

LEGEND

Stratigraphic symbols in brackets on the map indicate bedrock units projected under younger deposits

**QUATERNARY
PLEISTOCENE AND RECENT**

- Qd Till, alluvium, colluvium
- Qls Landslides, debris of nearby bedrock

**TERTIARY
PALEOCENE**

- Tphs PORCUPINE HILLS FORMATION (undivided): Thick, cross bedded, fine- to medium-grained, buff-weathering, grey sandstone; cross-bedded, friable, fine-grained, buff weathering grey sandstone, grey-green, mudstone, medium to dark grey mud shale, tan mudstone, red mudstone; minor fine-grained pedogenic limestone; (non marine)
- Tphs Resistant sandstone lithosome: Fine- to medium-grained sandstone, cross bedded cliff-forming, typically 5 to 20 meter thick units; minor mud shale interbeds

**CRETACEOUS AND TERTIARY
UPPER CRETACEOUS TO PALEOCENE**

- KTwc WILLOW CREEK FORMATION: red, green, dark grey, and purple mud shale; limy calcine nodules in shale; fine- to medium-grained, cross-bedded buff-weathering, grey sandstone (non marine)

MAP SYMBOLS

Outcrop (small, large, scattered)

Geological boundary (defined, approximate, assumed)

Geological boundary (assumed projection under younger deposits)

Geological boundary of a resistant sandstone unit (projected from airphoto interpretation)

Dotted lines denote change in mapping precision. Stratigraphic subdivisions are amalgamated at dotted lines

LOCAL STRUCTURES

PLANAR STRUCTURES

- Bedding, tops known (horizontal, inclined)
- Bedding measured by photogrammetry (horizontal, inclined)
- Minor fault (normal motion inclined, reverse fault inclined)
- Joint (inclined, vertical)
- Vein (inclined)

LINEAR STRUCTURES

- Cross-bedding and current ripples: downplunge paleocurrent sense, upplunge paleocurrent sense
- Local syncline fold (plunge)
- Local anticline fold (plunge)
- Trough cross-bedding down current direction

REGIONAL STRUCTURES

- Normal Fault (approximate, inferred, projected under cover)
- Zone of monoclinal flexure
- Monocline (approximate, projected under cover)
- Anticline (upright, position inferred from photogrammetry)
- Syncline (upright, position inferred from photogrammetry)

WELLS

- Oil; producing, suspended
- Gas; producing, suspended
- Dry, abandoned

NOTE 1: Bedding measured by photogrammetry is plotted at a position situated midway between two of the three measured survey points.

NOTE 2: The monoclines are interpreted on basis of seismic data along Highway 520 and range road 280 (R280).

