

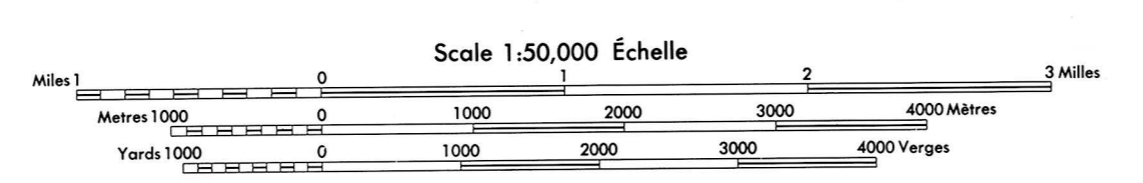
CANADA

EDITION 2

83 G/16

1:50,000

LAC LA NONNE ALBERTA



GENERAL COMMENTS

DEPOSIT CHARACTERISTICS

Deposit Number	Material Description	Reserves (1000 m³ Gravel)	Additional Comments	Texture (%) Gravel Sand Fines	(%) Wear	Overburden Thickness (m)	Deposit Thickness (m)	Deposit Area (ha)	Deposit Genesis	Additional Comments
1	Clean to dirty sand	280	1 pit occasionally used	- - -	-	2.0	2	15	Glaciofluvial	Coal fragments and ironstone present in deposit
2	Clean to dirty sand	-	Deposit consists of sand, silt and clay in varying proportions	- - -	-	0.5	-	220	Glaciofluvial-ice contact	Clean and dirty sand in interbedded with silt and clay
3	Dirty to very dirty sand	500	Sand interbedded with silt and clay	- - -	-	0.5	1.5	40	Glaciofluvial-ice contact	Little information available
4	Sand	-	Veneer of sand overlying till	- - -	-	-	-	50	Glaciofluvial-outwash	No information available
5	Sand	-	Sand is overlain by till and may not be continuous	- - -	-	-	-	220	Glaciofluvial	No information available
6	Sand	-	Sand is overlain by silt and may not be continuous	- - -	-	-	-	200	Glaciofluvial	No information available
7	Sand	-	Sand, with minor gravel interspersed or overlain by silt	- - -	-	1.5	1.5	125	Glaciofluvial	Little information available
8	Sand and gravel	-	Total estimated reserves at 2.5 million m³	- - -	-	1.5	2.5	115	Glaciofluvial	Little information available
9	Sand	-	Sand overlain by till	- - -	-	-	-	70	Glaciofluvial	No information available
10	Sand	-	Highly variable material sand, gravel, silt and clay	- - -	-	-	-	30	Glaciofluvial	Little information available

Deposit Number — Granular deposits shown on this map may have commercial possibilities. This assumption followed from two criteria used in the mapping process: study of the area considered only granular deposits greater than one metre thick, and covering an area more than one hectare; and it only considered deposits where the mineral aggregate thickness was greater than the overburden thickness. Although the scale of mapping did not permit investigation of all small deposits, many small deposits containing existing pits are indicated.

Material Description — Sand and gravel has a variety of applications, such as concrete for construction, asphalt concrete, subbase and base course aggregate for roads, gravel and sand for road surfaces, and pit run for fill. Gradation, rock hardness, and binding characteristics, are some of the specific qualities that are considered in aggregate towards determining its end use. This map indicates these, and other, geological qualities of the sand and gravel within each deposit, but does not indicate their potential uses. The terms used in the table are defined in the figure below.

Reserves — The method of calculating in cubic metres the aggregate reserves of deposits took four basic steps. First, the area, in hectares, of each deposit was determined using aerial photographs. Second, geological interpretation, sometimes supported by subsurface information, was assumed in determining the geometry of each deposit. To estimate an overall, average deposit thickness in metres. Third, geological study and limited sample analyses determined the texture (gradation) of sediments in the deposit, and an overall average percentage of gravel and sand. Finally, the volume was calculated as follows: reserve gravel (m³) = area (ha) × thickness (m) × 10,000 × % gravel; the same formula was used for sand.

