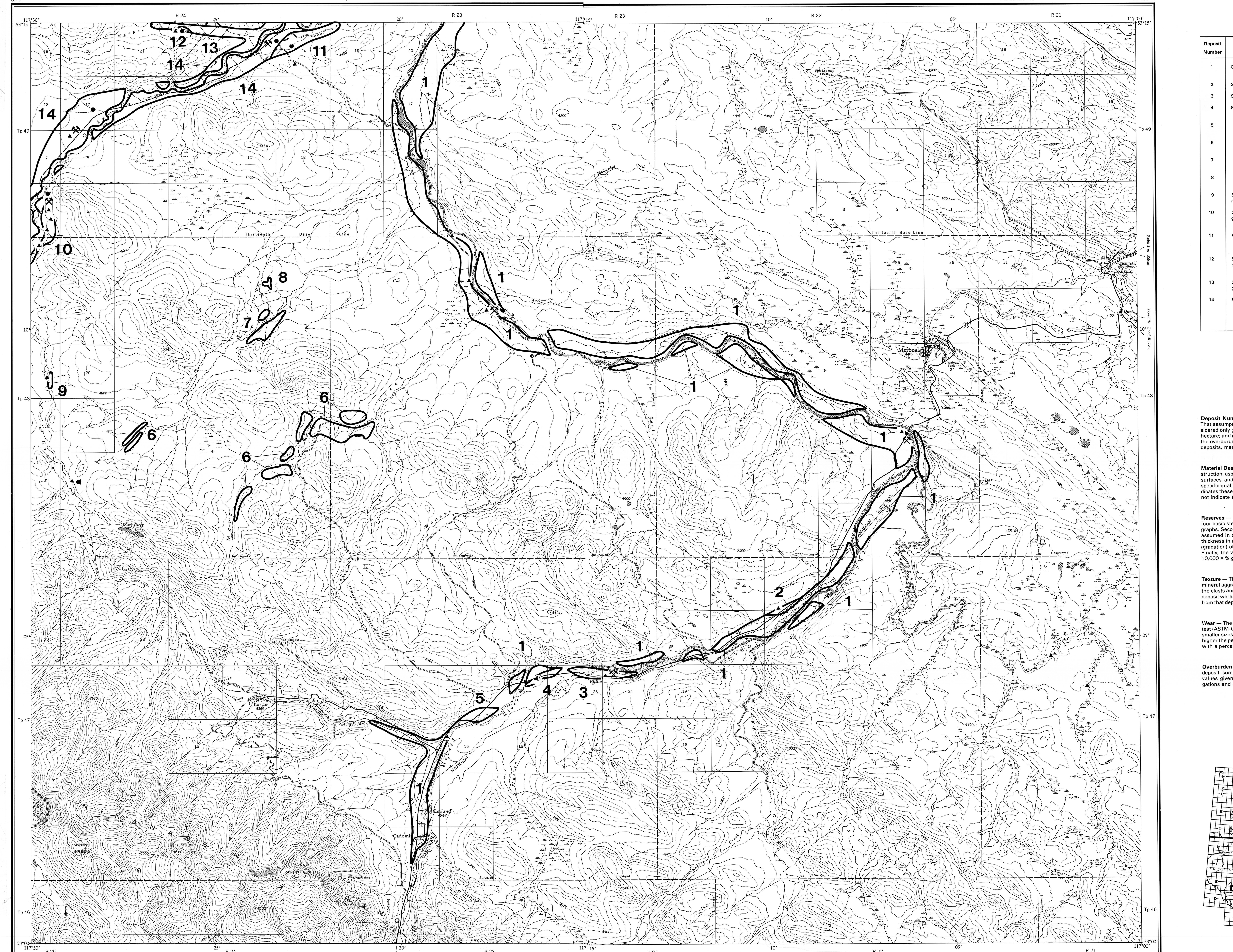
Cadomin 83 F/3



First Edition 1929. Revised by the SURVEYS AND MAPPING BRANCH, DEPARTMENT OF MINES AND TECHNICAL SURVEYS, 1961, from field investigations 1959.

Copies may be obtained from the Map Distribution Office, Department of Mines and Technical Surveys, Ottawa.

CADOMIN
ALBERTA
WEST OF FIFTH MERIDIAN - OUEST DU CINQUIÈME MÉRIDIEN

SCALE 1:50,000 ÉCHELLE

Miles 1 — 0 — 1 — 2 — 3 Milles
Metres 1000 — 500 — 0 — 1000 — 2000 — 3000 — 4000 Mètres
Yards 1000 — 500 — 0 — 1000 — 2000 — 3000 — 4000 Verges

CONTOUR INTERVAL 100 FEET
Elevations in Feet above Mean Sea Level
North American Datum 1927
Transverse Mercator Projection

ÉQUIDISTANCE DES COURBES: 100 PIEDS
Élévations en pieds au-dessus du niveau moyen de la mer
Réseau géodésique nord-américain unifié (1927)
Projection transverse de Mercator

MAGNETIC DECLINATION 24° 47′ EAST
AT CENTRE OF MAP 1961
Annual change (decreasing) 3.7′

DÉCLINAISON MAGNÉTIQUE AU CENTRE
DE LA FEUILLE EN 1961: 24° 47′ EST
Variation annuelle (décroissante) 3.7′

Première edition 1945, d'après les photographies aériennes prises en 1943. Revisée par la DIRECTION DES LEVÉS ET DE LA CARTOGRAPHIE MINISTÈRE DES MINES ET DES RELEVÉS TECHNIQUES, 1961, d'après les études faites sur le terrain en 1959.

