Aggregate Report AR89-6

Aggregate Resources of the Snow Lake Area

By M. Mihychuk

Manitoba
Energy and Mines
Mines Branch

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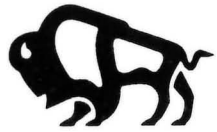

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Winnipeg, 1993

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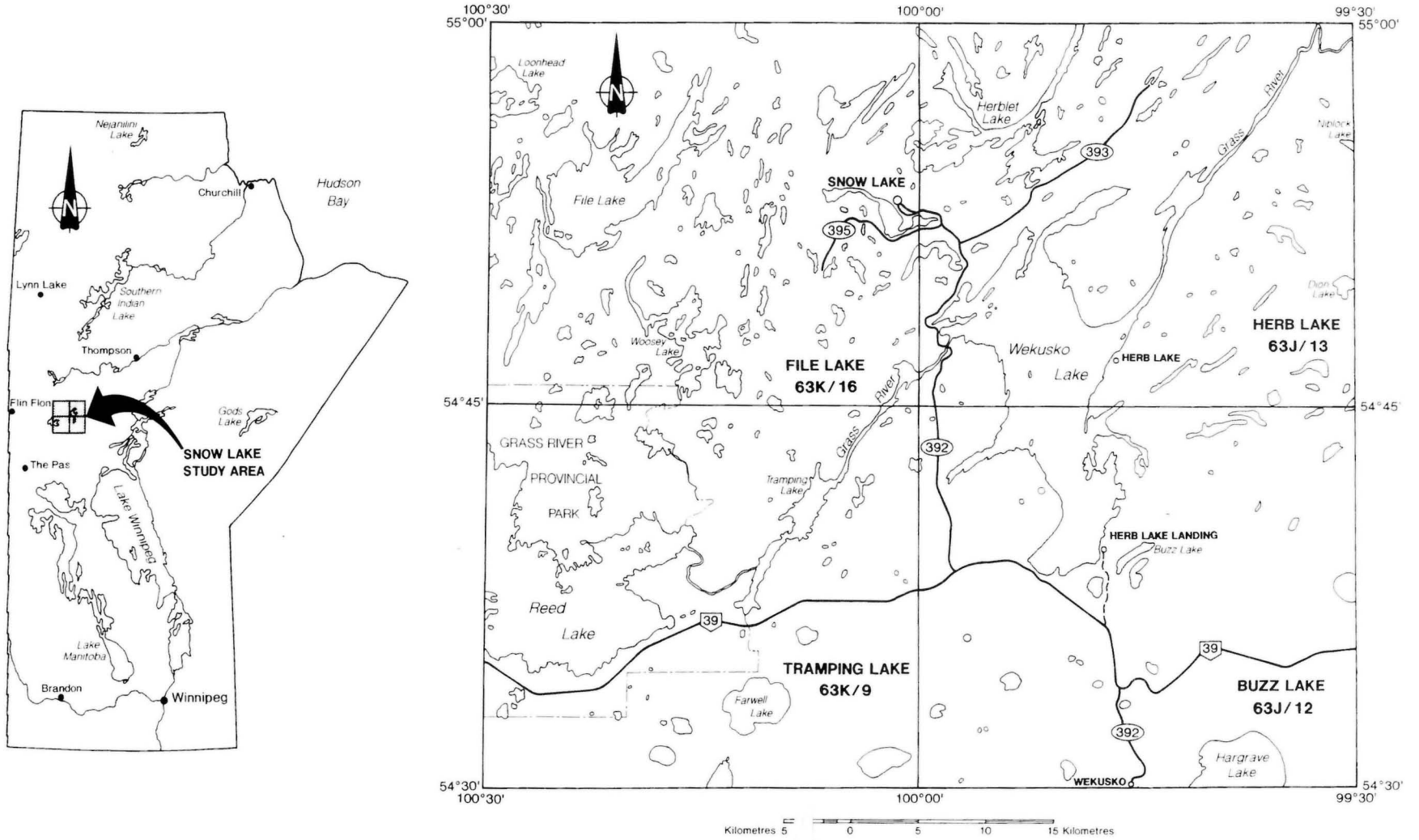

Figure 1: Location map of the Snow Lake study area.

INTRODUCTION

OBJECTIVES

An aggregate resource inventory of the Snow Lake area was undertaken in 1988 with the purpose of:

1) delineating sand and gravel resources;
2) providing an estimate of aggregate resources;
3) improving the database on the distribution and stratigraphy of Quaternary sediments.

Resource information is available to the public, aggregate industry and resource managers.

LOCATION AND ACCESS

The Snow Lake area is located in northwestern Manitoba, 678 km north of Winnipeg. The area is situated within four 1:50 000 map sheets: NTS 63J/12 and 13 and 63K/9 and 16 (Fig 1.)

Access to the study area is via Provincial Trunk highways 6, 10, and 39 and Provincial Roads 392, 393, and 395. Most of the area is accessible only by boat, foot or air. The Town of Snow Lake is the only service centre in the study area.

PHYSIOGRAPHY

Elevations range from 273 m A.S.L. in the southeast to 344 m A.S.L. in the northwest. Relief is low in the south and moderate in the north.

Drift cover is relatively thin and discontinuous. In the north the terrain is dominated by a Precambrian bedrock surface that has been glacially molded. Drift thickness ranges from 0.0 to 4.0 m. In the south thin drift overlies flat lying Paleozic bedrock. Drift is thin.

The Grass River is the major river system in the area. Wekusko and File Lakes are the major lakes in the study area. There are numerous small lakes and swamps.

METHODOLOGY

Surficial geology mapping (1:50 000) was conducted to aid in the identification of aggregate resources. Field investigations with emphasis directed toward the identification and description of aggregate deposits, were conducted during the summer of 1988. On-site observations were combined with information interpreted from aerial photographs to produce the surficial geology maps, (AR89-6-1 to 4, in pocket). Sediment logs from natural exposures, hand dug holes, backhoe test pits, and sand, gravel and clay pits are recorded in Appendix A.

Deposit boundaries were delineated on 1:15 850 scale aerial photographs and transferred to the 1:50 000 base maps. Reserve values were obtained by multiplying the area of the aggregate deposit by the average depth and subtracting the sterilized or depleted portions. Reserve calculations were calculated from the map and should be considered approximate.

On-site data collected include lithology, stratigraphy, and general landuse factors. Where sand or gravel was encountered, samples of the matrix and the pebble constituents were collected.

Aggregate samples were analyzed in two stages. In the field, samples weighing between 75 and 100 kilograms were sieved utilizing 7.5 cm (3"), 3.8 cm (1.5"), and 1.9 cm (0.75") screens. The weights of the fractions were recorded and a representative sample of the <1.9 cm fraction was retained for additional processing.

Pebble counts on the 1.9 to 3.8 cm fraction were done to separate the pebbles into carbonate, gneiss/schist, volcanic, granite/diorite/gabbro, quartzite, greywacke, and sandstone lithologies. These groups were then further subdivided into good, fair and poor categories and deleterious constituents including chert and ironstone. Pebbles that contained sulphide minerals were recorded.

PREVIOUS WORK

The surficial geology of the study area has been generalized at 1:1 000 000 by Manitoba Energy and Mines (1981). A compilation of the bedrock geology was produced by Manitoba Energy and Mines (1990).

ACKNOWLEDGMENTS

Carole Tetreault, Trent Rehill, James Boulette, Mike Bertram provided able field assistance. Tom Yamashita assisted in report preparation. Vicki Scammell aided in data and word processing for the report. Chester Wojciechowski drafted the maps and figures. The manuscript was edited by D. A. Baldwin.

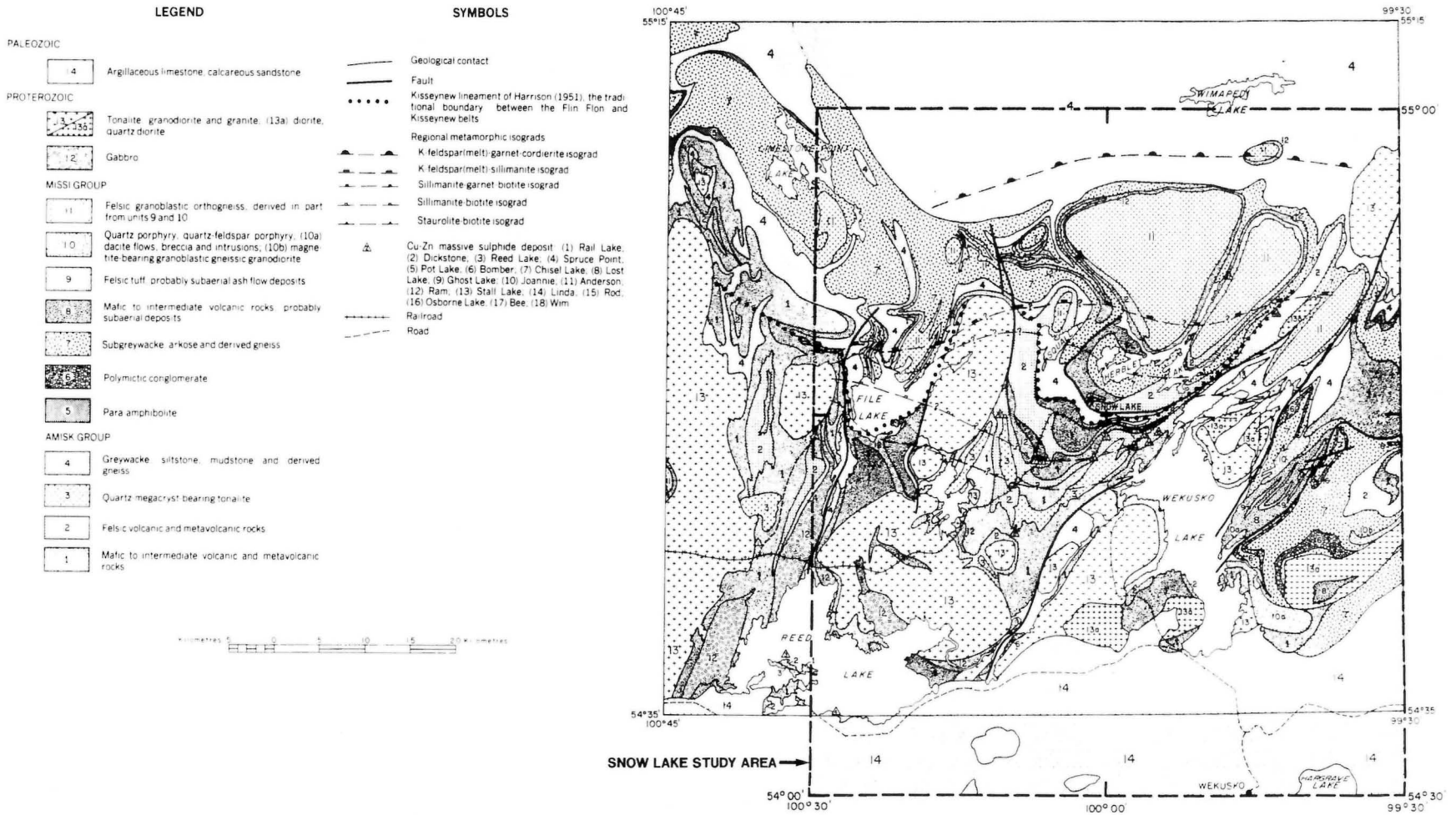

Figure 2: Generalized bedrock geology of the Snow Lake area (modified from Bailes, 1980).

GEOLOGY

BEDROCK GEOLOGY

The Snow Lake area straddles the Churchill Structural Province of the Canadian Shield and the Paleozoic carbonate strata.

The Precambrian bedrock includes rock types from the Flin Flon volcanic-sedimentary belt and the Kisseynew sedimentary gneiss belts (Bailes, 1980). The Ordovician Red River Formation overlies the Precambrian strata (Fig. 2).

SURFICIAL GEOLOGY

Glacial Lake Agassiz sediments compose the dominant surficial geology unit. Glaciolacustrine silts and clays blanket most areas below the 295 m topographic contour, the estimated water limit of Glacial Lake Agassiz (Elson, 1966). Discontinuous beach deposits indicate shoreline levels of Lake Agassiz as it receded In some locations pre-existing glaciofluvial deposits show evidence of shoreline modification processes, such as reworking of the sediments.

Major glaciofluvial systems were identified in the Chisel and Walsh lakes and in the File Lake areas. Till was encountered in the lee of bedrock highs. Till deposits are generally thin and discontinuous.

AGGREGATE RESOURCES

INTRODUCTION

Aggregate is typically used for road surfacing, concrete, bituminous paving mixtures and backfill. Most end uses have specifications that the material must meet. Sand and gravel generally must be processed to meet those specifications. Common processing methods include screening, washing, crushing and mixing. In addition to specific grain size specifications, gravel must contain durable and chemically stable rock or pebble fragments and must be free of organic material.

The value or quality of a sand and gravel deposit is based on the properties of the material and the present state of development of the deposit. Table 1 lists the criteria for quality assessment.

Table 1: Aggregate Quality Assessment Criteria

CRITERIA	Quality	High	Medium	Low
	Stone %	30	15-30	0-15
	Sand %	0-35	35-70	>70
	Fines %	0-7	7-17	>17
	Thickness	>5 m	2-5 m	<2 m
	Uniformity	high	medium	low

In the Snow Lake area the most significant criteria for quality assessment are:

1) location,
2) extent and depth of the deposit, and
3) amount of stone in a deposit and the proportion of fines to sand and gravel components.

Deposit production potential (Table 2) is a classification that indicates a deposit's likelihood of being mined or used in the foreseeable future (25 years). Production potential is based on:

1) aggregate quality and physical characteristics of the deposit (overburden, binder availability, watertable, crushable component);
2) location and geological setting (geological potential, local access, planning constraints, transportation); and
3) economic factors (pit status, speciality material, supply, deposit substitution).

Table 2: Production Potential Criteria

CRITERIA	Production Potential	Good	Moderate	Poor
	Aggregate Quality	high	medium	low
C	Crushable	abundant	moderate	minor
R	Overburden	<0.5 m	0.5-1 m	>1 m
I	Binder	yes	minor	none
T	Water table (depth)	>3 m	1-3 m	<1 m
E	Local access	0-1 km	1-3 km	>3 km
R	Quarrying status	active	inactive	revegetated
I	Planning constraints	none	conditional	sterilized
A	Speciality material	yes	-	no
	Aggregate substitute	none	marginal	proximal

Good production potential status indicates a deposit that is presently being mined or that has high probability of being mined. Moderate status denotes a deposit that is presently inactive, or a deposit that may be used in the foreseeable future. Those deposits with poor potential are interpreted to have little probability of being mined. These deposits are generally near depletion, revegetated, sterilized by cultural features, or in isolated locations.

Information was collected from 286 sites. Stratigraphic information on the test hole is given in Appendix A. General site information is presented in Appendix B.

Grain size distribution of the sand and gravel samples collected in the Snow Lake area are given in Appendix C. This information, compared to the aggregate grading specifications (Appendix D), can be used to determine whether or not the material will produce the desired product (e.g. A Base, Concrete Sand, D Traffic). Appendix E shows the size limits of granular descriptive terms (e.g. pebble gravel). Petrographic information on the clast population is detailed in Appendix F. A summary of the data is presented in Table 3.

Herb Lake NTS 63J/13

Aggregate resources in the Herb Lake area (NTS 63J/13, Map AR89-6-1, in pocket) include bedrock and sand and gravel deposits. A dolostone outlier in the southeast part of the area hosts two quarries, which are the main suppliers of aggregate.

Accessible sand and gravel deposits are near depletion. Unfortunately no other deposits were found in the Herb Lake area.

Demand is expected to continue to be "high" to "very high". Present accessible sand and gravel reserves are expected to be depleted in the near future, thus reliance on crushed dolostone will increase.

File Lake NTS 63K/16

Sand and gravel resources in the File Lake area (NTS 63K/16) supply the needs of the community of Snow Lake and the metallic mineral mines in the area. Several relatively small deposits 1.5 km south of the Chisel Mine are near depletion. Additional sand and gravel resources are available near Welsh Lake. North and west of the community of Snow Lake, there are several relatively small beach deposits that can be developed.

There are significant undeveloped sand and gravel resources in the File Lake area. A zone of outwash deposits extends south along the west side of Squall Lake, through the Chisel Lake area and past Welsh Lake (Map AR89-6-2, in pocket). A second zone of outwash is found near File, Morton and Woosey lakes.

Demand is expected to remain high. Supply is available to meet the foreseeable needs.

Table 3: Aggregate Deposits in the Snow Lake Area

Deposit Number	Location Sect Tp Rge	Map Sheet	Site	Estimated Reserves Cu.M.	% Stone +#4 (+4.76MM)	% Fines (-200)	Aggregate Quality +	Production Potential *
045327	NE11 67 18W	63K/16	SL141A	16800.0	0.0	0.0		G
045327	SW14 67 18W	63K/16	SL142A	141750.0	0.0	0.0	L	G
045336	SW27 67 18W	63K/16	SL119A	0.0	0.0	15.0	L	P
045301	NW03 67 14W	63J/13		150000.0	0.0	0.0		P
045301	SW10 67 14W	63J/13		50000.0	0.0	0.0		P
045301	NE04 67 14W	63J/13		30000.0	0.0	0.0		P
045301	SE09 67 14W	63J/13		4000.0	0.0	0.0		P
045302	NE04 77 14W	63J/13		70000.0	0.0	0.0		P
045302	SE09 67 14W	63J/13		22500.0	0.0	0.0		P
045303	SE09 67 14W	63J/13		27500.0	0.0	0.0		P
045304	NE17 67 14W	63J/13		120000.0	0.0	0.0		P
045305	SW21 68 14W	63J/13		111500.0	0.0	0.0		P
045305	NE20 68 14W	63J/13		8500.0	0.0	0.0		P
045305	SE28 68 14W	63J/13		53500.0	0.0	0.0		P
045305	NE21 68 14W	63J/13		218000.0	0.0	0.0		P
045305	SW28 68 14W	63J/13		127500.0	0.0	0.0		P
045305	SE21 67 14W	63J/13		4000.0	0.0	0.0		P
045305	NE28 68 14W	63J/13		30500.0	0.0	0.0		P
045305	SW27 68 14W	63J/13		100000.0	0.0	0.0		P
045305	SE20 68 14W	63J/13		1000.0	0.0	0.0		P
045305	NW28 68 14W	63J/13		21000.0	0.0	0.0		P
045305	NW27 68 14W	63J/13		68000.0	0.0	0.0		P
045305	NW21 68 14W	63J/13		175000.0	0.0	0.0		P
045306	SW04 69 15W	63J/13		42000.0	0.0	0.0		P
045306	SE05 69 15W	63J/13	SL116A	75600.0	0.0	0.0	H	G
045307	SW36 68 16W	63J/13	SL102B	0.0	0.0	46.0	L	P
045307	SW36 68 16W	63J/13	SL102A	8000.0	1.0	38.0	L	P
045307	SW36 68 16W	63J/13	SL102C	0.0	0.0	39.0	I	P
045308	SW36 68 16W	63J/13	SL034A	600.0	0.0	44.0	L	P
045309	NE36 68 16W	63J/13	SLP35B	0.0	0.0	4.0	L	G
045309	NE36 68 16W	63J/13	SL035C	0.0	0.0	3.0	L	G
045309	NE36 68 16W	63J/13	SL035A	12750.0	7.0	37.0	L	G
045309	NE36 68 16W	63J/13	SL103A	0.0	0.0	3.0	L	G
045309	NE36 68 16W	63J/13	SL103A	0.0	0.0	4.0	L	G
045309	NW36 68 16W	63J/13		11250.0	0.0	0.0		G
045310	NE09 68 14W	63J/13		50000.0	0.0	0.0		P
045301	SE09 68 14W	63J/13		9000.0	0.0	0.0		G
045311	SW10 68 14W	63J/13		48500.0	0.0	0.0		P
045312	SE29 68 14W	63J/13		4000.0	0.0	0.0		P
045312	SW29 68 14W	63J/13		2000.0	0.0	0.0		P
045312	NE20 68 14W	63J/13		29000.0	0.0	0.0		P
045313	NE20 68 14W	63J/13		17000.0	0.0	0.0		P
045313	SE29 68 14W	63J/13		30500.0	0.0	0.0		P
045314	SW22 68 16W	63J/13	SL023	42000.0	47.0	3.0	H	G
045314	SW22 68 16W	63J/13	SL016	0.0	4.0	4.0	L	P
045314	NW15 68 16W	63J/13		11250.0	0.0	0.0		G

Deposit Number	Location Sect Tp Rge	Map Sheet	Site	Estimated Reserves Cu.M.	% Stone +#4 (+4.76MM)	% Fines (-200)	Aggregate Quality +	Production Potential *
045315	NW02 68 17W	63J/13	SL0001A	1170.0	15.0	11.0	M	P
045315	SW02 68 17W	63J/13	SL002A	60.0	0.0	0.0		P
045316	NW10 68 17W	63J/13	SL066C	0.0	0.0	16.0	L	M
045316	NE10 68 17W	63J/13		4000.0	0.0	0.0		M
045316	NW10 68 17W	63J/13	SL066B	0.0	0.0	9.0	L	P
045316	NW10 68 17W	63J/13	SL066A	16000.0	0.0	19.0	L	M
045316	NW10 68 17W	63J/13	SL066D	0.0	0.0	9.0	L	P
045317	NE09 68 17W	63J/13	SL243A	760.0	27.0	1.0	M	P
045318	NW09 68 17W	63J/13	SL082A	3600.0	36.0	2.0	H	M
045318	SE13 68 17W	63J/13		300.0	0.0	0.0		P
045319	SW16 68 17W	63J/13	SL083A	20250.0	6.0	1.0	L	G
045312	SW16 68 17W	63J/13	SL084A	6000.0	0.0	1.0	L	P
045321	NE16 68 16W	63J/13	SL025A	15600.0	2.0	32.0	L	M
045322	NE02 69 17W	63J/13		6000.0	0.0	0.0		P
045322	SW11 69 17W	63J/13		12500.0	0.0	0.0		P
045323	SW01 69 17W	63J/13		50500.0	0.0	0.0		P
045324	NE11 69 17W	63J/13		47500.0	0.0	0.0		P
045324	SW13 69 17W	63J/13		92500.0	0.0	0.0		P
045324	SW23 69 17W	63J/13		32500.0	0.0	0.0		P
045324	NW14 69 17W	63J/13		93500.0	0.0	0.0		P
045324	NE12 69 17W	63J/13		133500.0	0.0	0.0		P
045324	NE14 69 17W	63J/13		181500.0	0.0	0.0		P
045324	SE14 69 17W	63J/13		135000.0	0.0	0.0		P
045324	SW12 69 17W	63J/13		112500.0	0.0	0.0		P
045324	NW12 69 17W	63J/13		119000.0	0.0	0.0		P
045324	NW01 69 17W	63J/13		95000.0	0.0	0.0		P
045324	SW01 69 17W	63J/13		4000.0	0.0	0.0		P
045324	SW01 69 17W	63J/13		4000.0	0.0	0.0		P
045324	SE12 69 17W	63J/13		300000.0	0.0	0.0		P
045324	NE01 69 17W	63J/13		15000.0	0.0	0.0		P
045324	SE11 69 17W	63J/13		500.0	0.0	0.0		P
045326	SW02 67 18W	63J/16		500.0	0.0	0.0		M
045327	NW11 67 18W	63K/16	SL140B	0.0	4.0	2.0	L	G
045327	NW11 67 18W	63K/16	SL140F	0.0	0.0	0.0		G
045327	NW11 67 18W	63K/16	SL140E	0.0	28.0	5.0	M	G
045327	NW11 67 18W	63K/16	SL140D	0.0	0.0	2.0	L	G
045327	NW11 67 18W	63K/16	SL140G	0.0	0.0	2.0	L	G
045327	SE14 67 18W	63K/16		48300.0	0.0	0.0		G
045327	SW14 67 18W	63K/16		145950.0	0.0	0.0		G
045327	NW11 67 18W	63K/16	SL140A	352800.0	28.0	2.0	M	G
045327	NW11 67 18W	63K/16	SL140C	0.0	0.0	8.0	L	G
045328	SW09 67 18W	63K/16		34500.0	0.0	0.0		P
045328	SW10 67 18W	63K/16		185500.0	0.0	0.0		P
045328	NE09 67 18W	63K/16		162000.0	0.0	0.0		P
045328	NW03 67 18W	63K/16		46500.0	0.0	0.0		P
045328	NW09 67 18W	63K/16		11500.0	0.0	0.0		P
045328	NW10 67 18W	63K/16		46500.0	0.0	0.0		P
045328	SE09 67 18W	63K/16		401000.0	0.0	0.0		P