SCHEDULE OF WELLS

Ordered by released date

UID	FULLNAME	RIG RELEASE (year/day)	SURFACE LOCATION (UTM Coord., Easting, Northing)
1-100020401029W4 0	SPRING POINT NO. 2-4	550322	293 272 5 518 263
2-100102501127W4 0	SINCLAIR OAE FARMER WELL 1	570912	316 426 5 535 213
3-100090601228W4 0	AMOCO CLARESHOLM 6-8-12-28	660806	298 002 5 536 660
4-100102001027W4 0	DOME ET AL GRANUM 10-20-10-27	660911	311 471 5 524 077
5-100103801128W4 0	ALTRUD GULF CLARESHOLM 10-26-11-29	700911	297 048 5 537 855
6-100100701228W4 0	HOMESTEAD CDN SUP CLARES 10-7-12-28	711215	288 798 5 540 810
7-100100101130W4 0	ELF PORCUPINE 10-1-11-30	730522	286 824 5 529 972
8-100091801127W4 0	AMOCO ET AL CLARESHOLM 6-19-11-27	770612	307 904 5 533 336
9-100162801128W4 0	SELECT CLARESHOLM 16-28-11-28	790308	302 537 5 536 166
10-100160101128W4 0	DOME AMOCO CLARESHOLM 16-1-11-28	791128	306 706 5 529 595
11-100061801227W4 0	RANGER ET AL MONTGOMERY 6-16-12-27	800119	311 200 5 541 544
12-100102401027W4 0	ESSO SUNDANCE MUDYLYK 10-24-10-27	800729	319 036 5 523 640
13-100059601027W4 0	CZAR ET AL MUD LAKE 6-26-10-27	800206	315 779 5 524 982
14-100162301028W4 0	CHEVRON CDN-SUP CLARES 16-23-10-28	800320	306 836 5 524 545
15-100080801027W4 0	REA MUDYLYK 8-8-10-27	800324	311 474 5 520 465
16-100062000927W4 0	HS UGAS MUD LAKE 6-26-9-27	800423	315 695 5 516 479
17-100090601128W4 0	SUNDANCE ESSO WINDY PUMP 9-8-11-28	800513	300 190 5 531 162
18-100080801228W4 0	DOME ET AL LYNDON 8-8-12-28	800804	300 508 5 540 389
19-100082001128W4 0	DORCHESTER SUNCOR GRANUM 9-20-11-28	800821	319 842 5 533 337
20-100103801128W4 0	ESSO WINDY PUMP 10-26-11-28	800921	306 840 5 537 317
21-100062001028W4 0	CZAR ET AL MUD LAKE 6-2-10-28	800908	306 011 5 519 044
22-100081101127W4 0	ESSO ET AL GRANUM 8-11-11-27	800909	314 869 5 529 985
23-100081101127W4 2	ESSO ET AL GRANUM 8-11-11-27	800909	314 869 5 529 985
24-100072801027W4 0	CZAR ET AL MUD LAKE 7-28-10-27	800921	313 165 5 525 038
25-100142801128W4 0	DOME ET AL CLARESHOLM 14-28-11-28	800926	299 673 5 536 106
26-100080201027W4 0	CZAR ET AL MUD LAKE 8-2-10-27	801012	316 324 5 518 721
27-100063301128W4 0	RISING OXLEY 6-33-11-28	801026	301 270 5 537 145
28-100060701228W4 0	RISING OXLEY 6-7-12-28	801224	298 022 5 540 175
29-100082501128W4 0	HUSKY ET AL MONTGOM 6-25-11-28	810806	306 146 5 535 053
30-100093401127W4 0	RANGER ET AL MONTGOMERY 9-34-11-27	810908	313 724 5 536 774
31-100162400928W4 0	CHEVRON ET AL AMELIA 16-24-9-28	820222	307 991 5 514 640
32-10009101228W4 0	CON-SUP GECO MONTGOMERY 9-1-12-29	831015	297 552 5 528 053
33-100032501029W4 0	HOME MONTGOMERY 3-25-10-29	840710	298 060 5 525 270
34-100163801128W4 0	SUNCOR MONTGOMERY 16-38-11-28	850718	297 186 5 538 049
35-100120401027W4 0	OWME AMELIA 12-4-10-27	850623	311 877 5 519 216
36-100081101127W4 0	RANGER DEKALB MONTGOMERY 6-11-12-27	860402	314 685 5 538 576
37-100061401227W4 0	RANGER DEKALB MONTGOMERY 6-14-12-27	880921	314 645 5 541 470
38-100103801127W4 0	RANGER DEKALB MONTGOMERY 10-38-11-27	881013	316 328 5 536 825
39-100142001027W4 0	SASKOIL AMELIA 14-20-10-27	930504	310 864 5 524 529
40-100081701228W4 0	CANUNTER CLARESHOLM 8-17-12-28	931012	320 183 5 541 306

Geology by M. McMechan, based on fieldwork and studies of vertical air photographs (1995-1996)
 Geological cartography by M. McMechan and S. Hinds

Any revisions or additional geological information from the user would be welcomed by the Geological Survey of Canada

UniversAL TRANSVERSE MERCATOR GRID, ZONE 12

Elevations in feet above mean sea level. Contour interval 50 feet.