Ces cartes sont en vente au Bureau de distribution des cartes, ministère des Mines et des Relevés techniques, Ottawa.

83F/3

GENERAL COMMENTS					DEPOSIT CHARACTERISTICS									
Deposit Number	Material Description	Reserves ($1000\ m^3$) Gravel	Reserves ($1000\ m^3$) Sand	Additional Comments	Texture (%) Gravel	Texture (%) Sand	Texture (%) Fines	(%) Wear	Overburden Thickness (m)	Deposit Thickness (m)	Deposit Area (ha)	Deposit Genesis	Additional Comments
1	Gravel	21,000	5,400	Valley floor deposits of the McLeod River, very coarse.	78	20	2	-	0.5 - 1	0.25 - 3.0	1800	Fluvial — valley floor	Clasts are mainly carbonates and quartzite with local deleterious rocks.
2	Sandy gravel	200	110		64	35	1	-	0.5	2.0+	17	Fluvial — terrace	
3	Sandy gravel	200	140		57	40	3	-	0.5	1.0+	36	Fluvial — terrace	Shallow to bedrock.
4	Sandy gravel	120	80	Gravel approx. 60% and sand approx. 40%, coarse to fine; clean.	-	-	-	-	0.5	1.0+	20	Fluvial — terrace	Gravels mainly carbonates up to 10 cm in diameter. Shallow to bedrock.
5	-	-	-	Possibility of containing sand and gravel.	-	-	-	-	-	-	20	Fluvial — terrace	No information available.
6	-	-	-	Possibility of containing sand and gravel.	-	-	-	-	-	-	155	Glaciofluvial — kames	No information available.
7	-	-	-	Possibility of containing sand and gravel.	-	-	-	-	-	-	30	Glaciofluvial — outwash	No information available.
8	-	-	-	Possibility of containing sand and gravel.	-	-	-	-	-	-	3	Glaciofluvial — terrace	No information available.
9	Sandy gravel to gravel.	-	-	Total reserves — 50,000 m^3. Dirty, coarse.	-	-	-	-	0.5	1.0	5	Glaciofluvial —terrace	Little information available.
10	Gravel to sandy gravel.	660	290	Gravel — coarse, up to 40 cm in diameter, 66-75%; sand — fine to coarse.	68	30	2	-	0.5	2.0 - 5.0+	49	Glaciofluvial — terrace	Clasts mainly carbonates some quartzites and coal fragments.
11	Sandy gravel	390	247	Gravel 55-65%; sand 45-35%; clean.	60	38	2	-	0.5	1.0	65	Glaciofluvial	Clasts up to 25 cm, mainly carbonates, some quartzite and sandstone.
12	Sandy gravel to gravelly sand.	57	56	Clean to dirty.	48	47	5	-	-	2.0	6	Fluvial — terrace	Water table at 3 m. Clasts mainly of quartzite, some sandstone and conglomerate.
13	Sandy gravel to gravelly sand.	114	84	Gravel 50-65%; sand 35-50%; clean to dirty.	56	42	2	-	-	3.0	30	Glaciofluvial — ice contact	Esker complex, clasts commonly up to 12 cm.
14	Sandy gravel	1,200	5,000	Clean to dirty.	69	30	1	-	0.5	3.0+	600	Fluvial — valley floor	Variable texture and thickness. Water table at 1.0 - 1.5 m below surface. Clasts up to 30 cm.

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.

