

Geological Survey of Canada – Commission géologique du Canada

# Canadian Geoscience Map Bedrock Data Model v 4.0.0

Released April, 2014

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## INTRODUCTION

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### **Purpose**

The Bedrock Data Model is designed to manage data at the project level, to publish GIS enabled and hardcopy maps in the Canadian Geoscience Map series, and to facilitate the transfer of project data to a standardized national system (intended for web delivery, client querying, and archiving). The following pages record each of the feature classes that may be included in a publication, the attributes of each feature class, and a description of the content of each attribute. Each publication will include a subset of these feature classes.

### **How the Model Organizes Geological Features**

Features are organized based first on their geological feature type, then according to similarity of properties, and finally, by geometry type. The resulting feature class groupings are given a 'subfeature' property to define further the geological type of feature. An example of this is a faults feature class (feature = fault) where the faults are differentiated by subfeatures such as normal, reverse, thrust etc. Next, the minimum required properties necessary to describe the features was defined in each feature class, and a list of subfeatures for each feature was created. Lists of accepted geological terms (feature class domains) were also created for the controlled properties of each feature class. The Bedrock Legend Committee manages decisions on content of feature classes and domains.

### **Naming Conventions**

For quick recognition, feature class names were selected to reflect the geological feature type contained in the feature class, and based on the terms used by mapping geologists. For example, the folds feature class contains folds, the faults feature class contains faults, etc. Feature class names are kept to less than 20 characters to maintain file manageability. Feature properties were given names consistent with Dbase restrictions on the field names of Shapefiles (10 characters, no spaces).

### **Publication File Names**

For publication, each file name consists of the publication series number and the feature class name, separated by an underscore (spaces are to be avoided).

Examples, final Canadian Geoscience Map:

cgm\_xxxx\_Stations (where xxxx represents the map number)  
cgm\_xxxx\_MapUnits

Examples, preliminary Canadian Geoscience Map:

cgm\_xxxx\_px\_Stations (where px represents the preliminary version number)  
cgm\_xxxx\_px\_MapUnits

## POINT DATA FEATURE CLASSES

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### Stations Feature Class

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**Explanation of Contents:** station observations (any point location where specific geological information is noted)

**Attributes:**

<i>MAP_THEME</i>	Geological map theme or type (=bedrock, at surface). [Domain=map_theme]
<i>FEATURE</i>	The type of feature (=station). [Domain=feature_stations]
<i>SUBFEATURE</i>	The type of station. [Domain=subfeature_stations] Examples: visited station, remote ground observation, aerial observation, photograph only, historical published observation
<i>STATION_ID</i>	The <u>unique</u> identification of each outcrop or point where observations were made. Recommended format as follows: year, officer code, station# Example: 05FNA025
<i>PHYS_ENV</i>	The physical environment/nature of the outcrop. [Domain=phys_env] Examples: cliff face, ridge, open ground, shoreline, stream cut, road cut, vegetated terrain, quarry
<i>OC_QUALITY</i>	The exposure quality. [Domain=oc_quality] Examples: good outcrop, poor outcrop, subcrop, float/rubble, talus/scree, felsenmeer, vegetation covered, burrow debris
<i>OC_SIZE</i>	The size of the outcrop (as estimated by the geologist). Examples: 10 m x 25 m, 60 square metres
<i>MAP_UNIT</i>	The predominant map unit at the station. Examples: Beaver Mines Formation, Opal Member, Green Argillite unit, Nisutlin Batholith, n/a (for photograph only stations)
<i>PARENTS</i>	The upper level hierarchy names for predominant map unit, if applicable (formation, group or suite name). Examples: Blairmore Group, Mount Head Formation, Cassiar Suite
<i>ADDL_UNITS</i>	Additional units which are in contact with the predominant unit.
<i>OBSERVER</i>	The observing geologist or observing assistant. Example: George M. Dawson
<i>AIRPHOTO</i>	The airphoto identifier for this station location. List as line # and photo #. Example: A12212-123 (NAPL), AS4457-103 (Alberta)
<i>OBS_DATE</i>	The date on which the observation was made.
<i>TRAVERS_ID</i>	The unique identifier for the traverse during which this station was observed. Suggested format as follows: officer code, year, sequential # Example: MWB2008-01
<i>REMARKS</i>	Notes relating to this station.
<i>SINCE_LAST</i>	Notes on observations made between this station and the previous station.
<i>EASTING</i>	The UTM easting coordinate value of the station (as confirmed by the observer or publication author).
<i>NORTHING</i>	The UTM northing coordinate value of the station (as confirmed by the observer or publication author).
<i>UTM_LON_ZN</i>	The UTM longitudinal zone number. [Domain=UTM_lon_zn] Examples: 9, 10, 11, 12

<i>UTM_LAT_ZN</i>	The UTM latitudinal zone letter. [Domain=UTM_lat_zn] Examples: T, U, V, W, X
<i>UTM_DATUM</i>	The horizontal datum for UTM coordinates (as captured from field work or source). [Domain=hor_datum] Examples: NAD27, NAD83, not applicable
<i>LOC_METHOD</i>	The method used to capture coordinates for this station. [Domain=loc_method] Examples: GPS, georeferenced image, scaled from 50k topo map
<i>PDOP</i>	The positional dilution of precision (positional error) captured from GPS.
<i>SATS_USED</i>	The number of satellites used for position calculation, captured from GPS.
<i>LATITUDE</i>	The latitude of the station in decimal degrees.
<i>LONGITUDE</i>	The longitude of the station in decimal degrees.
<i>GEO_DATUM</i>	The horizontal datum for geographic coordinates. [Domain=hor_datum] Examples: NAD27, NAD83, WGS84
<i>ELEVATION</i>	The elevation of the station in metres.
<i>VERT_DATUM</i>	The datum used to report elevation. [Domain=vert_datum] Examples: WGS84, CGVD28, CGVD2013, Mean Sea Level
<i>ELEV_METH</i>	The method used to capture elevation for this station. [Domain=elev_meth] Examples: GPS, altimeter, 50k topo map, 50k DEM
<i>REFERENCE</i>	An abbreviated reference for the current publication. Example: Fallas, K.M. and MacNaughton, R.B., 2013; CGM 101.
<i>SOURCE_REF</i>	An abbreviated publication reference for source information or data, or the name of the original data source. Example: Douglas, R.J.W. (1958); GSC Map 1052A
<i>MAP_ID</i>	NTS identifier or map name (if footprint does not correspond to an NTS footprint). Examples: 95C/7, NP-11/12, Melville Island, Northern Yukon
<i>SYMBOL</i>	A GSC or mapping project code used in conjunction with a style file to symbolize features and to auto-generate map legend symbols.