Deposit Number	Location Sect Tp Rge	Map Sheet	Site	Estimated Reserves Cu.M.	% Stone +#4 (+4.76MM)	% Fines (-200)	Aggregate Quality +	Production Potential *
045329	NE17 67 18W	63K/16	SL125B	0.0	1.0	23.0	L	P
045329	SE17 67 18W	63K/16		55200.0	0.0	0.0		M
045329	NE17 67 18W	63K/16	SL125A	55200.0	22.0	15.0	M	M
045330	SE21 67 18W	63K/16	SL123A	17250.0	0.0	2.0	L	M
045330	SW21 67 18W	63K/16		51750.0	0.0	0.0		G
045331	NW24 67 18W	63K/16		92500.0	0.0	0.0		P
045331	SE23 67 18W	63K/16		69500.0	0.0	0.0		P
045331	NE23 67 18W	63K/16		46500.0	0.0	0.0		P
045331	SW24 67 18W	63K/16		46500.0	0.0	0.0		P
045332	NE23 67 18W	63K/16		11500.0	0.0	0.0		P
045333	NE21 67 18W	63K/16	SL122A	345.0	1.0	10.0	L	G
045334	SW27 67 18W	63K/16	SL137A	13800.0	0.0	0.0		G
045334	SE28 67 18W	63K/16	SL120B	0.0	10.0	6.0	L	G
045334	SE28 67 18W	63K/16	SL120C	0.0	0.0	2.0	L	G
045334	SW27 67 18W	63K/16	SL136A	0.0	7.0	10.0	L	G
045334	SE28 67 18W	63K/16	SL120A	13800.0	27.0	3.0	M	G
045335	SE27 67 18W	63K/16		345.0	0.0	0.0		P
045335	SW27 67 18W	63K/16	SL248A	1035.0	0.0	0.0		P
045336	SW27 67 18W	63K/16	SL247A	175.0	0.0	0.0		P
045337	NE28 67 18W	63K/16		58000.0	0.0	0.0		M
045337	NW27 67 18W	63K/16		695000.0	0.0	0.0		M
045337	SE33 67 18W	63K/16		11500.0	0.0	0.0		M
045338	SE33 67 18W	63K/16		46500.0	0.0	0.0		M
045338	NE33 67 18W	63K/16	SL150A	0.0	2.0	57.0	L	P
045339	SE36 67 18W	63K/16	SL149A	0.0	37.0	2.0	H	P
045339	SW31 67 17W	63K/16	SL148A	0.0	5.0	8.0	L	P
045340	NW08 68 17W	63K/16		700.0	0.0	0.0		P
045340	NW09 68 17W	63K/16		460.0	0.0	0.0		
045340	NE08 68 19W	63K/16	SL242B	0.0	0.0	0.0		P
045340	NE08 68 19W	63K/16	SL242A	2320.0	1.0	8.0	L	M
045341	SE21 68 18W	63K/16		11500.0	0.0	0.0		P
045341	SW21 68 18W	63K/16		115500.0	0.0	0.0		P
045341	NE16 68 18W	63K/16		5000.0	0.0	0.0		P
045342	SE33 68 18W	63K/16		23000.0	0.0	0.0		P
045342	SE28 68 18W	63K/16		92500.0	0.0	0.0		P
045342	NE21 68 18W	63K/16		34500.0	0.0	0.0		P
045342	NE28 68 18W	63K/16		46500.0	0.0	0.0		P
042343	SW25 68 18W	63K/16	SL172A	0.0	11.0	17.0	L	P
045344	NW25 68 18W	63K/16		46500.0	0.0	0.0		M
045344	SW25 68 18W	63K/16	SL174A	34500.0	0.0	3.0	L	M
045345	SW03 69 18W	63K/16		69500.0	0.0	0.0		P
045346	NE04 69 18W	63K/16		174000.0	0.0	0.0		P
045346	NW04 69 18W	63K/16		46500.0	0.0	0.0		P
045346	SE09 69 18W	63K/16		161500.0	0.0	0.0		P
045346	SW04 69 18W	63K/16		46500.0	0.0	0.0		P
045347	SE09 69 18W	63K/16		11500.0	0.0	0.0		P
045348	NW09 69 18W	63K/16		34500.0	0.0	0.0		P
045348	SW09 69 18W	63K/16		92500.0	0.0	0.0		P

Deposit Number	Location Sect Tp Rge	Map Sheet	Site	Estimated Reserves Cu.M.	% Stone +#4 (+4.76MM)	% Fines (-200)	Aggregate Quality +	Production Potential *
045349	NW04 69 18W	63K/16		23000.0	0.0	0.0		P
045349	NW09 69 18W	63K/16		0.0	0.0	0.0		P
045349	SW09 69 18W	63K/16		58000.0	0.0	0.0		P
045350	NE08 69 18W	63K/16		50000.0	0.0	0.0		P
045351	NE06 69 19W	63K/16		11500.0	0.0	0.0		P
045351	NE07 69 19W	63K/16		92500.0	0.0	0.0		P
045351	NW08 69 19W	63K/16		243500.0	0.0	0.0		P
045351	SE07 69 19W	63K/16		104000.0	0.0	0.0		P
045351	SE18 69 19W	63K/16		23000.0	0.0	0.0		P
045351	SW08 69 19W	63K/16		81000.0	0.0	0.0		P
045352	NE07 69 19W	63K/16		46500.0	0.0	0.0		P
045353	NW07 69 19W	63K/16		69500.0	0.0	0.0		P
045354	SW07 69 19W	63K/16		11500.0	0.0	0.0		P
045345	SE12 69 20W	63K/16		46500.0	0.0	0.0		P
045355	NE12 69 20W	63K/16		23000.0	0.0	0.0		P
045355	SE12 69 20W	63K/16		46500.0	0.0	0.0		P
045356	SE36 69 20W	63K/16		11500.0	0.0	0.0		P
045356	SE01 69 20W	63K/16		58000.0	0.0	0.0		P
045356	NE36 69 20W	63K/16		92500.0	0.0	0.0		P
045356	SW06 69 19W	63K/16		138500.0	0.0	0.0		P
045356	SW07 69 19W	63K/16		15000.0	0.0	0.0		P
045356	NE01 69 20W	63K/16		23000.0	0.0	0.0		P
045356	NW06 69 19W	63K/16		138500.0	0.0	0.0		P
045356	NW31 68 19W	63K/16		23000.0	0.0	0.0		P
045357	NE01 69 20W	63K/16		69500.0	0.0	0.0		P
045357	SE01 69 20W	63K/16		92500.0	0.0	0.0		P
045357	SW01 69 20W	63K/16		34500.0	0.0	0.0		P
045358	SW36 68 20W	63K/16		23000.0	0.0	0.0		P
045358	NW36 68 20W	63K/16		69500.0	0.0	0.0		P
045359	NE06 68 19W	63K/16		37500.0	0.0	0.0		P
045359	SE07 68 19W	63K/16		57500.0	0.0	0.0		P
045360	SW01 68 20W	63K/16		69500.0	0.0	0.0		P
045361	NE27 67 20W	63K/16		158000.0	0.0	0.0		P
045361	NE24 67 20W	63K/16		145000.0	0.0	0.0		P
045361	NE35 67 20W	63K/16		320000.0	0.0	0.0		P
045361	NW27 67 20W	63K/16		46000.0	0.0	0.0		P
045361	NW36 67 20W	63K/16		19000.0	0.0	0.0		P
045361	NW34 67 20W	63K/16		185000.0	0.0	0.0		P
045361	SE34 67 20W	63K/16		380000.0	0.0	0.0		P
045361	SW36 67 20W	63K/16		52500.0	0.0	0.0		P
045361	NW35 67 20W	63K/16		253000.0	0.0	0.0		P
045361	SE03 68 20W	63K/16		160500.0	0.0	0.0		P
045361	SW01 68 20W	63K/16		72500.0	0.0	0.0		P
045361	SW03 68 20W	63K/16		77500.0	0.0	0.0		P
045361	SE02 68 20W	63K/16		85000.0	0.0	0.0		P
045361	SW34 67 20W	63K/16		150000.0	0.0	0.0		P
045361	SE34 67 20W	63K/16		75000.0	0.0	0.0		P
045361	SW35 67 20W	63K/16		182500.0	0.0	0.0		P

Deposit Number	Location Sect Tp Rge	Map Sheet	Site	Estimated Reserves Cu.M.	% Stone +#4 (+4.76MM)	% Fines (-200)	Aggregate Quality +	Production Potential *
045362	SE26 67 20W	63K/16		35000.0	0.0	0.0		P
045362	SW26 67 20W	63K/16		183500.0	0.0	0.0		P
045362	NE26 67 20W	63K/16		28000.0	0.0	0.0		P
045362	NW26 67 20W	63K/16		62500.0	0.0	0.0		P
045363	NE16 67 20W	63K/16		37500.0	0.0	0.0		P
045363	SE21 67 20W	63K/16		50000.0	0.0	0.0		P
045364	NE08 67 20W	63K/16		82500.0	0.0	0.0		P
045364	NE05 67 20W	63K/16		407500.0	0.0	0.0		
045364	NE16 67 20W	63K/16		15000.0	0.0	0.0		P
045364	NW04 67 20W	63K/16		107500.0	0.0	0.0		P
045364	NE04 67 20W	63K/16		191000.0	0.0	0.0		P
045364	NW05 67 20W	63K/16		82500.0	0.0	0.0		P
045364	NW32 66 20W	63K/16		12500.0	0.0	0.0		P
045364	NE32 66 20W	63K/16		25000.0	0.0	0.0		P
045364	NE09 67 20W	63K/16		411500.0	0.0	0.0		P
045364	SW09 67 20W	63K/16		434000.0	0.0	0.0		P
045364	SW16 67 20W	63K/16		225000.0	0.0	0.0		P
045364	NW16 67 20W	63K/16		40000.0	0.0	0.0		P
045364	SE08 67 20W	63K/16		297500.0	0.0	0.0		P
045364	SE05 67 20W	63K/16		275000.0	0.0	0.0		P
045364	SE09 67 20W	63K/16		62500.0	0.0	0.0		P
045364	SE16 67 20W	63K/16		7500.0	0.0	0.0		P
045364	SE17 67 20W	63K/16		575000.0	0.0	0.0		P
045364	SW05 67 20W	63K/16		235000.0	0.0	0.0		P
045364	NW09 67 20W	63K/16		215000.0	0.0	0.0		P
045365	NW18 67 20W	63K/16		500.0	0.0	0.0		P
045365	SW19 67 20W	63K/16		42000.0	0.0	0.0		P
045366	NE08 67 20W	63K/16		147500.0	0.0	0.0		P
045366	NW16 67 20W	63K/16		15500.0	0.0	0.0		P
045366	SE08 67 20W	63K/16		45000.0	0.0	0.0		P
045366	SE17 67 20W	63K/16		200000.0	0.0	0.0		P
045366	SW16 67 20W	63K/16		0.0	0.0	0.0		P
045367	NE07 67 20W	63K/16		60000.0	0.0	0.0		P
045367	NW08 67 20W	63K/16		40000.0	0.0	0.0		P
045367	NW08 67 20W	63K/16		380000.0	0.0	0.0		P
045367	SE17 67 20W	63K/16		77500.0	0.0	0.0		P
045367	SE18 67 20W	63K/16		45000.0	0.0	0.0		P
045367	SW08 67 20W	63K/16		34000.0	0.0	0.0		P
045367	SW17 67 20W	63K/16		85000.0	0.0	0.0		P
045368	NE36 66 20W	63K/16		121500.0	0.0	0.0		P
045368	NW36 66 20W	63K/16		122500.0	0.0	0.0		P
045368	SE36 66 20W	63K/16		167500.0	0.0	0.0		P
045368	SW36 68 20W	63K/16		42500.0	0.0	0.0		P
045368	SE06 67 19W	63K/16		97500.0	0.0	0.0		P
045368	SW06 67 19W	63K/16		72500.0	0.0	0.0		P
045370	SE35 67 19W	63K/16		22500.0	0.0	0.0		P
045372	SW11 67 19W	63K/19		20000.0	0.0	0.0		M
045372	SE11 65 19W	63K/19		7500.0	0.0	0.0		M

Deposit Number	Location Sect Tp Rge	Map Sheet	Site	Estimated Reserves Cu.M.	% Stone +#4 (+4.76MM)	% Fines (-200)	Aggregate Quality +	Production Potential *
045373	SE05 65 19W	63K/19		40000.0	0.0	0.0		M
045373	NE05 65 19W	63K/19		11000.0	0.0	0.0		M
045374	SE26 65 19W	63K/19		15000.0	0.0	0.0		M
045374	SE22 65 19W	63K/19		53500.0	0.0	0.0		M
045374	NW23 65 19W	63K/19		217500.0	0.0	0.0		M
045374	NE23 65 19W	63K/19		115000.0	0.0	0.0		M
045374	SW23 65 19W	63K/19		47500.0	0.0	0.0		M
045374	NE22 65 19W	63K/19		215000.0	0.0	0.0		M
045375	NW25 65 19W	63K/19		86000.0	0.0	0.0		P
045375	NE26 65 19W	63K/19		12500.0	0.0	0.0		P
045376	NE34 66 19W	63K/16		4000.0	0.0	0.0		P
045376	NW35 66 19W	63K/16		13500.0	0.0	0.0		P
045376	SE34 66 19W	63K/16		280000.0	0.0	0.0		P
045376	SW35 66 19W	63K/16		307500.0	0.0	0.0		P
045376	NE27 66 19W	63K/19		97500.0	0.0	0.0		P
045376	NW26 66 19W	63K/19		160000.0	0.0	0.0		P
045376	SW26 66 19W	63K/19		13000.0	0.0	0.0		P
045377	NE14 66 19W	63K/19		26000.0	0.0	0.0		P
045377	NE26 66 19W	63K/19		111500.0	0.0	0.0		P
045377	NW14 66 19W	63K/19		27500.0	0.0	0.0		P
045377	SE26 66 19W	63K/19		104000.0	0.0	0.0		P
045377	SW26 66 19W	63K/19		41500.0	0.0	0.0		P
045378	NE32 66 18W	63K/16		370000.0	0.0	0.0		P
045378	NE33 66 18W	63K/16		215000.0	0.0	0.0		P
045378	NW33 66 18W	63K/16		242500.0	0.0	0.0		P
045378	NW32 66 18W	63K/16		15000.0	0.0	0.0		P
045378	SW32 66 18W	63K/16		85000.0	0.0	0.0		P
045378	SE32 66 18W	63K/16		410000.0	0.0	0.0		P
045378	SW33 66 18W	63K/16		355000.0	0.0	0.0		P
045378	SW03 66 18W	63K/16		15000.0	0.0	0.0		P
045378	SE04 66 18W	63K/16		90000.0	0.0	0.0		P
045378	SE03 67 18W	63K/16		250000.0	0.0	0.0		P
045378	NE03 67 18W	63K/16		35000.0	0.0	0.0		P
045378	SE33 66 18W	63K/16		15000.0	0.0	0.0		P
045378	SW29 66 18W	63K/19		56500.0	0.0	0.0		P
045378	SE29 66 18W	63K/19		247500.0	0.0	0.0		P
045378	NW28 66 18W	63K/19		189000.0	0.0	0.0		P
045378	SE30 66 18W	63K/19		3000.0	0.0	0.0		P
045378	NW29 66 18W	63K/19		285000.0	0.0	0.0		P
045378	NE20 66 18W	63K/19		4000.0	0.0	0.0		P
045378	NE29 66 18W	63K/19		270000.0	0.0	0.0		P
045378	NW20 66 18W	63K/19		52500.0	0.0	0.0		P
045379	NW07 65 14W	63J/12		15900.0	0.0	0.0		M
045379	SW07 65 14W	63J/12		11000.0	0.0	0.0		M
045379	NE07 65 14W	63J/12		6000.0	0.0	0.0		M
045380	SW07 65 14W	63J/12		7500.0	0.0	0.0		M
045380	SE07 65 14W	63J/12		81000.0	0.0	0.0		M
045381	NE01 65 15W	63J/12		5000.0	0.0	0.0		M

Deposit Number	Location Sect Tp Rge	Map Sheet	Site	Estimated Reserves Cu.M.	% Stone +#4 (+4.76MM)	% Fines (-200)	Aggregate Quality +	Production Potential *
045381	SE12 65 15W	63J/12		112500.0	0.0	0.0		M
045382	SW26 64 16W	63J/12	SL209B	0.0	43.0	9.0	M	P
045382	NW23 64 16W	63J/12	SL211A	0.0	49.0	8.0	M	P
045382	SW26 64 16W	63J/12	SL209A	1064.0	43.0	3.0	H	P
045382	NW23 64 16W	63J/12	SL210B	0.0	3.0	11.0	L	P
045382	SE26 64 16W	63J/12		17500.0	0.0	0.0		M
045382	NW23 64 16W	63J/12	SL210A	26880.0	7.0	26.0	L	M
045383	NE22 64 16W	63J/12		19000.0	0.0	0.0		M
045383	SE22 64 16W	63J/12		1000.0	0.0	0.0		M
045383	SW22 64 16W	63J/12		45000.0	0.0	0.0		M
045383	NW22 64 16W	63J/12		3500.0	0.0	0.0		M
045384	SW32 64 16W	63J/12		30500.0	0.0	0.0		P
045384	NE29 64 16W	63J/12		9000.0	0.0	0.0		P
045384	NE32 64 16W	63J/12		8500.0	0.0	0.0		P
045384	SE32 64 16W	63J/12		162500.0	0.0	0.0		P
045384	NW29 64 16W	63J/12		67500.0	0.0	0.0		P
045385	NW30 64 16W	63J/12		11000.0	0.0	0.0		P
045385	SW31 64 16W	63J/12		110000.0	0.0	0.0		P
045386	NE23 64 17W	63J/12		15000.0	0.0	0.0		P
045386	NE24 64 17W	63J/12		44000.0	0.0	0.0		P
045386	NW24 64 17W	63J/12		147500.0	0.0	0.0		P
045387	NE11 64 17W	63J/12		1000.0	0.0	0.0		P
045387	NE13 64 17W	63J/12		22000.0	0.0	0.0		P
045387	NW12 64 17W	63J/12		10000.0	0.0	0.0		P
045387	NW13 64 17W	63J/12		170000.0	0.0	0.0		P
045387	SE14 64 17W	63J/12		28500.0	0.0	0.0		P
045387	SW13 64 17W	63J/12		165000.0	0.0	0.0		P
045388	SW18 64 17W	63J/12		7500.0	0.0	0.0		P
045388	NE13 64 17W	63J/12		12500.0	0.0	0.0		P
045388	SE13 64 17W	63J/12		233500.0	0.0	0.0		P
045388	SW13 64 17W	63J/12		55000.0	0.0	0.0		P
045389	SE18 64 16W	63J/12		15000.0	0.0	0.0		P
045389	SW18 64 16W	63J/12		47000.0	0.0	0.0		P
045390	SW18 64 16W	63J/12		10500.0	0.0	0.0		P
045390	NE12 64 17W	63J/12		25000.0	0.0	0.0		P
045390	SE13 64 17W	63J/12		44000.0	0.0	0.0		P
045391	NE11 64 17W	63J/12		6000.0	0.0	0.0		P
045391	NW10 64 17W	63J/12		13500.0	0.0	0.0		P
045391	NW11 64 17W	63J/12		50000.0	0.0	0.0		P
045391	SE14 64 17W	63J/12		55000.0	0.0	0.0		P
045391	SW14 64 17W	63J/12		8500.0	0.0	0.0		P
045392	NE16 64 17W	63J/12		12500.0	0.0	0.0		P
045392	NW16 64 17W	63J/12		2500.0	0.0	0.0		P
045393	NE06 65 16W	63J/12		88500.0	0.0	0.0		P
045393	SE06 65 16W	63J/12		70000.0	0.0	0.0		P
045393	SW06 65 16W	63J/12		5000.0	0.0	0.0		P
045394	NE10 65 17W	63J/12		47500.0	0.0	0.0		P
045394	NW11 65 17W	63J/12		65000.0	0.0	0.0		P

Deposit Number	Location Sect Tp Rge	Map Sheet	Site	Estimated Reserves Cu.M.	% Stone +#4 (+4.76MM)	% Fines (-200)	Aggregate Quality +	Production Potential *
045394	SE10 65 17W	63J/12		205000.0	0.0	0.0		P
045394	SW11 65 17W	63J/12		18000.0	0.0	0.0		P
045395	SE09 65 17W	63J/12		54000.0	0.0	0.0		P
045395	SW09 65 17W	63J/12		76000.0	0.0	0.0		P
045396	SW10 65 17W	63J/12		167500.0	0.0	0.0		P
045396	SW04 65 17W	63J/12		245000.0	0.0	0.0		P
045396	SE09 65 17W	63J/12		615000.0	0.0	0.0		P
045396	SE05 65 17W	63J/12		205000.0	0.0	0.0		P
045396	SE04 65 17W	63J/12		20000.0	0.0	0.0		P
045396	NW04 65 17W	63J/12		80000.0	0.0	0.0		P
045396	NW03 65 17W	63J/12		65000.0	0.0	0.0		P
045396	NE05 65 17W	63J/12		45000.0	0.0	0.0		P
045396	NE04 65 17W	63J/12		255000.0	0.0	0.0		P
045397	SE16 65 17W	63J/12		12500.0	0.0	0.0		M
045397	NE16 65 17W	63J/12		8000.0	0.0	0.0		M
045398	SE16 66 15W	63J/12		7500.0	0.0	0.0		P
045398	SW15 66 15W	63J/12		4000.0	0.0	0.0		P
045398	NW10 66 15W	63J/12		55000.0	0.0	0.0		M
045398	NE09 66 15W	63J/12		85000.0	0.0	0.0		M
045399	NE13 65 16W	63J/12		117500.0	0.0	0.0		P
045399	SE13 65 16W	63J/12		10000.0	0.0	0.0		P
045399	NW18 65 15W	63J/12		45000.0	0.0	0.0		P
045400	SE02 64 16W	63J/12		10500.0	0.0	0.0		M
045401	NW01 64 16W	63J/12	SL214B	0.0	0.0	0.0		P
045401	NE01 64 16W	63J/12		5000.0	0.0	0.0		M
045401	NW01 64 16W	63J/12	SL214A	6000.0	42.0	3.0	H	G
045402	SW26 65 15W	63J/12		5000.0	0.0	0.0		P
045402	SE27 65 15W	63J/12		20000.0	0.0	0.0		P
045402	NE22 65 15W	63J/12		125000.0	0.0	0.0		P
045402	NW22 65 15W	63J/12		2500.0	0.0	0.0		P
045402	NW23 65 15W	63J/12		8000.0	0.0	0.0		P
045403	SW25 65 15W	63J/12		20000.0	0.0	0.0		P
045403	NE25 65 15W	63J/12		35000.0	0.0	0.0		P
045403	SE25 65 15W	63J/12		45000.0	0.0	0.0		P
045404	SW36 65 15W	63J/12		37500.0	0.0	0.0		P
045404	SE36 65 15W	63J/12		55000.0	0.0	0.0		P
045404	NE36 65 15W	63J/12		22500.0	0.0	0.0		P
045405	SE01 65 15W	63J/12		95000.0	0.0	0.0		P
045405	SW06 65 15W	63J/12		50000.0	0.0	0.0		P
045405	NE36 65 15W	63J/12		15500.0	0.0	0.0		P
045405	NW31 65 14W	63J/12		30000.0	0.0	0.0		P
045406	SE01 66 15W	63J/12		11500.0	0.0	0.0		P
045407	NE17 66 14W	63J/12		155000.0	0.0	0.0		P
045407	NW17 66 14W	63J/12		20000.0	0.0	0.0		P
045407	SE17 66 14W	63J/12		1500.0	0.0	0.0		P
045407	NE20 66 14W	63J/12		5000.0	0.0	0.0		P
045408	NW25 65 15W	63J/12		32500.0	0.0	0.0		P
045409	SE32 65 14W	63J/12		2500.0	0.0	0.0		P

Deposit Number	Location Sect Tp Rge	Map Sheet	Site	Estimated Reserves Cu.M.	% Stone +#4 (+4.76MM)	% Fines (-200)	Aggregate Quality +	Production Potential *
045409	SW29 65 14W	63J/12		5000.0	0.0	0.0		P
045409	SW32 65 14W	63J/12		1500.0	0.0	0.0		P
045409	NW29 65 14W	63J/12		35000.0	0.0	0.0		P
045409	NE29 65 14W	63J/12		149000.0	0.0	0.0		P
045410	SW15 68 17W	63J/13	0	48500.0	0.0	0.0		M
045410	SE14 68 17W	63J/13	0	35000.0	0.0	0.0		M
045411	NE10 68 17W	63J/13	0	4000.0	0.0	0.0		M
045411	SE10 68 17W	63J/13	0	15000.0	0.0	0.0		M
045411	SW11 68 17W	63J/13	0	22500.0	0.0	0.0		M
045412	NE20 68 17W	63J/16	0	40500.0	0.0	0.0		G
045413	SE22 68 18W	63J/16	0	15000.0	0.0	0.0		P
045413	NE15 68 18W	63J/16	0	17500.0	0.0	0.0		P
045319	SW16 68 17W	63J/13	SL083B	0.0	2.0	1.0	L	G
045326	SE11 67 18W	63K/16		45000.0	0.0	0.0		M
045326	NW02 67 18W	63K/16		32500.0	0.0	0.0		M
045326	SW11 67 18W	63K/16		192500.0	0.0	0.0		M
045397	SE16 65 17W	63J/12		5000.0	0.0	0.0		M
045397	SE16 65 17W	63J/12		12500.0	0.0	0.0		M
	TOTAL			28115514.0				

+ H = High
M = Medium
L = Low

* G = Good
M = Moderate
P = Poor

Tramping Lake NTS 63K/9

Aggregate resources include sand and gravel, and bedrock deposits. The dolostone quarry at SL229 (NTS 63K/9, Map AR89-6-3, in pocket) is the major source of aggregate. There are no developed sand and gravel deposits in the area; deposits in the vicinity of PTH 39 are generally too small to be economic. Borrow pits have been developed along PTH 39 where sediment thickness reaches 0.5 metres.

