

## ISABELLA FALLS

Areas of the map symbolized as Unconsolidated sand and gravel deposits display underlying rock type(s) to portray the interpreted continuity of units, based on structural, aeromagnetic and topographic signatures. Rock types other than those shown may be present in these areas.

All data stations collected by the authors are plotted using GPS-based coordinates. This map also incorporates pre-GPS field data collected by Bouamer and Mann (1981), Rose and Ennis (1973), Curtis and Curry (1981), Miller (1987), Thomas (1981, 1985) and Nunn (1983). The accuracy of field data stations that were reported from maps or field notes of these sources is dependent on the original plotting accuracy. Mineral Occurrence symbols on this map are obtained from the Newfoundland and Labrador Geological Survey's Mineral Occurrence Database System (MODS) (<https://new.gov.nl.ca/nfldmns/>), and from unconsolidated assessment records, the field notes of these are dependent on field partying accuracy. MODS occurrences that were revealed by the authors and new mineral occurrences were located using GPS-based geographic coordinates.

The map is augmented by follow-up examination of stained rock slabs, petrographic thin sections and whole rock geochemical analyses. In many areas, geological boundaries are poorly constrained, approximated and extrapolated on the basis of outcrop distribution, topographic trends, structural observations and aeromagnetic data. Individual outcrops typically consist of several different rock types. The unit polygons depicted is based on what was interpreted to be the dominant rock type present. As rock types recorded from an individual outcrop may be determined by consulting the "Unit designator" string for that locality given in the digital database. Discrepancies in rock names applied to field outcrops versus those interpreted from stained slabs or thin sections have not been recorded in the digital database. Differences may be due to more refined identifications or the sample and/or thin section may not be representative of the source material.

Field work in 2012-23 by T. van Nottstrand and C. Corcoran

**Recommended citation**  
van Nottstrand, T.  
2023. Geology of the Isabella Falls map area (NTS 13L/02), central Labrador. Scale 1:50 000. Geological Survey, Department of Industry, Energy and Technology, Government of Newfoundland and Labrador. Map 2023-23. Open File 13L/02/153.

Geology compiled by T. van Nottstrand  
Geological cartography by G. Schlemmer, K. Morgan and T. Sears

The digital topographic database map NTS 13L/02 used here is available from the Surveyor General Branch, Natural Resources, Canada. Magnetic declination at centre of the map is 20° 19' West (March 31, 2022). Universal Transverse Mercator (UTM) Grid Zone 30, North American Datum (NAD) 27. Elevations are in metres above sea level. Contour interval is 20 m.

Open File 13L/02/153

**Correspondence**  
T. van Nottstrand, Regional Geology, Geological Survey, Department of Industry, Energy and Technology, Government of Newfoundland and Labrador, P.O. Box 7030, St. John's, NL A1B 4X6, Canada.  
Email: [tsvanottstrand@gov.nl.ca](mailto:tsvanottstrand@gov.nl.ca)

Primary versions of parts of this map published in Current Research articles have evolved so there may be differences between the current and earlier preliminary versions of the map, unit designators and the legends (see van Nottstrand and Corcoran, 2013).

Map 2023-23 is ten of twenty (20) maps on the geology of the Seal Lake Group, including adjacent rocks of older tectonic provinces in central Labrador.

Department website: <https://www.gov.nl.ca/nfld/>  
Geological Survey website: <https://www.gov.nl.ca/nfldmesogeoscience/>  
Email: [pubinfo@gov.nl.ca](mailto:pubinfo@gov.nl.ca)

**References**  
Curtis, L.M. and Curtis, K.L.  
1981. Geology and petrology of the Red Wine Alkaline Complex, central Labrador. Geological Survey of Canada, Bulletin 294, 61 pages.

Kühn, G.  
2008. Compilation of colour-shaded relief images generated from airborne magnetic data flown by the Geological Survey of Canada from 1950 through 1972. Government of Newfoundland and Labrador, Department of Natural Resources, Geological Survey, unpublished map, scale 1:250 000.

Miller, R.R.  
1987. The relationship between Mann-type Nb-titanium and Nb-titanium intrusions, Lettita Lake Project, Labrador. In: Current Research, Government of Newfoundland and Labrador, Department of Mines and Energy, Mineral Development Division, Report 87-1, pages 61-81.

Nunn, G.A.G.  
1983. Geology of the northeastern Smallwood Reservoir (NTS map area 13L/59), Labrador. Government of Newfoundland and Labrador, Department of Mines and Energy, Geological Survey Branch, Report 83-1, 140 pages.

Rose, S.M. and Ennis, R.F.  
1973. Kamehshew Lake (East Harf), Newfoundland – Quebec. Geological Survey of Canada, "A" Series Map 13A/24, 1:250 000 scale.