## Lithologies Feature Class

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**Explanation of Contents:** lithology observations at stations

**Attributes:**

<i>MAP_THEME</i>	Geological map theme or type (=bedrock, at surface). [Domain=map_theme]
<i>FEATURE</i>	The type of feature (=lithology). [Domain=feature_lith]
<i>STATION_ID</i>	The <u>unique</u> identification of each outcrop or point where observations were made. Recommended format as follows: year, officer code, station#. Example: 05FNA025
<i>LITH_ID</i>	The <u>unique</u> identification of each lithology observed at a station. Recommended format as follows: year, officer code, station#, lithology letter Examples: 05FNA025A , 05FNA025B
<i>OCCURRENCE</i>	The nature of the occurrence within the station. [Domain=lith_occurrence] Examples: pluton, dyke, bed, nodule, xenolith, clast, enclave
<i>LITHGROUP</i>	The general rock grouping (for GanFeld functionality). [Domain=lith_group] Examples: volcanic, metamorphic, sedimentary, metaplutonic
<i>LITHDETAIL</i>	The detailed rock name. This field stores the functional rock name and is the only required field for rock names. It may contain any legitimate rock name. Examples: monzonite, basalt, pelite, mafic schist, lime packstone, quartz arenite
<i>FIELD_UNIT</i>	The map unit assigned in the field. Informal terminology is permitted.
<i>MAP_UNIT</i>	The map unit assigned in the current compilation. Lexicon terminology in current use is recommended where possible. Examples: Beaver Mines Formation, Opal Member, Nisutlin Batholith, Muskwa Assemblage
<i>SOURCEUNIT</i>	The map unit assigned by historical sources. Obsolete terminology is permitted.
<i>COMP_QUAL</i>	A list of qualifiers relating to the composition of the lithology. Example: calcareous, quartzose, feldspathic, aluminous, ferruginous, carbonaceous, graphitic, dolomitic
<i>TEXT_QUAL</i>	A list of qualifiers relating to textural properties of the lithology. Examples: equigranular, porphyritic, silty, clast-supported
<i>STRUC_QUAL</i>	A list of qualifiers relating to primary structures within the lithology. Examples: parallel laminated, cross-bedded, flow laminated
<i>IGN_MIN</i>	A list of igneous minerals present in this lithology. Examples: biotite, hornblende, olivine, apatite.
<i>MET_MIN</i>	A list of metamorphic minerals present in this lithology. Examples: staurolite, kyanite, garnet, chlorite, talc
<i>SED_MIN</i>	A list of sedimentary minerals present in this lithology. Examples: chert, magnetite, glauconite, hematite, gypsum
<i>OTHER_MIN</i>	A list of minerals present as a result of diagenetic, secondary, or hydrothermal processes. Examples: quartz, hematite, calcite, chalcedony
<i>MIN_NOTES</i>	Notes on minerals present.
<i>GRAIN_SIZE</i>	A list of grain sizes found in this lithology.
<i>GR_SIZE_MN</i>	The minimum grain or crystal size. [Domain=grain_size] Examples: coarse sand (0.5-1.0 mm), cryptocrystalline, ash
<i>GR_SIZE_MX</i>	The maximum grain or crystal size. [Domain=grain_size] Examples: granules (2.0-4.0 mm), coarsely crystalline, lapilli

<i>FR_COLOUR</i>	The fresh colour of the lithology.
<i>W_COLOUR</i>	The weathered colour of the lithology.
<i>COLOUR_IND</i>	The colour index value from 0 to 100. [Range=-1 to 100]
<i>FABRICS</i>	A list of deformational fabrics or structures within the lithology. Examples: C-S fabric, cleavage, stylolites, mylonitic foliation
<i>BED_THICK</i>	A list of bedding thicknesses for this lithology.
<i>BEDDING_MN</i>	The minimum bedding thickness. [Domain=bedding_thickness] Examples: thin bedded (3-10 cm), thick bedded (30-100 cm)
<i>BEDDING_MX</i>	The maximum bedding thickness. [Domain=bedding_thickness] Examples: thin bedded (3-10 cm), thick bedded (30-100 cm)
<i>FOSSILS</i>	A list of fossils present in the lithology.
<i>FOS_NOTES</i>	Notes on the fossils present.
<i>CONTACT_U</i>	The nature of upper contact. [Domain=lith_contact] Examples: gradational, sharp, sheared, intrusive, covered
<i>CONTACT_L</i>	The nature of lower contact. [Domain=lith_contact] Examples: gradational, sharp, sheared, intrusive, covered
<i>CONT_NOTES</i>	Further notes or remarks about the contacts.
<i>MAGNETIC_S</i>	The magnetic susceptibility value of the lithology (in SI units).
<i>INTERPRETN</i>	An interpretation of the genetic origin or protolith of the lithology. Examples: silty limestone protolith – now calc-silicate, cross-bedded quartz arenite of aeolian origin
<i>INT_CONFID</i>	The level of confidence with the lithology interpretation. [Domain=int_confid] Examples: confident, moderate, not confident
<i>REMARKS</i>	Comment field for notes relating to the lithology.
<i>REFERENCE</i>	An abbreviated reference for the current publication. Example: Fallas, K.M. and MacNaughton, R.B., 2013; CGM 101.
<i>SOURCE_REF</i>	An abbreviated publication reference for source information or data, or the name of the original data source. Example: Douglas, R.J.W. (1958); GSC Map 1052A
<i>MAP_ID</i>	NTS identifier or map name (if footprint does not correspond to an NTS footprint). Examples: 95C/7, NP-11/12, Melville Island, Northern Yukon
<i>SYMBOL</i>	Symbol code corresponding to the feature's symbol in the FGDC symbol set, if the author chooses to symbolize.