Significant undeveloped sand and gravel resources are located west of Bujarski Lake and between Tramping and Reed Lakes. These deposits have low economic potential because of their relatively isolated location.

Demand is expected to be remain moderate because of maintenance to PTH 39. Dolostone reserves can satisfy the forseeable needs.

Buzz Lake NTS 63J/12

Aggregate resources in the Buzz Lake area (NTS 63J/12) include bedrock, and sand and gravel deposits. Four dolostone quarries makeup the main source of aggregate in the Buzz Lake area. Three sand and gravel deposits have been developed. The deposits (Map AR89-6-1, in pocket) are near depletion and occur between PTH 39 (PR 391) and the community Wekusko.

Undeveloped sand and gravel deposits with economic development potential have been identified in the southwest part of the NTS 63J/12.

Deposit 45383 is located 1 km south of PTH 39 and 1 km west of PR 392 (Map AR89-6-4, in pocket). Although the deposit is relatively small, its proximity to PR 392 enhances its development potential. The other area considered to have economic development potential is 1 km south of the junction of PTH 39 and PR 392 leading to the community of Snow Lake (Map AR89-6-1, in pocket). Here a string of glaciofluvial deposits leads to three relatively large glaciolacustrine shoreline deposits. All the deposits are within 5 km of PTH 39.

Borrow pits, where primarily silt and clay was excavated for fill, line PTH 39 and PR 392 where sediment thickness exceeds 0.5 m.

Demand for aggregate is expected to remain high, especially for sand and gravel deposits. Though the sand and gravel deposits are near depletion, dolostone reserves are sufficient to meet projected demand.

SUPPLY

Supply is determined by taking the calculated area of a deposit and multiplying by the known or estimated depth of the deposit to obtain the volume or amount of aggregate in the deposit; amounts are given in cubic meters.

Resource values are calculated by quarter section and are given in Appendix F. From the total area calculated, a depletion factor is applied, which includes the volume unavailable due to presence of permanent cultural features and those areas previously extracted. The result is an estimate of the amount of aggregate available.

There are 28 115 514 cubic metres of aggregate reserves in the Snow Lake area. Table 4 shows the reserve figures for deposits by map sheet with deposit production potential.

Although total reserve values appear high, the majority of accessible sand and gravel deposits have been exploited and are near depletion.

Deposit 045327 near Welsh Lake has the greatest potential for meeting future aggregate demands in the Snow Lake area. Reserves are estimated at 563 850 cubic metres. This amounts to 68% of total reserves in the study area with good production potential.

In conclusion the Snow Lake has a shortage of accessible sand and gravel resources. Crushed dolostone bedrock will continue to be used to meet aggregate demands.

Table 4: Aggregate reserves (m^3) in the Snow Lake area

Potential		Good	Moderate	Poor	Total
Buzz Lake	NTS 63J/12	6 000	545 280	5 096 064	5 647 344
File Lake	NTS 63K/16	825 795	681 470	15 018 215	16 525 480
Herb Lake	NTS 63J/13	182 100	164 200	3 067 390	3 413 690
Tramping Lake	NTS 63K/9	0	742 000	1 787 000	2 529 000
		1 013 895	2 132 950	24 968 669	28 115 514

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APPENDICES

APPENDIX A
Test Pit Logs

SL001
North east corner of P.R. 392 and 393
0.0 - 0.6 m Bouldery cobble gravel, massive, clasts well rounded
0.6 - 1.6 m Sand, grading down from coarse to fine sand, laminated, well sorted, compact structure
1.6 - 2.0 m Pebbly sand
2.0 - 2.2 m Cobbly fine pebble gravel
2.2 - 2.4 m Medium sand
2.4 - 2.8 m Fine pebble gravel, cross bedded
Deposit of limited extent in bedrock hollow.

SL002
South east corner of P.R. 392 and 393 intersection
0.0 - 3.0 m Sandy pebble gravel
Deposit depleted, pit revegetated.

SL003
Stall Lake mine
0.0 - 0.6 m Sandy pebble gravel
Small deposit surrounded by bedrock. Boulders (50 cm average diameter) litter surface.

SL004
South 0.75 km of P.R. 393 at abandoned Rod mine
0.0 - 2.0 m Bedrock outcrop, swamp in lows

SL005
East 2.6 km of Stall Mine on P.R. 393
0.0 - 1.0 m Bedrock outcrops and swamp in lows

SL006a
East 3.5 km of Stall Mine on P.R. 393
0.0 - 0.5 m Brown clay, massive, contains rare large pebble
3 0.5 m Water table

SL006b
East 3.5 km of Stall Mine on P.R. 393
0.0 - 0.6 m Gravelly diamict, fines washed from matrix, grading into sandy-stoney till

SL007
East 2.9 km of Stall Mine on P.R. 393
0.0 - 1.0 m Bedrock outcrop and swamp

SL008
East 4.5 km of Stall Mine on P.R. 393
0.0 - 0.5 m Brown clay

SL009
East 5 km of Stall Mine on P.R. 393
0.0 - 0.5 m Leeside till
Till in rock depression.

SL010
Northeast corner of Snow Creek and P.R. 393
0.0 - 0.6 m Brown clay grading into laminated silt and fine sand
Several borrow pits between road and railway.

SL011
East 2 km of Snow Creek and 0.3 km north of P.R. 393
0.0 - 0.5 m Brown clay, massive
Bedrock outcrop in the area, clay less than 1 m

SL012
East 2 km of Snow Creek on P.R. 393
0.0 - 0.3 m Gravelly, leeside till, coarse sand matrix
0.3 m Water table
Bedrock outcrop directly north. Some removal of sediment.

SL013
South 0.6 km on Herb Bay road from P.R. 393
0.0 - 2.0 m Leeside till, sandy pebble gravel, fine sand matrix
2.0 - 4.5 m Medium to fine sand, cross laminated, well sorted
4.5 - 7.0 m Slumped face

SL014
South 0.5 km on Herb Bay road from P.R. 393
0.0 - 0.2 m Till, boulders and cobbles litter surface
Bedrock surfaces too weathered for striae.

SL015
Borrow pit south 0.55 km on Herb Bay road from P.R. 393
0.0 - 0.5 m Brown clay
Till pockets in bedrock irregularities, striae at 209 degrees
Pit inactive for approximately 10 years.

SL016
South east 2.1 km on Herb Bay road from P.R. 393
0.0 - 0.15 m Pebbly sand
0.15 - 0.95 m Medium to fine sand, cross laminated, well sorted
Sand plain fairly extensive in this area.

SL017
South east 5.1 km on Herb Bay road from P.R. 393
0.0 - 1.0 m Brown clay, massive, grading into laminated silt and clay
Rare boulder along road.

SL018
South east 4.3 km 0on Herb Bay road from P.R. 393
0.0 - 0.4 m Leeside till, sandy matrix, gravelly appearance
0.4 m Bedrock
Borrow pits on both sides of the road. Deposits depleted.

SL019
South east 3.2 km on Herb Bay road from P.R. 393
0.0 - 1.0 m Clay
1.0 m Bedrock
Pebbles and cobbles litter surface, bedrock outcrops at north end of borrow pit. Deposit depleted.

SL020
South east 1.5 km on Herb Bay road from P.R. 393
0.0 - 0.8 m Brown clay
0.8 m Water table

SL021
South west 1.5 km on Herb Bay road from P.R. 393
0.0 - 4.0 m Bedrock outcrop
Swamp in lows.

SL022
Southwest 0.8 km on Herb Bay road from P.R. 393
0.0 - 1.5 m Leeside till, bouldery pebble gravel, coarse sand matrix, poorly sorted, oxidized
Borrow pit.

SL023
South east 2.1 km on Herb Bay road
0.0 - 1.5 m Pebbly sand, pebbles well rounded, oxidized
1.5 m Bedrock
Numerous test pits in the area.

SL024
Southwest 2.3 km on Herb Bay road from P.R. 393
0.0 - 0.6 m Clay
0.7 m Leeside till
0.7 m Bedrock

SL025a
Southwest 2 Sand, occasional pebbles, well sorted, oxidized
1.2 m Clay

SL025b
Southwest 2.6 km on Herb Bay road from P.R. 393
0.0 - 1.2 m Sand, occasional pebbles, well sorted, oxidized
1.2 m Clay

SL025c
Southwest 2.6 km on Herb Bay road from P.R. 393
0.0 - 0.1 m Medium sand, well sorted
0.1 - 0.4 m Massive brown clay

SL026
Southwest 2.9 km on Herb Bay road from P.R. 393
0.0 - 0.5 m Clay

SL027a
East 2 km from Herb Bay road on P.R. 393
0.0 - 0.9 m Clay
0.9 m Bedrock, striae at 206 degrees.
Borrow depleted of all sediment.

SL027b
East 2 km from Herb Bay road on P.R. 393
0.0 - 0.2 m Till, silty-sandy matrix
0.2 m Bedrock, striae at 206 degrees.

SL028
East 2.4 km on P.R. 393 from Herd Bay road
0.0 - 0.75 m Yellow brown clay, blocky and massive
0.75 - 0.85 m Silty fine sand, well sorted
0.85 - 0.95 m Silty sandy till
0.95 - 1.05 m Silty sand
1.05 - 1.15 m till

SL029
East 3.1 km on P.R. 393 from Herb Bay road
0.0 - 0.2 m Brown clay, blocky
0.2 - 0.6 m Leeside till, sandy, pebbly

SL030
West 1.3 km on P.R. 393 from Wekusko Brook
0.0 - 0.5 m Brown clay, massive and blocky

SL031
West 0.5 km on P.R. 393 from Wekusko Brook
0.0 - 0.6 m Brown clay

SL032
East 0.2 km from Wekusko Brook on P.R. 393
0.0 - 1.0 m Brown blocky clay
1.0 m Bedrock, striae at 206 degrees

SL033
East 0.3 km on P.R. 393
0.0 - 0.5 m Clay
Bedrock outcrops near road.

SL034
Depleted pit west 1.0 km along abandoned railway track from P.R. 393
0.0 - 1.5 m Pebble gravel
1.5 m Water table
Clay and rock exposed along flanks of esker. Straie at 203 degrees.

SL035
Large sand pit in north east corner of railway and P.R. 393 intersection.
0.0 - 0.4 m Brown blocky clay
0.4 - 0.6 m Silty sandy pebbly till, poorly sorted, modified facies some cobbles and small boulders in unit
0.6 - 7.0 m Medium to fine sand, ripple drift laminated, well sorted

SL036
Borrow pit east 0.5 km on P.R. 393
0.0 - 0.3 m Brown clay
0.3 - 1.6 m Fine sand, laminated, well sorted
Rock outcrops in pit, two sets of straie at 180 and 220 degrees.

SL037
South 0.8 km from mouth of Wekusko Brook in Osborne Lake
0.0 - 1.3 m Brown clay grading into silt and fine sand rythumites

SL038a
East 0.9 km on P.R. 393 from railway crossing
0.0 - 0.3 m Brown clay
0.3 - 0.6 m Laminated silt and sand
0.6 - 0.7 m Lodgement till, silty sandy

SL038b
East 0.9 km on P.R. 393 from railway crossing
0.0 - 1.5 m Clay and silt rythumites
1.5 m Water table
Pit appears to extend below water level.

SL039
East 1.8 km on P.R. 393 from railway crossing
0.0 - 1.6 m Clay grading into silt and clay rythumites
1.6 m Water table

SL040
West 1.0 km on P.R. 393 from Osborne Lake
0.0 - 1.3 m Clay
Rock outcrops at east end of pit, straie at 208 degrees.

SL041
Osborne Mine site
0.0 - 0.2 m Clay
0.2 m Bedrock
Generally swampy area.

SL042
South 0.8 km from junction of P.R. 393 and 392
0.0 - 1.0 m Blocky brown clay
1.0 m Water table
Several boulders in base of pit.

SL043
Anderson Lake
0.0 - 0.6 m Clay
0.6 m Bedrock
Clay discontinuous with rock outcrop.

SL044a
South 2.5 km from junction of P.R. 393 and 392 on shore of Anderson Bay
0.0 - 0.5 m Bedrock, straie at 204 degrees

SL044b

South 2.5 km from junction of P.R. 393 and 392 on Anderson Bay

0.0 - 1.2 m Clay

1.2 m Water table

SL045

South 2.8 km on 392 from junction with P.R. 393

0.0 - 0.2 m Fill, sandy pebbly diamict, sparse cobbles

0.2 - 0.7 m Brown blocky clay

Boulders along road could be fill because no evidence of till.

SL046

South 3.5 km on P.R. 392 from junction with 393

0.0 - 2.0 m Silty till, fissile, blocky structure

2.0 - 3.5 m Slumped, break in slope

3.5 - 5.5 m Very sandy diamict 'till', gravelly appearance

5.5 m Water table

Possible source of fill, extent of deposit unknown.

SL047

Berry Bay road and P.R. 392

0.0 - 1.2 m Silt and very fine sand rythumites, very compact

SL048

Southwest 0.5 km on P.R. 392 from Berry Bay

0.0 - 1.0 m Very fine sand and silt rthymites

1.0 - 1.2 m Leeside and lodgement till, discontinuous

1.2 m Bedrock, three sets of straie 150, 206 and 246 degrees

SL049

Southwest 0.75 km on P.R. 392 from Berry Bay

0.0 - 1.0 m Clay

1.0 m Water table

Bedrock outcrops in pit, straie at 203 degrees.

SL050

Southwest 1.3 km on P.R.392 from Berry Bay

0.0 - 1.2 m Brown clay

1.2 m Water table

Bedrock outcrops at south end of pit.

SL051

North 0.9 km on P.R.392 from Berry Bay

0.0 - 1.0 m Clay

1.0 m Bedrock, straie at top of outcrop 210 degrees, on flank 200 degrees, this set crossed by 170 set and 245 degree sets.

SL052

Northwest 0.5 km on P.R. 392 from Berry Creek

0.0 - 1.25 m silt and clay rthymites

1.25 - 1.75 m Greenish grey sand, sparse to moderate pebbles, cobble and small boulders, moderately sorted, some laminated beds, minor folding of some units observed

1.75 - 2.25 m Pinkish white sand, very well sorted, coarsens down from fine sand to medium coarse sand

SL053
Northeast bank Berry Creek on P.R.392
0.0 - 1.0 m Clay
1.0 - 1.2 m Silty sandy till, cobbles and boulders litter surface
Bedrock outcrop is striated at 212 degrees.

SL054
Southeast 0.3 km on P.R.392 from Berry Creek
0.0 - 2.0 m Clay and silt rthymites
2.0 - 2.4 m Boulder lag
2.4 - 4.0 m Sandy till
4.0 m Bedrock, straie at 180 degrees
Boulders and cobbles litter section.

SL055
Wekusko Park, east 0.5 km from P.R. 392 on north shore of point
0.0 - 0.4 m Clay
0.4 - 1.0 m Bedrock, straie at 209 degrees

SL056
East 0.2 km on P.R. 392
0.0 - 2.5 m Silt and clay rthymites
Bedrock exposed in ditch, straie at 202 degrees.

SL057
South 1.1 km on P.R.392
0.0 - 0.7 m Clay
0.7 m Bedrock, striae at 202 degrees

SL058
South 2.5 km on P.R.392
0.0 - 1.0 m Clay rthymites
1.0 m Till
Boulders scattered in vicinity, some isolated bedrock outcrops.

SL059
South 3.5 km on P.R.392
0.0 - 0.2 m Clay
0.2 - 1.0 m Bedrock
Bedrock outcrop dominates area.

SL060
South 4.6 km on P.R.392
0.0 - 0.7 m Bedrock
0.7 m Water table
Area of rock outcrop with swamp in lows.

SL061
North 0.9 km on P.R.392 from Stall Lake on Osborne Rd.
0.0 - 3.0 m Leeside till, very sandy and stoney
Till on southwest side of large bedrock ridge, the north east side is bare.

SL062
North 1.3 km on P.R.392 from junction with P.R.393
0.0 - 1.0 m Clay
1.0 m Bedrock

SL063
West 0.2 km on the Chisel Mine road, P.R.395 from junction with P.R.392
0.0 - 0.5 m Clay
0.5 m Bedrock
Area consists of thin clay over rock.

SL064
South 0.9 km on road to Threehouse from P.R.395
0.0 - 0.5 m Clay
0.5 m Water table

SL065
West 0.5 km on P.R.395
0.0 - 0.2 m Clay
0.2 - 1.0 m Bedrock, straie at 197 degrees

SL066a
Sand pit north of the Snow Lake Cemetary, 0.4 km east of P.R.392
0.0 - 1.0 m Medium sand, very compact, organic beds, some faulting of this unit
1.0 - 2.0 m Sand, normally consolidated
Boulders are abundant in pit.

0SL066b
Sand pit north of Snow Lake Cemetary 0.4 km east of P.R.392
0.0 - 0.5 m Boulder-cobble in pebbly coarse sand
0.5 - 1.5 m Sand, fining down from coarse sand to fine sand at the base of the section
1.5 m Bedrock outcroping at base

SL066c
North of Snow Lake Cemetary, 0.4 km east of P.R.392
0.0 - 1.5 m Sand with scarce small pebbles

SL066d
North of Snow Lake Cemetary, 0.4 km east of P.R.392
0.0 - 2.5 m Very sandy pebble gravel, some faulting in sediments
2.5 m Bedrock
Numerous boulders on pit floor.

SL067
Johnson Island, southwest tip
0.0 - 1.5 m Silt and clay rthymites

SL068
Johnson Island beach, southeast tip
0.0 - 1.5 m Sand
1.5 m Bedrock, two sets of striae, 178 degrees and the younger set at 202 degrees.

SL069
Northeast 1.0 km from northwest point Snow Bay
0.0 - 1.5 m Clay
1.5 m Bedrock

SL070
Northeast 2.0 km from northwest point Snow Bay
0.0 - 2.0 m Medium to fine sand, well sorted with sparse pebbles
2.0 - 2.3 m Boulder layer
2.3 - 3.3 m Bedrock

SL071a
Northeast 3.5 km from northwest point Snow Bay
0.0 - 0.9 m Coarse sand, intercalated beds of granitiferrous sand

SL071b
Northeast 3.5 km from northwest point Snow Bay
0.0 - 2.0 m Silt and clay rthymites

SL072
Southwest l.4 km from mouth of Snow Creek, northwest shore of Snow Bay
0.0 - 2.5 m Clay and fine sand rthymites

SL073a
North end of Snow Bay
0.0 - 2.0 m Bedrock

SL073b
North end of Snow Bay
0.0 - 0.5 m Brown massive clay
0.5 - 0.8 m White silt rthymites
0.8 - 1.5 m Brown grey clay rthymites

SL074
Northeast 0.5 km from tip of northwest point of Herb Bay
0.0 - 1.0 m Clay
1.0 m Bedrock, two set of straie, 178 degrees in hollows of rock surface and 195 which was dominant over outcrop.

SL075
Snow Bay
Northeast 3.5 km from tip of northwest point of Herb Bay
0.0 - 2.0 m Clay rthymites, white silt unit exposed same as SL073.

SL076
Northwest 2.2 km from tip of northwest point of Herb Bay
0.0 - 0.75 m Clay rthymites
0.75 m Bedrock,striae at 205 degrees

SL077
West 2.4 km from mouth of Wekusko Brook
0.0 - 1.5 m Clay and silty rthymites

SL078
West 1.9 km from mouth of Wekusko Brook, north shore Herb Bay
0.0 - 0.5 m Clay
Points are rock outcrop.

SL079
North end of Herb Bay, northwest shore at mouth of Wekusko Brook
0.0 - 2.5 m Clay
2.5 m Bedrock

SL080
South shore Herb Bay, southwest 3.7 km from mouth of Wekusko Brook
0.0 - 0.1 m Organics
0.1 - 0.2 m Medium sand, well sorted
0.2 - 0.4 m Clay

SL081
South shore Herb Bay, southwest 4.0 km from mouth of Wekusko Brook
0.0 - 0.3 m Clay
0.3 m Bedrock, straie at 210

SL082
Pit north of Snow Lake garbage dump
0.0 - 0.5 m Coarse pebble gravel
0.5 m Water table

SL083
Sand and gravel pit, north 0.4 km from Snow Lake garbage dump
0.0 - 1.5 m Fine pebble gravel

SL084
0.6 km North of Snow Lake garbage dump
0.0 - 0.3 m Pebbly sand
0.3 - 1.5 m Clay

SL085a
East 0.9 km on P.R.395
0.0 - 0.4 m Sandy till
Boulders litter surface.

SL085b
East 0.9 km on P.R.395
0.0 - 0.3 m Brown clay, massive and blocky
0.3 m Bedrock

SL086
East l.l km on road to Anderson Lake from Jct with P.R.395
0.0 - 2.0 m Bedrock
Area of bedrock outcrop, swamp in lows.

SL087
West 0.2 km on P.R.395 from Jct with road to Anderson Lake
0.0 - 1.0 m Clay
Bedrock outcrops west of site, striae at 190 degrees.

SL088
Northwest 2.0 km on P.R.395 from Jct with road to Anderson Lake
0.0 - 0.5 m Sandy till
0.5 m Bedrock

SL089
East 0.4 km on P.R.395
0.0 - 0.6 m Clay

SL090
West 0.3 km on P.R.395
0.0 - 1.3 m Clay
1.3 m Bedrock, straie at 192 degrees

SL09I
On P.R. 395 at Junction
0.0 - 0.2 m Clay and silt
0.2 m Bedrock

SL092
Snow Lake Airport, northeast corner
0.0 - 2.0 m Medium sand with pebbles, cobbles and boulders

SL093
East along railway 1.1 km from Stall Lake
0.0 - 0.2 m Clay
0.2 m Bedrock
Bedrock outcrop continues east for 0.5 km.

SL094
East 2.4 km along railway from Stall Lake and 0.l km southeast of railway
0.0 - 0.4 m Organics
0.4 - 1.0 m Bedrock
1.0 m Water table

SL095
East 2.9 km from Stall Lake on railway
0.0 - 0.2 m Clay
0.2 m Bedrock

SL096
East 4.1 km from Stall Lake on railway
0.0 - 0.5 m Sandy till
0.5 m Lodgement till

SL097
East 4.9 km along railway from Stall Lake
0.0 - 0.5 m Till
0.5 - 5.0 m Bedrock

SL098
East 0.5 km from south tip of Bart Lake
0.0 - 0.9 m Silt and clay rthymites
Till on west sides of bedrock highs.

SL099
0.2 km southeast of Bart Lake
0.0 - 1.0 m Clay

SL100
Northeast 0.5 km along railway from creek crossing northeast of Bart Lake
0.0 - 0.2 m Silt and clay rthymites
0.2 - 1.5 m Till, very sandy, washed facies, lenses of sand
1.5 - 1.6 m Fine sand, well sorted
1.6 m Bedrock

SL101a
Northeast 1.0 km along railway from Creek Crossing northeast of Bart Lake
0.0 - 2.0 m Clay

SL101b
Northeast 1.0 km along railway from Creek Crossing northwest of Bart Lake
0.0 - 1.0 m Bedrock, straie at 222 degrees

SL102a
South 0.6 km along railway 0.2 km south of railway
0.0 - 0.8 m Medium sand, laminated

SL102b
South 0.6 km along railway 0.2 km south of railway
0.0 - 0.8 m Sand, sparse small pebble

SL102c
South 0.5 km along railway 0.2 km south of railway
0.0 - 0.1 m Sand
0.1 - 0.5 m Clay

SL103
Osborne Lake road, northeast 0.3 km on P.R.393 from railway crossing between road and transmission line
0.0 - 0.6 m Sand, fine to medium grained, well sorted, oxidized
0.6 - 0.85 m Sand, white, coarse, laminated, sparse pebbles

SL104a
West 0.l km on P.R. 393 from railway crossing
0.0 - 0.3 m Clay and rock
Pit deleted.

