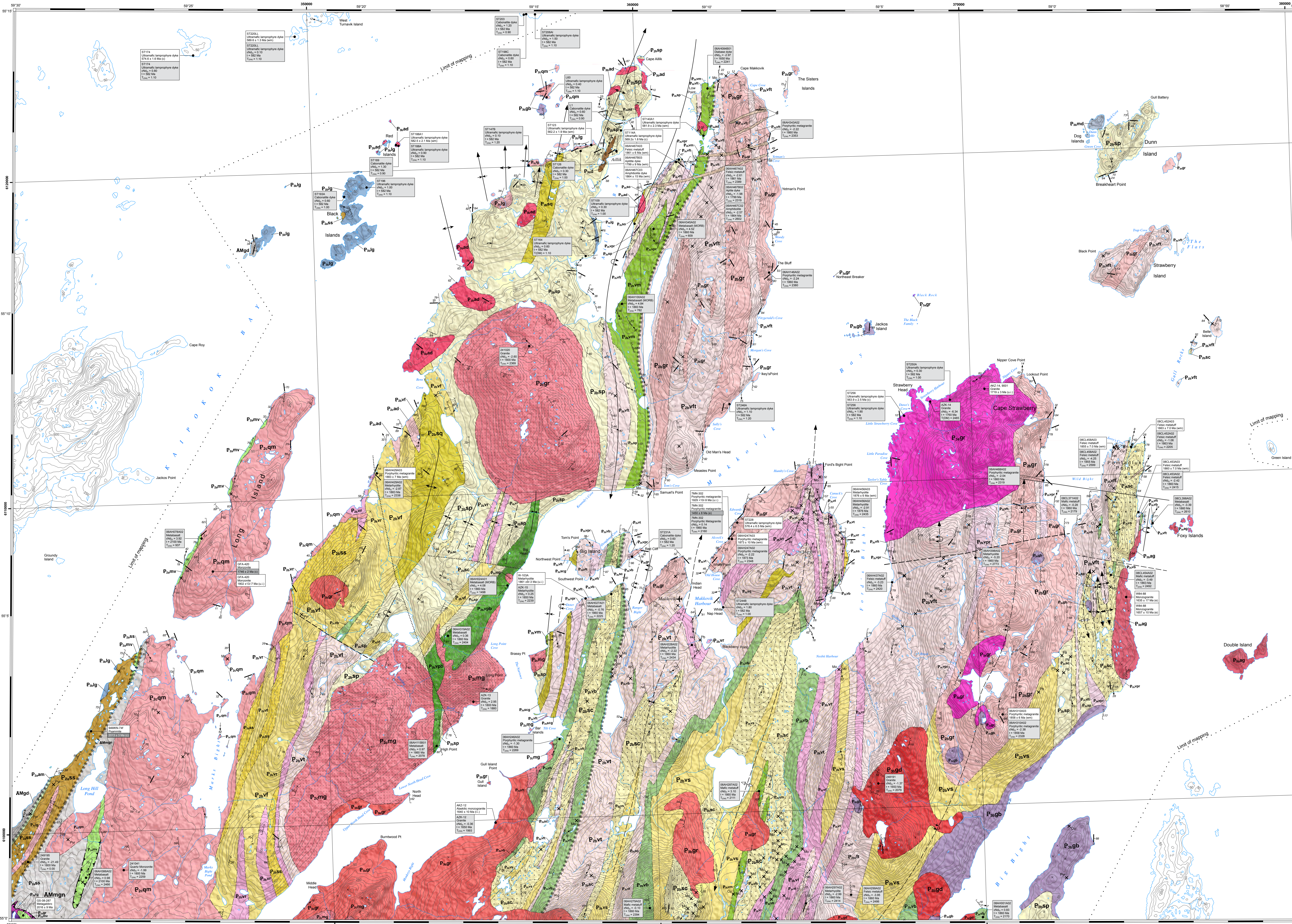


NOTES

A preliminary version of this map was published in paper form, together with a Current Research report (see Hickey, 2007).
The current map includes additional data collected during field visits in 2009, 2010 and 2011, but is based primarily on the data collected in 2006. The map also incorporates field data from Hickey (1981), including use of rock and structural data from G.S. Cooper, S.M. Barr, N.G. Colburn, and J.W.F. Ketchum from 1998 to 2005, as well as recent structural data from the same area. The map also incorporates structural data from the same area. The map also incorporates structural data from the same area.



The map incorporates the results of a geochronological study of the Makkovik area, including U-Pb zircon dates, which are shown as small circles on the map. The map also includes a legend for the geological units and a scale bar.