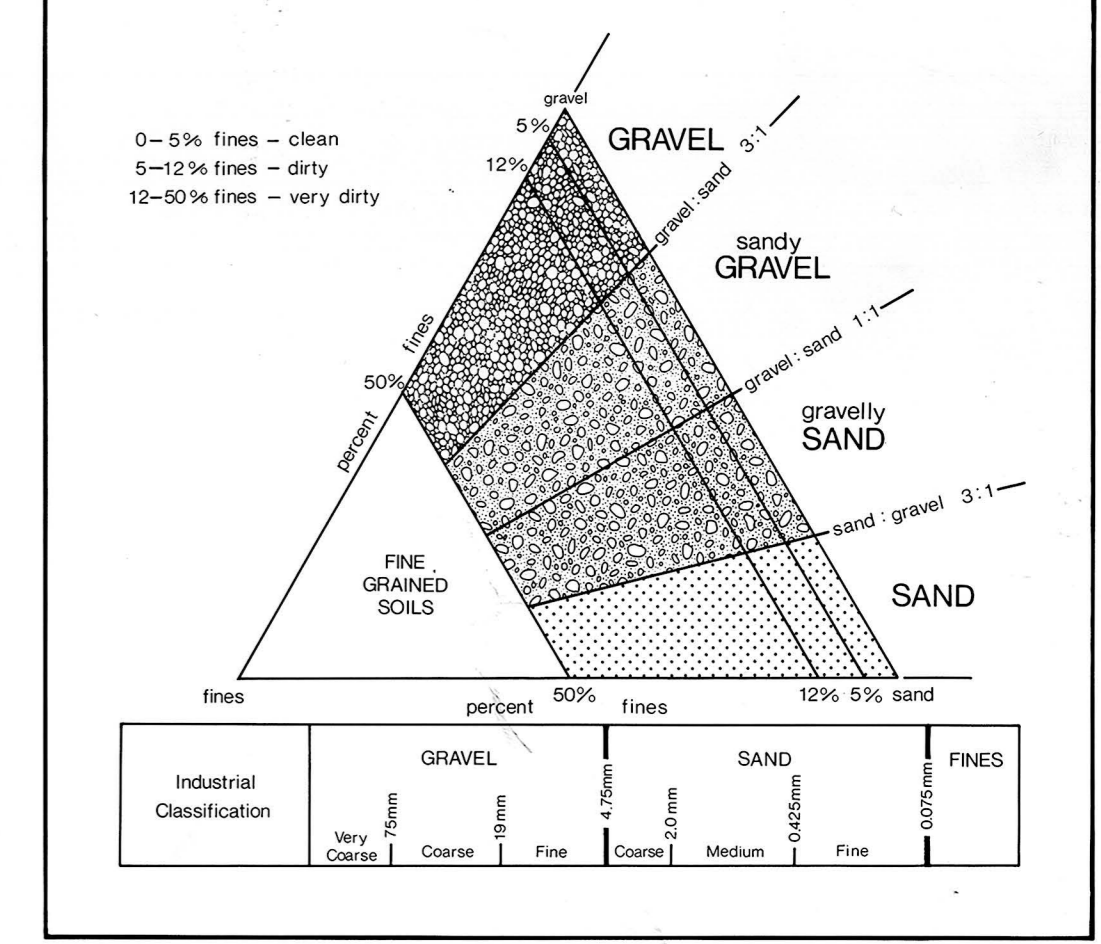
Texture — The texture of the sediment refers to the percentage of particles of various sizes. For mineral aggregate, the most important fractions are the gravel and sand. The actual dimensions of the clasts and particles in these fractions are given in the figure. The values given for a particular deposit were determined from a field estimate, or from laboratory analysis, of one or more samples from that deposit. Where more than one sample is taken the tabulated number is the mean value.

Wear — The resistance of gravel-size clasts to wear or abrasion can be measured in a laboratory test (ASTM-C131, Los Angeles Abrasion Testing). The amount of material that breaks down into smaller sizes is measured and related to the original sample weight in terms of percent wear. The higher the percentage wear the more susceptible the gravel is to breakdown under stress. Gravel with a percentage wear of less than 40 is considered very resistant.