SL104b
West 0.l km on P.R.393 from railway crossing
0.0 - 0.15 m Brown massive clay
0.15 - 0.25 m Pebble gravel, well sorted, clasts well rounded
0.25 m Bedrock

SL105
North 0.6 km along railway from crossing P.R. 393
0.0 - 0.7 m Clay
0.7 m Bedrock, straie at 201 degrees

SL106a
North l.2 km along railway from crossing P.R. 393
0.0 - 1.0 m Gravel
1.0 - 1.1 m Clay
1.1 m Water table

SL106b
North l.2 km along railway from crossing P.R. 393
0.0 - 0.2 m Cobble gravel
0.2 - 2.2 m Clay and silt rthymites
2.2 - 5.0 m Till

SL107
East 0.2 km from end of Osborne Mine
0.0 - 0.3 m Clay
0.3 m Water table

SL108a
South 4.8 km on P.R.392 from Grass River Bridge; Active dolostone quarry on east side of P.R. 392
0.0 - 0.2 m Clay
0.2 - 4.0 m Dolostone, pink and beige mottled, bedding planes at 10 cm
4.0 m Water table
Major source of aggregate in the Snow lake area.

SL108b
South 5.0 km on P.R. 392 from Grass River Bridge; Quarry on west side of P.R. 392
0.0 - 0.2 m Clay, discontinues
0.2 - 2.0 m Dolostone
Depleted to east and west , minor reserves to north and south.

SL109
North 0.2 km on P.R. 392 from Hayward Creek
0.0 - 1.4 m Clay and silt rthymites

SL110
South 2.0 km on P.R.392 from Hayward Creek
0.0 - 0.6 m Organics
Bedrock outcrops in highs, swamp in lows. Straie at 212 degrees.

SL111
South 0.2 km from end of road at Osborne Lake
0.0 - 0.5 m Clay
0.5 m Bedrock

SL112
North tip of Osborne Lake
0.0 - 0.4 m Clay
0.4 m Bedrock
Some boulders probably from till.

SL113
Northeast end of Osborne Lake on trail
0.0 - 1.0 m Clay

SL114
South 0.5 km of Osborne Lake on trail
0.0 - 0.5 m Brown massive clay
0.5 - 0.53 m Coarse granular sand
0.53 - 0.7 m Clay and silt rthymites

SL115
North 0.5 km of Wekusko Brook on south bend of trail
0.0 - 0.4 m Brown massive clay

SL116
Northeast l.7 km from SLll5. Southeast l.5 km from northeast tip of Osborne Lake.
0.0 - 3.0 m Pebble gravel, coarse sand matrix, well sorted some cobbles and boulders
Poorly managed pit.

SL117
South 0.3 km on railway line south of Chisel Lake.
0.0 - 3.0 m Bedrock, no overburden
Large bedrock outcrop section.

SL118
South 0.7 km on railway line south of Chisel Lake
0.0 - 0.4 m Organics
0.4 m Bedrock
Highs are bedrock, lows are swampy.

SL119
South l.5 km on railway line south of Chisel Lake
0.0 - 0.5 m Medium sand, well sorted, rare boulder in pit

SL120a
North 0.7 km on Woosey Creek from railway crossing, southwest Chisel
0.0 - 0.5 m Coarse pebble gravel, matrix supported, inclined beds, erosional contact
0.5 - 1.0 m Medium sand, laminated
1.0 - 2.0 m Pebble cobble gravel, clast supported, very well rounded
Rock ridge to north and swamp to the south.

SL120b
North 0.7 km on Woosey Creek from railway crossing
0.0 - 0.2 m organics
0.2 - 0.5 m Sand

SL121
Southwest l.9 km along railway south of Chisel North No. l from railway.
0.0 - 0.6 m Medium sand, well sorted
0.6 m Water table

SL122
North 0.l km from railway along Woosey Creek/Ditch.
0.0 - 1.5 m sand with pebbles and cobbles, climbing ripple drift bedding
1.5 m Water table
Numerous boulders in pit, material almost depleted.

SL123
Southwest l.0 km along railway from drainage ditch & railway crossing, south 0.l km from railway
0.0 - 0.1 m Pebble-cobble lag
0.1 - 1.5 m Medium sand, some granular sand

SL124
North l.l km along railway from Daly Lake
0.0 - 0.1 m Organics
0.1 - 0.2 m White fine sand, well sorted
0.2 - 0.6 m Fine pebbly silty sand
0.6 m Brown massive clay

SL125a
North 0.l km along railway from Daly Lake
0.0 - 2.0 m Pebbly sand, well sorted

SL125b
North 0.l km along railway from Daly Lake
0.0 - 3.0 m Pebbly sand, well rounded clasts, horizontally bedded

SL126
Southwest l.l km along railway from Daly Lake
0.0 - 0.2 m Medium fine sand, white, well sorted
0.2 m Bedrock

SL127
Southwest 3.0 km along railway from Daly Lake
0.0 - 0.5 m Clay
0.5 m Bedrock, straie dominant set at 205 degrees, second set at 176 degrees

SL128
Northeast 0.8 km along railway from crossing Morgan Lake
0.0 - 0.2 m Cobble gravel, coarse sand matrix
0.2 m Bedrock

SL129
North 2.2 km along P.R.392 from junction with P.R.39l
0.0 - 1.5 m Leeside till, sandy, abundant boulders

SL130
North 0.8 km along P.R.392 from junction with P.R.39l
0.0 - 0.4 m Organics
0.4 - 0.8 m Light yellow brown clay
0.8 m Water table

SL131
West l.2 km along P.R.39l from junction with P.R.392
0.0 - 1.5 m Dark brown massive clay
1.5 m Water table

SL132
West 2.0 km along P.R.39l from junction with P.R.392
0.0 - 0.3 m Clay
0.3 m Dolostone, striae at 217 and 240 degrees

SL133
At railway tracks and Woosey Lake/Morgan Lake Crossing
0.0 - 0.2 m Medium sand
0.2 m Bedrock

SL134
Southwest 0.7 km along railway from Woosey Lake and Morgan Lake.
0.0 - 0.4 m Clay, rthymites
0.4 m Bedrock, straie at 187 crossed by 206 degrees

SL135
Southwest 0.9 km along railway from Morgan Lake north 0.5 km railway from Venables
0.0 - 0.1 m Medium sand, with cobbles
0.1 m Bedrock

SL136
North 0.8 km on Woosey Creek from railway crossing
0.0 - 1.5 m Fine pebbly sand, horizontally bedded2
1.5 m Water table

SL137
South l.5 km on railway line; new pit in Chisel Lake deposit
0.0 - 0.5 m Medium sand
0.5 m Water table

SL138
South 2.0 km from Chisel Lake
0.0 - 0.2 m Organics
0.2 - 0.5 m Medium sand, well sorted
0.5 - 0.65 m Yellow clay, blocky

SL139
South 3.0 km from Chisel Lake
0.0 - 0.6 m Cobbly medium sand, oxidized, clean
Possible site for pit.

SL140a
East 0.2 km from Welch Lake
0.0 - 0.1 m Pebbly coarse sand
0.1 - 1.0 m Coarse sand, very well sorted, horizontally bedded
1.0 - 1.5 m Fine sand, laminated
1.5 m Water table

SL140b
East 0.2 km from Welch Lake
0.0 - 0.3 m Pebbly fine sand
0.3 - 0.5 m Granules, very well sorted
0.5 - 1.5 m Cobbly pebble gravel, coarse sand matrix, very well sorted, cobbles well rounded

SL140c
East 0.2 km from Welch Lake
0.0 - 0.7 m Medium sand, oxidized, well sorted
0.7 m Yellow clay, massive

SL140d
East 0.2 km from Welch Lake
0.0 - 2.0 m Coarse granular sand, inclined beds
2.0 m Water table

SL140e
East 0.2 km from Welch Lake
0.0 - 0.5 m Medium sand, cross-laminated, rare pebble
0.5 - 1.8 m Cobbly pebble gravel
1.8 m Very fine sand

SL140f
East 0.2 km from Welch Lake
0.0 - 1.8 m Sandy cobble gravel, faulted, large shallow channel fill structures, abundant crushable stone

SL140g
East 0.2 km from Welch Lake
0.0 - 1.5 m Fine sand with beds of granular sand, trough cross bedded
1.5 m Water table

SL141
East l.5 km from Welch Lake
0.0 - 0.5 m Fine sand
0.5 m Bedrock

SL142
East l.5 km from Welch Lake
0.0 - 0.05 m Fine sand and silt
0.05 - 0.6 m Brown massive clay
0.6 m Water table

SL143
Northeast l.9 km from Chisel Lake along transmission line to railway
0.0 - 0.4 m Organics
0.4 m Bedrock

SL144
East l.0 km along railway from transmission line
0.0 - 0.3 m Brown clay, massive

SL145
North tip of Three House Lake
0.0 - 0.1 m Clay, discontinuous
0.1 m Black basalt

SL146
North 3.9 km along railway from Chisel Lake
0.0 - 0.4 m Organics
0.4 m Water table

SL147
Northeast 4.4 km along railway from Chisel Lake
0.0 - 0.15 m Organics
0.15 - 1.0 m Clay, massive
1.0 m Till, rock

SL148
Northeast 4.3 km along railway, south 0.7 km from railway
0.0 - 0.1 m Organics
0.1 - 0.8 m Sand, oxidized
0.8 m Water table

SL149
Northeast 4.0 km along railway, south 0.6 km from railway; east side Three House Lake
0.0 - 1.0 m Sand
1.0 m Clay

SL150
Northeast 4.0 km along railway, south 0.4 km from railway
0.0 - 0.1 m Organics
0.1 - 0.8 m Sand, massive, rare small pebble

SL151
Northeast 4.6 km along railway from Chisel
0.0 - 0.2 m Clay
0.2 - 0.8 m Sand

SL152
Southwest 3.2 km along railway from crossing of road to Anderson Lake
0.0 - 0.5 m Bedrock
Area dominantly rock outcrop.

SL153
Southwest 2.2 km along railway from crossing of road to Anderson Lake
0.0 - 0.1 m Organics
0.1 m Water table

SL154
Southwest l.3 km along railway from crossing at Anderson Lake road
0.0 - 0.1 m Organics
0.1 - 0.8 m Clay
0.8 m Water table

SL155
Southwest 0.3 km along railway from crossing at Anderson Lake Road
0.0 - 0.5 m Clay
0.5 m Bedrock

SL156
Anderson Mine at Three House
0.0 - 0.5 m Bedrock

SL157
Settling pond, at end of road on shore
0.0 - 0.6 m Clay

SL158
Railway and P.R. 393
0.0 - 0.6 m Clay

SL159
West l.4 km along railway from crossing at P.R.392
0.0 - 0.4 m Clay
0.4 m Bedrock

SL160
West l.0 km along railway from crossing at P.R.392
0.0 - 4.0 m Bedrock, highly fractured

SL161
Northwest 3.9 km from Snow Lake
0.0 - 0.6 m Clay rthymites

SL162
North l km from powerline, northwest 4.0 km from Snow Lake
0.0 - 0.3 m Organics
0.3 - 0.7 m Sand, laminated
0.7 m Water table

SL163
Northwest 4.l km on track from Snow Lake
0.0 - 0.5 m Clay rthymites

SL164
North l.0 km along track from Snow Lake harbour
0.0 - 2.0 m Clay
2.0 - 3.0 m Till
3.0 m Bedrock, straie at 209 degrees

SL165
North l.6 km on trail from Snow Lake
0.0 - 1.5 m Clay
1.5 - 2.0 m Till
2.0 m Bedrock

SL166
North 2.5 km on trail from Snow Lake
0.0 - 0.2 m Pebble gravel
0.2 m Bedrock

SL167
North 2.5 km on trail from Snow Lake
0.0 - 0.3 m Gravelly sand with boulders
0.3 m Bedrock

SL168
North 3.7 km on trail from Snow Lake
0.0 - 0.3 m Gravel
0.3 - 0.7 m Clay
0.7 m Water table

SL169
North 3.0 km on trail from Snow Lake
0.0 - 0.4 m Pebble gravel with cobbles
0.4 - 0.6 m Clay
0.6 m Bedrock

SL170
0.0 - 0.3 m Gravel with boulders
0.3 m Bedrock

SL171
North l.3 km from Snow Lake Narrows
0.0 - 0.6 m Clay

SL172
West 0.2 km from trail, 4.2 km from Snow Lake
0.0 - 0.2 m Sand
0.2 - 1.0 m Gravel, cobbles and small boulders

SL173
Northwest 4.5 km on trail from Snow Lake
0.0 - 0.5 m Gravelly sand
0.5 - 1.3 m Medium sand

SL174
South 2.6 km on trail from south tip McLeod Lake
0.0 - 1.0 m Very sandy pebble gravel
Boulders and cobbles on surface.

SL175
South l.9 km on Trail from south tip McLeod Lake
0.0 - 0.8 m Cobbly pebble gravel
Abundant boulders and cobbles at surface.

SL176
South l.6 km on trail from south tip McLeod Lake
0.0 - 0.5 m Clay

SL177
South l.l km on trail from south tip McLeod Lake
0.0 - 0.4 m Clay
0.0 - 0.7 m Till
0.7 m Bedrock

SL178
South l.l km on trail from south tip McLeod Lake, west
0.2 km from trail
0.0 - 0.5 m Sand
0.5 - 0.8 m Clay
0.8 m Bedrock

SL179a
South l.l km on trail from south tip McLeod Lake, west 0.4 km from trail
0.0 - 0.3 m Cobble gravel
0.3 m Bedrock

SL179b
South l.l km on trail from south tip McLeod Lake, west 0.4 km from trail
0.0 - 0.6 m Clay rthymites

SL180
Squall Lake, south tip, l.7 km from mouth of Snow Creek
0.0 - 0.5 m Medium sand, granitiferrous
0.5 m Clay

SL181
South 0.6 km on trail from McLeod Lake
0.0 - 0.8 m Clay
0.8 - 1.0 m Till
1.0 m Bedrock

SL182
North shore south end McLeod Lake
0.0 - 0.2 m Clay
0.2 m Water table

SL183
North l.5 km on north shore from south end of McLeod Lake
0.0 - 1.0 m Organics

SL184a
West 0.4 km on logging road from southeast bay
0.0 - 0.4 m Massive clay, blocky structure
0.4 m Till, discontinuous on bedrock

SL184b
West 0.4 km on logging road from southeast bay
0.0 - 0.5 m Coarse pebble gravel
On flank of bedrock ridge.

SL185
West l2.0 km on logging road from southeast bay
0.0 - 1.0 m Pebble gravel, well sorted, some cobbles small boulders
Boulders and cobbles litter surface.

SL186
West 12.3 km on logging road from southeast bay
0.0 - 1.5 m Bedrock with thin, discontinuous gravel in pockets
Abundant cobbles litter surface.

SL187
West 20.3 km on logging road from southeast bay
0.0 - 0.3 m Bedrock and swamp
Low relief, high water table.

SL188
West 22.0 km on logging road from southeast bay
0.0 - 0.3 m Cobble-boulders in coarse sand
0.3 - 0.7 m Sandy pebble gravel
0.7 - 1.0 m Fine sand, crosslaminated
Boulders abundant on surface.

SL189
West 23.5 km on logging road from south east bay
0.0 - 0.5 m Coarse pebbly sand with cobbles
0.5 m Water table

SL190
0.0 - 0.9 m Pebbly sand with rare cobble
0.9 m Water table

SL191
South 6.6 km on P.R.392 from Grass River bridge
0.0 - 1.5 m Bedrock, swamp in lows

SL192
North 6.0 km on P.R.392 from Haywood Creek bridge
0.0 - 1.0 m Bedrock

SL193
North 1.8 km on Trail from junction with trail and P.R.392
0.0 - 1.0 m Clay
1.0 m Bedrock

SL194
East 1.1 km on P.R.392 from junction with P.R.391
0.0 - 0.4 m Clay
0.4 m Dolostone
A few granitic boulders on surface of outcrop.

SL195
East 2.5 km on P.R.392 from junction with P.R.391
0.0 - 2.0 m Red and white dolostone
Reserves continue south.

SL196
East 4.2 km on P.R.392 from junction with P.R.391
0.0 - 1.0 m Clay
1.0 m Bedrock, granite-diorite

SL197
East 5.4 km on P.R.392 from junction with P.R.391
0.0 - 1.5 m Clay
Boulder beach of Wekusko Lake.

SL198
East 4.7 km on P.R.392 from junction with P.R.391
0.0 - 1.5 m Dolostone
1.5 m Water table
Reserves near depleted.

SL199
Borrow pit, east 7.7 km on P.R.392 from junction with P.R.39l
0.0 - 1.3 m Clay rthymites
1.3 - 1.5 m Till, clasts are intrusive lithologies
1.5 m Dolostone bedrock, two sets of striae 278 and 222 degrees

SL200
Borrow pit, northwest l.l km on P.R.392 from junction with road to Hales Landing
0.0 - 0.1 m Pebble gravel, carbonate clasts, subrounded
0.1 - 1.0 m Clay
1.0 m Water table and dolostone bedrock

SL201
Northwest 0.5 km on P.R.392 from junction with road to Hales Landing
0.0 - 0.7 m Till
0.7 m Dolostone, striae at 240 degrees

SL202
North 2.0 km on road to Hales Landing from junction with P.R.392
0.0 - 0.3 m Dolostone bedrock

SL203
North 4.5 km on road to Hales Landing from junction with P.R.392
0.0 - 0.7 m Clay
0.7 - 0.9 m Till
0.9 - 1.5 m Dolostone bedrock

SL204
South l.3 km on road Hales Landing from Hales Landing
0.0 - 0.4 m Pebble gravel with boulders, coarse sand matrix
0.4 - 0.6 m Clay

SL205
South 0.7 km on road from Hales Landing
0.0 - 0.55 m Medium sand, horizontally bedded, oxidized
0.55 - 0.6 m Pebble gravel
0.6 m Bedrock

SL206
Southeast 0.7 km from Hales Landing
0.0 - 4.0 m Dolostone, thinly bedded

SL207
South 1.8 km on P.R.392 from junction with road to Hales Landing
0.0 - 0.5 m Organics
0.5 m Water table

SL209
South 0.8 km on P.R.392 from south junction with P.R.391
0.0 - 0.7 m Gravelly coarse sand with boulders
0.7 m Dolostone

SL210
South 1.0 km on P.R.392 from south junction with P.R.391
0.0 - 0.2 m Pebbly sand
0.2 - 0.5 m Clay
0.5 - 0.7 m Silty sand

SL211
South 1.2 km on P.R.392 from south junction with P.R.391
0.0 - 1.5 m Cobble gravel
1.5 m Dolostone

SL212
South 2.6 km on P.R.392 from south junction with P.R.391
0.0 - 1.5 m Sand with rare pebble, cobble and boulder
1.5 m Dolostone and water table

SL213
South 3.8 km on P.R.392 from south junction with P.R.391
0.0 - 0.45 m Silt, clay and fine sand rthymites

SL214
North 1.2 km on P.R.392 from Wekusko
0.0 - 0.6 m Pebble gravel
0.6 m Water table

SL215
North 0.8 km on P.R.392 from Wekusko
0.0 - 0.2 m Sandy gravel, very poorly sorted, could be till
0.2 m Bedrock

SL216
North 0.5 km on P.R.392 from Wekusko
0.0 - 0.2 m Pebbly sand
0.2 m Bedrock

SL217
Southeast corner at junction of P.R.392 and P.R.391
0.0 - 4.0 m Finely bedded dolostone
4.0 m Water table

SL218
East 0.4 km on P.R.391 from junction with P.R.392
0.0 - 1.5 m Pebble gravel
1.5 m Water table

SL219
East 1.1 km on P.R.391 from junction with P.R.392
0.0 - 0.4 m Pebbles and sand in a clay matrix
0.4 - 0.5 m Pebble gravel, well sorted, well rounded clasts
0.5 - 2.0 m Clay

SL220
East 2.7 km on P.R.391 from junction with P.R.392
0.0 - 0.3 m Pebble gravel
0.3 - 1.5 m Clay
1.5 m Water table

SL221
East 3.5 km on P.R.391 from junction with P.R.392
0.0 - 4.5 m Bedrock
Inactive for 10 to 20 years

SL222
East 5.5 km on P.R.391 from junction with P.R.392
0.0 - 0.1 m Organics
0.1 - 0.2 m Clay
0.2 m Water table

SL223
East 8.4 km on P.R.391 from junction with P.R.392
0.0 - 0.1 m Organics
0.1 - 0.2 m Clay
0.2 m Water table

SL224
East 11.6 km on P.R.391 from junction with P.R.392
0.0 - 0.1 m Organics
0.1 - 0.2 m Clay
0.2 m Water table

SL225
East 14.2 km on P.R.391 from junction with P.R.392
0.0 - 0.1 m Organics
0.1 m Water table

SL226
East 17.3 km on P.R.391 from junction with P.R.392
0.0 - 0.1 m Organics
0.1 m Water table

SL227
West 3.2 km on P.R.391 from junction with P.R.392
0.0 - 1.0 m Brown blocky clay
1.0 m Dolostone bedrock with discontinuous thin till, primarily Precambrian clasts

SL228

Borrow pit, west 4.9 km on P.R.391 from junction with P.R.392

0.0 - 0.5 m Clay and silt, laminated

0.5 m Water table

Sparse cobbles on pit floor.

SL229

West 5.2 km along P.R.391 from junction with P.R.392, south 0.4 km along trail from P.R.391

0.0 - 0.3 m Clay

0.3 - 0.4 m Till

0.4 - 1.4 m Dolostone

SL230

West 6.0 km on P.R.391 from junction with P.R.392

0.0 - 0.2 m Organics

0.2 - 0.3 m Clay

0.3 m Water table

SL231

West 7.7 km on P.R.391 from junction with P.R.392, north 0.2 from highway

0.2 - 0.4 m Till, sandy, clasts primarily Precambrian

0.4 m Dolostone, straie at 220 degrees

SL232

West l0.0 km on P.R.391 from junction with P.R.392, north 0.l km from highway

0.0 - 0.3 m Clay

0.3 - 0.4 m Till

0.4 m Dolostone, three sets of striae 270, 224, and the youngest at 167 degrees

SL233

Borrow pit, west ll.0 km on P.R.391 from junction with P.R.392

0.0 - 0.2 m Clay

0.2 - 0.3 m Till, thin and discontinuous

0.3 m Bedrock dolostone, striae at 244 and 228

SL234

West l3.5 km on P.R.391 from junction with P.R.392 at road cut

0.0 - 2.3 m Dolostone, thinly bedded

SL235

Borrow pit, south of Tramping Lake on P.R.39l, west 0.5 km from trail

0.0 - 0.2 m Clay

0.2 m Dolostone

SL236

Borrow pit, west 3.2 km on P.R.391 from trail south of Tramping Lake

0.0 - 0.2 m Clay and thin till

0.2 m Dolostone

Boulders and cobbles in pit.

