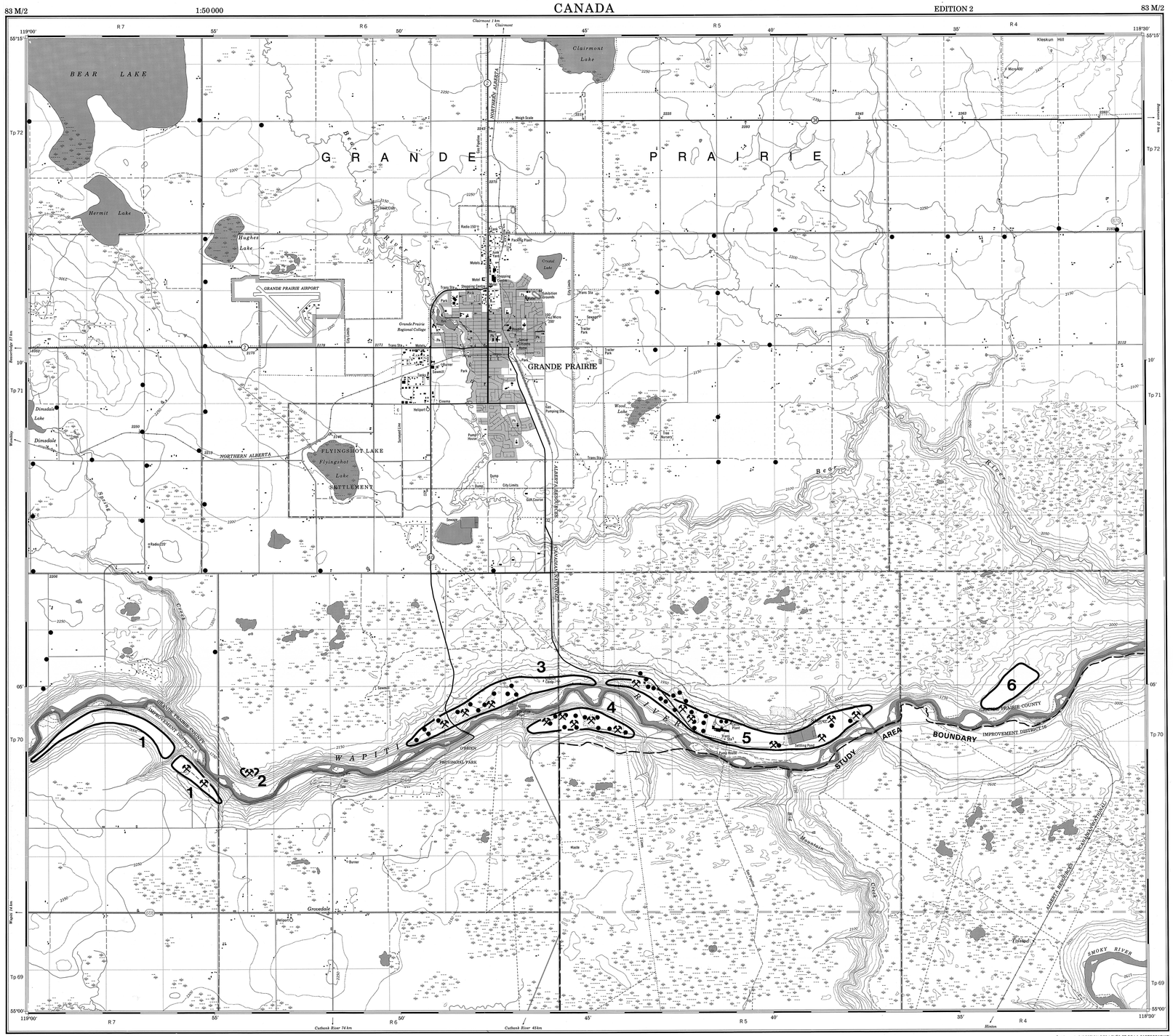
GRANDE PRAIRIE 83M/2

83 M/2 1:50 000 CANADA EDITION 2 83 M/2



Produced by the SURVEYS AND MAPPING BRANCH, DEPARTMENT OF ENERGY, MINES AND RESOURCES. Updated from aerial photographs taken in 1977 and 1978. Culture check 1979. Published in 1980.

Copies may be obtained from the Canada Map Office, Department of Energy, Mines and Resources, Ottawa, or your nearest map dealer.

Roads: Routes:

	dual highway	more than 2 lanes
hard surface, all weather ..... pavée, toute saison	2 lanes	more than 2 lanes
	2 voies	plus de 2 voies
hard surface, all weather ..... pavée, toute saison	2 lanes or more	less than 2 lanes
	2 voies ou plus	moins de 2 voies
loose or stabilized surface, all weather, gravier, agglomeré, toute saison	2 lanes or more	less than 2 lanes
loose surface, dry weather ..... de gravier, temps sec	2 voies ou plus	moins de 2 voies
unclassified streets ..... rues hors classe		
cart track ..... de terre		
trail, cut line or portage ..... sentier, percée ou portage		

FOR COMPLETE REFERENCE SEE REVERSE SIDE POUR UNE LISTE COMPLÈTE DES SIGNES, VOIR AU VERSO

GRANDE PRAIRIE
ALBERTA
WEST OF SIXTH MERIDIAN - OUEST DU SIXIÈME MÉRIDIEN

Scale 1:50 000 Échelle

Miles 1 0 1 2 3 Miles
Metres 1000 0 1000 2000 3000 4000 Mètres
Yards 1000 0 1000 2000 3000 4000 Verges

Information concerning location and precise elevation of bench marks can be obtained by writing to the Geodetic Survey, Surveys and Mapping Branch, Ottawa.