Individual outcrops are typically very complex and contain multiple rock types. The unit polygons typically represent the most abundant lithology in the area. The '1st' designation within the outcrop labels refers to the digitized database contains the listing of all of the mapped rock types with any given outcrop. Descriptions are listed between the rock name given in the field and the rock name assigned to the outcrop description, rock data and geochemistry data to subsequent more detailed analyses. The original field interpretations remain unchanged in the database, however, the unit designations and labels reflect the updated interpretation of the field.

The main differences between this map and that of Hickey (2007) are that detailed geochronological and geochemical data has been added to the map, as well as the addition of the detailed structural data. The map also includes a legend for the geological units and a scale bar.

The map is based on the geological map of the Makkovik area, Labrador, published by Hickey (2007). The map also includes a legend for the geological units and a scale bar.

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U-Pb Geochronology

Sample Number	Rock Type	Concentration Age	Mineral Analyzed	Interpretation
1	2	3	4	5

Data Sources

Sample No.	UTM (Zone 18, NAD 2011)	Latitude	Longitude	Mineral	Method	Reference
SM4310A05	720566	6152792	1858.6 E 8 Ma	Zircon	SHRIMP	Hickey and Reynier, 2006

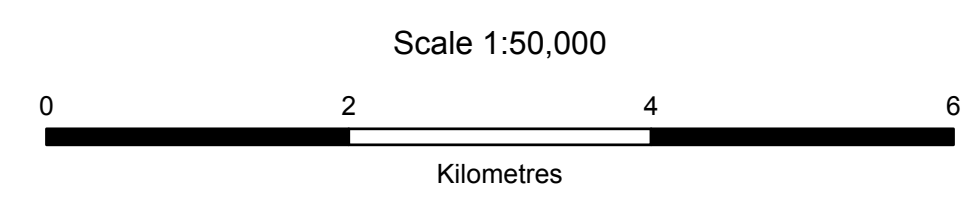
Sm-Nd Isotopic Data

Sample Number	Rock Type	Age (Ma)	Interpretation
1	2	3	4

Sm-Nd Isotopic Data References

Author	Year	Sample No.	Age (Ma)	Interpretation
Hickey	2007	SM4310A05	1858.6	Zircon

MAP 2013-07
OPEN FILE 0130/0138
GEOLOGY OF THE MAKKOVIK AREA, LABRADOR
(NTS 130/03 AND PARTS OF NTS 130/02)