SL237

East 2.2 km on P.R.391 from Bucks Bay

0.0 - 0.5 m Sand with cobbles and boulders, in places gravelly

0.5 m Bedrock

SL238a
East 1.7 km from Bucks Bay, north 1.0 km from P.R.391
0.0 - 2.0 m Bedrock ridge

SL238b2
East 1.7 km from Bucks Bay, north 0.5 km from P.R.391
0.0 - 0.5 m Coarse pebble gravel, well rounded clasts
0.5 m Bedrock

SL239a
South 0.7 km along trail from P.R.391 south of Bucks Bay
0.0 - 0.5 m Cobbly pebble gravel
0.5 m Clay

SL239b
South 0.6 km from Bucks Bay south of highway on trail
0.0 - 0.3 m Organics
0.3 - 0.5 m Pebble gravel
0.5 - 0.7 m Clay
0.7 m Bedrock

SL239c
Southwest 0.7 km along trail from P.R.391 south of Bucks Bay
0.0 - 1.0 m Pebble gravel, minor cobbles and boulders

SL240
East 0.4 km along trail south of Reed Lake on P.R.391 at dump
0.0 - 0.3 m Clay, discontinuous sand and minor cobbles
0.3 m Dolostone

SL242a
Snow Lake townsite
0.0 - 2.5 m Medium to coarse sand

SL242b
Snow Lake townsite
0.0 - 1.0 m Sand
1.0 - 1.5 m Till
1.5 m Bedrock

SL243
East 0.9 km on P.R.392 from Snow Lake
0.0 - 2.0 m Cobble gravel

SL244
Southwest 3.4 km on Herb Bay Road from P.R.393
0.0 - 0.3 m Medium sand, well sorted, laminated, oxidized
0.3 - 1.3 m Pebbly coarse sand
1.3 m Water table

SL245
Southwest 3.8 km on Herb Bay road from P.R.393
0.0 - 0.3 m Medium sand with cobbles and boulders
0.3 m Bedrock

SL246a

Southwest 4.l km on Herb Bay road from P.R.393

0.0 - 0.2 m Sand with pebbles and cobbles

0.2 - 1.1 m Fine sandy silt

SL246b

Southwest 4.3 km on Herb Bay road from P.R.393

0.0 - 0.1 m Pebbly sand

0.1 - 0.6 m Clay

APPENDIX B
Site and Landform Information

Site	Sec Twp Rge	Silt Type	Site Use	Area Use	Sec Ht M	Base Mat	Water Table	Over Size +30 cm	Comments
SL001A	NW02 68 17W	C	H	H	3.0	Z	N	Y	SDY PEB GRAVEL WITH BOULDERS
SL002A	SW02 68 17W	A	H	F	2.5	Z	Y	N	SANDY PEBBLE GRAVEL
SL003	NE02 68 17W	D	F	F	0.6	S	N	6	SANDY PEBBLE GRAVEL
SL004	SW01 68 17W	K	F	F	1.0	I	Y	N	ROCK AND SWAMP
SL005	SE16 68 17W	K	F	F	0.5	S	Y	N	SWAMP AND ROCK
SL006A	NW07 68 16W	D	F	F	0.5	T	Y	N	CLAY WITH OCC PEBBLE
SL006B	NW07 68 16W	D	F	F	0.6	D	N	Y	GRAVELLY TILL/LODGEMENT TILL
SL007	SE12 68 17W	K	F	F	1.0	A	Y	N	SWAMP AND ROCK
SL008	NE07 68 17W	D	K	K	0.6	E	N	N	CLAY
SL009	SW17 68 16W	D	K	F	0.5	A	N	Y	LEESIDE TILL
SL010	SW17 68 16W	J	Z	H	1.0	E	N	N	CLAY/LAMIN SILT AND SAND
SL011	SE20 68 16W	D	F	F	1.0	A	N	N	CLAY/BEDROCK
SL012	SE20 68 16W	A	Z	F	0.3	D	Y	Y	GRAVELLY TILL
SL013A	SE21 68 16W	C	F	F	7.0	C	N	N	SANDY PEBBLE GRAVEL
SL013B	SE21 68 16W	H	F	F	7.0	C	N	N	MEDIUM FINE SAND
SL014	SW21 68 16W	K	F	F	0.2	A	N	Y	THIN TILL/ROCK
SL015	SW21 68 16W	J	Z	F	1.0	A	N	Y	CLAY/PATCHY TILL/ROCK
SL016	SW22 68 16W	I	T	T	1.0	Z	Y	N	PEBBLY SAND/LAMIN SAND
SL017A	NW23 68 16W	D	T	T	1.0	E	N	N	
SL018A	NE22 68 16W	J	T	T	0.4	A	Y	Y	
SL019A	SE22 68 16W	J	Z	T	1.0	A	Y	Y	CLAY/ROCK
SL020	SW22 68 16W	D	T	T	0.8	E	Y	N	CLAY
SL021	NE16 68 16W	K	T	T	4.0	A	Y	N	ROCK
SL022A	SE21 68 16W	J	H	F	1.5	A	Y	Y	
SL023	SW22 68 16W	E	Z	F	1.5	Z	N	N	PEBBLY SAND
SL024A	NE16 68 16W	D	F	F	0.6	A	N	Y	CLAY/TILL/ROCK
SL025A	NE16 68 16W	I	H	F	1.2	E	Y	N	MEDIUM FINE SAND
SL026	SE16 68 16W	D	T	T	0.5	E	Y	N	CLAY
SL027A	NW22 68 16W	J	T	T	1.4	A	Y	Y	
SL027B	NW22 68 16W	J	T	T	0.2	A	Y	N	
SL028A	SW27 68 16W	D	F	F	0.0	D	N	Y	
SL029	SE26 68 16W	C	H	F	0.6	A	N	Y	CLAY/TILL/ROCK
SL030	NW26 68 16W	D	T	T	0.5	A	N	N	CLAY/ROCK
SL031	NE26 68 16W	D	F	F	0.6	E	N	N	CLAY
SL032	SE35 68 16W	D	F	F	1.0	A	Y	N	CLAY/ROCK
SL033	SE35 68 16W	C	A	F	0.5	E	N	N	CLAY
SL034A	SW36 68 16W	Z	Z	F	1.5	C	Y	N	SANDY PEBBLE GRAVEL
SL035A	NE36 68 16W	A	X	F	0.6	C	Y	N	TILL
SL035B	NE36 68 16W	A	X	F	6.0	C	Y	N	SAND
SL035C	NE36 68 16W	Z	X	F	7.0	C	Y	N	SAND
SL036A	SE35 68 16W	J	Z	F	1.6	Z	Y	N	
SL037	NE36 68 16W	C	F	F	1.3	E	Y	N	CLAY
SL038A	SE01 69 16W	C	F	F	0.7	D	N	N	CLAY/LAMINATED SILT/TILL
SL038B	SE01 69 16W	J	Z	F	1.5	B	Y	N	CLAY
SL039	NE01 69 16W	J	Z	F	1.6	B	Y	N	CLAY/SILT RYTHUMITES
SL040	SW07 69 15W	J	Z	F	1.3	E	Y	N	CLAY

Site	Sec Twp Rge	Silt Type	Site Use	Area Use	Sec Ht M	Base Mat	Water Table	Over Size +30 cm	Comments
SL041	NE07 69 15W	D	B	F	0.2	A	Y	N	CLAY/ROCK
SL042	SW02 68 17W	J	Z	F	1.0	E	Y	Y	CLAY/ROCK
SL043	NW35 67 17W	K	G	F	1.0	A	Y	N	CLAY/ROCK
SL044	NW35 67 17W	K	F	F	1.0	A	N	N	ROCK
SL044B	NW26 67 17W	J	Z	F	1.2	E	Y	N	CLAY
SL045	NE27 67 17W	D	F	F	0.7	E	N	N	PEBBLE GRAVEL/CLAY
SL046	NE27 67 17W	C	H	F	5.0	Z	Y	Y	
SL047	SE27 67 17W	C	H	F	1.2	C	N	N	SAND RYTHUMITES
SL048	NW22 67 17W	J	Z	F	1.2	A	N	Y	CLAY RYTHUMITES/TILL/ROCK
SL049	NW22 67 17W	J	Z	F	1.0	E	Y	N	CLAY
SL050	NW22 67 17W	J	Z	F	1.2	E	Y	N	CLAY
SL051	SE21 67 17W	J	Z	F	1.0	A	Y	N	CLAY/ROCK
SL052	NW16 67 17W	J	Z	F	2.3	Z	Y	Y	
SL053	NE16 67 17W	K	F	F	1.2	D	Y	Y	CLAY/TILL/ROCK
SL054	NE16 67 17W	C	H	F	4.0	A	N	N	CLAY/BOULDER LAG/TILL/ROCK
SL055	SW16 67 17W	K	R	R	2.0	A	Y	N	CLAY/ROCK
SL056	NW10 67 17W	C	H	F	2.5	A	N	N	CLAY/ROCK
SL057	SW10 67 17W	C	H	F	1.0	A	N	N	CLAY/ROCK
SL058	NW03 67 17W	J	G	F	1.0	A	N	N	CLAY/TILL/ROCK
SL059	SE04 67 17W	K	H	F	1.0	A	N	N	THIN CLAY/ROCK
SL060	NE33 66 17W	K	H	F	1.0	A	N	N	ROCK
SL061	NE03 68 17W	C	H	F	3.0	A	N	N	TILL/ROCK
SL062	SE10 68 17W	J	Z	F	1.0	A	N	N	CLAY/ROCK
SL063	SW10 68 17W	K	F	F	0.5	A	Y	N	THIN CLAY/ROCK
SL064	NE04 68 17W	J	X	E	0.5	E	Y	N	CLAY
SL065	SE09 68 17W	K	F	F	0.5	A	N	N	THIN CLAY/ROCK
SL066A	NW10 68 17W	A	X	F	1.5	Z	Y	Y	BLDRS/CB PB GRAV/CRS-MED SAND
SL066B	NW10 68 17W	A	X	F	0.0	A	N	Y	BLDRS CB PB GRAV/CRS-MED SAND
SL066C	NW10 68 17W	A	F	F	1.0	C	N	N	BLDRS CB PB GRAV/CRS-MED SAND
SL066D	NW10 68 17W	A	F	F	2.5	A	N	N	BLDRS CB PB GRAV/CRS-MED SAND
SL067	SW23 67 17W	K	F	F	1.5	E	N	N	CLAY AND SILT
SL068	SE23 67 17W	K	F	F	1.0	A	Y	Y	SAND
SL069	SE26 67 17W	K	K	K	1.5	A	N	N	CLAY/ROCK
SL070	NW25 67 17W	K	F	F	3.3	A	N	Y	
SL071A	SE36 67 17W	D	Z	F	0.9	C	N	N	COARSE & MED SAND
SL071B	SE36 67 17W	D	Z	W	2.0	E	N	Y	LAM FINE SAND/SILT & CLAY
SL072A	NE06 68 16W	K	F	F	2.5	E	N	N	CLAY/SAND SWP EITHER SIDE
SL073A	NW05 68 16W	K	Z	W	2.0	A	N	N	CLAY/WHITE VARVES/RYTHUMITES
SL074A	SE31 67 16W	D	Z	W	2.0	C	N	Y	SANDY BEACH/BR OUTCROP
SL075	NE05 68 16W	K	Z	W	2.0	N	Y	N	CLAY/BR NO B'S OR PEBS
SL076A	NE09 68 16W	K	Z	W	0.8	A	N	N	CLAY/BR
SL077A	NW14 68 16W	K	Z	W	1.5	E	N	N	CLAY SILT
SL078A	NE14 68 16W	K	Z	W	0.0	E	N	Y	CLAY WITH BR POINTS
SL079A	SW24 68 16W	K	Z	W	3.0	A	N	Y	CLAY/BR
SL080A	NW11 68 16W	D	W	W	0.4	E	N	Y	SAND/CLAY
SL081A	NE10 68 16W	K	W	W	1.0	A	N	N	THIN CLAY/BR
SL082A	NW09 68 17W	A	Z	F	0.5	Z	Y	Y	COBBLEY PEBBLE GRAVEL
SL083A	SW16 68 17W	A	Z	F	1.5	Z	N	N	FINE PEBBLE GRAVEL

Site	Sec Twp Rge	Silt Type	Site Use	Area Use	Sec Ht M	Base Mat	Water Table	Over Size +30 cm	Comments
SL083B	SW16 68 17W	A	Z	F	0.6	Z	N	N	LAMINATED COARSE SAND
SL084A	SW16 68 17W	A	X	F	1.5	E	Y	N	PEBBLEY SAND OVER CLAY
SL085A	SE08 68 17W	D	W	W	0.4	C	N	Y	FINE SAND IN BR KNOLL
SL085B	SE08 68 17W	K	Z	W	0.3	E	N	N	SILTY CLAY WITH BR OUTCROP
SL086A	NE05 68 17W	K	H	W	0.0	A	N	N	BEDROCK
SL087A	NW05 68 17W	C	F	F	1.0	E	N	N	FINE CALY WITH SILT
SL088A	SW07 68 17W	D	H	F	0.5	C	N	Y	SANDY TILL WITH BR OC
SL089A	NW12 68 18W	K	W	W	0.6	E	N	N	CLAY & SILT WITH BR OC'S
SL090A	NE11 68 18W	J	Z	W	1.3	A	N	N	CLAY WITH BR EXPOSED
SL091A	SE34 67 18W	K	U	H	0.0	A	N	N	THIN CLAY-SILT/BR
SL092A	NW24 68 17W	C	B	B	2.0	C	N	Y	MED-FINE SD/PEBS, COB & BLDRS
SL093A	NE02 68 17W	K	H	W	0.0	A	N	N	BR OC THIN CLAY/BR
SL094A	NE01 68 17W	D	H	F	0.4	A	N	N	ORGANICS/BR
SL095A	SE12 68 17W	D	H	F	0.2	A	N	N	SILT OVER BR
SL096A	SW07 68 16W	C	H	H	0.7	E	N	Y	TILL/CLAYEY TILL
SL097A	NE07 68 16W	C	H	H	1.0	A	N	Y	TILL/BR
SL098A	SE17 68 16W	K	F	F	1.9		N	N	SILT/CLAY RYTHUMITES
SL099A	NW16 68 16W	J	H	H	1.0	E	N	N	CLAY/SILT CLAY
SL100	SE21 68 16W	J	F	F	0.0	A	N	Y	
SL101A	SE21 68 16W	J	Z	F	2.0	E	N	N	CLAY/BR O.C.
SL102A	SW36 68 16W	D	F	F	0.0	C	N	N	MED-F SD OCC PEB WELL SRT LAM
SL102B	SW36 68 16W	K	T	F	1.0	C	N	N	MED-F SD OCC PEB WELL SRT LAM
SL102C	SW36 68 16W	K	T	F	0.1	E	N	N	MED-F SD OCC PEB WELL SRT LAM
SL103A	NE36 68 16W	D	F	F	0.0	C	N	N	
SL104A	NW36 68 16W	J	Z	F	0.0	A	N	N	
SL104B		D	F	F	0.0	A	N	N	
SL105A	NW36 68 16W	J	Z	F	1.0	A	N	N	THIN CLAY/BR
SL106A	NE01 69 16W	J	Z	F	1.0	E	Y	N	GRVL/CL
SL106B	NE01 69 16W	C	F	F	5.0	D	Y	N	COBBLEY GRAV/CLAY & SILT/TILL
SL107A	NE07 69 15W	D	H	H	0.3	E	Y	N	
SL108A	SE32 66 17W	A	X	F	0.0	G	Y	N	ACTIVE QUARRY
SL108B	SW32 66 17W	A	X	F	2.0	G	N	N	INACTIVE QUARRY
SL109A	NW04 66 17W	K	F	F	1.4	E	N	N	CLAY/SILT & CLAY/RYTHUMITES
SL110A	NE33 65 17W	C	H	F	6.0	A	N	N	ROCK OC/CLAY MANTLE
SL111A	NE07 69 15W	J	H	H	0.5	A	N	N	CLAY/BR
SL112A	SW08 69 15W	K	F	F	0.0	A	Y	N	BR OC WITH CLAY
SL113A	SW08 69 15W	K	F	F	0.0	E	N	N	CLAY
SL114A	NW05 69 15W	D	F	F	0.7	E	N	N	CLAY/SORTED SAND/RYTHUMITES
SL115A	NW32 68 15W	D	F	F	0.4	E	N	N	CLAY/FINE PEA GRAVEL
SL116A	SE05 69 15W	A	Z	F	2.0	C	N	Y	CLEAN PEB GRAVEL
SL117A	NE27 67 18W	K	F	F	0.0	A	N	N	
SL117A	SE27 67 18W	K	F	F	0.0	A	Y	N	BEDROCK WITH ORGANIC
SL119A	SW27 67 18W	A	Z	F	0.0	C	Y	Y	
SL120A	SE28 67 18W	Z	X	F	2.0	A	N	Y	COBBLY PEBBLE GRAVEL
SL120B	SE28 67 18W	Z	X	F	2.0	A	N	N	COBBLY PEBBLE GRAVEL
SL120C	SE28 67 18W	Z	X	F	2.0	A	N	N	COBBLY PEBBLE GRAVEL
SL121A	NW22 67 18W	J	F	F	0.0	C	Y	N	
SL122A	NE21 67 18W	A	Z	F	1.5	A	Y	N	PEBBLY SAND

Site	Sec Twp Rge	Silt Type	Site Use	Area Use	Sec Ht M	Base Mat	Water Table	Over Size +30 cm	Comments
SL123A	SE21 67 18W	A	Z	F	1.5	C	N	N	COB PEB LAG OVER SAND
SL124A	NW16 67 18W	D	H	F	0.6	E	N	N	
SL125A	NE17 67 18W	A	Z	F	2.0	C	N	N	PEBBLY SAND/RES CONT EAST
SL125B	NE17 67 18W	A	Z	F	3.0	C	N	N	PEBBLY SAND/RES CONT EAST
SL126A	SW17 67 18W	D	F	F	0.0	C	N	N	WHITE SD/BR O.C.'S
SL127A	NW07 67 18W	J	Z	F	0.5	A	N	N	CLAY/BR
SL128A	SW12 67 19W	D	F	F	0.2	A	N	N	COARSE SD COB GRAVEL/BR
SL129A	NE28 65 17W	K	H	F	1.5	D	N	Y	SANDY TILL/BLDRS
SL130A	SE28 65 17W	C	H	H	0.8	E	Y		ORGANICS/CLAY
SL131A	SW21 65 17W	K	F	F	1.5	E	Y	N	BLOCK DARK BROWN CLAY, MASSIVE
SL132A	SE20 65 17W	D	H	F	0.3	A	N	N	CLAY/DOLOMITE
SL133A	SE11 67 19W	D	H	F	0.2	A	N	N	FINE-MED SAND/BR
SL134A	NE02 67 19W	K	H	F	0.4	A	N	N	CLAY WITH RYTHUMITES/BR
SL135A	SE02 67 19W	K	H	F	0.0	A	N	Y	COB'S/BR
SL136A	SW27 67 18W	A	X	F	0.0	A	Y	N	
SL137A	SW27 67 18W	A	Y	F	0.0	C	Y	N	
SL138A	NE22 67 18W	D	H	F	0.0	E	Y	N	
SL139A	SW23 67 18W	D	F	F	0.0	C	N	Y	
SL140A	NW11 67 18W	I	F	F	1.5	C	Y	N	PEBBLY SAND
SL140B	NW11 67 18W	I	F	F	1.5	C	Y	N	PEBBLY SAND
SL140C	NW11 67 18W	I	F	F	0.7	C	N	N	SAND
SL140D	NW11 67 18W	I	F	F	2.0	C	Y	N	SAND
SL140E	NW11 67 18W	A	X	F	1.8	C	N	Y	SANDY COBBLY PEBBLE GRAVEL
SL140F	NW11 67 18W	A	X	F	1.8	C	N	Y	SANDY COBBLY PEBBLE GRAVEL
SL140G	NW11 67 18W	A	X	F	1.5	C	N	N	SAND WITH PEBBLES
SL141A	NE11 67 18W	K	F	F	0.0	A	N	N	FINE SAND/BR/ORGANIC/BR
SL142A	SW14 67 18W	J	F	F	0.6	E	Y	N	FINE SD & SILT/MASSIVE CLAY
SL142A	NW35 67 18W	D	H	F	0.0	A	Y	N	
SL144A	NE25 67 18W	C	H	F	0.7	A	N	N	CLAY/BR
SL145A	NW36 67 18W	C	H	F	0.0	A	N	N	THIN LAYER CLAY/BR
SL146A	NE36 67 18W	D	H	F	0.6	E	Y	N	DEEP ORGANICS/WATER TABLE
SL147A	NE36 67 18W	C	H	F	0.0	A	N	Y	
SL148A	SW31 67 17W	D	F	F	0.8	C	Y	N	SAND
SL149A	SE36 67 18W	I	F	F	0.5	A	N	N	
SL150A	NE36 67 18W	D	F	F	0.8	A	N	N	SAND WITH OCC PEB
SL151A	NW31 67 17W	D	H	K	0.0	C	N	Y	
SL152A	NE31 67 17W	C	H	F	0.0	A	N	N	
SL153A	NW32 67 17W	D	F	F	0.1	C	Y	N	ORGANICS/H20 - NO CLAY/SAND
SL154A	NE32 67 17W	C	H	F	0.8	E	N	N	CLOSE TO H20 AS MUDDY
SL155A	NW04 68 17W	C	H	F	0.5	A	N	N	ORGANIC/CLAY/BR
SL156A	NE04 68 17W	K	F	F	0.0	A	N	N	BR, SWAMP ON BOTH SIDES
SL157A	NE04 68 17W	C	F	F	0.6	E	N	N	ORGANIC/NON-BEDDED CLAY
SL158A	SE03 68 17W	C	H	F	0.6	E	N	N	ORGANIC/NON-BEDDED DAMP CLAY
SL159A	NW03 68 17W	C	H	F	0.4	A	N	N	ORGANIC/CLAY/BR
SL160A	NW03 68 17W	C	F	F	4.0	A	N	N	RK 0.C., 4M HIGH, FRACTURED
SL161	SE23 68 18W	D	F	F	0.0	E	N	N	
SL162A	NW24 68 18W	D	F	F	0.0	C	Y	N	
SL163	NW24 68 18W	D	F	F	0.0	E	N	N	

Site	Sec Twp Rge	Silt Type	Site Use	Area Use	Sec Ht M	Base Mat	Water Table	Over Size +30 cm	Comments
SL164	NE18 68 17W	A	F	F	0.0	A	N	N	
SL165	SE19 68 17W	A	F	F	0.0	A	N	N	
SL166A	NW19 68 17W	D	F	F	0.0	E	Y	N	
SL166B		D	F	F	0.0	A	N	N	
SL167A	NW19 68 17W	C	F	F	0.0	C	N	Y	
SL168	SE25 68 17W	C	F	F	0.0	E	Y	N	
SL169A	NE24 68 18W	D	F	F	0.0	A	N	Y	
SL170A	SE25 68 18W	C	F	F	0.0	E	Y	Y	
SL171	NW24 68 18W	D	F	F	0.0	E	N	N	
SL172A	SW25 68 18W	D	F	F	1.0	F	N	Y	SAND & GRAVEL
SL173A	SW25 68 18W	D	F	F	0.0	C	N	N	
SL174A	SW25 68 18W	D	F	F	1.0	E	N	Y	GRAVEL & SAND
SL175A	NW25 68 18W	D	F	F	0.0	F	N	Y	
SL176	NW25 68 18W	D	F	F	0.0	E	Y	N	
SL177	SW36 68 18W	D	H	F	0.0	A	N	Y	
SL178A	SE33 68 17W	D	F	F	0.0	A	Y	N	
SL179	SW36 68 18W	D	F	F	0.0	A	N	N	
SL180A	SE33 68 17W	D	F	F	0.0	C	Y	N	
SL181	NW36 68 18W	I	F	F	0.0	A	Y	Y	
SL182	SE01 69 18W	C	F	F	0.0	A	Y	N	
SL183	NW06 69 17W	D	F	F	0.0	E	Y	N	
SL184A	SE25 68 17W	D	T	T	0.4	A	N	Y	
SL184B	NE24 68 17W	D	T	T	0.5	A	N	N	
SL185A	NW24 68 17W	K	F	F	0.0	A	N	Y	
SL186A	NW24 68 17W	K	F	F	0.0	A	N	N	BR WITH COBBLES ON SURFACE
SL187A	SE23 68 17W	K	F	F	0.0	A	Y	N	BR O.C.'S IN SWAMPY AREA
SL188A	SE22 68 17W	D	F	F	1.0	C	N	Y	
SL189A	NW16 68 17W	I	F	F	0.0	C	Y	N	
SL191A	SE26 66 17W	K	H	F	1.5	A	Y	N	GRANITE O.C.
SL192A	NW20 66 17W	K	H	F	1.0	A	N	N	LOWLANDS SWAMPY
SL193A	NE17 66 17W	C	H	F	1.0	A	N	N	BRN BLOCKY CLAY/BR
SL194A	SE27 65 17W	J	Z	F	0.4	A	N	Y	
SL195A	SE26 65 17W	A	Z	H	0.0		N	N	2.0m DOLOSTONE,INACTIVE QUARRY
SL196	SE25 65 17W	D	H	F	1.0	E	N	N	ROCK
SL197	SW30 65 15W	D	R	R	1.5	E	N	N	CLAY
SL198	NW19 65 16W	A	X	F	1.5	A	Y	N	DOLOSTONE QUARRY
SL199	NE17 65 16W	J	H	H	1.5	A	N	Y	CLAY/DOLOSTONE
SL200	NW10 65 16W	J	Z	F	1.0	A	Y	N	THIN GRAVEL/CLAY/ROCK
SL201	NE10 65 16W	D	F	F	0.7	A	N	Y	TILL/DOLOSTONE
SL202	SE15 65 16W	D	C	F	0.5	A	N	Y	DOLOSTONE ROCK
SL203	NE22 65 16W	J	G	F	1.5	A	N	Y	CLAY/TILL
SL204A	NE22 65 16W	D	C	F	0.0	E		Y	
SL205A	SE27 65 16W	A	X	F	0.0	A	N	N	
SL206A	SE27 65 16W	A	Z	F	0.0	A	Y	N	
SL207	SW02 65 16W	C	H	F	0.7		Y	N	SWAMP
SL208A	SW35 64 16W	J	F	F	0.0	E	Y	Y	
SL209A	SW26 64 16W	A	Z	F	3.0	C	Y	Y	COARSE GR, BLD SD
SL209B	SW26 64 16W	A	Z	F	1.0	A	Y	N	COARSE GR, BLD SD