Thomas, K.  
1981. Geology along the southeastern margin of the Central Mineral Belt, Government of Newfoundland and Labrador, Department of Mines and Energy, Mineral Development Division, Report 81-1, 40 pages.

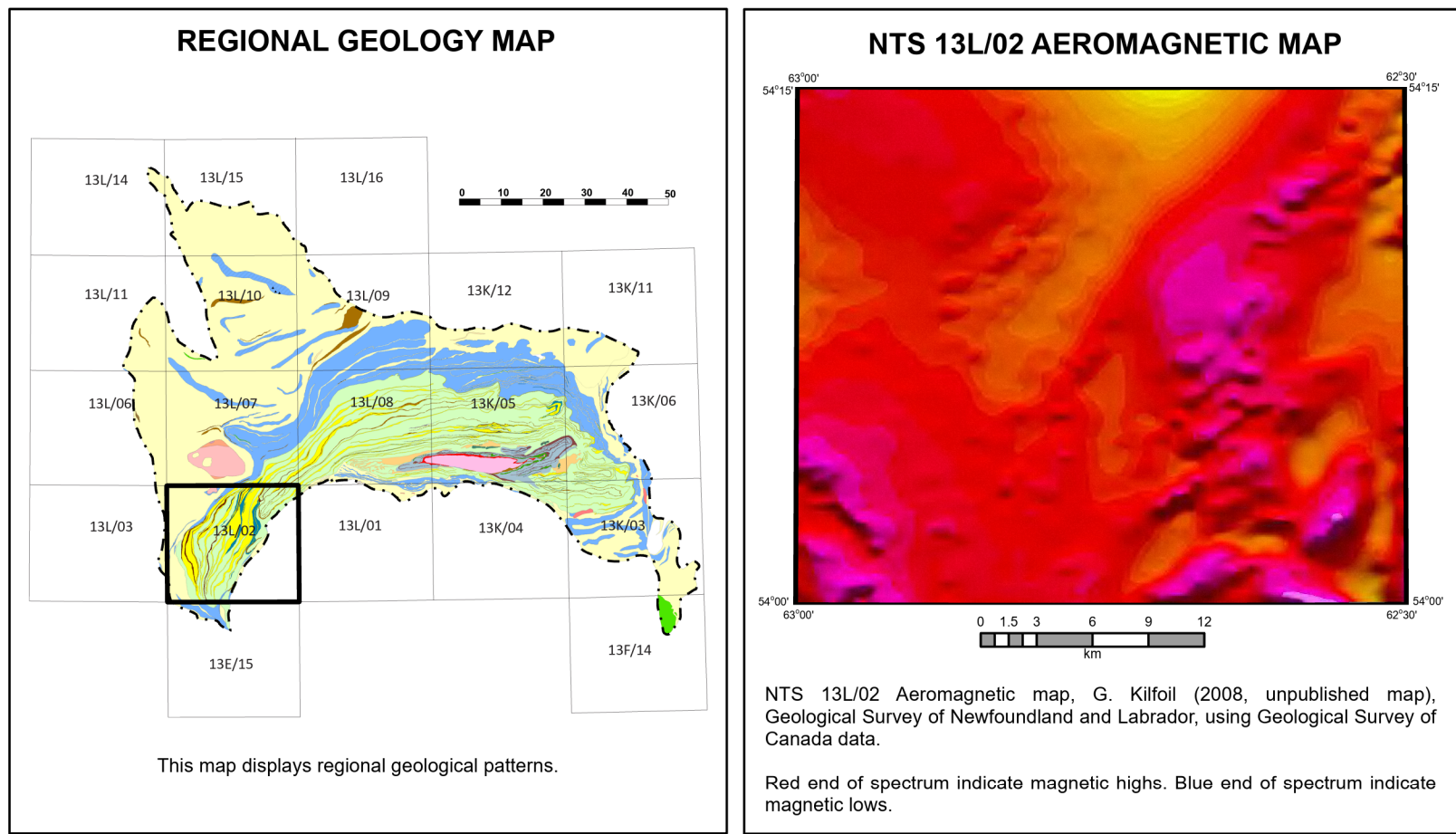
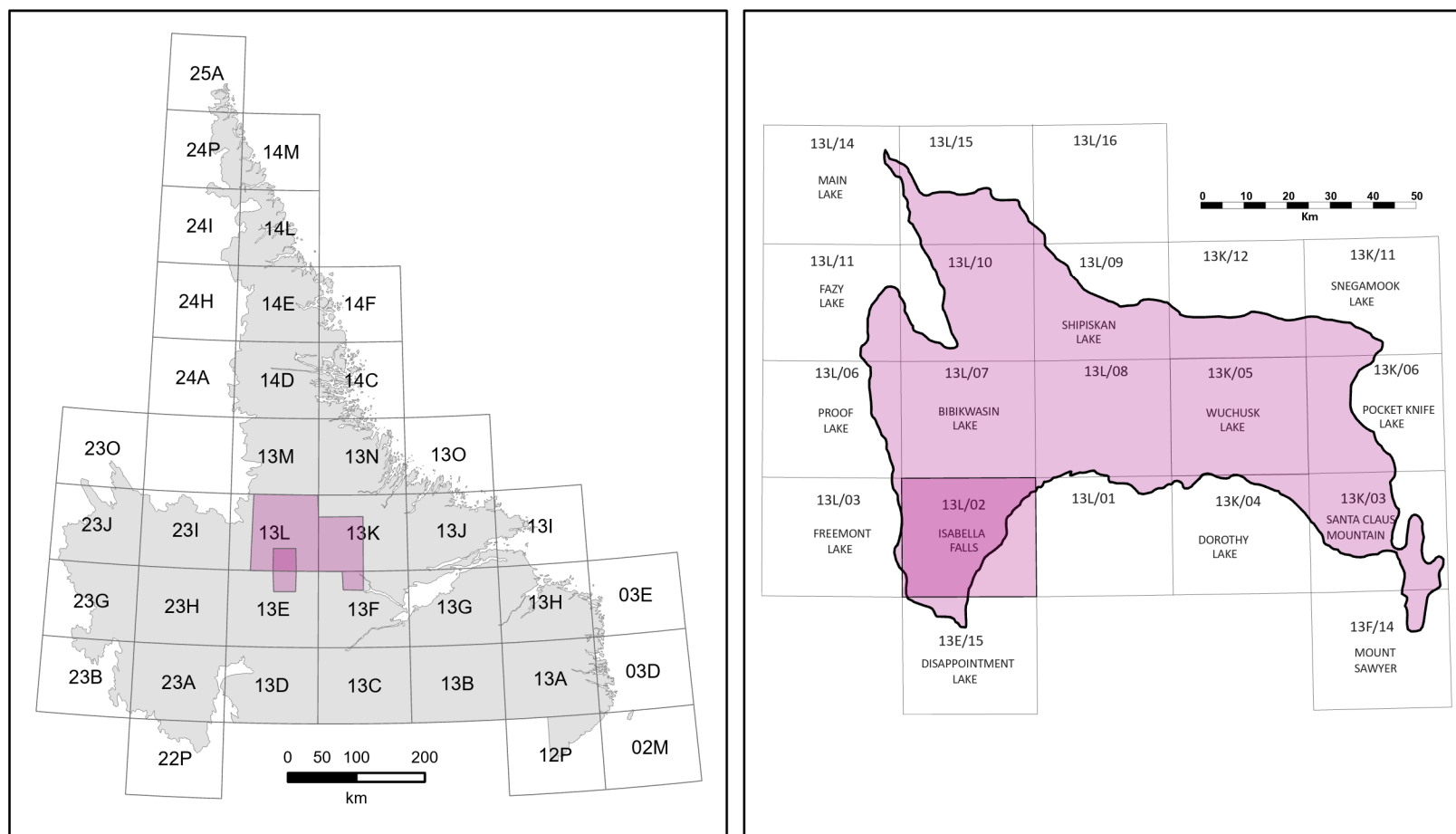
1983. Geology, Lettita Lake-Vigilant Lake area. Government of Newfoundland and Labrador, Department of Mines and Energy, Mineral Development Division, Map 83-31.