## Lithology Minerals Feature Class

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**Explanation of Contents:** details of lithology minerals (to support lithology descriptions)

**Attributes:**

<i>MAP_THEME</i>	Geological map theme or type (=bedrock, at surface). [Domain=map_theme]
<i>FEATURE</i>	The type of feature (=lithology mineral). [Domain=feature_lith_min]
<i>STATION_ID</i>	The unique identifier for the station at which the mineral occurs. Example: 05FNA025
<i>LITH_ID</i>	The unique identifier for the lithology in which the mineral occurs. Example: 05FNA025A
<i>MINERAL_ID</i>	The unique identifier for the lithology mineral occurrence. Format as follows: year, officer code, station #, lithology letter, lithology mineral # Examples: 05FNA025A01, 05FNA025A02
<i>MINERAL</i>	The mineral being described. Examples: biotite, calcite, epidote
<i>FORM</i>	The form of the mineral. [Domain=mineral_form] Examples: euhedral, anhedral, subhedral
<i>HABIT</i>	The habit of the mineral. [Domain=mineral_habit] Examples: acicular, columnar, equant, fibrous
<i>OCCURRENCE</i>	The nature of the occurrence of the mineral in the lithology. [Domain=lith_min_occurrence] Examples: accessory, constituent, clot, phenocryst, porphyroblast
<i>COLOUR</i>	The colour of the mineral.
<i>SIZEMINMM</i>	The minimum size of the mineral in mm.
<i>SIZEMAXMM</i>	The maximum size of the mineral in mm.
<i>MNRL_MODE</i>	The proportion of rock unit comprised by the mineral [Range -1 to 100].
<i>REMARKS</i>	Further explanatory notes on the mineral.
<i>REFERENCE</i>	An abbreviated reference for the current publication. Example: Fallas, K.M. and MacNaughton, R.B., 2013; CGM 101.
<i>SOURCE_REF</i>	An abbreviated publication reference for source information or data, or the name of the original data source. Example: Douglas, R.J.W. (1958); GSC Map 1052A
<i>MAP_ID</i>	NTS identifier or map name (if footprint does not correspond to an NTS footprint). Examples: 95C/7, NP-11/12, Melville Island, Northern Yukon
<i>SYMBOL</i>	Symbol code corresponding to the feature's symbol in the FGDC symbol set, if the author chooses to symbolize.

## Planar Feature Class

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**Explanation of Contents:** planar orientation measurements

**Attributes:**

<i>MAP_THEME</i>	Geological map theme or type (=bedrock, at surface). [Domain=map_theme]
<i>FEATURE</i>	The type of feature (=planar orientation measurement). [Domain=feature_planar]
<i>PLANAR_ID</i>	The <u>unique</u> identification for each planar measurement. Format as follows: year, officer code, station #, lithology letter, measurement # Examples: 05FNA025A01, 05FNA025A02, 05FNA025B03
<i>SUBFEATURE</i>	The type of planar feature or fabric. [Domain=subfeature_planar] Examples: bedding, fault plane, fracture, joint, cleavage, schistosity
<i>FAB_ELEM</i>	The elements that define the planar fabric. Examples: muscovite (schistosity), flattened or stretched quartz (mylonitic foliation), crenulations (cleavage)
<i>ATTITUDE</i>	The attitude of planar feature. [Domain=planar_attitude] Examples: inclined; inclined, upright; inclined, overturned <180; vertical
<i>YOUNG_EVID</i>	The confidence in attitude of primary layering as assessed from evidence for younging direction. [Domain=young_evid] Examples: younging known, sedimentary structure; younging inferred, bedding-cleavage; no younging evidence, younging evidence not applicable
<i>GENERATION</i>	The phase of generation. [Domain=generation] Examples: primary, first, second, third, fourth, undefined
<i>METHOD</i>	The method of acquisition. [Domain=method] Examples: measured at station, estimated at station, calculated from data, calculated from imagery, acquired from historical data
<i>DIP_DIR</i>	The dip direction value of the planar feature in degrees. [Range= 0-360]
<i>STRIKE</i>	The right-hand rule strike value of planar feature. [Range= 0-360]
<i>DIP</i>	The dip value of the planar feature in degrees. [Range=-1 to 90]
<i>DIP_DESCR</i>	Descriptive dip range. [Domain=dip_descr] Examples: gently inclined (0-30), steeply inclined (61-90)
<i>STRAIN</i>	The strain intensity associated with this fabric measurement. [Domain=strain] Examples: no strain, weak, moderate, intense
<i>FLATTENING</i>	The relative intensity of planar (S) fabric over linear (L) fabric. [Domain=flattening] Examples: L tectonite, L>S, L=S, L<S, S tectonite
<i>SENSE</i>	The sense of movement indicated by the feature. Examples: top to the northeast, west side down, etc.
<i>SENSE_EVID</i>	Evidence of relative motion along planar feature from kinematic indicators. [Domain=sense_evid] Examples: offset of marker, rotated porphyroblast, C/S fabric
<i>LITH_ID</i>	The unique identifier for the lithology in which the measurement was taken. Example: 05FNA025A
<i>STATION_ID</i>	The unique identification of the station where the measurements were taken. Example: 05FNA025
<i>LINEAR_ID</i>	The unique identifier of a related linear measurement. Example: The unique identifier for a striae lineation on a fault plane
<i>PLANAR_ID2</i>	The unique identifier of a related planar measurement. Example: The unique identifier for a cleavage plane measured with bedding
<i>REMARKS</i>	Notes relating to the measurement.

