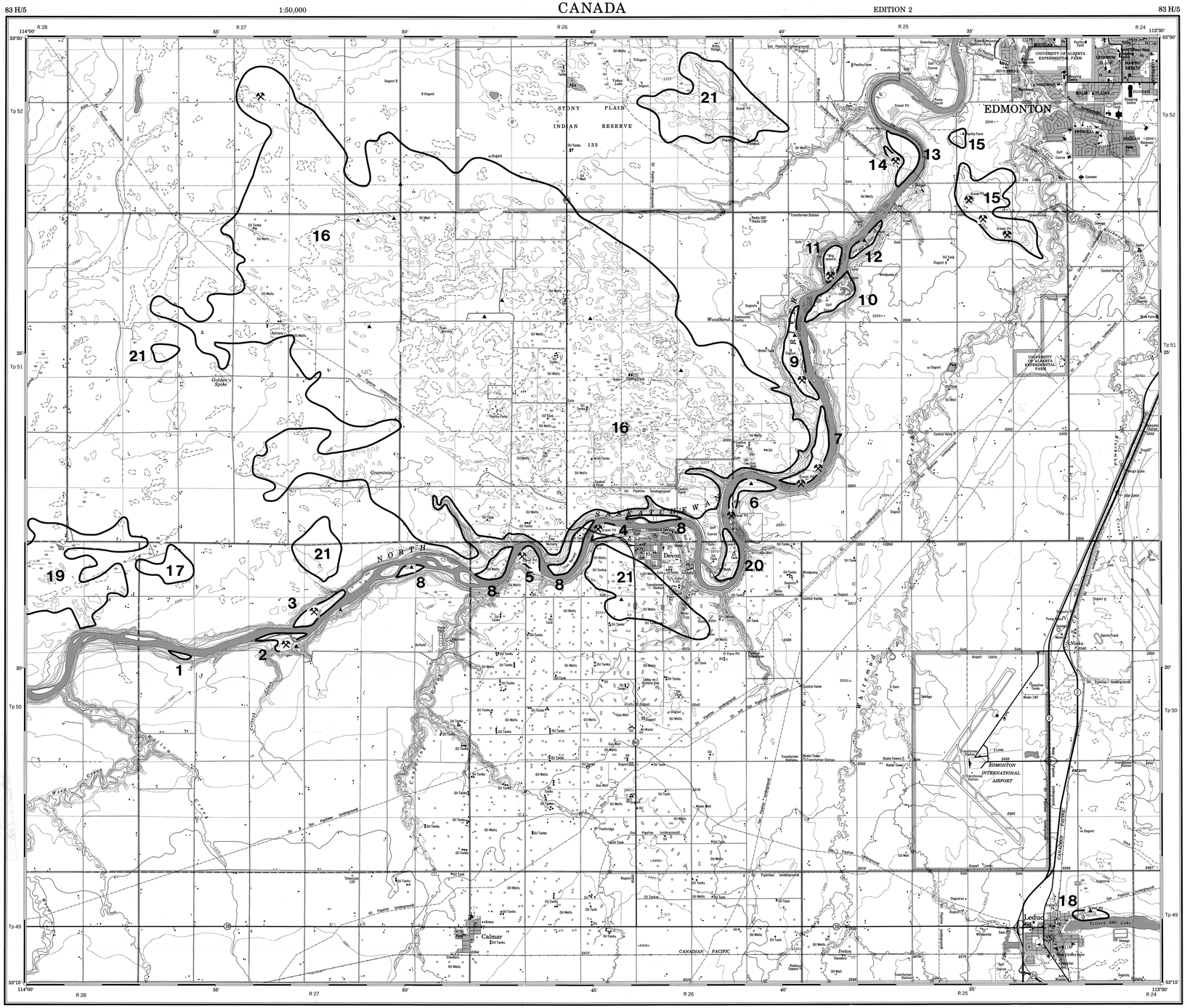
LEDUC 83 H/5

83 H/5 | 1:50,000 | CANADA | EDITION 2 | 83 H/5



Produced by the SURVEYS AND MAPPING BRANCH, DEPARTMENT OF ENERGY, MINES AND RESOURCES, from detailed maps updated from aerial photographs taken in 1970. Culture check in 1970. Printed 1974.

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

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Roads: / Routes:

hard surface, all weather ..... pavée, toute saison ..... dual highway, 2 roadways separated / 2 chaussées séparées ..... more than 2 lanes, plus dirt / plus de 2 voies, plus de 2 voies ..... more than 2 lanes, no dirt / plus de 2 voies, sans de 2 voies

hard surface, all weather ..... pavée, toute saison ..... 2 lanes / 2 voies ..... less than 2 lanes, plus dirt / moins de 2 voies, plus de 2 voies

loose or stabilized surface, all weather ..... gravier aggloméré, toute saison ..... 2 lanes or more / 2 voies ou plus ..... less than 2 lanes, no dirt / moins de 2 voies, sans de 2 voies

loose surface, dry weather and unclassified streets ..... de gravier, temps sec et rues hors classe .....

cart track ..... de terre .....

trail or portage ..... sentier ou portage .....

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

LEDUC

ALBERTA

WEST OF FOURTH MERIDIAN - OUEST DU QUATRIEME 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 Yards

CONTOUR INTERVAL 25 FEET
Elevations in feet above Mean Sea Level
North American Datum 1927
Transverse Mercator Projection

Communities within cities and towns are named in red.

