	0.10		1
85KAR1767	17	606560	4962170	31D13	Till			66.40	28.50	5.10		1
85KAR1771	17	610050	4988345	31E04	Till			63.70	34.80	1.60		1

UTM Zone	Easting	Northing	NFS	Sediment Type	Percent Non-Carbonate Carbon	Percent Caco3 Equivalent	Percent Sand (2000-3 um)	Percent Silt (63-4 um)	Percent Clay (< 4 um)	Depth (m)	Plot
Sample											
85KAR1775	17 608835	4392035	31E04	Till	0.30	0.00	In < 2mm	35.20	2.60	1	
	17 607755	4398645	31E04	Till	0.10	0.00	In < 2mm	21.00	2.20	1	
85KAR1779	17 606385	4397650	31E04	Till			In < 2mm	31.40	3.50	1	
85KAR1780	17 607720	5008650	31E04	Till			In < 2mm	31.40	3.50	1	
85KAR1783	17 606900	5003020	31E04	Till			In < 2mm	65.40	4.50	1	
85KAR1784	17 607390	5004445	31E04	Till			In < 2mm	76.60	2.80	1	
85KAR1785	17 610845	5004405	31E04	Till			In < 2mm	76.90	3.40	1	
85KAR1786	17 607895	5004400	31E04	Till			In < 2mm	20.10	3.00	1	
85KAR1787	17 612570	5035340	31E05	Till			In < 2mm	83.80	1.30	1	
85KAR1789	17 597315	5030110	31E05	Sand and/or Gravel			In < 2mm	76.30	19.70	1	
85KAR1793	17 609705	5032855	31E05	Till			In < 2mm	61.90	2.80	1	
85KAR1795	17 612000	5035340	31E05	Till			In < 2mm	67.10	2.10	1	
85KAR1796	17 612570	5035315	31E05	Till			In < 2mm	79.30	3.70	1	
85KAR1797	17 614850	5036160	31E05	Till			In < 2mm	44.70	51.40	1	
85KAR1798	17 614515	5035375	31E05	Till			In < 2mm	56.80	3.60	1	
85KAR1799	17 614600	5033075	31E05	Till			In < 2mm	65.60	3.30	1	
85KAR1803	17 605810	5031405	31E05	Till			In < 2mm	73.70	2.10	1	
85KAR1812	17 610240	5008685	31E04	Till			In < 2mm	67.80	25.40	1	
85KAR1814	17 611080	5010380	31E04	Till			In < 2mm	64.70	6.30	1	
85KAR1815	17 612800	5009515	31E04	Till	0.20	0.00	In < 2mm	70.10	2.40	2.00	
85KAR1817	17 615530	5008120	31E04	Till			In < 2mm	78.80	18.00	2.00	
85KAR1821	17 590480	5024480	31E05	Till			In < 2mm	80.50	15.70	0.50	
85KAR1823	17 562935	5022330	31E05	Till			In < 2mm	82.50	15.10	2.40	
85KAR1824	17 576880	5022250	41H08	Till	0.20	0.00	In < 2mm	83.60	14.30	2.10	
85KAR1826	17 578275	5023070	31E05	Till			In < 2mm	84.87	12.50	2.70	
85KAR1827	17 580220	5024140	31E05	Till			In < 2mm	76.30	21.40	2.30	
85KAR1828	17 592640	50129095	31E05	Till			In < 2mm	61.30	36.60	2.10	
85KAR1830	17 586495	5032865	31E05	Till			In < 2mm	86.00	11.80	2.20	
85KAR1831	17 591995	50112105	31E05	Till			In < 2mm	70.00	27.00	3.00	
85KAR1832	17 596480	5003545	31E04	Till			In < 2mm	90.40	8.50	1.20	
85KAR1833	17 594025	5003590	31E04	Till			In < 2mm	83.10	14.90	2.10	
85KAR1834	17 589310	50114860	31E05	Till			In < 2mm	80.10	18.10	1.80	
85KAR1836	17 585645	5003015	31E04	Till			In < 2mm	89.50	27.70	3.80	
85KAR1837	17 5886210	5008045	31E04	Till			In < 2mm	72.90	22.60	4.50	
85KAR1839	17 587310	5016405	31E05	Till			In < 2mm	90.00	8.90	1.10	
85KAR1840	17 583365	5011670	31E05	Till			In < 2mm	80.90	18.50	1.40	
85KAR1841	17 581335	5012640	31E05	Till			In < 2mm	82.80	15.00	2.10	