<i>REFERENCE</i>	An abbreviated reference for the current publication. Example: Fallas, K.M. and MacNaughton, R.B., 2013; CGM 101.
<i>SOURCE_REF</i>	An abbreviated publication reference for source information or data, or the name of the original data source. Example: Douglas, R.J.W. (1958); GSC Map 1052A
<i>MAP_ID</i>	NTS identifier or map name (if footprint does not correspond to an NTS footprint). Examples: 95C/7, NP-11/12, Melville Island, Northern Yukon
<i>SYMBOL</i>	A GSC or mapping project code used in conjunction with a style file to symbolize features and to auto-generate map legend symbols.

## Linear Feature Class

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**Explanation of Contents:** linear orientation measurements

**Attributes:**

<i>MAP_THEME</i>	Geological map theme or type (=bedrock, at surface). [Domain=map_theme]
<i>FEATURE</i>	The type of feature (=linear orientation measurement). [Domain=feature_linear]
<i>LINEAR_ID</i>	The <u>unique</u> identification for each linear measurement. Format as follows: year, officer code, station #, lithology letter, measurement # Examples: 05FNA025B04, 05FNA025C05
<i>SUBFEATURE</i>	The type of linear feature. [Domain=subfeature_linear] Examples: mineral lineation, fold hinge, fault striae
<i>FAB_ELEM</i>	The elements that define the linear fabric. Examples: aligned hornblende (mineral lineation), stretched pebbles (stretching lineation), tool marks (sedimentary lineation)
<i>TREND</i>	The trend value of linear feature in degrees. [Range= 0-360]
<i>PLUNGE</i>	The plunge value of linear feature in degrees. [Range= -1 to 90]
<i>GENERATION</i>	The deformational phase of generation. [Domain=generation] Examples: primary, first, second, third, fourth, undefined
<i>METHOD</i>	The method of acquisition. [Domain=method] Examples: measured at station, estimated at station, calculated from data, calculated from imagery, acquired from historical data
<i>REMARKS</i>	Notes relating to the measurement.
<i>STRAIN</i>	The strain intensity associated with this fabric measurement. [Domain=strain] Examples: no strain, weak, moderate, intense
<i>FLATTENING</i>	The relative intensity of planar (S) fabric over linear (L) fabric. [Domain=flattening] Examples: L tectonite, L>S, L=S, L<S, S tectonite
<i>LITH_ID</i>	The unique identifier for the lithology in which this measurement was made. Example: 05FNA025A
<i>STATION_ID</i>	The unique identification of the station where the measurements were taken. Example: 05FNA025
<i>PLANAR_ID</i>	A list of the unique planar measurement identifiers which the linear measurement may refer to. Examples: Unique identifiers for fault planes, bedding planes, cleavage planes
<i>REFERENCE</i>	An abbreviated reference for the current publication. Example: Fallas, K.M. and MacNaughton, R.B., 2013; CGM 101.
<i>SOURCE_REF</i>	An abbreviated publication reference for source information or data, or the name of the original data source. Example: Douglas, R.J.W. (1958); GSC Map 1052A
<i>MAP_ID</i>	NTS identifier or map name (if footprint does not correspond to an NTS footprint). Examples: 95C/7, NP-11/12, Melville Island, Northern Yukon
<i>SYMBOL</i>	A GSC or mapping project code used in conjunction with a style file to symbolize features and to auto-generate map legend symbols.

## AltMineraliztn Feature Class

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**Explanation of Contents:** alteration or mineralization found at stations

**Attributes:**

<i>MAP_THEME</i>	Geological map theme or type (=bedrock, at surface). [Domain=map_theme]
<i>FEATURE</i>	The type of feature. [Domain=feature_alt_min] Examples: alteration, mineralization
<i>STATION_ID</i>	The unique identifier for the station at which the alteration or mineralization occurs. Example: 05FNA025
<i>ALTMIN_ID</i>	The unique identifier for the occurrence of alteration or mineralization. Format as follows: year, officer code, station #, X, sequential # Examples: 05FNA025X01, 05FNA025X02
<i>UNIT</i>	The outcrop unit of rock in which the alteration or mineralization occurs. [Domain=alt_min_unit] Examples: host rock, intrusion, all
<i>MINERAL</i>	The alteration mineral or economic mineral. Examples: sericite, smectite, bornite, galena
<i>MNRL_MODE</i>	The proportion (%) of the rock unit comprised by the mineral. [Range=-1 to 100].
<i>DISTRIBUTN</i>	The nature of distribution of alteration mineral or economic mineral. [Domain=alt_min_distributn] Examples: pervasive, fracture controlled, disseminated
<i>REMARKS</i>	Further explanatory notes on the alteration or mineralization.
<i>REFERENCE</i>	An abbreviated reference for the current publication. Example: Fallas, K.M. and MacNaughton, R.B., 2013; CGM 101.
<i>SOURCE_REF</i>	An abbreviated publication reference for source information or data, or the name of the original data source. Example: Douglas, R.J.W. (1958); GSC Map 1052A
<i>MAP_ID</i>	NTS identifier or map name (if footprint does not correspond to an NTS footprint). Examples: 95C/7, NP-11/12, Melville Island, Northern Yukon
<i>SYMBOL</i>	A GSC or mapping project code used in conjunction with a style file to symbolize features and to auto-generate map legend symbols.

