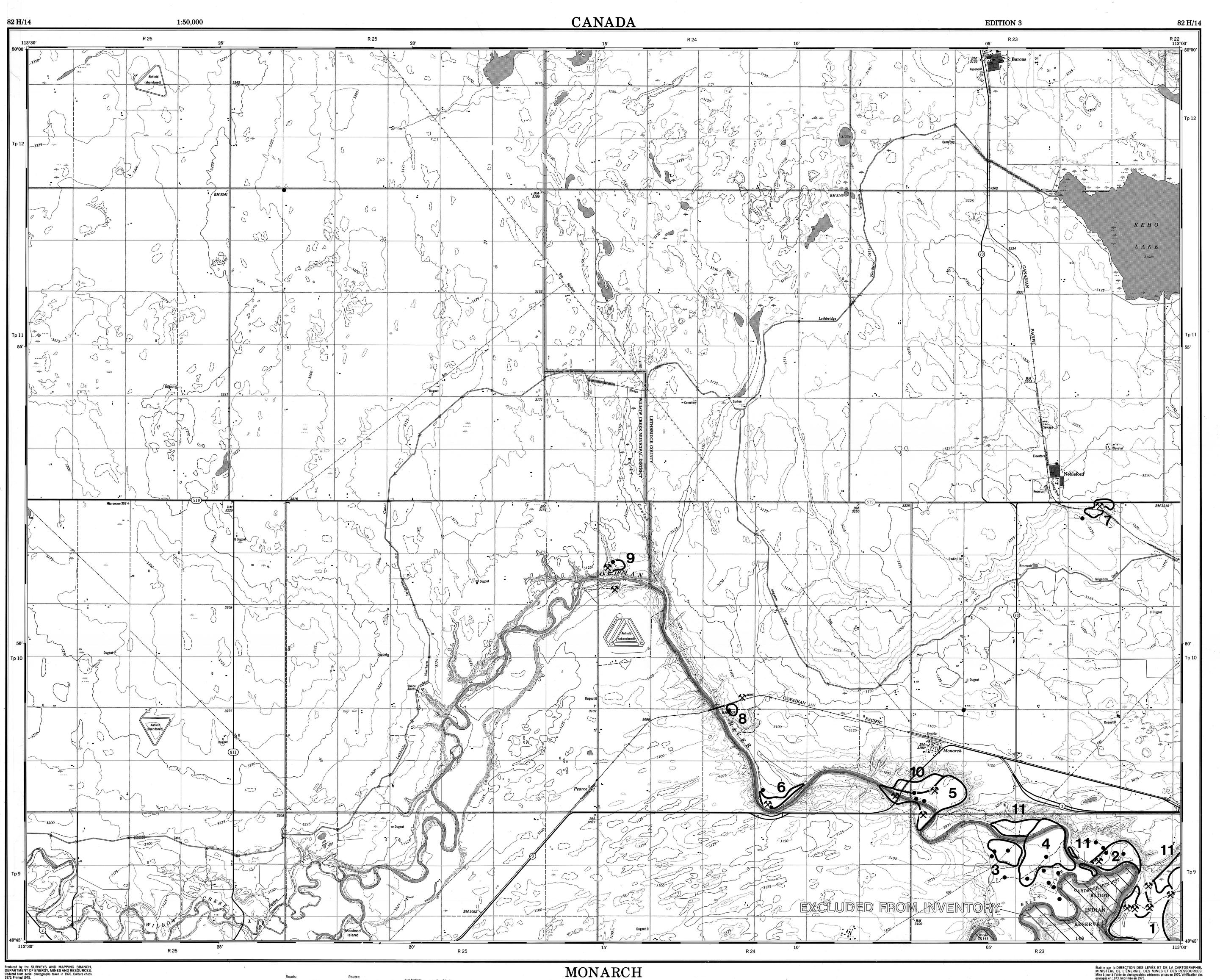
Digitizing and scribing of the revision was carried out on the Automated Cartographic System.

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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ALBERTA

Scale 1:50,000 Échelle

Yards 1000 0 1000 2000 3000 4000 Verges

Miles 1 0 1000

Routes:

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

hard surface, all weather pavée, toute saison dual-highway more than 2 lanes plus de 2 voies

loose or stabilized surface, all weather... gravier aggloméré, toute saison... 2 lanes or more 2 voies ou plus moins de 2 voies