Site	Sec Twp Rge	Silt Type	Site Use	Area Use	Sec Ht M	Base Mat	Water Table	Over Size +30 cm	Comments
SL210A	NW23 64 16W	A	Z	F	0.8	C	N	Y	CARB GR COARSE SD
SL210B	NW23 64 16W	A	Z	F	1.1	C	N	Y	CARB GR COARSE SD
SL211A	NW23 64 16W	A	Z	F	1.5	A	N	N	ANGULAR COB, GRAV & BEDROCK
SL212A	SE23 64 16W	A	Z	F	0.0	A	Y	Y	
SL213	SW13 64 16W	D	F	F	0.6	E	N	N	CLAY
SL214A	NW01 64 16W	A	Z	F	0.6		Y	N	BLDS & SURF PR STD GRAN GRAV
SL214B	NW01 64 16W	A	Z	F	0.6		N	N	BLDS & SURF PR STD GRAN GRAV
SL215	NW01 64 16W	D	F	F	0.5	A	N	N	GRAVELLY TILL/ROCK
SL216A	SW01 64 16W	I	F	F	0.0	A	N	N	
SL217	SW01 64 16W	A	X	F	4.0	A	Y	N	DOLOSTONE QUARRY
SL218A	SE26 64 16W	J	F	F	0.0	E	Y	N	
SL219A	NW25 64 16W	J	F	F	0.0	E	N	N	
SL220A	SE25 64 16W	J	F	F	0.0	E	Y	Y	
SL221	SW30 64 15W	A	Y	F	4.5	A	Y	N	DOLOSTONE QUARRY
SL222	NW29 64 15W	D	F	F	0.3	E	Y	N	CLAY
SL223	SW04 65 15W	D	F	F	0.3	E	Y	N	CLAY
SL224	NW35 64 15W	C	F	F	0.3	E	Y	N	CLAY
SL225	SE36 64 15W	D	F	F	0.2	Z	Y	N	ORGANICS
SL226	SE05 65 14W	D	F	F	0.1	E	Y	N	ORGANICS
SL227	NW17 65 17W	J	Z	F	1.0	A	N	Y	CLAY/TILL/DOLOSTONE
SL228	SW18 65 17W	J	Z	F	0.5	A	Y	Y	CLAY/DOLOSTONE
SL229	SW18 65 17W	A	X	F	1.0	A	N	N	CLAY/TILL/DOLOSTONE
SL230	SW13 65 18W	C	E	F	0.3	E	Y	N	ORGANICS/CLAY
SL231	NW14 65 18W	J	Z	F	0.3	A	N	Y	CLAY/TILL/DOLOSTONE
SL232	NE16 65 18W	J	Z	F	0.4	A	N	N	CLAY/TILL/DOLOSTONE
SL233	NE16 65 18W	J	Z	F	0.3	A	N	N	CLAY/TILL/DOLOSTONE
SL235	SW12 65 19W	J	Z	F	0.3	A	N	N	CLAY/DOLOSTONE
SL236	NE10 65 19W	J	Z	F	0.2	A	N	Y	CLAY/TILL/DOLOSTONE
SL237A	NW10 65 19W	D	F	F	0.0	A	N	Y	
SL238A	NE09 65 19W	K	F	F	0.0	A	Y	N	
SL238B	NE09 65 19W	D	F	F	0.0	Z	N	N	
SL239A	SE05 65 19W	D	F	F	0.0	E	N	Y	
SL239B	SE05 65 19W	D	F	F	0.0	A	N	Y	
SL239C	SW05 65 19W	J	F	F	0.0			Y	
SL240A	NW31 64 19W	J	Z	F	0.0	A	N	N	
SL241	NE08 68 17W	A	Z	B	2.0	D	N	Y	
SL242A	NE08 68 19W	A	Z	F	2.5	C	N	N	MED COUARSE SAND WELL SRTD
SL242B	NE08 68 19W	A	Z	F	1.5	A	N	N	MED COUARSE SAND WELL SRTD
SL243A	NE09 68 17W	A	Z	F	2.0		N	Y	COBBLE GRAVEL
SL244	SW16 68 16W	I	F	F	1.3	C	Y	N	
SL245	SW16 68 16W	D	F	F	0.0	A	N	Y	
SL246	NW09 68 16W	C	T	T	0.0	B	N	Y	
SL246B	NW09 08 16W	D	T	T	0.0	E	N	N	
SL247A	SW27 67 18W	A	Z	F	1.0	A	N	N	SAND

(NOTE: ALL SAMPLES ARE 100% PASSING 6 INCHES)

APPENDIX C: SIEVE ANANYSIS

		PERCENT PASSING										
		3.0	1.5	3/4	3/8	#4	#8	#16	#30	#50	#100	#200
DEPOSIT #045314A												
SL023A	(SW-22-068-16W)	100	91	56	54	53	52	49	41	24	7	3
SL024A	(NE-16-068-16)	100	100	100	100	100	100	100	100	93	14	2
SL024B	(NE-16-068-16W)	100	100	99	99	99	99	98	98	97	52	16
DEPOSIT #045321A												
SL024A	(NE-16-068-16W)	100	100	100	98	98	98	98	97	95	72	32
SL027A	(NW-22-068-16W)	100	100	100	98	97	96	91	80	56	24	18
SL027B	(NW-22-068-16W)	100	100	95	91	88	85	81	75	68	58	51
SL028A	(SW-27-068-16W)	100	100	100	98	96	94	90	86	80	69	55
SL029A	(SE-27-068-16)	100	100	63	57	52	48	44	40	33	24	16
DEPOSIT #045308A												
SL034A	(SW-36-068-16W)	100	100	100	100	100	100	100	100	99	89	44
DEPOSIT #045309A												
SL035A	(NE-36-068-16W)	100	100	95	94	93	92	90	88	83	60	37
SL035B	(NE-36-068-16W)	100	100	100	100	100	100	100	100	92	23	4
SL035C	(NE-36-068-16W)	100	100	100	100	100	100	100	97	85	23	3
DEPOSIT #045309												
SL036A	(SE-35-068-16W)	100	100	95	95	94	94	91	87	81	64	14
SL038A	(SE-01-069-16W)	100	87	78	72	65	60	55	50	42	33	26
SL046A	(NE-27-067-17W)	100	100	80	77	71	65	57	48	39	28	18
SL046B	(NE-27-067-17W)	100	100	91	86	79	71	62	52	41	25	15
SL048A	(NW-22-067-17W)	100	91	79	73	66	59	51	42	33	24	16
SL052A	(NW-16-067-17W)	100	100	100	96	92	89	86	81	75	66	52
SL052B	(NW-16-067-17W)	100	100	100	100	100	100	100	100	66	12	2
SL053A	(NE-16-067-17W)	100	81	34	31	28	26	23	22	19	12	7
SL061A	(NE-03-068-17W)	100	100	86	83	79	75	69	61	47	29	12
DEPOSIT #045316A												
SL066A	(NW-10-068-17W)	100	100	100	100	100	99	99	98	93	62	19
SL066B	(NW-10-068-17W)	100	100	100	100	100	100	99	95	68	32	9
SL066C	(NW-10-068-17W)	100	100	100	100	100	100	100	99	88	43	16
SL070A	(NW-25-067-17W)	100	100	100	100	100	99	99	97	72	26	8
SL071A	(SE-36-067-17W)	100	100	100	99	99	98	90	48	7	1	0
DEPOSIT #045318A												
SL082A	(NW-09-068-17W)	100	90	82	71	64	59	50	38	20	5	2
DEPOSIT #045319A												
SL083A	(SW-16-068-17W)	100	100	98	97	94	88	78	67	33	4	1
SL083B	(SW-16-068-17W)	100	100	100	99	98	95	86	68	29	5	1

		PERCENT PASSING									
		3.0	1.5	3/4	3/8	#4	#8	#16	#30	#50	#100	#200
DEPOSIT #045320A												
SL084A	(SW-16-068-17W)	100	100	100	100	100	100	100	98	52	3	1
SL086A	(NE-05-068-17W)	100	100	100	95	89	82	72	60	48	35	21
SL088A	(SW-07-068-17W)	100	100	71	67	60	53	43	35	26	17	11
SL092A	(NW-24-068-17W)	100	100	100	99	99	98	98	96	95	58	18
SL096A	(SW-07-068-16W)	100	100	87	85	83	78	73	65	54	41	33
SL097A	(NE-07-068-16W)	100	100	100	100	100	99	99	93	81	64	51
SL100A	(SE-21-068-16W)	100	100	90	87	83	80	72	67	59	47	35
DEPOSIT #045307A												
SL102A	(SW-36-068-16W)	100	100	100	99	99	99	99	98	96	75	
SL102B	(SW-36-068-16W)	100	100	100	100	100	100	99	99	98	86	
SL102C	(SW-36-068-16W)	100	100	100	100	100	100	100	100	99	87	
DEPOSIT #045309A												
SL103A	(NE-36-068-16W)	100	100	100	100	100	100	100	99	59	13	
SL104A	(NW-36-068-16W)	100	100	41	38	35	32	29	25	20	16	
DEPOSIT #045306A												
SL116A	(SE-05-069-15W)	100	100	64	62	55	40	19	7	4	1	
DEPOSIT #045336A												
SL119A	(SW-27-067-18W)	100	100	100	100	100	100	100	99	97	44	
DEPOSIT #045334A												
SL120A	(SE-28-067-18W)	100	100	100	83	73	62	45	29	17	8	
SL120B	(SE-28-067-18W)	100	100	100	98	90	76	60	50	36	17	
SL120C	(SE-28-067-18W)	100	100	100	100	100	100	100	97	68	13	
SL121A	(NW-22-067-18W)	100	85	68	68	68	67	67	67	65	8	
DEPOSIT #045333A												
SL122A	(NE-21-067-18W)	100	100	100	100	99	97	87	66	40	20	
SL123A	(SE-21-067-18W)	100	100	100	100	100	99	99	97	75	15	
DEPOSIT #045329A												
SL125A	(NE-17-067-18W)	100	100	87	82	78	74	70	61	29	17	
SL125B	(NE-17-067-18W)	100	100	100	100	99	99	98	84	45	25	
SL136A	(SE-26-067-18W)	100	100	100	97	93	87	77	68	55	30	
SL138A	(NE-22-067-18W)	100	100	100	100	99	98	97	92	72	30	
SL139A	(SW-23-067-18W)	100	92	85	77	72	67	61	51	36	19	
DEPOSIT #045327A												
SL140A	(NW-11-067-18W)	100	100	98	84	72	63	52	38	26	12	
SL140B	(NW-11-067-18W)	100	99	96	96	96	96	94	64	25	4	
SL140C	(NW-11-067-18W)	100	100	100	100	100	99	95	61	14	5	
SL140E	(NW-11-067-18W)	100	93	86	80	72	64	52	42	32	13	
SL140G	(NW-11-067-18W)	100	100	100	100	100	100	99	94	64	7	
SL140C	(NW-11-067-18W)	100	100	100	100	100	100	100	99	90	32	
SL147A	(NE-36-067-18W)	100	100	26	26	25	24	23	22	21	17	

		PERCENT PASSING									
		3.0	1.5	3/4	3/8	#4	#8	#16	#30	#50	#100	#200
DEPOSIT #045339A												
SL148A	(SW-31-067-17W)	100	100	95	95	95	95	95	93	70	26	
SL149A	(SE-36-067-18W)	100	87	76	69	63	56	44	26	10	5	
SL150A	(NE-36-067-18W)	100	100	98	98	98	97	96	94	87	78	
SL151A	(NW-31-067-17W)	100	100	100	100	100	100	100	98	36	5	
SL162A	(NW-24-068-18W)	100	100	100	100	100	100	100	100	99	76	
SL164A	(SE-19-068-17W)	100	100	100	99	96	95	92	83	54	33	
SL167A	(NW-19-068-17W)	100	100	100	91	78	69	57	37	17	8	
DEPOSIT #045343A												
SL172A	(SW-25-068-18W)	100	100	100	94	89	83	75	65	49	29	
SL173A	(SW-25-068-18W)	100	100	93	92	92	91	91	90	53	10	
DEPOSIT #045344A												
SL174A	(SW-25-068-18W)	100	100	100	100	100	100	100	98	77	13	
SL175A	(NW-25-068-18W)	100	100	97	88	78	70	60	48	34	17	
SL178A	(SE-33-068-17W)	100	100	100	99	98	97	95	90	80	41	
SL180A	(SE-33-068-17W)	100	100	94	94	94	93	85	52	14	3	
SL184B	(SE-25-068-17W)	100	100	64	57	49	41	34	27	19	11	
SL185A	(NE-24-068-17W)	100	100	100	96	94	92	87	72	49	25	
SL188A	(SE-22-068-17W)	100	92	83	76	67	65	64	62	58	30	
SL189A	(NE-16-068-17W)	100	100	80	78	75	73	69	64	52	35	
SL204A	(NE-22-065-16W)	100	79	63	54	47	41	35	24	10	6	
SL205A	(SE-27-065-16W)	100	100	85	85	85	84	84	77	46	8	
DEPOSIT #045382A												
SL209A	(-----064-16W)	100	85	58	58	57	51	43	36	10	4	
SL209B	(-----064-16W)	100	100	97	81	57	41	31	22	14	10	
SL210A	(-----064-16W)	100	100	94	94	93	86	76	65	52	37	
SL210B	(-----064-16W)	100	100	97	97	97	97	95	89	81	39	
SL211A	(-----064-16W)	100	78	64	57	51	45	38	32	27	12	
SL212A	(SE-23-064-16W)	100	100	100	99	97	96	95	93	91	84	
DEPOSIT #045401A												
SL214A	(-----064-16W)	100	100	81	69	58	49	41	30	13	6	
SL215B	(-----064-16W)	100	100	96	89	79	71	63	50	18	7	
SL218A	(SE-26-064-16W)	100	89	76	75	74	71	65	58	52	45	
SL238A	(NE-09-065-19W)	100	100	100	83	62	48	39	31	13	5	
SL239A	(SE-05-065-19W)	100	80	67	61	52	46	39	31	21	15	
SL239C	(SW-05-065-19W)	100	93	81	75	67	60	52	44	34	24	
DEPOSIT #045340A												
SL242A	(NE-08-068-19W)	100	100	100	99	99	98	98	98	77	33	
DEPOSIT #045318A												
SL243A	(NE-09-068-17W)	100	100	98	84	73	60	34	13	5	3	
SL244A	(SW-16-068-16W)	100	100	100	99	95	87	74	53	29	21	

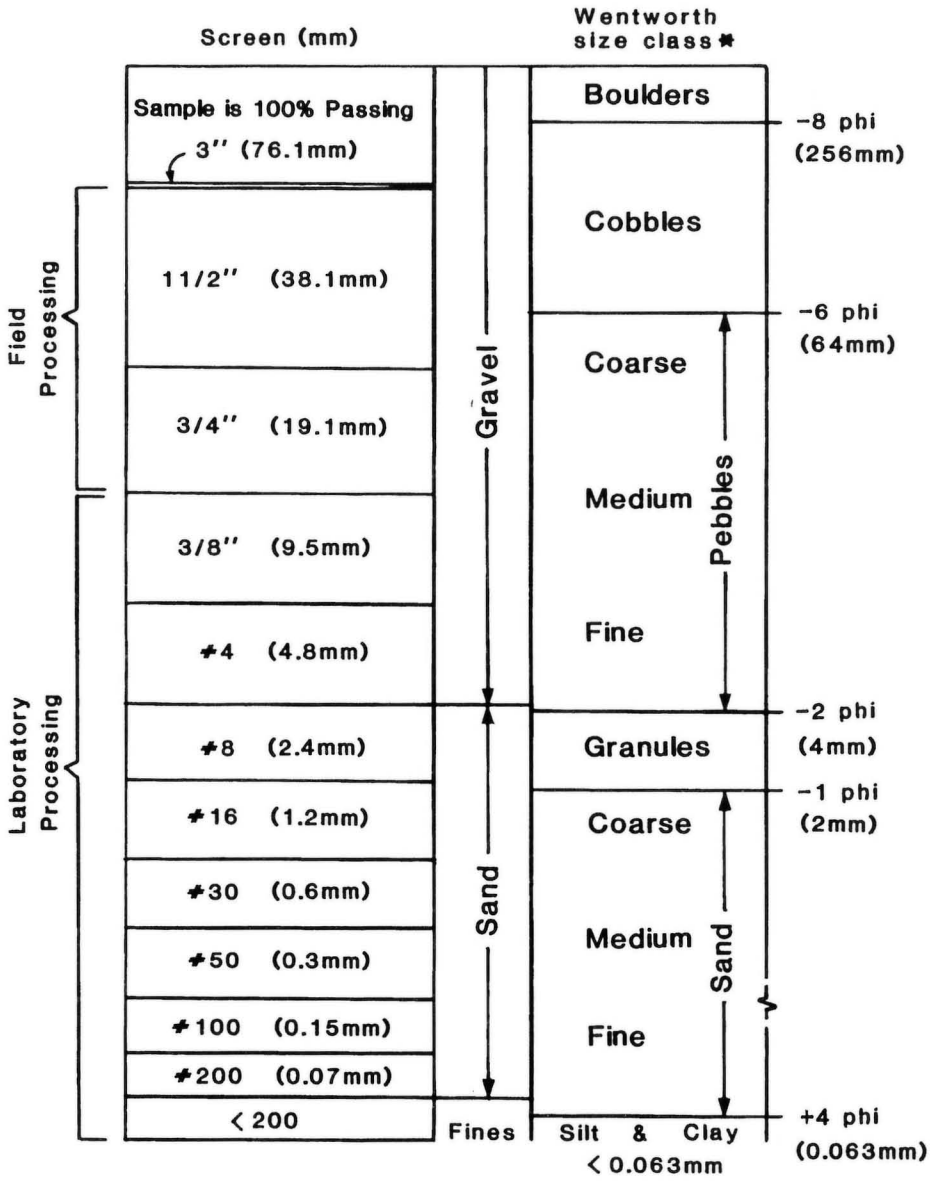
		PERCENT PASSING									
		3.0	1.5	3/4	3/8	#4	#8	#16	#30	#50	#100	#200
DEPOSIT #045315A												
SL001A	(SW-02-068-17W)	100	100	100	92	85	80	74	66	52	27	
SL003A	(NE-02-068-17W)	100	100	100	95	89	82	74	64	49	27	
SL006B	(NW-07-068-16W)	100	91	79	71	64	59	50	41	32	23	
SL009A	(SW-17-068-16W)	100	100	92	87	81	75	65	54	39	23	
SL012A	(SE-20-068-16W)	100	100	70	57	47	42	27	11	6	4	
DEPOSIT #045314A												
SL016A	(SW-22-068-16W)	100	100	99	97	96	95	94	92	84	16	
SL108A	(NE-22-068-16W)	100	100	89	81	74	66	55	42	26	14	

PROVINCE OF MANITOBA
1988 AGGREGATE GRADING SPECIFICATIONS

*NOTE: N.S. = Not Specified
F.M. = Fineness Modulus

PASSING SIEVE SIZE		BITUMINOUS PLANT MIX			BASE COURSE					GRANULAR FILL	CULVERT GRAVEL	TRAFFIC TYPE						CONCRETE			SEAL COAT COVER				PASSING SIEVE SIZE	
					"A"	"A"	"B"	"C"	"C"			"A"	"A" Lime-stone	"B"	"C"	"D" Lime-stone	"D" Quarried rock	Fines	"A" COURSE 65%+ Lime-stone	"A" COURSE Gravel	"A"	"B"	Cover "C"	Blotter "D"		
Metric	Imp.	"A"	"B"	"C"	Gravel	Lime-stone	All	Gravel	Lime-stone																Metric	Imp.
50 mm	2"								100	3" 100															50 mm	2"
37.5mm	1½"							100	N.S. 100		100														3.75mm	1½"
25 mm	1"			100										100	100	100				100					25 mm	1"
19 mm	3/4"				100	100	100					100	100			85-100	100		100	90-100					19 mm	3/4"
16 mm	5/8"		100		80-100																	100			16 mm	5/8"
12.5mm	1/2"	100										75-90		70-90	60-95			100			100	80-100	100	100	12.5mm	1/2"
9.5 mm	3/8"	70-95	70-90															96-100	20-55	20-55					9.5 mm	3/8"
4.75mm	#4	55-70	55-70	60-90	40-70	35-70	30-75	25-80	25-80		N.S. 25-80	45-70	35-60	40-70	30-70	35-60	30-60	90-100	0-10	0-10	0-60	0-65			4.75mm	#4
2.00mm	#10	35-55	35-55	35-80	25-55		25-65																		2.00mm	#10
1.18mm	#16																	50-80							1.18mm	#16
600um	#30																	25-60							600um	#30
425um	#40	17-29	17-29	20-50	15-30	10-30	15-35	15-40				10-35		10-35	5-35						0-15	0-15	0-25	0-50	425um	#40
300um	#50																	10-30							300um	#50
180um	#80	N.S. < 10	N.S. < 10																						180um	#80
75 um	#200	3-8	3-8	5-12	8-15	6-17	4-18	8-20 4-20	5-20	0-15	N.S. 4-20	8-15	6-17	0-15	0-15	0-17	0-10	0-3	0-2	0-2	0-4	0-5	0-5	0-10	75um	#200
MINIMUM CRUSH		50%	50%		35%		25%					35%	100%	35%	25%	100%	100%				30%	20%			MINIMUM CRUSH	
MAXIMUM SHALE		T 3% B 7%	T 3% B 7%		12%		12%	12%			N.S. 15%	12%		12%	15%						3%	4%			MAXIMUM SHALE	
MAXIMUM L.A.		35%	35 %		35%	35%	35%	35%	35%			45%	45%	45%	45%	45%			28%	28%	35%	35%			MAXIMUM L.A.	
MAXIMUM DELETERIOUS																		2%	1.5%	1.5%					MAXIMUM DELETERIOUS	
MAXIMUM IRONSTONE																		F.M. 2.3-3.1			5%	5%			MAXIMUM IRONSTONE	
MAXIMUM ABSORPTION																			2.25%	2.25%					MAXIMUM ABSORPTION	
SPEC NUMBER		920	920	920	900	900	900	900	900	520		910	910	910	910	910	910	930	930	930	940	940	940	940	SPEC NUMBER	