## Photos Feature Class

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**Explanation of Contents:** photographs taken in the field

**Attributes:**

<i>MAP_THEME</i>	Geological map theme or type (=bedrock, at surface). [Domain=map_theme]
<i>FEATURE</i>	The type of feature (=photograph). [Domain=feature_photos]
<i>STATION_ID</i>	The unique identification of the station at which the photograph was taken. Example: 09SQB025
<i>PHOTO_DATE</i>	The date on which the photograph was taken (yyyy-mm-dd).
<i>PHOTO_TIME</i>	The time at which the photograph was taken. (hh:mm:ss)
<i>PHOTO_ID</i>	The unique identification for the photograph. Format as follows: year, officer code, station #, P, sequential # Examples: 09SQB025P01, 09SQB025P02
<i>SUBJECT</i>	The general subject matter for the photograph. [Domain=photo_subject] Examples: outcrop, structure, landscape, wildlife
<i>FILENAME</i>	The file name assigned by the camera. Example: DSC_087
<i>PERM_NAME</i>	The permanent file name for long term file storage. Examples: 2009SQB025_DSC_087, 09SQB025P01
<i>CATALOG_ID</i>	The unique identifier for a photograph that has been catalogued by NRCan.
<i>DIRECTION</i>	The direction (value in degrees) in which the photograph was taken. [Range=-1 to 360]
<i>CAPTION</i>	The caption of the photograph.
<i>PHOTOGRAPH</i>	Field to store a raster image of the photograph.
<i>LATITUDE</i>	The latitude of the photograph location in decimal degrees.
<i>LONGITUDE</i>	The longitude of the photograph location in decimal degrees.
<i>GEO_DATUM</i>	The horizontal datum for geographic coordinates. [Domain=hor_datum] Examples: NAD27, NAD83, WGS84
<i>REFERENCE</i>	An abbreviated reference for the current publication. Example: Fallas, K.M. and MacNaughton, R.B., 2013; CGM 101.
<i>SOURCE_REF</i>	An abbreviated publication reference for source information or data, or the name of the original data source. Example: Douglas, R.J.W. (1958); GSC Map 1052A
<i>MAP_ID</i>	NTS identifier or map name (if footprint does not correspond to an NTS footprint). Examples: 95C/7, NP-11/12, Melville Island, Northern Yukon
<i>SYMBOL</i>	A GSC or mapping project code used in conjunction with a style file to symbolize features and to auto-generate map legend symbols.

## Fossils Feature Class

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**Explanation of Contents:** fossil localities

**Attributes:**

<i>MAP_THEME</i>	Geological map theme or type (=bedrock, at surface). [Domain=map_theme]
<i>FEATURE</i>	The type of feature (=fossil locality). [Domain=feature_fossils]
<i>TYPE_WORK</i>	The laboratory analysis completed on the sample. [Domain=fossil_type_work] Examples: macropaleontology, conodonts, palynology
<i>SAMPLE_ID</i>	The unique identifier assigned to sample when collected in the field. Format will vary with historical data. Examples: AKX2002-18-7a, 05FNA025B02
<i>LITHOLOGY</i>	The lithology of the sample.
<i>MAP_UNIT</i>	The map unit from which the fossil sample was collected.
<i>FOSSILS</i>	The list of fossils present in the sample (common names only, not genera or species). Examples: graptolites, trilobites, bryozoa, solitary coral
<i>CATALOG_ID</i>	The curation identifier of the sample. Catalogue number as assigned from the Sample Management System (SMS). Example: C-456789 (Calgary sample), V-123456 (Vancouver sample)
<i>COLLECTION</i>	The collection location where the sample is archived. Examples: Vancouver, Calgary, Ottawa, University of Manitoba
<i>STATION_ID</i>	The unique identification of the station, section, well, or drill-hole where the sample was collected. Examples: AKX2002-18-7 (station), 200/B-081-E/094-O-06/00 (well)
<i>DISTANCE_M</i>	The distance in metres from the reference point. Height in metres above base of section (if collected within a measured section), or depth in metres down hole (if collected from a well or drilled core).
<i>YEAR_COLL</i>	The year sample was collected.
<i>REPORT</i>	The GSC paleontological report number(s).
<i>REPORT_AGE</i>	The age information provided in the report(s).
<i>REMARKS</i>	Notes relating to the fossil locality.
<i>REFERENCE</i>	An abbreviated reference for the current publication. Example: Fallas, K.M. and MacNaughton, R.B., 2013; CGM 101.
<i>SOURCE_REF</i>	An abbreviated publication reference for source information or data, or the name of the original data source. Example: Douglas, R.J.W. (1958); GSC Map 1052A
<i>MAP_ID</i>	NTS identifier or map name (if footprint does not correspond to an NTS footprint). Examples: 95C/7, NP-11/12, Melville Island, Northern Yukon
<i>SYMBOL</i>	A GSC or mapping project code used in conjunction with a style file to symbolize features and to auto-generate map legend symbols.

## Geochronology Feature Class

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**Explanation of Contents:** localities with geochronology analyses (radiometric data).