van Nottstrand, T. and Corcoran, C.  
2013. Geology of the western Mesoproterozoic Seal Lake Group, central Labrador (including all of NTS map areas 13L/2 and 7 and parts of 13L/1, 3, 5, 6, 8, 9, 10, 11, 14, 15 and 16 and 13E/1 and 15). In: Current Research, Government of Newfoundland and Labrador, Department of Natural Resources, Geological Survey, Report 13-1, pages 301-326.

Note  
Open File reports and maps issued by the Geological Survey Division of the Newfoundland and Labrador Department of Industry, Energy and Technology are made available to public use without being formally edited or peer reviewed. They are based upon preliminary data and evaluation. The purchaser agrees not to provide a digital reproduction or copy of this report to a third party. Derivative products should acknowledge the source of the data.

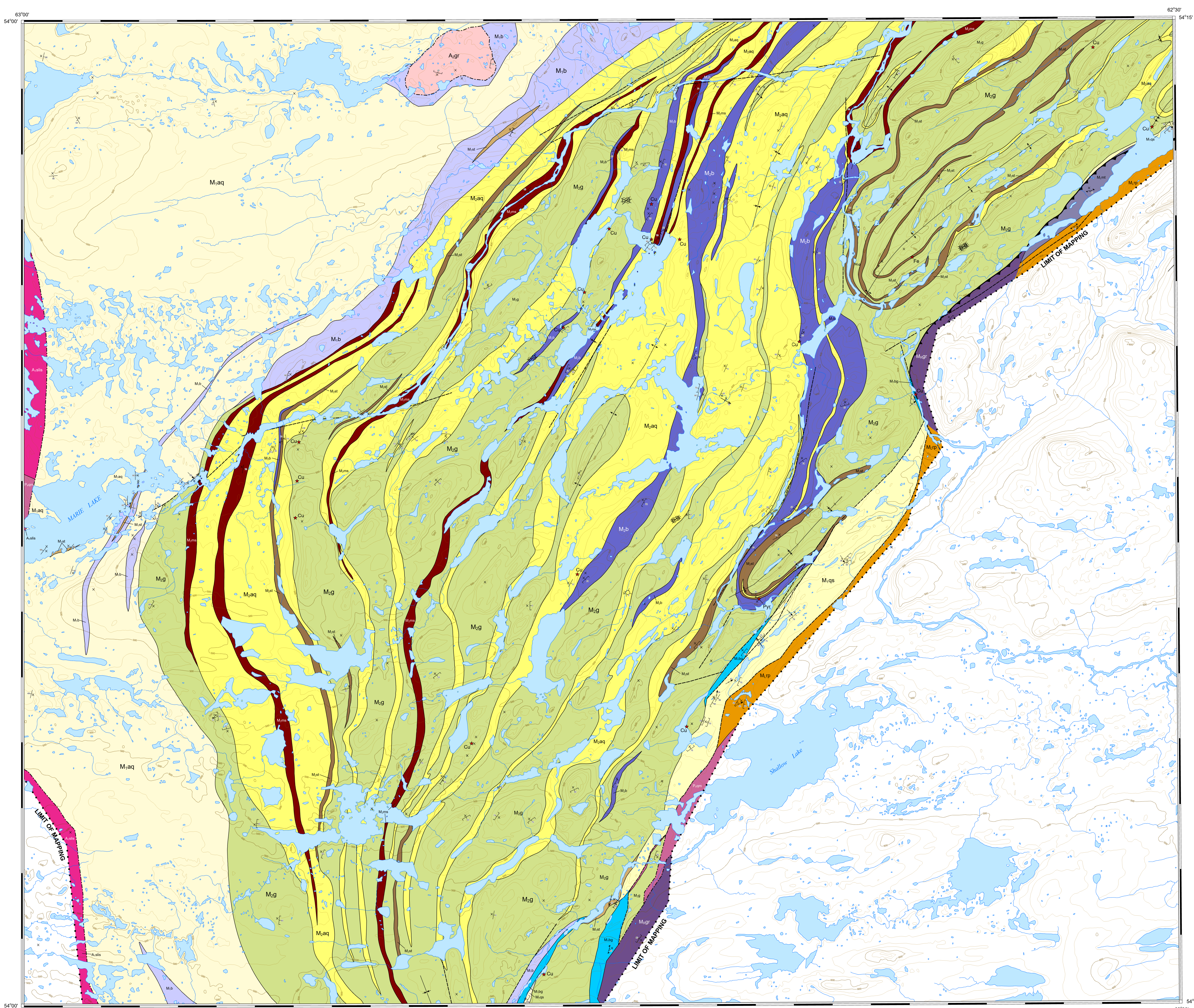
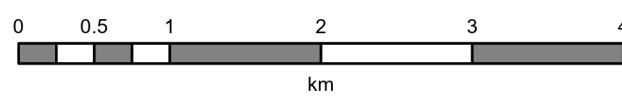
Disclaimer  
The Geological Survey, a division of the Newfoundland and Labrador Department of Industry, Energy and Technology, the authors and publishers, makes the data rights to the original data and information based in any product produced. The authors and publishers assume no legal liability or responsibility for any alterations, changes or misrepresentations made by third parties with respect to these products or the original data. Furthermore, the Geological Survey assumes no liability with respect to digital reproduction or copies of original products or derivative products made by third parties. Please consult with the Geological Survey to ensure originality and correctness of data and/or products.

## INDEX MAPS



## Map 2023-23 GEOLOGY OF THE ISABELLA FALLS MAP AREA (NTS 13L/02)

Open File 13L/02/0153  
Scale 1:50 000



## MIDDLE MESOPROTEROZOIC

### Seal Lake Group (1270-1225 Ma)

#### Upper Red Quartzite Formation

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

#### Adeline Island Formation

##### Upper Member

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1f, M1g, M1h, M1i, M1j, M1k, M1l, M1m, M1n, M1o, M1p, M1q, M1r, M1s, M1t, M1u, M1v, M1w, M1x, M1y, M1z

##### M1a, M1b, M1c, M1d, M1e, M1