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

GENERAL COMMENTS

Deposit Number	Material Description	Reserves (1000 m³) Gravel Sand		Additional Comments	Texture (%) Gravel Sand Fines			(%) Wear	Overburden Thickness (m)	Deposit Thickness (m)	Deposit Area (ha)	Deposit Genesis	Additional Comments
		Giuvei	Juna		Graver	Jana	1 11103		, , ,		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		*
1	Sandy gravel and gravel	4763	2460	Gravel coarse and fine; sand fine to coarse grained.	47.9 to 79.0	20.0 to 45.7	1.0 to 6.4	-	0 to 2.1	2.4-7.6 Avg. 4.6	485	Recent alluvial	Deposit continues on NTS 82H/11.
2	Gravelly sand	654	833	Gravel fine and coarse; sand medium and fine grained.	43.6	55.5	0.9	-	O to 0.9	4.6	73	Recent alluvial	
3	Sandy gravel	1246	524	Gravel coarse and fine; sand medium grained.	69.2	29.1	1.7	Ξ.	0.6	up to 8.2	60	Recent alluvial	
4	Gravelly sand	1500	1500	Gravel coarse and fine; sand fine grained.	≃50	≃50	≃0	-	0.6	6.5	100	Recent alluvial	
5	Sandy gravel	1366	626	Gravel coarse and fine; sand fine and medium grained.	68.3	31.3	0.4	=	-	4.6-6.1	90	Recent alluvial	
6	Sandy gravel and gravel	283	94	Gravel coarse; sand fine grained.	68.6 to 80.2	18.5 to 30.8	0.6 to 1.3	ı	-	2.1-5.8 Avg. 3.7	22	Recent alluvial	
7	Sandy gravel	57	27	Gravel coarse; sand fine to coarse grained, clean.	67.5	32.0	0.5	-	0	More than 1	10	Outwash	
8	Gravelly sand and sandy gravel	7	6	Gravel coarse and fine; sand fine to coarse grained.	45.2 to 60.6	52.6 to 38.7	0.7 to 2.2	-	-	2.1	1.2	Valley train	
9	Sandy gravel	11	3	Gravel coarse; sand fine to coarse grained.	74.9	22.5	2.7	- ,	0.3	1	2	Valley train	
10	-	-	-	Recorded in testholes and well logs.	-	-	-	-	-	-	-	-	Gravel and sand covered by more than 10 feet of overburden.
11	-		-	Assumed on basis of geological associations.	-	-	-		-	-		.	Gravel and sand covered by more than 10 feet of overburden.
								87		ş .		-	
												49)	
		, ,		and the same of								· · · · · · · · · · · · · · · · · · ·	

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.

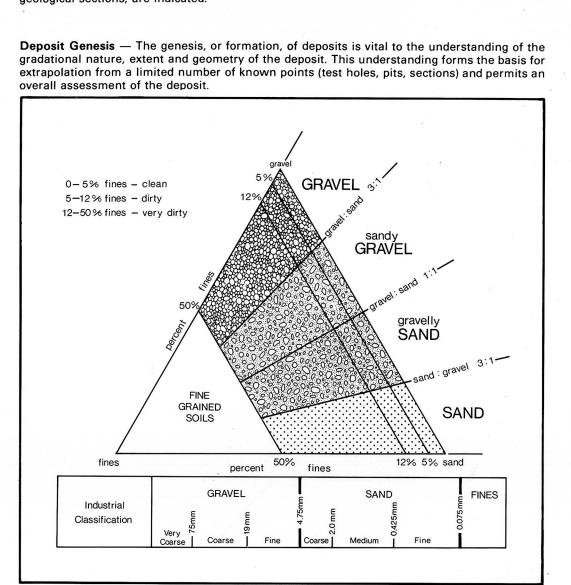
Reserves — The method of calculating in cubic metres the aggregate reserves of deposits took four basic steps. First, the area, in hectares, of each deposit was determined using aerial photographs. Second, geological interpretation, sometimes supported by subsurface information, was assumed in determining 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.







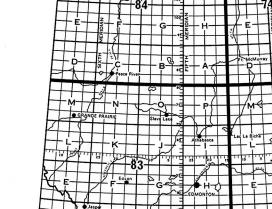
Alberta Geological Survey

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.

Geology and compilation by I. Shetsen; revised from Earth Sciences

AGGREGATE RESOURCES

MONARCH 82H/14



Active or inactive pit Alberta Geological Survey test hole ▲ Sand or gravel exposure

3 Deposit number Assumed boundary

// Buried sand or Gravel deposit

WEST OF FOURTH MERIDIAN - OUEST DU QUATRIÈME MÉRIDIEN CONTOUR INTERVAL 25 FEET
Elevations in Feet above Mean Sea Level
North American Datum 1927 ÉQUIDISTANCE DES COURBES 25 PIEDS Élévations en pieds au-dessus du niveau moyen de la mer Système de référence géodésique nord-américain, 1927 Metres 1000 0 1000 2000 3000 Transverse Mercator Projection 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 1970. Vérification des ouvrages en 1973. Imprimée en 1975. La traduction en numérique et le traçage de la revision ont été réalisés par le système de cartographie automatique. 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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