**Attributes:**

<i>MAP_THEME</i>	Geological map theme or type (=bedrock, at surface). [Domain=map_theme]
<i>FEATURE</i>	The type of feature (=radiometric data). [Domain=feature_geochron]
<i>TYPE_WORK</i>	The laboratory analysis completed on the sample. [Domain=geochron_type_work] Examples: U-Pb, 40Ar-39Ar, fission track.
<i>TECHNIQUE</i>	Laboratory technique employed. Examples: TIMS, SHRIMP, Laser Step Heating, ICPMSMC
<i>MATERIAL</i>	The material analysed. Examples: zircon, muscovite, baddeleyite, whole rock
<i>MAT_SIZE</i>	The size of the material grains analyzed.
<i>SIZE_UNITS</i>	Unit of measure for the recorded material size. Examples: millimetres, microns
<i>SAMPLE_ID</i>	The unique identifier assigned to the sample when collected in the field. Format will be variable with historical data. Examples: AKX2002-18-7b, 05FNA025B02
<i>CATALOG_ID</i>	GSC catalogue number of the sample. Examples: V-12345, C-678901, O-234567
<i>LITHOLOGY</i>	The lithology of the sample.
<i>MAP_UNIT</i>	The map unit from which the sample was collected.
<i>GEOL_PROV</i>	Geological suite, assemblage, terrane, or province the sample belongs to. Examples: Flin Flon Domain, Omineca Belt, Cache Creek Terrane
<i>STATION_ID</i>	The unique identification of the station, section or well where the sample was collected. Examples: AKX2002-18-7 (station), 200/B-081-E/094-O-06/00 (well)
<i>REPORT_AGE</i>	The absolute reported age value from the analysis.
<i>AGE_UNITS</i>	The time units for the reported age. Example: Ma (million years)
<i>AGE_PLUS</i>	The absolute upper margin of error value on the reported age.
<i>AGE_MINUS</i>	The absolute lower margin of error value on the reported age.
<i>AGE_TYPE</i>	The nature of the event being dated. [Domain=geochron_age_type] Examples: igneous crystallization age, metamorphic age, depositional age
<i>AGE_QUAL</i>	Qualifier indicating whether the age is an estimate or direct calculation. [Domain=geochron_age_qual]
<i>YEAR_WORK</i>	The year the material was analyzed.
<i>REMARKS</i>	Notes relating to the geochronology result.
<i>LAB_ID</i>	The unique identifier used by the analyzing lab for this analysis.
<i>REFERENCE</i>	An abbreviated reference for the current publication. Example: Fallas, K.M. and MacNaughton, R.B., 2013; CGM 101.
<i>SOURCE_REF</i>	An abbreviated publication reference for source information or data, or the name of the original data source. Example: Douglas, R.J.W. (1958); GSC Map 1052A
<i>MAP_ID</i>	NTS identifier or map name (if footprint does not correspond to an NTS footprint). Examples: 95C/7, NP-11/12, Melville Island, Northern Yukon

<i>SYMBOL</i>	A GSC or mapping project code used in conjunction with a style file to symbolize features and to auto-generate map legend symbols.
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## Wells Feature Class

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**Explanation of Contents:** petroleum wells and water wells

**Attributes:**

<i>MAP_THEME</i>	Geological map theme or type (=bedrock, at surface). [Domain=map_theme]
<i>FEATURE</i>	The type of feature (=well). [Domain=feature_wells]
<i>SUBFEATURE</i>	The type of well. [Domain=subfeature_wells] Examples: dry, gas, oil, water
<i>UWI</i>	The Unique Well Identifier.
<i>NAME</i>	The short-form well name.
<i>SPUD_DATE</i>	The start date of drilling operations.
<i>ACTIVITY</i>	The status of production following given spud date. [Domain=wells_activity] Examples: producing, abandoned
<i>TD</i>	The total depth of drilling.
<i>TD_UNITS</i>	The unit of measurement for the total depth. [Domain=borehole_units] Example: metres, feet
<i>LATITUDE</i>	The latitude (in decimal degrees) of the kelly bushing.
<i>LONGITUDE</i>	The longitude (in decimal degrees) of the kelly bushing.
<i>GEO_DATUM</i>	The horizontal datum for geographic coordinates. [Domain=hor_datum] Examples: NAD27, NAD83, WGS84
<i>REFERENCE</i>	An abbreviated reference for the current publication. Example: Fallas, K.M. and MacNaughton, R.B., 2013; CGM 101.
<i>SOURCE_REF</i>	An abbreviated publication reference for source information or data, or the name of the original data source. Example: National Energy Board; extracted October 2008
<i>MAP_ID</i>	NTS identifier or map name (if footprint does not correspond to an NTS footprint). Examples: 95C/7, NP-11/12, Melville Island, Northern Yukon
<i>SYMBOL</i>	A GSC or mapping project code used in conjunction with a style file to symbolize features and to auto-generate map legend symbols.

## DrillHoles Feature Class

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**Explanation of Contents:** small bore drill holes

**Attributes:**

<i>MAP_THEME</i>	Geological map theme or type (=bedrock, at surface). [Domain=map_theme]
<i>FEATURE</i>	The type of feature (=drill hole). [Domain=feature_drillholes]
<i>SUBFEATURE</i>	The type of drill holes. [Domain=subfeature_drillholes]
<i>UNIQUE_ID</i>	A generated unique identifier to designate the drill hole. Property name + Mineral assessment report # + sequential # used by driller Examples: GodlinCopper-060085-G-1, Majesty-081237-M801
<i>NAME</i>	Name of drill hole assigned by driller.
<i>DRILLER</i>	Name of driller or company operating the drilling.
<i>DRILL_DATE</i>	Date drill hole was drilled.
<i>MAP_UNITS</i>	List of map units intersected by drill hole (from collar to termination).
<i>SOURCE_MU</i>	List of map units intersected by drill hole as reported by driller (from collar to termination).
<i>REMARKS</i>	Notes relating to the drill hole.
<i>LATITUDE</i>	The latitude (in decimal degrees) of the drill hole collar.
<i>LONGITUDE</i>	The longitude (in decimal degrees) of the drill hole collar.
<i>GEO_DATUM</i>	The horizontal datum for geographic coordinates. [Domain=hor_datum] Examples: NAD27, NAD83, WGS84
<i>ELEVATION</i>	The elevation of the station in metres.
<i>VERT_DATUM</i>	The datum used to report elevation. [Domain=vert_datum] Examples: WGS84, CGVD28, Mean Sea Level
<i>ELEV_METH</i>	The method used to capture elevation for this station. [Domain=elev_meth] Examples: GPS, altimeter, 50k topo map, 50k DEM
<i>TREND</i>	Azimuth direction from collar to termination of drill hole; often reported as "azimuth". [Range=-1 to 360]
<i>PLUNGE</i>	Angle of ascent (-) or descent (+) of drill hole; often reported as "dip". [Range=-90 to 90]
<i>LENGTH</i>	Length of drill hole.
<i>LENGTH_UN</i>	Unit of measure for length of drill hole. [Domain=borehole_units]
<i>ORIENTED</i>	Indication of oriented core recovered from drill hole. [Domain=drillholes_oriented]
<i>REFERENCE</i>	An abbreviated reference for the current publication. Example: Fallas, K.M. and MacNaughton, R.B., 2013; CGM 101.
<i>SOURCE_REF</i>	An abbreviated publication reference for source information or data, or the name of the original data source. Example: National Energy Board, Mineral Exploration Report ##
<i>MAP_ID</i>	NTS identifier or map name (if footprint does not correspond to an NTS footprint). Examples: 95C/7, NP-11/12, Melville Island, Northern Yukon
<i>SYMBOL</i>	A GSC or mapping project code used in conjunction with a style file to symbolize features and to auto-generate map legend symbols.