On peut obtenir des renseignements sur le lieu et l'altitude exacte des repères de nivellement en écrivant aux Levés géodésiques, Direction des levés et de la cartographie, Ottawa.

CONVERSION SCALE FOR ELEVATIONS
Metres 30 20 10 0 50 100
Feet 100 50 0 100 200 300 400

CONTOUR INTERVAL 50 FEET
Elevations in Feet above Mean Sea Level
North American Datum 1927
Transverse Mercator Projection

ÉCHELLE DE CONVERSION DES ALTITUDES
150 200 250 300 Mètres
500 600 700 800 900 1000 Pieds

EQUIDISTANCE DES COURBES 50 PIEDS
Altitudes en pieds
Système de référence géodésique nord-américain, 1927
Projection transverse de Mercator

Établie par la DIRECTION DES LEVÉS ET DE LA CARTOGRAPHIE, MINISTÈRE DE L'ÉNERGIE, DES MINES ET DES RESSOURCES. Mise à jour à l'aide de photographies aériennes prises en 1977 et 1978. Vérification des ouvrages en 1979. Publiée en 1980.

Ces cartes sont en vente au Bureau des Cartes du Canada, Ministère de l'Énergie, des Mines et des Ressources, Ottawa, ou chez le vendeur le plus près.

GENERAL COMMENTS

DEPOSIT CHARACTERISTICS

Deposit Number	Material Description	Reserves (1000 m³) Gravel	Reserves (1000 m³) Sand	Additional Comments	Texture (%) Gravel	Texture (%) Sand	Texture (%) Fines	(%) Wear	Overburden Thickness (m)	Deposit Thickness (m)	Deposit Area (ha)	Deposit Genesis	Additional Comments
1	Clean gravel	3,800	1,200	Coarse gravel with medium to fine sand.	77	22	1	–	0	–	140+	Alluvial terrace	Terrace 60 m above river level. Predominantly subrounded quartzites with minor sandstones and carbonates and occasional granitic clasts.
2	Clean gravel	–	–	Coarse gravel with medium to fine sand. Deposit is nearly depleted.	83	16	1	–	0	–	6	Alluvial terrace	Remnant terrace 105 m above river level.
3	Clean gravel	3,800	1,200	Coarse gravel with medium to fine sand. Most of the reserves are in the eastern portion where water table is 4-6 m below surface.	70-80	20-30	~2	–	Usually no overburden but up to 6 m eolian sand in places.	>6	125	Alluvial terrace	Bedrock underlies gravel throughout area.
4	Clean gravel	4,500	1,500	Coarse gravel with medium to fine sand. Area well drained, water table approx. 9 m below surface. Coal particles in sand fraction may be present in objectionally high amounts for certain uses.	76	22	2	–	<0.5	6-17 (average 10)	<140	Alluvial terrace	Deposit lies directly on shale-sandstone bedrock. Gravel predominantly subrounded quartzite with minor sandstone, carbonate and chert.
5	Clean gravel	15,000	5,000	Clean coarse gravel with medium fine sand. Less than half of reserves shown are recoverable due to present land use on terrace. Area utilized is becoming depleted.	78	21	1	–	–	<5	<396	Alluvial terrace	Predominantly quartzite.
6	Clean sandy gravel	>2,000(?)		Well drained area, has potential for development. At present inaccessible to vehicular traffic.	–	–	–	–	0.5	up to 5	104	Alluvial terrace	Granular material rests on bedrock.

Deposit Number — Granular deposits shown on this map may have commercial possibilities. That 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 (m^3) = area (ha) × thickness (m) × 10,000 × % gravel; the same formula was used for sand.

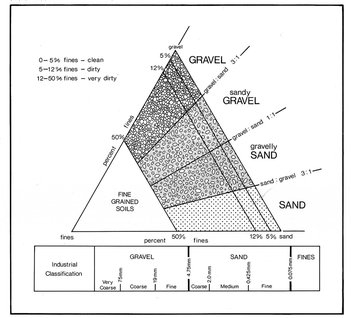
Texture — The texture of the sediment refers to the percentage of particles of various sizes. For mineral aggregate, the most important fractions are the gravel and sand. The actual dimensions of the clasts and particles in these fractions are given in the figure. The values given for a particular deposit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

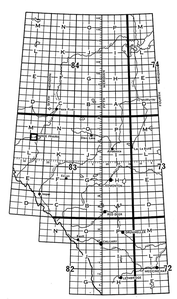
Deposit Area — Deposits in this study were delineated by interpretation of aerial photographs and the contacts should be considered approximate. Information is precise only where test holes, or geological sections, are indicated.

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 RESEARCH COUNCIL Natural Resources Division

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. Alberta Energy and Natural Resources provides financial support for the Aggregate Inventory.

REFERENCES

Geology by B.N. Peterson, 1977 and 1978. Compilation by W.A.D. Edwards and M. Price, 1982. Additional information from J.F. Jones, 1961 and 1966 and M.E. Holter, 1972.

AGGREGATE RESOURCES

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