

Deposit Number	Material Description	Reserves (1000 m ³)		Additional Comments	Texture (%)			Overburden Thickness (m)	Deposit Thickness (m)	Deposit Area (ha)	Deposit Genesis	Additional Comments
		Gravel	Sand		Gravel	Sand	Fines					
1	Clean gravelly sand	140	150	Proportion of sand to gravel may vary greatly. Continuous with deposit map sheet 72L/2.	47	51	2	1.5	2	15	Glaciofluvial - ice contact	Little data available. Petrographic No. 157.7.
2	Clean sand	-	2780	Material and reserves based on one observation.	-	98	2	1.0	2	139	Glaciofluvial - ice contact	Little data available. Less than 5% gravel.
3	-	-	-	Deposit may have potential.	-	-	-	-	-	14	Glaciofluvial - ice contact	No data available on aggregate texture and reserves.
4	Dirty sandy gravel - gravel	27	50	High proportion of boulders. Reserves based on two observation points.	-	-	-	0.5	1.5	286	Glacial	Deposit is washed till - dirty and poorly sorted.
5	Clean sand	740	3650	Reserves may be greater than indicated.	17	82	1	0.5	1.5+	286	Glaciofluvial - meltwater channel	Depth of deposit unknown. Water well log indicates aggregate to 23 m depth.
6	Clean sandy gravel	1035	444	Proportion of sand to gravel may vary greatly.	69	28	2	1.0	1.5+	105	Glaciofluvial	Deposit is stoner to the east. Detritous gravels include ironstone and local sandstone. Gravel clasts commonly up to 8 cm in size.
7	Clean gravelly sand	802	1382	One small pit. Reserves and texture based on 3 samples.	39	59	2	0.5	2.0	117	Glaciofluvial and fluvial	Little available data.
8	Clean sand	-	900	Reserves are in many small scattered areas of sand dunes mainly within deposit 10.	-	-	-	0	1.0	225	Eolian dunes	Little available data.
9	Clean sand	-	1240	Dune field. Part of deposit 13 on map sheet 72L/2.	-	-	-	0	2	155	Eolian dunes	Little data available.
10	Clean sand	4018	51,680	Areas of till and small sand dunes dispersed throughout deposit.	7	90	3	0	1.0+	5743	Glaciofluvial - outwash	Mainly medium to fine sand. Generally a high water table. Silt content higher to the east accompanied by low gravel percent.
11	Clean sand	<180	3500	Little data available for reserve estimate.	<5	95	2	-	1.0	378	Glaciofluvial - meltwater channel	Silt overburden common in places.

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) x thickness (m) x 10,000 x % gravel; the same formula was used for sand.