## MineralOccurrences Feature Class

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**Explanation of Contents:** mineral occurrences or localities on record with provincial and territorial governments

**Attributes:**

<i>MAP_THEME</i>	Geological map theme or type (=bedrock, at surface). [Domain=map_theme]
<i>FEATURE</i>	The type of feature (=mineral locality). [Domain=feature_min_occ]
<i>LOCALITY</i>	A unique identification of the locality. NTS map ID + sequential # Examples: 094F-015, 095C-023
<i>NAME</i>	The name(s) of the mineral locality.
<i>MAP_UNIT</i>	The geological unit or units at the mineral locality.
<i>RANK</i>	The deposit rank or status. [Domain=min_occ_rank] Examples: gossan, anomaly, showing, prospect, production
<i>OCC_TYPE</i>	The type of mineral occurrence or deposit. Example: sedimentary exhalative, skarn, quartz veins, fault breccia
<i>COMMODITY</i>	The economic elements or minerals present. Examples: lead, zinc, copper
<i>COMM_ABBV</i>	The abbreviations of the economic elements or minerals present. Examples: Pb, Zn, Cu
<i>LABEL</i>	Text for an appropriate map label.
<i>LATITUDE</i>	The latitude of the locality in decimal degrees.
<i>LONGITUDE</i>	The longitude of the locality in decimal degrees.
<i>GEO_DATUM</i>	The horizontal datum for geographic coordinates. [Domain=hor_datum] Examples: NAD27, NAD83, WGS84
<i>REMARKS</i>	Comment field for any further explanation of the locality, including size.
<i>REFERENCE</i>	An abbreviated reference for the current publication. Example: Fallas, K.M. and MacNaughton, R.B., 2013; CGM 101.
<i>SOURCE_REF</i>	An abbreviated publication reference for source information or data, or the name of the original data source. Examples: NORMIN database (NTGO) - extracted October 2008; Jory, L.T., 1962, Mineral Assessment Report #017592
<i>EXTERNL_ID</i>	Any identifier used by external sources. Example: South Redstone Claim Group N41513
<i>MAP_ID</i>	NTS identifier or map name (if footprint does not correspond to an NTS footprint). Examples: 95C/7, NP-11/12, Melville Island, Northern Yukon
<i>SYMBOL</i>	A GSC or mapping project code used in conjunction with a style file to symbolize features and to auto-generate map legend symbols.

## SmallMapUnits Feature Class

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**Explanation of Contents:** small map units (useful for features such as diatremes and kimberlite pipes that can be shown as points on regional scale maps)

**Attributes:**

<i>MAP_THEME</i>	Geological map theme or type (=bedrock, at surface). [Domain=map_theme]
<i>FEATURE</i>	The type of feature (=map unit). [Domain=feature_smapunits]
<i>MAP_UNIT</i>	The name of the map unit. Examples: Mountain River diatreme
<i>PARENTS</i>	The upper level hierarchy names for the map unit, if applicable (formation, group or suite name). Examples: Buffalo Hills suite
<i>MAX_AGE</i>	The chronostratigraphic maximum age of the unit. Examples: Middle Ordovician, 466 Ma
<i>MIN_AGE</i>	The chronostratigraphic minimum age of the unit. Examples: Early Silurian, 430 Ma
<i>LITH_LIST</i>	A short list of lithologies present in the map unit, in descending order of abundance. Examples: kimberlite
<i>GENESIS</i>	The geological process, or environment(s) of creation, of the map unit. Examples: igneous, intrusive
<i>REMARKS</i>	Remarks specific to the map unit.
<i>LABEL</i>	Map unit abbreviation. Examples: OdSI-km
<i>REFERENCE</i>	An abbreviated reference for the current publication. Example: Fallas, K.M. and MacNaughton, R.B., 2013; CGM 101.
<i>SOURCE_REF</i>	An abbreviated publication reference for source information or data, or the name of the original data source. Example: Douglas, R.J.W. (1958); GSC Map 1052A
<i>MAP_ID</i>	NTS identifier or map name (if footprint does not correspond to an NTS footprint). Examples: 95C/7, NP-11/12, Melville Island, Northern Yukon
<i>SYMBOL</i>	A GSC or mapping project code used in conjunction with a style file to symbolize features and to auto-generate map legend symbols.

## Notes Feature Class

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**Explanation of Contents:** Explanatory notes pertaining to specific localities on a map. For example: the location of hot springs, the location of gossans, or localities exposing an important relationship between map units.