APPENDIX E
GRAIN SIZE CLASSIFICATION



* modified from Folk, 1974

APPENDIX F
Petrographic Analysis in percent

Site		Good							Fair							Poor						Deleterious	
		Car	Grn	Vol	Meta	Qtz	Wcke	Sdst	Car	Grn	Vol	Meta	Qtz	Wcke	Sdst	Grn	Vol	Meta	Wcke	Sdst	Qtz	Iron St	Mineralized
SL001	A	0	53	3	25	0	0	0	0	7	0	7	0	0	0	1	0	4	0	0	0	0	
SL003	A	0	58	6	12	2	0	0	0	9	2	4	0	0	0	1	0	5	0	0	0	2	
SL006	A	0	60	5	14	2	0	0	0	0	1	14	0	0	0	0	0	5	0	0	0	1	
SL009	A	0	50	1	23	1	0	0	0	12	0	5	10	0	0	4	0	4	0	0	0	0	
SL012	A	0	59	2	15	1	0	0	0	11	0	6	0	0	0	4	0	2	0	0	0	1	
SL013	A	0	60	2	12	0	0	0	0	8	0	9	1	0	0	3	0	5	0	0	0	0	
SL028	A	0	61	2	15	1	0	0	0	7	0	8	0	0	0	2	0	2	0	0	0	2	
SL029	A	0	65	1	10	1	0	0	0	12	0	4	1	0	0	5	0	1	0	0	0	0	
SL029	A	0	20	0	74	4	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	
SL035	A	0	18	7	64	4	0	0	0	0	0	3	0	0	0	0	0	4	0	0	0	0	
SL038	A	0	7	0	73	1	0	0	0	0	0	8	0	0	0	0	0	10	0	0	0	0	
SL046	A	0	7	13	53	4	0	0	0	0	7	8	0	0	0	0	4	4	0	0	0	2	
SL046	B	0	8	12	63	6	0	0	0	0	5	3	0	0	0	0	0	3	0	0	0	1	
SL048	A	0	15	6	57	4	1	0	0	0	1	11	0	0	0	0	0	4	0	0	0	1	
SL052	A	0	1	2	76	4	0	0	0	0	0	13	0	0	0	0	0	4	0	0	0	0	
SL053	A	0	30	10	48	2	0	0	0	1	1	3	0	0	0	0	0	3	0	0	0	0	
SL061	A	0	6	0	88	2	0	0	0	0	0	2	0	0	0	0	2	2	0	0	0	0	
SL066	D	0	20	0	66	0	2	0	0	0	0	5	0	0	0	0	0	7	0	0	0	0	
SL082	A	1	17	3	71	1	0	0	0	0	0	2	0	0	0	0	0	7	0	0	1	0	
SL083	A	0	27	9	57	1	0	0	0	1	1	4	0	0	0	0	0	0	0	0	1	0	
SL100	A	0	13	11	65	6	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	
SL120	A	0	46	5	23	7	0	0	0	3	0	3	3	0	0	0	0	5	0	0	5	0	
SL120	B	0	27	5	42	5	0	0	0	1	2	5	1	0	0	1	0	8	0	0	1	1	
SL122	A	0	16	76	0	0	0	0	0	0	2	0	0	0	0	0	0	6	0	0	0	0	
SL123	A	0	33	2	56	1	0	0	0	2	1	2	0	0	0	2	0	0	0	0	0	0	
SL124	A	0	42	7	23	1	0	0	0	2	0	6	0	0	0	2	7	2	0	0	8	0	
SL125	B	1	7	9	72	2	0	0	0	0	7	0	0	0	0	0	0	2	0	0	0	0	
SL139	A	88	7	3	0	0	0	0	0	2	0	0	0	2	0	0	0	0	1	0	0	0	
SL140	B	0	7	4	79	2	0	0	0	2	1	1	0	0	0	0	0	0	0	0	0	3	
SL140	E	0	10	9	70	2	0	0	0	0	1	1	0	0	0	0	0	4	0	0	2	1	
SL149	A	0	6	0	73	2	0	0	0	0	0	7	0	0	0	0	0	11	0	0	1	0	
SL164	A	0	1	0	85	2	0	0	0	0	0	9	0	0	0	0	0	3	0	0	0	0	
SL172	A	0	7	1	79	1	0	0	0	0	0	9	0	0	0	0	0	3	0	0	0	0	
SL175	A	0	7	0	69	2	0	0	0	0	0	17	0	0	0	0	0	5	0	0	0	0	
SL184	A	0	7	1	78	1	0	0	0	0	0	12	0	0	0	0	0	2	0	0	0	0	
SL185	A	0	25	3	46	5	0	0	0	0	0	4	0	0	0	0	0	16	0	0	0	0	
SL188	A	15	3	76	0	0	0	0	0	0	0	4	0	0	0	0	0	1	0	0	0	0	
SL189	A	0	11	2	75	0	0	0	0	0	0	9	0	0	0	0	0	3	0	0	0	0	
SL190	A	0	7	0	82	0	0	0	0	1	0	8	0	0	0	0	0	2	0	0	0	0	
SL204	A	0	12	7	66	0	0	3	0	0	0	7	0	0	1	0	0	2	0	0	0	2	
SL211	A	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Site		Good						Fair							Poor						Deleterious	
	Car	Grn	Vol	Meta	Qtz	Wcke	Sdst	Car	Grn	Vol	Meta	Qtz	Wcke	Sdst	Grn	Vol	Meta	Wcke	Sdst	Qtz	Iron St	Mineralized
SL214	A	71	8	11	14	2	0	0	0	0	0	3	0	0	0	0	0	1	0	0	0	0
SL238	A	81	6	2	5	0	0	0	3	0	0	2	0	0	0	0	0	2	0	0	0	0
SL239	C	89	2	0	3	0	0	1	0	2	0	1	0	0	1	1	0	0	0	1	0	0
SL240	A	70	6	6	10	2	0	0	0	3	2	1	0	0	1	0	0	1	0	0	0	0
SL243	A	0	6	2	86	2	0	0	0	0	0	2	0	0	0	0	0	3	0	0	0	0
SL244	A	0	11	0	81	1	0	0	0	0	0	6	0	0	0	0	0	2	0	0	0	0
TOTAL																				1		17

APPENDIX G
Aggregate Reserves

Deposit Number	Sec	Twp	Rge	Deposit Depth	Deposit Area sq.m	TotaL Deposit Resource cu.m.	Deposit Depleted/ Sterilized cu.m.	Available Deposit Reserves cu.m
045301 A	NW3	67	14W	0.5	300000.0	150000.0	0.0	150000.0
045301 A	SE09	67	14W	0.5	8000.0	4000.0	0.0	4000.0
045301 A	NE04	67	14W	0.5	60000.0	30000.0	0.0	30000.0
045301 A	SW10	67	14W	0.5	100000.0	50000.0	0.0	50000.0
045302 A	SE09	67	14W	0.5	45000.0	22500.0	0.0	22500.0
045302 A	NE04	67	14W	0.5	140000.0	70000.0	0.0	70000.0
045303 A	SE09	67	14W	0.5	55000.0	27500.0	0.0	27500.0
045304 A	NE17	67	14W	0.5	240000.0	120000.0	0.0	120000.0
045305 A	NE28	68	14W	0.5	61000.0	30500.0	0.0	30500.0
045305 A	NW21	68	14W	0.5	350000.0	175000.0	0.0	175000.0
045305 A	SE21	68	14W	0.5	80000.0	4000.0	0.0	4000.0
045305 A	SE28	68	14W	0.5	107000.0	54500.0	0.0	53500.0
045305 A	SW21	68	14W	0.5	223000.0	111500.0	0.0	111500.0
045305 A	SE20	68	14W	0.5	2000.0	1000.0	0.0	1000.0
045305 A	SW28	68	14W	0.5	255000.0	127500.0	0.0	127500.0
045305 A	NW27	68	14W	0.5	136000.0	68000.0	0.0	68000.0
045305 A	NE20	68	14W	0.5	17000.0	8500.0	0.0	8500.0
045305 A	NE21	68	14W	0.5	436000.0	218000.0	0.0	218000.0
045305 A	SW27	68	14W	0.5	200000.0	100000.0	0.0	100000.0
045305 A	NW28	68	14W	0.5	42000.0	21000.0	0.0	21000.0
045306 A	SE05	69	15W	2.0	54000.0	108000.0	30.0	75600.0
045306 A	SW04	69	15W	2.0	21000.0	42000.0	0.0	42000.0
045307 A	SW36	68	16W	0.0	0.0	0.0	0.0	0.0
045307 A	SW36	68	16W	0.0	0.0	0.0	0.0	0.0
045307 A	SW36	68	16W	0.5	16000.0	8000.0	0.0	8000.0
045308 A	SW36	68	16W	1.5	40000.0	60000.0	99.0	600.0
045309 A	NW36	68	16W	5.0	15000.0	75000.0	85.0	11250.0
045309 A	NE36	68	16W	5.0	17000.0	85000.0	85.0	12750.0
045309 A	NE36	68	16W	0.0	0.0	0.0	0.0	0.0
045309 A	NE36	68	16W	0.0	0.0	0.0	0.0	0.0
045309 A	NE36	68	16W	0.0	0.0	0.0	0.0	0.0
045310 A	NE09	68	14W	0.5	100000.0	50000.0	0.0	50000.0
045310 A	SE09	68	14W	0.5	18000.0	9000.0	0.0	9000.0
045311 A	SW10	68	14W	0.5	97000.0	48500.0	0.0	48500.0
045312 A	SE29	68	14W	0.5	8000.0	4000.0	0.0	4000.0
045312 A	SW29	68	14W	0.5	4000.0	2000.0	0.0	2000.0
045312 A	NE20	68	14W	0.5	58000.0	29000.0	0.0	29000.0
045313 A	SE29	68	14W	0.5	61000.0	30500.0	0.0	30500.0
045313 A	NE20	68	14W	0.5	34000.0	17000.0	0.0	17000.0
045314 A	SW22	68	16W	0.0	0.0	0.0	0.0	0.0
045314 A	SW22	68	16W	1.0	56000.0	56000.0	25.0	42000.0
045314 A	NW15	68	16W	1.0	15000.0	15000.0	25.0	11250.0
045315 A	NW02	68	17W	3.0	39000.0	117000.0	99.0	1170.0
045315 A	SW02	68	17W	3.0	2000.0	6000.0	99.0	60.0
045316 A	NW10	68	17W	0.0	0.0	0.0	0.0	0.0

Deposit Number	Sec	Twp	Rge	Deposit Depth	Deposit Area sq.m	Total Deposit Resource cu.m.	Deposit Depleted/ Sterilized cu.m.	Available Deposit Reserves cu.m
045316 A	NW10	68	17W	0.0	0.0	0.0	0.0	0.0
045316 A	NW10	68	17W	0.0	0.0	0.0	0.0	0.0
045316 A	NW10	68	17W	2.0	40000.0	80000.0	80.0	16000.0
045316 A	NE10	68	17W	2.0	10000.0	20000.0	80.0	4000.0
045317 A	NE09	68	17W	2.0	38000.0	76000.0	99.0	760.0
045318 A	NW09	68	17W	0.6	60000.0	36000.0	90.0	3600.0
045318 A	SE13	68	17W	0.6	5000.0	3000.0	90.0	300.0
045319 A	SW16	68	17W	1.5	45000.0	67500.0	70.0	20250.0
045319 A	SW16	68	17W	0.0	0.0	0.0	0.0	0.0
045320 A	SW16	68	17W	0.5	48000.0	24000.0	75.0	6000.0
045321 A	NE16	68	16W	0.5	39000.0	19500.0	20.0	15600.0
045322 A	NE02	69	17W	0.5	12000.0	6000.0	0.0	6000.0
045322 A	SE11	69	17W	0.5	2500.0	0.0	12500.0	
045323 A	SW01	69	17W	0.5	101000.0	50500.0	0.0	50500.0
045324 A	SE01	69	17W	0.5	8000.0	4000.0	0.0	4000.0
045324 A	NE11	69	17W	0.5	95000.0	47500.0	0.0	47500.0
045324 A	NE14	69	17W	0.5	363000.0	181500.0	0.0	181500.0
045324 A	NE12	69	17W	0.5	267000.0	133500.0	0.0	133500.0
045324 A	SE11	69	17W	0.5	1000.0	500.0	0.0	500.0
045324 A	SE14	69	17W	0.5	270000.0	135000.0	0.0	135000.0
045324 A	SE12	69	17W	0.5	600000.0	300000.0	0.0	300000.0
045324 A	NW14	69	17W	0.5	187000.0	93500.0	0.0	93500.0
045324 A	SW12	69	17W	0.5	225000.0	112500.0	0.0	112500.0
045324 A	NW12	69	17W	0.5	238000.0	119000.0	0.0	119000.0
045324 A	SW13	69	17W	0.5	185000.0	92500.0	0.0	92500.0
045324 A	SW23	69	17W	0.5	65000.0	32500.0	0.0	32500.0
045324 A	SW01	69	17W	0.5	8000.0	4000.0	0.0	4000.0
045324 A	NE01	69	17W	0.5	30000.0	15000.0	0.0	15000.0
045324 A	NW01	69	17W	0.5	190000.0	95000.0	0.0	95000.0
045326 A	SW02	67	18W	0.5	30000.0	15000.0	0.0	15000.0
045326 B	SE11	67	18W	0.5	90000.0	45000.0	0.0	45000.0
045326 B	SW11	67	18W	0.5	385000.0	192500.0	0.0	192500.0
045326 B	NW02	67	18W	0.5	65000.0	32500.0	0.0	32500.0
045327	NE11	67	18W	1.5	16000.0	24000.0	30.0	16800.0
045327	SW14	67	18W	1.5	135000.0	202500.0	30.0	141750.0
045327 A	NW11	67	18W	0.0	0.0	0.0	0.0	0.0
045327 A	NW11	67	18W	0.0	0.0	0.0	0.0	0.0
045327 A	SW14	67	18W	1.5	139000.0	208500.0	30.0	145950.0
045327 A	NW11	67	18W	1.5	336000.0	504000.0	30.0	352800.0
045327 A	NW11	67	18W	0.0	0.0	0.0	0.0	0.0
045327 A	NW11	67	18W	0.0	0.0	0.0	0.0	0.0
045327 A	NW11	67	18W	0.0	0.0	0.0	0.0	0.0
045327 A	SE14	67	18W	1.5	46000.0.	69000.0	30.0	48300.0
045327 A	NW11	67	18W	0.0	0.0	0.0	0.0	0.0
045328 A	NE09	67	18W	0.5	324000.0	162000.0	0.0	162000.0
045328 A	SE09	67	18W	0.5	802000.0	401000.0	0.0	401000.0
045328 A	NW03	67	18W	0.5	93000.0	46500.0	0.0	46500.0
045328 A	SW10	67	18W	0.5	371000.0	185500.0	0.0	185500.0

Deposit Number	Sec	Twp	Rge	Deposit Depth	Deposit Area sq.m	Total Deposit Resource cu.m.	Deposit Depleted/ Sterilized cu.m.	Available Deposit Reserves cu.m
045328 A	NW10	67	18W	0.5	93000.0	46500.0	0.0	46500.0
045328 A	SW09	67	18W	0.5	69000.0	34500.0	0.0	34500.0
045328 A	NW09	67	18W	0.5	23000.0	11500.0	0.0	11500.0
045329 A	NE17	67	18W	0.0	0.0	0.0	0.0	0.0
045329 A	SE17	67	18W	2.0	69000.0	138000.0	60.0	55200.0
045329 A	NE17	67	18W	2.0	69000.0	138000.0	60.0	55200.0
045330 A	SE21	67	18W	1.5	23000.0	34500.0	50.0	17250.0
045330 A	SW21	67	18W	1.5	69000.0	103500.0	50.0	51750.0
045331 A	SE23	67	18W	0.5	139000.0	69500.0	0.0	69500.0
045331 A	SW24	67	18W	0.5	93000.0	46500.0	0.0	46500.0
045331 A	NW24	67	18W	0.0	185000.0	92500.0	0.0	92500.0
045331 A	NE23	67	18W	0.5	93000.0	46500.0	0.0	46500.0
045332 A	NE23	67	18W	0.5	23000.0	11500.0	0.0	11500.0
045333 A	NE21	67	18W	1.5	23000.0	34500.0	99.0	345.0
045334 A	SE28	67	18W	0.0	0.0	0.0	0.0	0.0
045334 A	SW27	67	18W	0.0	0.0	0.0	0.0	0.0
045334 A	SE28	67	18W	0.0	0.0	0.0	0.0	0.0
045334 A	SE28	67	18W	1.5	46000.0	69000.0	80.0	13800.0
045334 A	SW27	67	18W	1.5	46000.0	69000.0	80.0	13800.0
045335 A	SW27	67	18W	1.5	23000.0	34500.0	99.0	345.0
045335 A	SW27	67	18W	1.5	69000.0	103500.0	99.0	1035.0
045336	SW27	67	18W	0.0	0.0	0.0	0.0	0.0
045336 A	SW27	67	18W	0.5	35000.0	17500.0	90.0	175.0
045337 A	NE28	67	18W	0.5	116000.0	58000.0	0.0	58000.0
045337 A	SE33	67	18W	0.5	23000.0	11500.0	0.0	11500.0
045337 A	NW27	67	18W	0.5	139000.0	69500.0	0.0	69500.0
045338 A	SE33	67	18W	0.5	93000.0	46500.0	0.0	46500.0
045339 A	SW31	67	17W	0.0	12000.0	0.0	0.0	0.0
045339 A	NE36	67	17W	0.0	35000.0	0.0	0.0	0.0
045339 A	SE36	67	18W	0.0	46000.0	0.0	0.0	0.0
045340 A	NW08	68	17W	2.0	35000.0	70000.0	99.0	700.0
045340 A	NW09	68	17W	2.0	23000.0	46000.0	99.0	460.0
045340 A	NE08	68	19W	2.0	116000.0	232000.0	99.0	2320.0
045340 A	NE08	68	19W	0.0	0.0	0.0	0.0	
045341 A	NE16	68	18W	0.5	10000.0	5000.0	0.0	5000.0
045341 A	SW21	68	18W	0.5	231000.0	115500.0	0.0	115500.0
045342 A	NE28	68	18W	0.5	93000.0	46500.0	0.0	46500.0
045342 A	SE33	68	18W	0.5	46000.0	23000.0	0.0	23000.0
045342 A	NE21	68	18W	0.5	69000.0	34500.0	0.0	34500.0
045342 A	SE28	68	18W	0.5	185000.0	92500.0	0.0	92500.0
045343 A	SW25	68	18W	0.0	58000.0	0.0	0.0	0.0
045344 A	NW25	68	18W	0.5	93000.0	46500.0	0.0	46500.0
045344 A	SW25	68	18W	0.5	69000.0	34500.0	0.0	34500.0
045345 A	SW03	69	18W	0.5	139000.0	69500.0	0.0	69500.0
045346 A	SE09	69	18W	0.5	323000.0	161500.0	0.0	161500.0
045346 A	SW04	69	18W	0.5	93000.0	46500.0	0.0	46500.0
045346 A	NW04	69	18W	0.5	93000.0	46500.0	0.0	46500.0
045346 A	NE04	69	18W	0.5	348000.0	174000.0	0.0	174000.0

Deposit Number	Sec	Twp	Rge	Deposit Depth	Deposit Area sq.m	Total Deposit Resource cu.m.	Deposit Depleted/ Sterilized cu.m.	Available Deposit Reserves cu.m
045347 A	SE09	69	18W	0.5	23000.0	11500.0	0.0	11500.0
045348 A	NW09	69	18W	0.5	69000.0	34500.0	0.0	34500.0
045348 A	SW09	69	18W	0.5	185000.0	92500.0	0.0	92500.0
045349 A	NW04	69	18W	0.5	46000.0	23000.0	0.0	23000.0
045349 A	SW09	69	18W	0.5	116000.0	58000.0	0.0	58000.0
045349 A	NW09	69	18W	0.0	69000.0	0.0	0.0	0.0
045350 A	NE08	69	19W	0.5	10000.0	50000.0	0.0	50000.0
045351 A	NE07	69	19W	0.5	185000.0	92500.0	0.0	92500.0
045351 A	SW08	69	19W	0.5	162000.0	81000.0	0.0	81000.0
045351 A	SE07	69	19W	0.5	208000.0	104000.0	0.0	104000.0
045351 A	NW08	69	19W	0.5	487000.0	243500.0	0.0	243500.0
045351 A	NE06	69	19W	0.5	23000.0	11500.0	0.0	11500.0
045351 A	SE18	69	19W	0.5	46000.0	23000.0	0.0	23000.0
045352 A	NE07	69	19W	0.5	93000.0	46500.0	0.0	46500.0
045353 A	NW07	69	19W	0.5	139000.0	69500.0	0.0	69500.0
045354 A	SE12	69	20W	0.5	93000.0	46500.0	0.0	46500.0
045354 A	SW07	69	19W	0.5	23000.0	11500.0	0.0	11500.0
045355 A	NE12	69	20W	0.5	46000.0	23000.0	0.0	23000.0
045355 A	SE12	69	20W	0.5	93000.0	46500.0	0.0	46500.0
045356 A	SW07	69	19W	0.5	30000.0	15000.0	0.0	15000.0
045356 A	NW31	68	19W	0.5	46000.0	23000.0	0.0	23000.0
045356 A	SE36	68	20W	0.5	23000.0	11500.0	0.0	11500.0
045356 A	SE01	69	20W	0.5	116000.0	58000.0	0.0	58000.0
045356 A	NW06	69	19W	0.5	277000.0	138500.0	0.0	138500.0
045356 A	NE01	69	20W	0.5	46000.0	23000.0	0.0	23000.0
045356 A	NE36	68	20W	0.5	185000.0	92500.0	0.0	92500.0
045356 A	SW06	69	19W	0.5	277000.0	138500.0	0.0	138500.0
045357 A	SE01	69	20W	0.5	185000.0	92500.0	0.0	92500.0
045357 A	NE01	69	20W	0.5	139000.0	69500.0	0.0	69500.0
045357 A	SW01	69	20W	0.5	69000.0	34500.0	0.0	34500.0
045358 A	NW36	68	20W	0.5	139000.0	69500.0	0.0	69500.0
045358 A	SW36	68	20W	0.5	46000.0	23000.0	0.0	23000.0
045359 A	SE07	68	19W	0.5	115000.0	57500.0	0.0	57500.0
045359 A	NE06	68	19W	0.5	75000.0	37500.0	0.0	37500.0
045360 A	SW01	68	20W	0.5	139000.0	69500.0	0.0	69500.0
045361 A	NE35	67	20W	0.5	640000.0	320000.0	0.0	320000.0
045361 A	SW03	68	20W	0.5	155000.0	77500.0	0.0	77500.0
045361 A	NW34	67	20W	0.5	370000.0	185000.0	0.0	185000.0
045361 A	NE34	67	20W	0.5	290000.0	145000.0	0.0	145000.0
045361 A	NE27	67	20W	0.5	316000.0	158000.0	0.0	158000.0
045361 A	SE02	68	20W	0.5	170000.0	85000.0	0.0	85000.0
045361 A	NW35	67	20W	0.5	506000.0	253000.0	0.0	253000.0
045361 A	SW35	67	20W	0.5	365000.0	182500.0	0.0	182500.0
045361 A	SE03	68	20W	0.5	321000.0	160500.0	0.0	160500.0
045361 A	SW34	67	20W	0.5	300000.0	150000.0	0.0	150000.0
045361 A	NW27	67	20W	0.5	46000.0	46000.0	0.0	46000.0
045361 A	SW36	67	20W	0.5	105000.0	52500.0	0.0	52500.0
045361 A	SW01	68	20W	0.5	145000.0	72500.0	0.0	72500.0

Deposit Number	Sec	Twp	Rge	Deposit Depth	Deposit Area sq.m	Total Deposit Resource cu.m.	Deposit Depleted/ Sterilized cu.m.	Available Deposit Reserves cu.m
045361 A	SE35	67	20W	0.5	150000.0	75000.0	0.0	75000.0
045361 A	NW36	67	20W	0.5	38000.0	19000.0	0.0	19000.0
045361 A	SE34	67	20W	0.5	760000.0	380000.0	0.0	380000.0
045362 A	NW26	67	20W	0.5	125000.0	62500.0	0.0	62500.0
045362 A	NE26	67	20W	0.5	56000.0	28000.0	0.0	28000.0
045362 A	SE26	67	20W	0.5	70000.0	35000.0	0.0	35000.0
045362 A	SW26	67	20W	0.5	367000.0	183500.0	0.0	183500.0
045363 A	SE21	67	20W	0.5	100000.0	50000.0	0.0	50000.0
045363 A	NE16	67	20W	0.5	75000.0	37500.0	0.0	37500.0
045364 A	NE32	66	20W	0.5	50000.0	25000.0	0.0	25000.0
045364 A	SE16	67	20W	0.5	125000.0	62500.0	0.0	62500.0
045364 A	SW05	67	20W	0.5	115000.0	575000.0	0.0	575000.0
045364 A	NE08	67	20W	0.5	165000.0	82500.0	0.0	82500.0
045364 A	NE16	67	20W	0.5	30000.0	15000.0	0.0	15000.0
045364 A	SW16	67	20W	0.5	450000.0	225000.0	0.0	225000.0
045364 A	SE05	67	20W	0.5	430000.0	215000.0	0.0	215000.0
045364 A	SE17	67	20W	0.5	15000.0	7500.0	0.0	7500.0
045364 A	SE08	67	20W	0.5	595000.0	297500.0	0.0	297500.0
045364 A	NW32	66	20W	0.5	25000.0	12500.0	0.0	12500.0
045364 A	NW04	67	20W	0.5	215000.0	107500.0	0.0	107500.0
045364 A	NE05	67	20W	0.5	815000.0	407500.0	0.0	407500.0
045364 A	NE09	67	20W	0.5	823000.0	411500.0	0.0	411500.0
045364 A	NW16	67	20W	0.5	80000.0	40000.0	0.0	40000.0
045364 A	NW09	67	20W	0.5	470000.0	235000.0	0.0	235000.0
045364 A	SE09	67	20W	0.5	550000.0	275000.0	0.0	275000.0
045364 A	NW05	67	20W	0.5	165000.0	82500.0	0.0	82500.0
045364 A	NE04	67	20W	0.5	382000.0	191000.0	0.0	191000.0
045364 A	SW09	67	20W	0.5	868000.0	434000.0	0.0	434000.0
045365 A	SW19	67	19W	0.5	84000.0	42000.0	0.0	42000.0
045365 A	NW18	67	19W	0.5	1000.0	500.0	0.0	500.0
045366 A	SW16	67	19W	0.5	360000.0	0.0	0.0	0.0
045366 A	SE17	67	19W	0.5	400000.0	200000.0	0.0	200000.0
045366 A	NW16	67	19W	0.5	31000.0	15500.0	0.0	15500.0
045366 A	NE08	67	19W	0.5	295000.0	147500.0	0.0	147500.0
045366 A	SE08	67	19W	0.5	90000.0	45000.0	0.0	45000.0
045367 A	NE07	67	19W	0.5	120000.0	60000.0	0.0	60000.0
045367 A	SE17	67	19W	0.5	155000.0	77500.0	0.0	77500.0
045367 A	SE18	67	19W	0.5	90000.0	45000.0	0.0	45000.0
045367 A	NW08	67	19W	0.5	760000.0	380000.0	0.0	380000.0
045367 A	SW17	67	19W	0.5	170000.0	85000.0	0.0	85000.0
045367 A	SW08	67	19W	0.5	68000.0	34000.0	0.0	34000.0
045367 A	NE08	67	19W	0.5	80000.0	40000.0	0.0	40000.0
045368 A	SW06	67	19W	0.5	145000.0	72500.0.	0.0	72500.0
045368 A	SW36	66	20W	0.5	85000.0	42500.0	0.0	42500.0
045368 A	NW36	66	20W	0.5	245000.0	122500.0	0.0	122500.0
045368 A	SE06	67	19W	0.5	195000.0	97500.0	0.0	97500.0
045368 A	SE36	66	20W	0.5	335000.0	167500.0	0.0	167500.0
045368 A	NE36	66	20W	0.5	243000.0	121500.0	0.0	121500.0