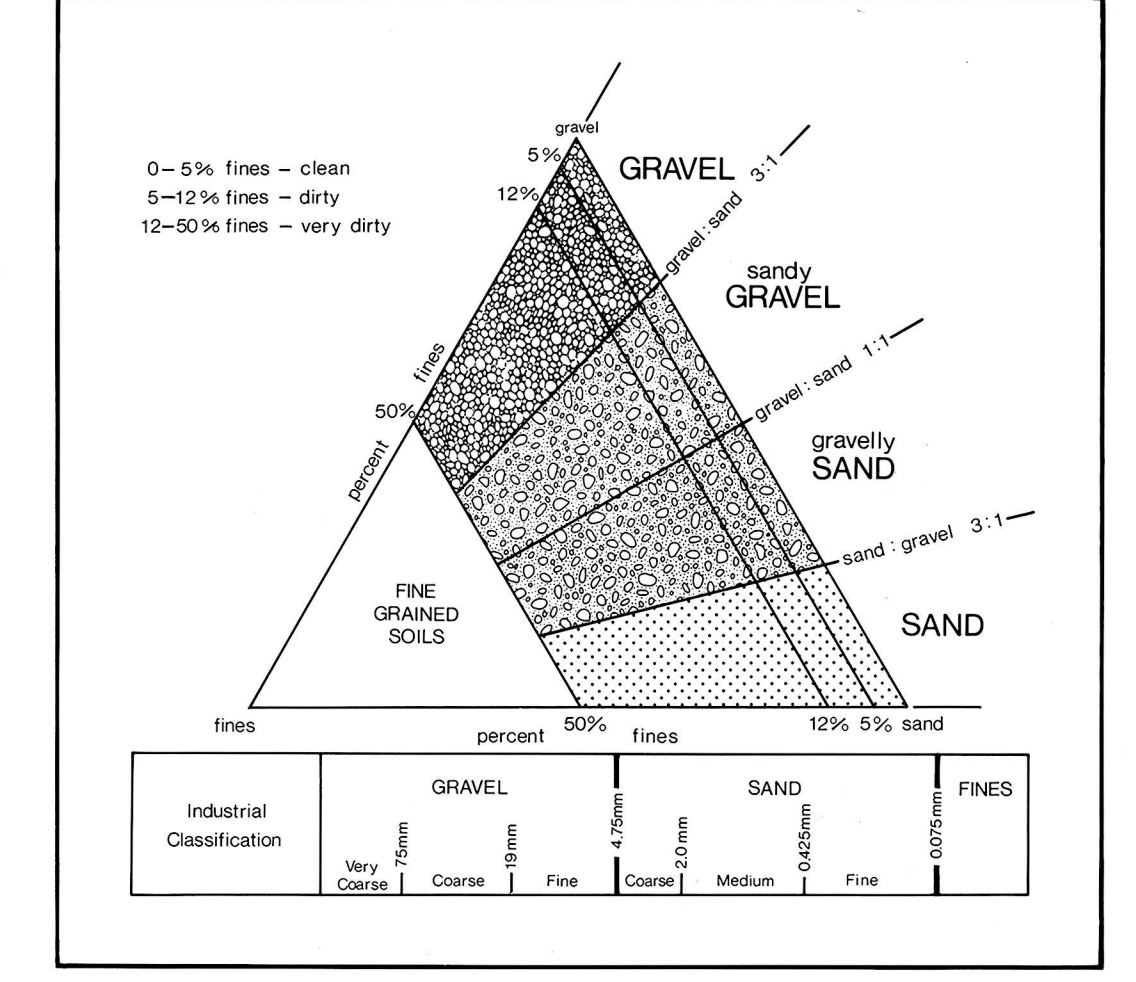
Texture - The texture of the sediment refers to the percentage of particles of various sizes. For mineral aggregate, the most important fractions are the gravel and sand. The actual dimensions of the clasts and particles in these fractions are given in the figure. The values given for a particular deposit 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 C137, 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.

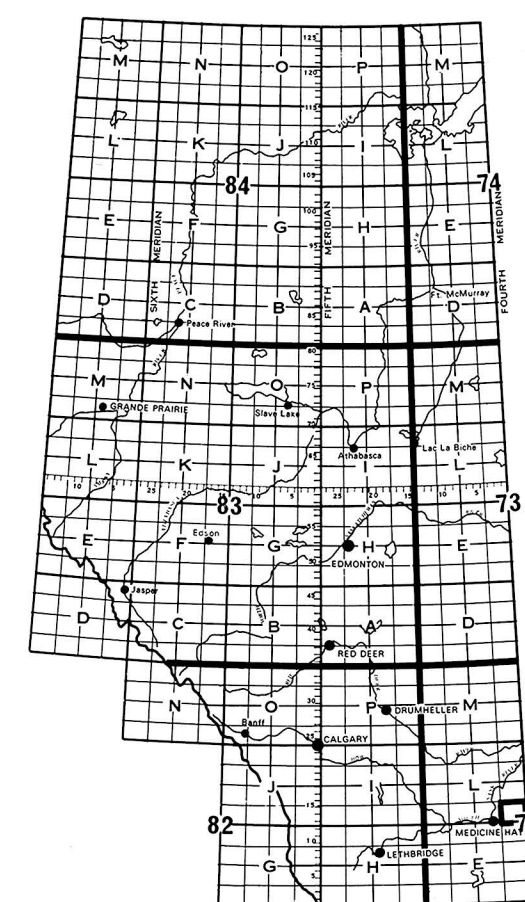
Overburden Thickness - The thickness of non-economic material, or overburden, covering a deposit, sometimes is a limiting factor in the exploitation of an aggregate deposit. The tabulated values given are approximate overburden thicknesses as determined from geological investigations and subsurface testing.

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



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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, 1981. Additional information from T.E. Beng and R.A. McPherson, 1972.

AGGREGATE RESOURCES
MANY ISLAND LAKE 72L/1