ÉQUIDISTANCE DES COURBES 25 PIEDS
Élévations en pieds au-dessus du niveau moyen de la mer
Système de référence géodésique nord-américain, 1927
Projection transverse de Mercator

Les communautés à l'intérieur des cités et villes sont en rouge.

Établi par la DIRECTION DES LEVÉS ET DE LA CARTOGRAPHIE, MINISTÈRE DE L'ÉNERGIE, DES MINES ET DES RESSOURCES, d'après des cartes topographiques mises à jour d'après photographies aériennes prises en 1970. Vérification des ouvrages en 1970. Imprimé en 1974.

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.

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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	Sand and gravel	-	-	No pit developed.	-	-	-	-	-	-	10	Fluvial-terrace	No data available.
2	Sand and gravel	-	-	Reserves of 900,000 m³ based on reported sand and gravel thickness of 3.0 m.	-	-	-	-	3	3	40	Fluvial-terrace and alluvial fan	Little data available. Reclaimed pit on deposit.
3	Clean gravel	1,900	500	Reserves base on pit sections only.	77	22	1	-	3	5	56	Fluvial-terrace	Gravels up to 10 cm in size. Small amounts of coal present.
4	Sand and gravel	-	-	-	-	-	-	-	-	-	22	Fluvial-terrace	No data available.
5	Sand and gravel	-	-	-	-	-	-	-	4.0	-	20	Fluvial-terrace	No data available. Probably similar to deposit 3.
6	Clean sandy gravel	640	240	Almost 50% of deposit has been utilized.	71	28	1	-	2.5	3	30	Fluvial-terrace	Texture may vary over the deposit.
7	Clean sandy gravel	-	-	Reserves of 680,000 m³ estimated for assumed 2 m depth of sand and gravel.	60	36	4	-	4	2	68	Fluvial-terrace	Reserves probably thicker than stated extending below the water table.
8	Sand and gravel	-	-	Five deposits.	-	-	-	-	-	-	193	Fluvial-terrace	No information available. Probably similar to other fluvial terraces.
9	Clean sandy gravel to gravelly sand	-	-	Reserves estimated at 2 million m³ for 2 m depth of sand and gravel.	50	47	3	-	3	2	110	Fluvial-terrace	High water table evident on west side. Overburden thickens away from the river. Depth of sand and gravel probably greater than stated.
10	Sand and gravel	-	-	Over 50% of the deposit has been depleted. A golf course is sited on the remaining area.	-	-	-	-	-	-	60	Fluvial-terrace	No data available.
11	Sand and gravel	-	-	Inactive pit area on deposit.	-	-	-	-	-	-	35	Fluvial-island	No data available.
12	Sand and gravel	-	-	Deposit appears to be depleted.	-	-	-	-	-	-	-	Fluvial-terrace	Rehabilitation occurring.
13	Sand and gravel	-	-	Water treatment plant on north part of deposit.	-	-	-	-	3	-	70	Fluvial-terrace	No data available.
14	Very dirty gravelly sand	72	48	50% of reserves depleted.	40	48	12	-	0	3	6	Fluvial-terrace	Little data available.
15	Clean to dirty sand	-	2,000	-	-	-	-	-	1	2	272	Glaciofluvial Kame	Material is variable — sand to clay. Overburden thinner on higher parts of deposit.
16	Clean fine sand	-	100,000	-	-	98	2	-	-	3 -	13,700	Eolian	Dunes.
17	Clean fine sand	-	400	-	-	98	2	-	-	1	103	Eolian	Dunes.
18	Dirty sandy gravel	-	-	Total reserves of sand and gravel estimated at 100,000 m³.	-	-	-	-	0.5	1	25	Glaciofluvial-outwash	Little information available.
19	Clean fine sand	-	3,500	Continupus with deposit 9 NTS 83G/8.	-	98	2	-	0	2	600	Eolian	Little information available. Dunes.
20	Sand and gravel	-	-	-	-	-	-	-	-	-	45	Fluvial-terrace	No data available.
21	Clean fine sand	-	8980	Four deposits.	-	98	2	-	0	2	1300	Eolian	Little information available. Dunes.

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 (m³) = area (ha) × thickness (m) × 10,000 × % gravel; the same formula was used for sand.

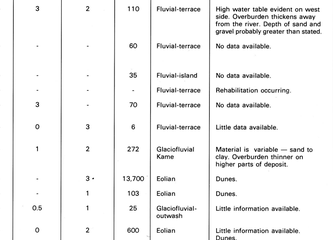
Texture — The texture of the sediment refers to the percentage of particles of various sizes. For mineral aggregate, the most important fractions are the gravel and sand. The actual dimensions of the clasts and particles in these fractions are given in the figure. The values given for a particular deposit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

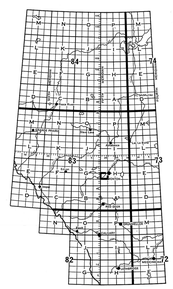
Deposit Area — Deposits in this study were delineated by interpretation of aerial photographs and the contacts should be considered approximate. Information is precise only where test holes, or geological sections, are indicated.

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 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.

References:

Geology and compilation by J.C. Fox, 1979 and 1981. Additional information from L.A. Bayrock, 1972.

AGGREGATE RESOURCES

LEDUC 83H/5