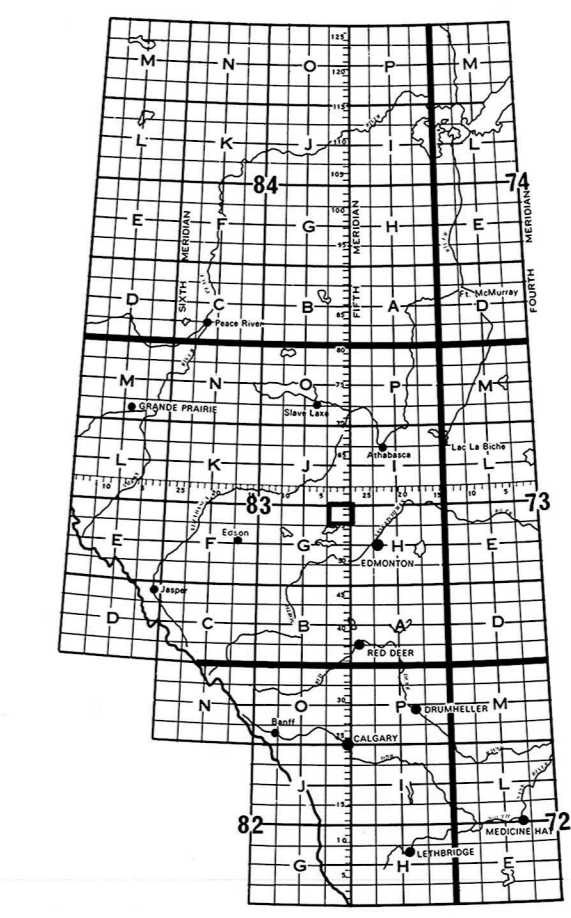
Overburden Thickness — The thickness of non-economic material, or overburden, covering a deposit, sometimes is a limiting factor in the exploitation of an aggregate deposit. The tabulated values given are approximate overburden thicknesses as determined from geological investigations and subsurface testing.

Deposit Area — Deposits in this study were delineated by interpretation of aerial photographs and the contacts should be considered approximate. Information is precise only where test holes, or geological sections, are indicated.

Deposit Genesis — The genesis, or formation, of deposits is vital to the understanding of the gradational nature, extent and geometry of the deposit. This understanding forms the basis for extrapolation from a limited number of known points (test holes, pits, sections) and permits an overall assessment of the deposit.



- Map Legend**
- 3 Deposit number
 - Assumed boundary
 - Active or inactive pit
 - Alberta Geological Survey test hole
 - Sand or gravel exposure
 - Buried sand or Gravel deposit



Alberta Geological Survey

This is a sand and gravel resource map prepared by the Alberta Geological Survey as part of a series at a scale of 1:50,000. The series represents an ongoing aggregate inventory of Alberta which provides data for general land-use planning, land management or aggregate exploration. Please note that the delineation of deposits and calculation of reserves are approximations only.

References: Geology and compilation by J.C. Fox, 1979 and 1981. Additional information from L.D. Andrashek, M.M. Fenton, J.D. Root, 1979 and field notes by C.F. Kothof, 1973. Lac La Nonne HTS 83G/16.

AGGREGATE RESOURCES LAC LA NONNE 83G/16

Prepared by the SURVEYING AND MAPPING BRANCH, DEPARTMENT OF ENERGY, MINES AND REVENUE. Original from aerial photographs taken in 1970. Colour check 1972. Printed 1975.

Roads: paved, toute saison; hard surface, all weather; gravel, toute saison; hard surface, all weather; loose surface, dry weather and unconsolidated streets; cart track; trail, cut line or portage.

This Provisional Map is equivalent to a standard map of mineral content. Some names on this map are not yet official. Corrections or additions are invited by the Survey and Mapping Branch.

Cette carte provisoire équivaut à une carte régulière de contenu minéral. Certains noms inscrits sur cette carte ne sont pas encore officiels. Les corrections et les ajouts sont invités par le Service des levés et de la cartographie.

Établi par la DIRECTION DES LEVÉS ET DE LA CARTOGRAPHIE, MINISTÈRE DE L'ÉNERGIE, DES MINES ET DES REVENUES. Mise à jour à partir de photographies aériennes prises en 1970. Vérification des couleurs en 1972. Imprimé en 1975.

Ces cartes sont en vente au Bureau des Cartes du Canada, Ministère de l'Énergie, des Mines et des Revenues, Ottawa, au Canada. Le numéro de la série est HTS 83G/16.

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