LEGEND

- AGES POORLY CONSTRAINED**
(Probably younger than 1600-600 Ma)
- D** Brown weathering, east trending, plagioclase-mylonitic diabase dykes
- AGES POORLY CONSTRAINED**
(Probably younger than 1600-600 Ma)
- P₁ad** Feldspar-pyrite gabbro dykes
 - P₁ad** Dykes to locally felsitic porphyritic granite dykes and sills
- AGES POORLY CONSTRAINED**
(Probably younger than 1600-600 Ma)
- LATE LABRADORIAN (P₁, ca. 1600-1625 Ma)**
 - P₁md** Coarse-grained, locally porphyritic, hornblende and monzonite and felsite
 - P₁lg** Coarsely crystalline, minor gabbro containing abundant xenoliths
 - P₁ag** Coarse-grained, hornblende, monzonite and locally felsitic granite
 - P₁gr** Fine to medium-grained, locally porphyritic, hornblende monzonite, part of the Monroy Hill Intrusive Suite, and includes the Monroy Hill Granite train body and Round Point
 - P₁gb** Coarse to medium-grained, gabbro and monzonite, part of the main body of the Adark Intrusive Suite. A U-Pb zircon date of 1719 ± 3 Ma was obtained from a peritectic monzonite phase of the suite in Adark Bay, south of the map area
- EARLY LABRADORIAN (P₂, ca. 1720 Ma)**
- P₂gr** Hornblende gabbro, coarse to medium-grained, both monzonite and alkali-feldspar granite of the Cape Straberry Granite and is part of the Straberry Intrusive Suite. This unit has a U-Pb zircon date of 1719 ± 3 Ma
- MID PALEOPROTEROZOIC (P₃, ca. 2100-1800 Ma)**
- INTRUSIVE ROCKS**
- P₃ad** Pink, homogeneous, fine-grained aplitic dykes; this unit has a U-Pb zircon age of 1739 ± 5 Ma
 - P₃lg** Locally sheared biotite-muscovite leucogabbro
 - P₃mg** Variscan granite, foliated, fine-grained quartz monzonite and monzonite, part of the Kennedy Mountain Intrusive Suite, and has a U-Pb zircon age of 1808 ± 2.3 Ma
 - P₃gr** Kennedy Mountain Granite. Part of the Kennedy Mountain Intrusive Suite, weakly to moderately foliated, both monzonitic, locally contains felsitic gabbro; minor north-south orientation
 - P₃qm** Long leaved Quartz Monzonite. Strongly to moderately foliated, locally porphyritic, granitoid, monzonite and quartz monzonite
- LATE MID PALEOPROTEROZOIC (P₄, ca. 1885-1850 Ma)**
- INTRUSIVE ROCKS**
- P₄gr** Foliated, mylonitized, fine to medium-grained, quartz + felsite porphyritic granite; interpreted as a peritectic, hornblende intrusion, age range between ca. 1875 - 1850 Ma
- SUPRACRUSTAL ROCKS**
(Comprises the deformed and metamorphosed Aikik Group¹ ca. 1883-1850 Ma)
- P₄vr** Fine-grained quartz-felsite, locally porphyritic to equigranular metadiabase, associated with minor felsic metadiabase and locally containing several temporally distinct flows that are structurally truncated through the unit
 - P₄vt** Banded felsic metadiabase, includes minor locally mafic, felsite monzonite, metadiabase and tuff metadiabase; this unit comprises several temporally distinct ash flow ranging in age from ca. 1880 - 1850 Ma
 - P₄vb** Moderately deformed felsic metadiabase; this unit is characterized by gneissic patterns that have fine scale north-south oriented (NSO) lineations related to tectonics
 - P₄vm** Fine to medium-grained, strongly deformed, metadiabase (amphibole) and minor mafic metadiabase; locally contains orthopyroxene nodules; this unit is characterized by gneissic patterns that have fine scale north-south oriented (NSO) lineations related to tectonics
 - P₄sv** Meta-supported oligoclitic metadiabase containing coarse angular to subrounded clasts that are dominantly interbedded with fine-grained metadiabase
 - P₄scg** Highly strained, oligoclitic metadiabase similar to felsite monzonite (SM P₄scg) interbedded (2 to 10 m) with laminated metadiabase (SM P₄scg); also contains minor felsite monzonite and felsic metadiabase
 - P₄svs** Non- to weakly bedded, felsite to volcaniclastic metadiabase; includes minor felsic metadiabase and felsic metadiabase
 - P₄scs** Polymictic meta-supported oligoclitic metadiabase containing poorly sorted subrounded clasts of rhyolite, felsite and unfoliated gabbro, mafic tuff, sandstone, amphibolite and mafite
 - P₄sp** Thin-bedded to laminated metadiabase interbedded with lesser grey-green quartz monzonite and minor mafic metadiabase and felsite monzonite
 - P₄vb** Fine to medium-grained, strongly deformed, metadiabase (amphibole) and minor mafic metadiabase; locally containing orthopyroxene nodules; this unit is characterized by gneissic patterns that show enriched light rare earth elements (LREE) to heavy rare earth elements (HREE) when normalized to chondrite
 - P₄vt** Non- to weakly bedded, felsite to volcaniclastic metadiabase; includes minor metadiabase flows
 - P₄vt** Banded felsic tuff; includes minor lapilli metadiabase, metadiabase and metadiabase
 - P₄sv** Polymictic meta-supported oligoclitic metadiabase containing poorly sorted subrounded clasts of rhyolite, felsite and unfoliated gabbro, mafic tuff, sandstone, amphibolite and mafite
 - P₄sp** Thin-bedded to laminated metadiabase interbedded with lesser grey-green quartz monzonite and minor mafic metadiabase and felsite monzonite
 - P₄vb** Fine to medium-grained, strongly deformed, metadiabase (amphibole) and minor mafic metadiabase; locally containing orthopyroxene nodules; this unit is characterized by gneissic patterns that show enriched light rare earth elements (LREE) to heavy rare earth elements (HREE) when normalized to chondrite
 - P₄vt** Non- to weakly bedded, felsite to volcaniclastic metadiabase; includes minor metadiabase flows
 - P₄vt** Banded felsic tuff; includes minor lapilli metadiabase, metadiabase and metadiabase
- MID PALEOPROTEROZOIC (P₅, ca. 2100-1880 Ma)**
- INTRUSIVE ROCKS**
- P₅gr** Quartz-feldspar porphyritic; hornblende, locally sheared, biotite granite to the south of the map area, in the vicinity of the Kite Deposit; this unit has a U-Pb zircon date of 1802 ± 3 Ma
 - P₅gr** Fine to medium-grained, locally coarse-grained metadiabase, amphibole and orthopyroxene; includes part of the Kite Deposit; this unit has a U-Pb zircon date of 1802 ± 3 Ma
- SUPRACRUSTAL ROCKS**
(Includes part of the Post Hill Group²)
- P₅mv** Fine-grained amphibole metadiabase, orthoclase rock (ortho orthoclase orthoclase) with minor orthoclase, orthoclase and orthoclase; interpreted as part of the Mafic Flow Lava unit, which is part of the Mafic Flow Lava Formation; comprises part of the Post Hill Group
 - P₅as** Strongly deformed, orthoclase to orthoclase, has a lower age limit of ca. 2115 Ma
 - P₅am** Fine-grained, strongly deformed amphibole, may be a higher strain composite of UHP₁ based on micro-structure
- MESARCHEAN (M, ca. 2000 Ma)**
- AMgr** K-feldspar granitoid orthogneiss intruded into minor mafic orthogneiss
 - AMgr** Locally mylonitic, right-sheared, quartz-feldspar orthogneiss; 11 km to the southwest of Long Hill Pond; this unit has a U-Pb zircon date of 2013 ± 10 Ma
- ¹See NOTES column