Base map at the same scale published Surveys and Mapping Branch in 1975

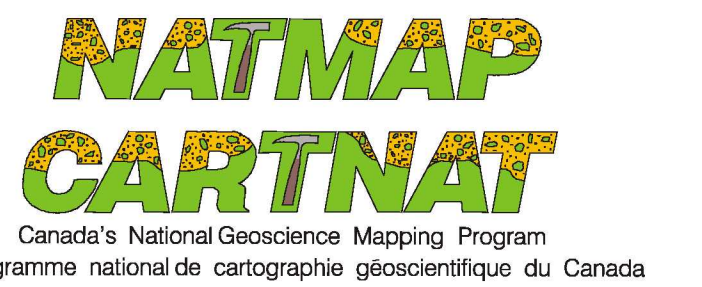
Copies of the topographical edition of this map may be obtained from the Canada Map Office, Department of Natural Resources, Ottawa, Ontario

CONTOUR INTERVAL 50 FEET
 Elevations in feet above mean sea level
 North American Datum 1983
 Transverse Mercator Projection

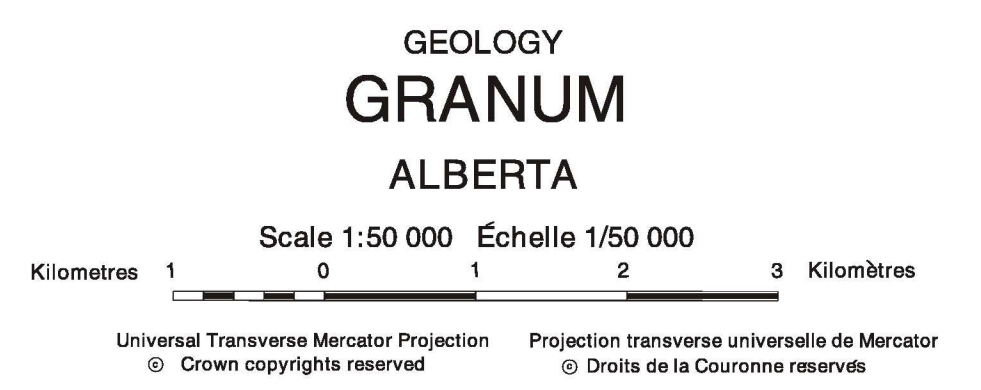
NOTES:
 Base map and geology have been transformed from NAD27 (North American Datum 1927) to NAD83.

Recommended citation:
 McMechan, M. 1997. Granum (82H/13), Alberta-Geology (preliminary); Geological Survey of Canada, Open File map 3445, scale 1:50 000.

Copies of this map are available from:
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82J/1 Langford Creek	82I/4 Clareholm	82I/3 Carmangay
82Q/16 Maycroft MAP 978A OF 3275	82H/13 Granum OF 3445	82H/14 Monarch 20-1967
82Q/9 Blairmore MAP 1829A OF 816A	82H/12 Brocket OF 3289	82H/11 Fort McLeod 20-1967

NATIONAL TOPOGRAPHIC SYSTEM REFERENCE AND INDEX
 TO ADDITIONAL GEOLOGICAL SURVEY OF CANADA MAPS

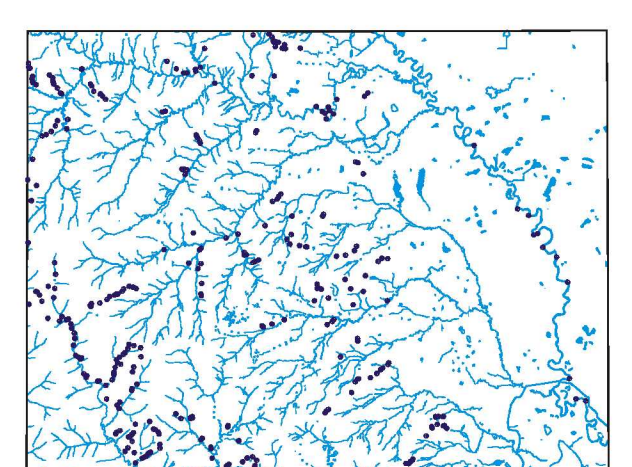


Figure 1: Location of field stations (n= 333)