SECTION ALONG LINES A-A', B-B'

Horizontal Scale: 1 inch to 2 Miles

LEGEND

BEDROCK GEOLOGY

MESOZOIC AND CENOZOIC

CRETACEOUS AND TERTIARY
UPPER CRETACEOUS AND PALEOCENE

5 — *Willow Creek Formation (1,000'+): soft weathering, interbedded green, grey and maroon shales, pale greenish grey fine-grained sandstone. Aquifer potential is poor*

MESOZOIC

CRETACEOUS
UPPER CRETACEOUS

4 — *St. Mary River Formation (1,160'±): interbedded, greenish grey and light grey, soft shale and sandy shale with thin hard bands of fine-grained sandstone and ironstone; large lenticular sandstone bodies; coaly beds and oyster shell beds at base. Aquifer potential is good for lenticular sandstone bodies in middle and lower part of formation; remainder of formation, poor*

3 — *Blood Reserve Formation (40-100'+): thick-bedded, massive, uniform coarse-to medium-grained sandstone. Aquifer potential is good*

2 — *Bearpaw Formation (400-600'+): dark brownish grey, soft laminated shale with thin layers of bentonite and fine-grained sandstone. Aquifer potential is poor*

1 — *Belly River Formation (2,200'+): interbedded, light grey, greenish grey fine-grained sandstone, shales and sandy shales, minor coal, limestone and bentonite beds. Aquifer potential is probably fair but occurs at too great a depth beneath Blood Indian Reserve for economical recovery*

Note: Numbers in parenthesis indicate thicknesses in feet

Geological boundary (defined, approximate)
Fault (defined, assumed)
Dip direction of bedrock (feet per mile) calculated from top of Bearpaw Formation — 125
Proposed test hole
Bore-hole

POTENTIAL AQUIFERS

A — *Surface deposits of sand and gravel*

B — *Sand and gravel within drift, depth in feet ranges as indicated*

C — *Sand and gravel at base of drift, thickness ranges from 5 to 40 feet*

D — *Area of flowing wells*

Drift thickness contours (compiled from seismic shot-hole data supplied by Dr. A. B. Irwin, Indian Affairs Branch, Department of Citizenship and Immigration, Calgary, Alberta) — 25
Major watershed
Water sample; surface, spring, well (number at a symbol refers to location number in Sample Analysis)

LOCATION	SAMPLE ANALYSIS				
	Specific conductance	*Hardness*	*Iron*	*pH*	*Chloride*
1	5850	654	> 5.0	7.5	175
2	290	137	0	8.5	25
3	380	172	3.0	8.0	37.5
4	3210	1050	0.3	8.0	125
5	550	172	0.1	9.0	25
6	920	362	0.3	8.5	50
7	1200	275	0.2	8.0	37.5
8	1280	172	0	8.0	37.5
9	2000	740	0	7.5	45
10	2450	895	0.1	8.0	50
11	5000	670	> 5.0	7.5	62.5
12	440	189	0.1	8.0	30
13	1540	206	0.1	8.0	62.5
14	245	137	0.1	8.0	25
15	700	292	0.2	8.5	25
16	590	276	0.1	8	25
17	1540	585	1.0	8	25
18	750	292	0	8.0	25
19	350	206	0.1	8.0	25
20	468	206	0	8.5	25
21	1320	480	> 5.0	7.5	37.5
22	2050	550	0	8	50
23	230	120	0	8.5	25

Groundwater geology by J.S. Scott. Bedrock geology compiled from Geological Survey of Canada maps and reports

To accompany Paper 63-15, by J.S. Scott

Geological cartography by the Geological Survey of Canada, 1963

Roads — paved
— gravel and elevated
— dirt or bladed car trail
— car trail
Railway
Bridges, road, railway
Cutting, embankment
Township boundary
Section line
Bench mark with elevation — BM 3672
Building, barn
Church, school
Cemetery
Stream, intermittent or dry
Lake, intermittent, indefinite
Inundated land, seasonal
Marsh or swamp
Foreshore flats, sand or gravel
Contours — elevation — 3575
— depression
— cliff
Height in feet above mean sea-level — 3298

Note: Contour interval in TP. 3, R. 25, 26, 27 and TP. 4, R. 27 is 50 feet. Contour interval on remainder of sheet is 25 feet

Base-map compiled and drawn by the Surveys and Mapping Branch, 1963

Approximate magnetic declination 20° 21' East, decreasing 2.9' annually

GEOLOGICAL SURVEY OF CANADA
DEPARTMENT OF MINES AND TECHNICAL SURVEYS

Figure 2

BLOOD INDIAN RESERVE

INDIAN RESERVE NO. 148

WEST OF FOURTH MERIDIAN

ALBERTA

Bedrock geology, location of potential aquifers, drift thickness contours, and water sample sources

Scale: One Inch to One Mile = $\frac{1}{63,360}$

Miles

INDEX MAP

LEGEND

5 — *Alluvium, gravel, sand*

4 — *Alluvium, silt, sand, clay, local gravel*

3 — *Till (Laurentide)*

2 — *Till (Cordilleran)*

1 — *Bedrock*

Highway
Wagon trail
Pack trail or path
Park boundary
Intermittent stream and lake
Marsh
Contours (interval 100 feet) — 5500
Height in feet above mean sea-level — 5255

Scale of Feet
0 5,000 10,000

Surficial geology, Blood Indian Reserve Timber Limit A (after A. M. Stalker, 1958)

Published, 1964

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