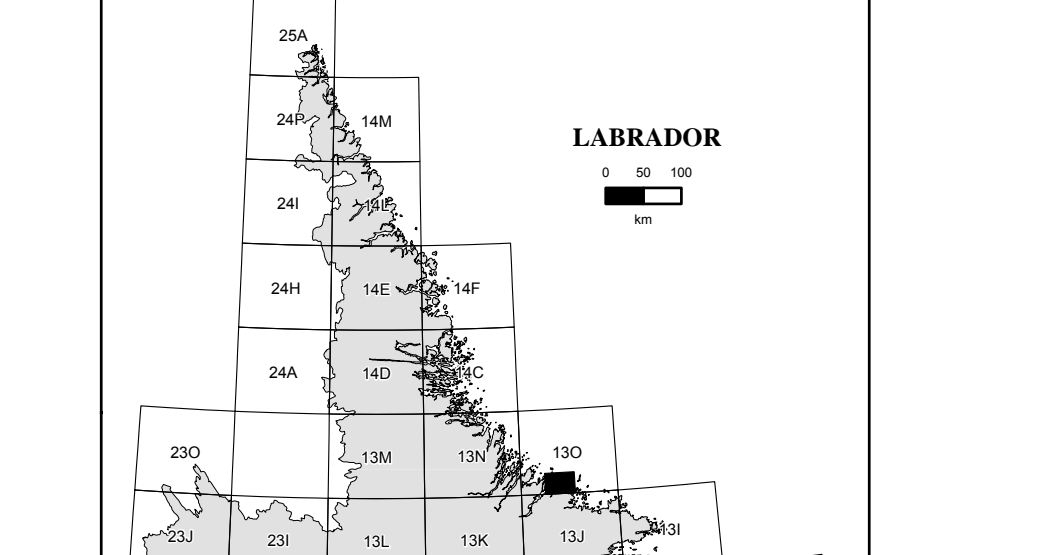
MINERAL OCCURRENCES

UTM	Latitude	Longitude	UTM	Name	Alternate name	Connectivity	Status
720566	6152792	1858.6 E	720566	1858.6 E			

MINERAL ABBREVIATIONS

A	Amphibole
Cu	Copper
F	Feldspar
G	Gabbro
Gr	Granite
Qtz	Quartz
M	Metadiabase
N	Nodules
Py	Pyrite
Ag	Argentite
U	Uranium

INDEX MAP



- SYMBOLS**
- Contour (defined, approximate)
 - Fault (approximate, assumed)
 - Dashed fault (defined, approximate)
 - Thrust fault (approximate)
 - Shear zone
 - Archieve (defined, approximate)
 - Archieve, showing plunge (defined, approximate)
 - Archieve, showing plunge, overturned (defined, approximate)
 - Archieve, showing plunge, overturned (defined, approximate)
 - Archieve, showing plunge (approximate)
 - Syncline (defined, approximate)
 - Syncline, showing plunge (defined, approximate)
 - Syncline, overturned (approximate)
 - Syncline, showing plunge (inverted) (approximate)
 - Syncline, showing plunge (approximate)
 - Limit of mapping
 - Archieve
 - Fold axis (generation unknown)
 - Fold axis (generation unknown)
 - U-lift axis (1st generation)
 - Fault (sense unknown)
 - Fault (sense unknown)
 - Fold (sense unknown)
 - Flexing (top down, unknown, overturned)
 - Flexure (top down)
 - Fold (sense unknown)
 - Contraction (sense unknown)
 - Contraction (sense unknown)
 - Intersecting (top down)
 - Intrusion (1st generation)
 - Linear fault (1st generation)
 - Mineral alteration
 - Opening (inverted) (1st generation)
 - Mineral occurrence
 - Geochronology / isotopic data sample location
 - Station