85KAR1842	17 581140	5012554	31E05	Till			In < 2mm	81.50	16.20	2.30	
85KAR1843	17 573350	5011250	31E05	Till			In < 2mm	86.60	11.10	1.60	
85KAR1845	17 593195	50116695	31E05	Till			In < 2mm	81.30	20.90	0	
85KAR1849	17 600340	5008175	31E04	Sand and/or Gravel	0.30	0.00	In < 2mm	90.50	8.60	1.00	
85KAR1850	17 602100	5008305	31E04	Sand and/or Gravel	0.30	0.00	In < 2mm	86.50	10.20	2.30	
85KAR1851	17 602295	5001865	31E04	Till	0.20	0.00	In < 2mm	84.60	14.00	1.40	
85KAR1852	17 592370	5011135	31E04	Till			In < 2mm	71.90	22.80	3.00	
85KAR1853	17 591550	5002575	31E04	Sand and/or Gravel			In < 2mm	76.80	20.60	2.50	
85KAR1855	17 589825	5002240	31E04	Till			In < 2mm	83.30	31.50	2.00	
85KAR1857	17 588475	5003550	31E04	Till	0.10	0.00	In < 2mm	74.10	21.30	4.70	
85KAR1859	17 582370	5011135	31E04	Till			In < 2mm	76.60	24.80	2.30	
85KAR1861	17 574400	5018545	41H08	Till			In < 2mm	86.60	25.50	4.70	
85KAR1863	17 566710	5017500	41H08	Till			In < 2mm	78.10	20.30	1.60	
85KAR1864	17 566710	5011760	41H08	Till			In < 2mm	70.30	26.40	3.30	
85KAR1865	17 561510	5011010	41H08	Till			In < 2mm	66.60	24.80	8.60	
85KAR1870	17 546560	5047250	41H09	Till			In < 2mm	68.90	25.50	5.60	
85KAR1875	17 575750	5042260	41H09	Till	0.10	0.00	In < 2mm	64.20	33.10	2.70	

Sample	UTM Zone	Easting	Northing	NTS	Sediment Type	Percent Non-Carbonate Carbon <63um	Percent CaCO3 Equivalent <63um	Percent Sand (2000-63 um) <63um	Percent Silt (63-4 um) In <2mm	Percent Clay (<4 um) In <2mm	Depth (m)	Plot
85KAR1879	17	574880	5045935	41H09	Till			80.20	16.00	3.90		
85KAR1884	17	575345	5024775	41H08	Till			95.60	13.20	1.20		
85KAR1888	17	583690	5032930	31E05	Till			71.20	26.70	2.20		
85KAR1892	17	559640	5031505	41H08	Till			72.00	19.30	8.70		
85KAR1893	17	561145	5033590	41H08	Till			73.70	18.40	7.90		
85KAR1894	17	560150	5022175	41H08	Till			70.50	24.30	5.20		
85KAR1898	17	564700	5031080	41H08	Till			83.10	15.80	1.30		
85KAR1899	17	565475	5030975	41H08	Till			86.40	10.80	2.80		0
85KAR1900	17	573350	5018935	41H08	Till			86.30	11.00	2.70		
85KAR1901	17	573815	5019745	41H08	Till			83.20	15.10	1.70		
85KAR1903	17	5667185	5017590	41H08	Till	0.10	0.00	66.50	30.70	2.80		
85KAR1903B	17	5667185	5017590	41H08	Till	0.20	0.00					0
85KAR1906	17	611725	4998285	31E04	Till			73.80	23.90	2.30		
85KAR1909	17	612845	5004650	31E04	Till			85.40	12.10	2.50		
85KAR1910	17	614670	4995930	31E04	Till			80.20	18.40	1.40		
85KAR1911	17	579855	5022650	31E05	Till			72.60	20.80	6.60	1.20	0
85KAR1911A	17	579855	5022650	31E05	Till	0.00	0.00	59.00	34.10	7.00	1.05	1
85KAR1911B	17	579855	5022650	31E05	Till			55.60	39.10	5.30	1.00	0
85KAR1911C	17	579855	5022650	31E05	Till			11.70	60.70	27.60	0.80	0
85KAR1911D	17	579855	5022650	31E05	Till			66.50	29.10	4.40	0.50	0
85KAR1911E	17	579855	5022650	31E05	Till			65.20	30.50	4.30	0.20	0
85KAR1911F	17	579855	5022650	31E05	Till			67.90	27.40	4.70	0.05	0