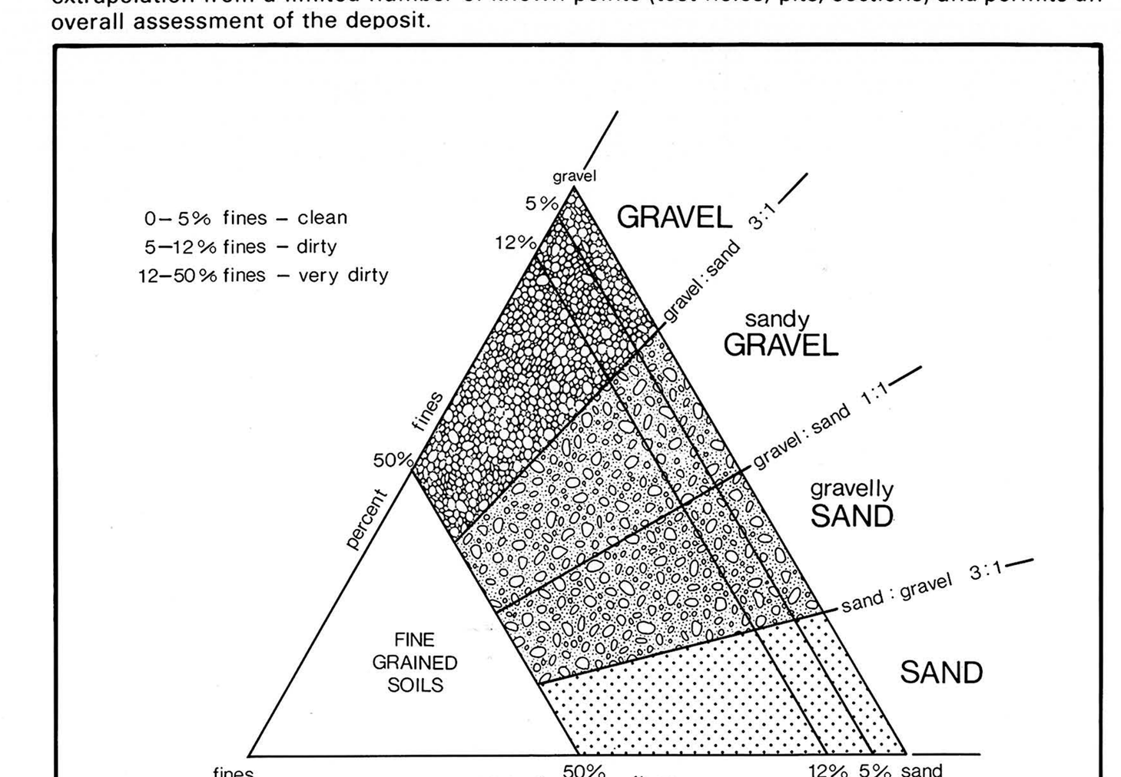
Texture — The texture of the sediment refers to the percentage of particles of various sizes. For mineral aggregate, the most important fractions are the gravel and sand. The actual dimensions of the clasts and particles in these fractions are given in the figure. The values given for a particular deposit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

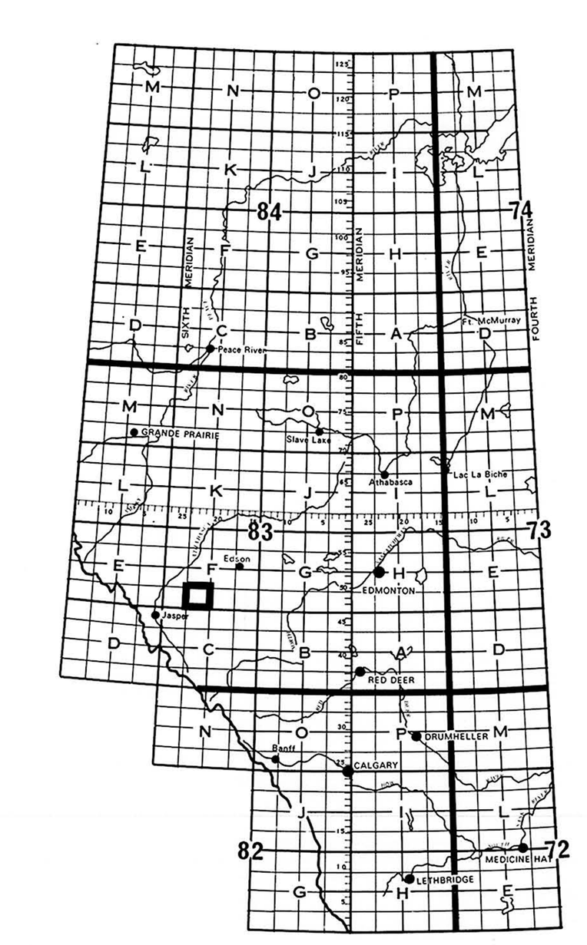
Overburden Thickness — The thickness of non-economic material, or overburden, covering a deposit, sometimes is a limiting factor in the exploitation of an aggregate deposit. The tabulated values given are approximate overburden thicknesses as determined from geological investigations and subsurface testing.

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.



Industrial Classification	GRAVEL			SAND			FINES
	Very Coarse	Coarse	Fine	Coarse	Medium	Fine	
	75mm	19mm	4.75mm	2.0mm	0.425mm	0.075mm	



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

Aggregate Resources

83 F/3 Cadomin

J.C. Fox

Geology and compilation 1982 and 1983. Additional information from L.A. Bayrock and T.H.F. Reimchen, 1980 and M.A. Roed, 1970.

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.

Cartography by Alberta Research Council, Graphic Services, J.K. Matthie.

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Natural Resources Division
Alberta Geological Survey