Deposit Number	Sec	Twp	Rge	Deposit Depth	Deposit Area sq.m	Total Deposit Resource cu.m.	Deposit Depleted/ Sterilized cu.m.	Available Deposit Reserves cu.m
045370 A	SE35	66	19W	0.5	45000.0	22500.0	0.0	22500.0
045372 A	SW11	65	19W	0.5	40000.0	20000.0	0.0	20000.0
045372 A	SE11	65	19W	0.5	15000.0	7500.0	0.0	7500.0
045373 A	SE05	65	19W	0.5	80000.0	40000.0	0.0	40000.0
045373 A	NE05	65	19W	0.5	22000.0	11000.0	0.0	11000.0
045374 A	SE22	65	19W	0.5	107000.0	53500.0	0.0	53500.0
045374 A	SW23	65	19W	0.5	95000.0	47500.0	0.0	47500.0
045374 A	NW23	65	19W	0.5	435000.0	217500.0	0.0	217500.0
045374 A	SE26	65	19W	0.5	30000.0	15000.0	0.0	15000.0
045374 A	NE22	65	19W	0.5	430000.0	215000.0	0.0	215000.0
045374 A	NE23	65	19W	0.5	230000.0	115000.0	0.0	115000.0
045375 A	NE26	65	19W	0.5	25000.0	12500.0	0.0	12500.0
045375 A	NW25	65	19W	0.5	172000.0	86000.0	0.0	86000.0
045376 A	NE27	66	19W	0.5	195000.0	97500.0	0.0	97500.0
045376 A	SE34	66	19W	0.5	560000.0	280000.0	0.0	280000.0
045376 A	NE34	66	19W	0.5	8000.0	4000.0	0.0	4000.0
045376 A	NW26	66	19W	0.5	320000.0	160000.0	0.0	160000.0
045376 A	NW35	66	19W	0.5	27000.0	13500.0	0.0	13500.0
045376 A	SW35	66	19W	0.5	615000.0	307500.0	0.0	307500.0
045376 A	SW26	66	19W	0.5	26000.0	13000.0	0.0	13000.0
045377 A	NW14	66	19W	0.5	55000.0	27500.0	0.0	27500.0
045377 A	SE23	66	19W	0.5	208000.0	104000.0	0.0	104000.0
045377 A	NE14	66	19W	0.5	52000.0	26000.0	0.0	26000.0
045377 A	SW23	66	19W	0.5	83000.0	41500.0	0.0	41500.0
045377 A	NE23	66	19W	0.5	223000.0	111500.0	0.0	111500.0
045378 A	SW03	67	18W	0.5	30000.0	15000.0	0.0	15000.0
045378 A	SE03	67	18W	0.5	500000.0	250000.0	0.0	250000.0
045378 A	SE33	66	18W	0.5	30000.0	15000.0	0.0	15000.0
045378 A	SE04	67	18W	0.5	180000.0	90000.0	0.0	90000.0
045378 A	SE29	66	18W	0.5	495000.0	247500.0	0.0	247500.0
045378 A	SW33	66	18W	0.5	710000.0	355000.0	0.0	355000.0
045378 A	NW29	66	18W	0.5	570000.0	285000.0	0.0	285000.0
045378 A	SE30	66	18W	0.5	6000.0	3000.0	0.0	3000.0
045378 A	NE20	66	18W	0.5	8000.0	4000.0	0.0	4000.0
045378 A	NE29	66	18W	0.5	540000.0	270000.0	0.0	270000.0
045378 A	NW33	66	18W	0.5	485000.0	242500.0	0.0	242500.0
045378 A	NE33	66	18W	0.5	430000.0	215000.0	0.0	215000.0
045378 A	SW29	66	18W	0.5	113000.0	56500.0	0.0	56500.0
045378 A	NW20	66	18W	0.5	105000.0	52500.0	0.0	52500.0
045378 A	SW32	66	18W	0.5	170000.0	85000.0	0.0	85000.0
045378 A	NE32	66	18W	0.5	740000.0	370000.0	0.0	370000.0
045378 A	NW28	66	18W	0.5	378000.0	189000.0	0.0	189000.0
045378 A	NE03	67	18W	0.5	70000.0	35000.0	0.0	35000.0
045378 A	NW32	66	18W	0.5	30000.0	15000.0	0.0	15000.0
045378 A	SE32	66	18W	0.5	820000.0	410000.0	0.0	410000.0
045379 A	NE07	65	14W	0.5	12000.0	6000.0	0.0	6000.0
045379 A	SW07	65	14W	0.5	22000.0	11000.0	0.0	11000.0
045379 A	NW07	65	14W	0.5	318000.0	15900.0	0.0	15900.0

Deposit Number	Sec	Twp	Rge	Deposit Depth	Deposit Area sq.m	Total Deposit Resource cu.m.	Deposit Depleted/ Sterilized cu.m.	Available Deposit Reserves cu.m
045380 A	SW07	65	14W	0.5	15000.0	7500.0	0.0	7500.0
045380 A	SE07	65	14W	0.5	162000.0	81000.0	0.0	81000.0
045381 A	SE12	65	15W	0.5	225000.0	112500.0	0.0	112500.0
045381 A	NE01	65	15W	0.5	10000.0	5000.0	0.0	5000.0
045382 A	SE26	64	16W	0.7	25000.0	17500.0	0.0	17500.0
045382 A	NW23	64	16W	0.0	0.0	0.0	0.0	0.0
045382 A	NW23	64	16W	0.0	0.0	0.0	0.0	0.0
045382 A	NW23	64	16W	0.7	128000.0	89600.0	70.0	26880.0
045382 A	SW26	64	16W	0.0	0.0	0.0	0.0	0.0
045382 A	SW26	64	16W	0.7	152000.0	106400.0	99.0	1064.0
045383 A	SW22	64	16W	0.5	90000.0	45000.0	0.0	45000.0
045383 A	SE22	64	16W	0.5	2000.0	1000.0	0.0	1000.0
045383 A	NW22	64	16W	0.5	7000.0	3500.0	0.0	3500.0
045383 A	NE22	64	16W	0.5	38000.0	19000.0	0.0	19000.0
045384 A	NE29	64	16W	0.5	18000.0	9000.0	0.0	9000.0
045384 A	SE22	64	16W	0.5	325000.0	162500.0	0.0	162500.0
045384 A	SW32	64	16W	0.5	61000.0	30500.0	0.0	30500.0
045384 A	NE32	64	16W	0.5	17000.0	8500.0	0.0	8500.0
045384 A	NW29	64	16W	0.5	135000.0	67500.0	0.0	67500.0
045385 A	SW31	64	16W	0.5	220000.0	110000.0	0.0	110000.0
045385 A	NW30	64	16W	0.5	22000.0	11000.0	0.0	11000.0
045386 A	NE24	64	17W	0.5	88000.0	44000.0	0.0	44000.0
045386 A	NW24	64	17W	0.5	295000.0	147500.0	0.0	147500.0
045386 A	NE23	64	17W	0.5	30000.0	15000.0	0.0	15000.0
045387 A	NE11	64	17W	0.5	2000.0	1000.0	0.0	1000.0
045387 A	SW13	64	17W	0.5	330000.0	165000.0	0.0	165000.0
045387 A	NW13	64	17W	0.5	340000.0	170000.0	0.0	170000.0
045387 A	NW12	64	17W	0.5	20000.0	10000.0	0.0	10000.0
045387 A	NE13	64	17W	0.5	44000.0	22000.0	0.0	22000.0
045387 A	SE14	64	17W	0.5	57000.0	28500.0	0.0	28500.0
045388 A	SW18	64	16W	0.5	15000.0	7500.0	0.0	7500.0
045388 A	SW13	64	17W	0.5	110000.0	55000.0	0.0	55000.0
045388 A	SE13	64	17W	0.5	467000.0	233500.0	0.0	233500.0
045388 A	NE13	64	17W	0.5	25000.0	12500.0	0.0	12500.0
045389 A	SW18	64	17W	0.5	94000.0	47000.0	0.0	47000.0
045389 A	SE18	64	17W	0.5	30000.0	15000.0	0.0	15000.0
045390 A	SE13	64	17W	0.5	88000.0	44000.0	0.0	44000.0
045390 A	NE12	64	17W	0.5	50000.0	25000.0	0.0	25000.0
045390 A	SW18	64	16W	0.5	21000.0	10500.0	0.0	10500.0
045391 A	SW14	64	17W	0.5	17000.0	8500.0	0.0	8500.0
045391 A	SE14	64	17W	0.5	110000.0	55000.0	0.0	55000.0
045391 A	NW11	64	17W	0.5	100000.0	50000.0	0.0	50000.0
045391 A	NW10	64	17W	0.5	27000.0	13500.0	0.0	13500.0
045391 A	NE11	64	17W	0.5	12000.0	6000.0	0.0	6000.0
045392 A	NW16	64	17W	0.5	5000.0	2500.0	0.0	2500.0
045392 A	NW16	64	17W	0.5	25000.0	12500.0	0.0	12500.0
045393 A	SE06	65	16W	0.5	140000.0	70000.0	0.0	70000.0
045393 A	SE06	65	16W	0.5	10000.0	5000.0	0.0	5000.0

Deposit Number	Sec	Twp	Rge	Deposit Depth	Deposit Area sq.m	Total Deposit Resource cu.m.	Deposit Depleted/ Sterilized cu.m.	Available Deposit Reserves cu.m
045393 A	NE06	65	16W	0.5	177000.0	88500.0	0.0	88500.0
045394 A	NE10	65	17W	0.5	95000.0	47500.0	0.0	47500.0
045394 A	SE10	65	17W	0.5	410000.0	205000.0	0.0	205000.0
045394 A	NW11	65	17W	0.5	130000.0	65000.0	0.0	65000.0
045394 A	SW11	65	17W	0.5	36000.0	18000.0	0.0	18000.0
045395 A	SE09	65	17W	0.5	108000.0	54000.0	0.0	54000.0
045395 A	SW09	65	17W	0.5	152000.0	76000.0	0.0	76000.0
045396 A	NW04	65	17W	0.5	160000.0	80000.0	0.0	80000.0
045396 A	SE05	65	17W	0.5	410000.0	205000.0	0.0	205000.0
045396 A	NE05	65	17W	0.5	90000.0	475000.0	0.0	475000.0
045396 A	SW10	65	17W	0.5	335000.0	167500.0	0.0	167500.0
045396 A	SW04	65	17W	0.5	490000.0	245000.0	0.0	245000.0
045396 A	SE09	65	17W	0.5	123000.0	61500.0	0.0	615000.0
045396 A	NE04	65	17W	0.5	510000.0	255000.0	0.0	255000.0
045396 A	SE04	65	17W	0.5	40000.0	20000.0	0.0	20000.0
045396 A	NW03	65	17W	0.5	130000.0	65000.0	0.0	65000.0
045397 A	NE16	65	17W	0.5	16000.0	8000.0	0.0	8000.0
045397 A	SE16	65	17W	0.5	25000.0	12500.0	0.0	12500.0
045397 B	SE16	65	17W	0.5	10000.0	5000.0	0.0	5000.0
045397 C	SE16	65	17W	0.5	25000.0	12500.0	0.0	12500.0
045398 A	NW10	66	15W	0.5	110000.0	55000.0	0.0	55000.0
045398 A	SW15	66	15W	0.5	8000.0	4000.0	0.0	4000.0
045398 A	SE16	66	15W	0.5	15000.0	7500.0	0.0	7500.0
045398 A	NE09	66	15W	0.5	170000.0	85000.0	0.0	85000.0
045399 A	SE13	65	16W	0.5	20000.0	10000.0	0.0	10000.0
045399 A	NW18	65	15W	0.5	950000.0	45000.0	0.0	45000.0
045399 A	NE13	65	16W	0.5	235000.0	117500.0	0.0	117500.0
045400 A	SE02	64	16W	0.5	21000.0	10500.0	0.0	10500.0
045401 A	NE01	64	16W	0.5	10000.0	5000.0	0.0	5000.0
045401 A	NW01	64	16W	0.5	0.0	0.0	0.0	0.0
045401 A	NW01	64	16W	0.5	12000.0	6000.0	0.0	6000.0
045402 A	SW26	65	15W	0.5	10000.0	5000.0	0.0	5000.0
045402 A	SE27	65	15W	0.5	40000.0	20000.0	0.0	20000.0
045402 A	NW23	65	15W	0.5	16000.0	8000.0	0.0	8000.0
045402 A	NW22	65	15W	0.5	5000.0	2500.0	0.0	2500.0
045402 A	NE22	65	15W	0.5	250000.0	125000.0	0.0	125000.0
045403 A	NE25	65	15W	0.5	70000.0	35000.0	0.0	35000.0
045403 A	SW25	65	15W	0.5	40000.0	20000.0	0.0	20000.0
045403 A	SE25	65	15W	0.5	90000.0	45000.0	0.0	45000.0
045404 A	SE36	65	15W	0.5	110000.0	55000.0	0.0	55000.0
045404 A	NE36	65	15W	0.5	45000.0	22500.0	0.0	22500.0
045404 A	SW36	65	15W	0.5	75000.0	37500.0	0.0	37500.0
045405 A	SE01	66	15W	0.5	190000.0	95000.0	0.0	95000.0
045405 A	NW31	65	14W	0.5	60000.0	30000.0	0.0	30000.0
045405 A	SW06	66	14W	0.5	100000.0	50000.0	0.0	50000.0
045405 A	NE36	65	15W	0.5	31000.0	15500.0	0.0	15500.0
045406 A	SE01	66	15W	0.5	23000.0	11500.0	0.0	11500.0
045407 A	NE17	66	14W	0.5	310000.0	155000.0	0.0	155000.0

Deposit Number	Sec	Twp	Rge	Deposit Depth	Deposit Area sq.m	Total Deposit Resource cu.m.	Deposit Depleted/ Sterilized cu.m.	Available Deposit Reserves cu.m
045407 A	SE20	66	14W	0.5	10000.0	5000.0	0.0	5000.0
045407 A	SE17	66	14W	0.5	3000.0	1500.0	0.0	1500.0
045407 A	NW17	66	14W	0.5	40000.0	20000.0	0.0	20000.0
045408 A	NW25	65	14W	0.5	65000.0	32500.0	0.0	32500.0
045409 A	NE29	65	14W	0.5	298000.0	149000.0	0.0	149000.0
045409 A	SE32	65	14W	0.5	5000.0	2500.0	0.0	2500.0
045409 A	SW29	65	14W	0.5	10000.0	5000.0	0.0	5000.0
045409 A	SW32	65	14W	0.5	3000.0	1500.0	0.0	1500.0
045409 A	NW29	65	14W	0.5	70000.0	35000.0	0.0	35000.0
045410 A	SW15	68	17W	0.5	97000.0	48500.0	0.0	48500.0
045410 A	SE14	68	17W	0.5	70000.0	35000.0	0.0	35000.0
045411 A	SE10	68	17W	0.5	30000.0	15000.0	0.0	15000.0
045411 A	SW11	68	17W	0.5	55000.0	22500.0	0.0	22500.0
045411 A	NE10	68	17W	0.5	8000.0	4000.0	0.0	4000.0
045412 A	NE20	68	17W	1.0	81000.0	81000.0	50.0	40500.0
045413 A	NE15	68	18W	0.5	35000.0	17500.0	0.0	17500.0
045413 A	SE22	68	18W	0.5	30000.0	15000.0	0.0	15000.0
TOTAL				229.8	54705000.0	295787400.0	25840.0	28115514.0

APPENDIX H: Glossary

AGGREGATE

Any inert, construction material (sand, gravel, slag, crushed stone or other mineral material).

AGGREGATE RESERVES

Aggregate in a deposit which is proven and is economically signficiant.

ALLUVIUM

Alluvium is a general term for clay, silt, sand, gravel, or similar unconsolidated material deposited during postglacial time by a stream.

BEACH DEPOSITS

These are relatively narrow, linear features formed at the shores of glacial lakes that existed during deglaciation. Well developed beaches are usually less than 20 feet (6 m) thick. The aggregate is well sorted and stratified and sand-sized material commonly predominates.

BEDROCK

In-place pre-Quaternary material exposed at the surface or underlying the surficial material.

BINDER

Material that produces or promotes consolidation in loosely aggregated sediments. Usually mud or clay, sometimes till is used for binder.

CARBONATE ROCKS

A broad term referring to those sedimentary rocks consisting chiefly of carbonate minerals, mainly limestone and dolostone.

CLAST

An individual constituent, grain, or fragment of a sediment or rock, produced by the mechanical weathering of a large rock mass. Synonyms include particle and fragment.

CROWN LAND

Land reserved and administered by the Crown. Sand and gravel usually administered by the Crown.

CROWN SAND AND GRAVEL

Sand and gravel reserved and administered by the Crown.

DELETERIOUS LITHOLOGY

A general term used to designate those rock types which are chemically or physically unsuited for use as construction or road-building aggregates. Such lithologies as chert, shale, siltstone, and sandstone may deteriorate rapidly.

DEPOSIT

An accumulation of sediments left in a new location by a natural transportative agent such as water, wind, ice, or gravity.

An aggregate deposit is a deposit of sand and gravel considered to be of economic significance.

DIRT

See fines.

DOLOMITE (DOLOSTONE)

A carbonate sedimentary rock consisting chiefly of the mineral dolomite and containing relatively little calcite (dolomite is also known as dolostone).

DRIFT

A general term for all unconsolidated rock debris transported from one place and deposited in another; distinguished from underlying bedrock. In North America, glacial activity has been the dominant mode of transport and deposition of drift. Synonyms include overburden and surficial deposit.

DURABLE ROCK

A rock fragment which is hard and inert and can be used as aggregate without breaking, crumbling or reacting with the cementing material.

EOLIAN

Pertaining to wind action.

EPOCH

A geological-time unit longer than an age and a subdivision of a period.

ESKERS

Eskers are narrow, sinuous ridges of sand and gravel. They vary greatly in size. Many eskers consist of a central core of poorly sorted and stratified gravel. The core material is often draped by better sorted and stratified sand and gravel.

FINES

A general term used to describe the size fraction of an aggregate which passes (is finer than) the No. 200 mesh screen (0.074 mm). Also described informally as "dirt", these particles are in the silt- and clay-size range.

FLUVIAL

Pertaining to rivers or streams.

GLACIOFLUVIAL DEPOSITS

Material deposited by streams flowing from, on, or within melting glacier ice, generally composed of sorted, stratified sand and gravel; includes outwash, kame, esker, etc.

GLACIOLACUSTRINE DELTAS

These features were formed where streams or rivers of glacial meltwater flowed into lakes and deposited their suspended sediment. Such deposits tend to consist mainly of sand and abundant silt. However, in near-ice or ice-contact positions, coarse material may be present.

GLACIOLACUSTRINE DEPOSITS

Material deposited in lakes affected by glacier ice or by meltwater flowing directly from glaciers; composed of well-sorted clay, silt, or sand.

GRANULAR BASE COURSE

Components of a road placed on subgrade and designed to provide strength, stability, and drainage, as well as support for surfacing materials. Several types have been defined: Granular Base Course A consists of crushed and processed aggregate and has relatively stringent quality standards in comparison to Granular Base Course B and C which are usually pit-run or other unprocessed aggregate.

GROUND MORAINE

A deposit of till with a flat or undulating surface.

HOLOCENE

An epoch of the Quaternary period covering the time period from the retreat of the continental glaciers to the present, about 10 000 years.

HUMMOCKY

An irregular or knob and kettle surface.

HUMMOCKY MORAINE

A landscape composed primarily of till with a hummocky surface.

ICE-CONTACT DEPOSIT

Material deposited in contact with glacier ice by meltwater; includes kames, eskers, kame terraces, etc.

ICE-CONTACT TERRACES

These are glaciofluvial features deposited between the glacial margin and a confining topographic high, such as the side of a valley. The structure may be similar to outwash deposits.

KAMES

Kames are mounds of poorly sorted sand and gravel deposited by meltwater in depressions or fissures on the ice surface or at its margin. The deposits consist mainly of irregularly bedded and cross-bedded, poorly sorted sand and gravel. Deposits include single mounds, linear ridges (crevasse fillings) or complex groups of landforms.

LACUSTRINE DEPOSIT

Material deposited in a lake.

LITHOLOGY

The description of rocks on the basis of such characteristics as color, structure, mineralogic composition, and grain size. Generally, the description of the physical character of a rock.

MELTWATER CHANNEL

A drainage way produced by water flowing away from a melting glacier margin.

MORAINE

A distinct accumulation of glacial drift. Could represent an ice marginal position.

OUTWASH

Outwash deposits consist of sand and gravel laid down by meltwaters beyond the margin of the ice lobes. They occur as sheets or as terraced valley fills (valley trains) and may be very large in extent and thickness. Well developed outwash deposits have good horizontal bedding and are uniform in grain-size distribution. Outwash deposited near the glacier's margin is much more variable in texture and structure.

PIT RUN

Unprocessed aggregate removed from pit. Generally consists of fine pebble gravel with minor amounts of material coarser than 38 mm (1 1/2"). It is used for road maintenance, upgrading and resurfacing.

PLEISTOCENE

An epoch of the recent geological past including the time from approximately 1.8 million years ago to 10 000 years ago. Much of the Pleistocene was characterized by extensive glacial activity.

QUATERNARY

The second period of the Cenozoic era, thought to cover the last 2-3 million years. It consists of two epochs: The Pleistocene and the Holocene.

RESOURCE

An aggregate deposit or environment which may or may not be proven and is presently not economically significant.

SHALE

A fine-grained, sedimentary rock formed by the consolidation of clay, silt, or mud and characterized by well developed bedding planes, along which the rock breaks readily into thin layers. The term shale is also commonly used for fissile claystone, siltstone, and mudstone.

SPILLWAY

Large drainage valley formed by meltwater flowing from a glacial lake. Spillways often have gravel terraces.

STONE

That component of aggregate coarser than 4.76 mm or the #4 sieve, includes pebbles, cobbles and boulders.

SURFICIAL GEOLOGY

A form of geological mapping dealing with all materials occurring at surface in an area: unlithified or lithified (sediments or bedrock).

TERRACE

A relatively flat, stair-stepped, depositional or erosional surface bounded by an ascending slope on one side and a descending slope on the other.

TILL

Unsorted and unstratified rock debris, deposited directly by glaciers, and ranging in size from clay to large boulders.

WISCONSINAN

Pertaining to the last glacial stage of the Pleistocene Epoch in North America. It began approximately 100 000 years ago and ended approximately 10 000 years ago. The glacial deposits and landforms of southern Manitoba are predominantly the result of glacial activity during the Winsconsinan Stage.