**Attributes:**

<i>MAP_THEME</i>	Geological map theme or type (=bedrock, at surface). [Domain=map_theme]
<i>FEATURE</i>	The type of feature (=note). [Domain=feature_notes]
<i>NOTE_ID</i>	A unique identification for each note in this publication or map area. Project ID + map ID + sequential # Example: CentralForelandNATMAP-95C02-Note2
<i>REMARKS</i>	Clarifying comments regarding a feature or features at this location.
<i>REFERENCE</i>	An abbreviated reference for the current publication. Example: Fallas, K.M. and MacNaughton, R.B., 2013; CGM 101.
<i>SOURCE_REF</i>	An abbreviated publication reference for source information or data, or the name of the original data source. Example: Douglas, R.J.W. (1958); GSC Map 1052A
<i>MAP_ID</i>	NTS identifier or map name (if footprint does not correspond to an NTS footprint). Examples: 95C/7, NP-11/12, Melville Island, Northern Yukon
<i>SYMBOL</i>	A GSC or mapping project code used in conjunction with a style file to symbolize features and to auto-generate map legend symbols.

## LINE DATA FEATURE CLASSES

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### Contacts Feature Class

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**Explanation of Contents:** contacts between map units

**Attributes:**

<i>MAP_THEME</i>	Geological map theme or type (=bedrock, at surface). [Domain=map_theme]
<i>FEATURE</i>	The type of feature (=contact). [Domain=feature_contacts]
<i>SUBFEATURE</i>	The type of contact. [Domain=subfeature_contacts] Examples: depositional, intrusive, metamorphic, facies change, faulted
<i>CONFIDENCE</i>	The confidence in the position of the feature. [Domain=confidence] Examples: defined, approximate, inferred, concealed
<i>EVID_FROM</i>	Type of evidence used to interpret the feature. [Domain=evid_from] Examples: field observation, spectral imagery, geophysical survey data
<i>REMARKS</i>	Comment field available for further explanation. Example: interpreted from seismic reflection line 81E34-83751
<i>REFERENCE</i>	An abbreviated reference for the current publication. Example: Fallas, K.M. and MacNaughton, R.B., 2013; CGM 101.
<i>SOURCE_REF</i>	An abbreviated publication reference for source information or data, or the name of the original data source. Example: Douglas, R.J.W. (1958); GSC Map 1052A
<i>MAP_ID</i>	NTS identifier or map name (if footprint does not correspond to an NTS footprint). Examples: 95C/7, NP-11/12, Melville Island, Northern Yukon
<i>SYMBOL</i>	A GSC or mapping project code used in conjunction with a style file to symbolize features and to auto-generate map legend symbols.

## DriftContacts Feature Class

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### Explanation of Contents: drift contacts

#### Attributes:

<i>MAP_THEME</i>	Geological map theme or type (=bedrock, at surface). [Domain=map_theme]
<i>FEATURE</i>	The type of feature. [Domain=feature_contacts]
<i>SUBFEATURE</i>	The type of drift contact. [Domain=subfeature_drift_contact] Examples: depositional-unconformable, depositional-conformable, faulted
<i>CONFIDENCE</i>	The confidence in the position of the feature. [Domain=confidence] Examples: defined, approximate, inferred, concealed
<i>EVID_FROM</i>	Type of evidence used to interpret the feature. [Domain=evid_from] Examples: field observation, spectral imagery, geophysical survey data
<i>REMARKS</i>	Comment field available for further explanation.
<i>REFERENCE</i>	An abbreviated reference for the current publication. Example: Fallas, K.M. and MacNaughton, R.B., 2013; CGM 101.
<i>SOURCE_REF</i>	An abbreviated publication reference for source information or data, or the name of the original data source. Example: Douglas, R.J.W. (1958); GSC Map 1052A
<i>MAP_ID</i>	NTS identifier or map name (if footprint does not correspond to an NTS footprint). Examples: 95C/7, NP-11/12, Melville Island, Northern Yukon
<i>SYMBOL</i>	A GSC or mapping project code used in conjunction with a style file to symbolize features and to auto-generate map legend symbols.

## GeolUnitConstruct Feature Class

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**Explanation of Contents:** abstract or conceptual geological lines that form a boundary between map units or define the edge of a map unit

**Attributes:**

<i>MAP_THEME</i>	Geological map theme or type (=bedrock, at surface). [Domain=map_theme]
<i>FEATURE</i>	The type of feature (=geology unit construct). [Domain=feature_geol_constr]
<i>SUBFEATURE</i>	The type of geology unit construct. [Domain=subfeature_geol_constr] Examples: nomenclature change, mapping precision change, limit of mapping
<i>REMARKS</i>	Comment field available for further explanation. Example: subdivided units cannot be mapped separately to the northeast due to poor exposure
<i>REFERENCE</i>	An abbreviated reference for the current publication Example: Fallas, K.M. and MacNaughton, R.B., 2013; CGM 101.
<i>SOURCE_REF</i>	An abbreviated publication reference for source information or data, or the name of the original data source. Example: Douglas, R.J.W. (1958); GSC Map 1052A
<i>MAP_ID</i>	NTS identifier or map name (if footprint does not correspond to an NTS footprint). Examples: 95C/7, NP-11/12, Melville Island, Northern Yukon
<i>SYMBOL</i>	A GSC or mapping project code used in conjunction with a style file to symbolize features and to auto-generate map legend symbols.

## BaseMapConstruct Feature Class

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**Explanation of Contents:** physiographic feature lines from the topographic base, or other sources, that define the edge of a map unit

**Attributes:**

<i>MAP_THEME</i>	Geological map theme or type (=bedrock, at surface). [Domain=map_theme]
<i>FEATURE</i>	The type of feature (=base map construct). [Domain=feature_base_constr]
<i>SUBFEATURE</i>	The type of base map construct. [Domain=subfeature_base_constr] Examples: shoreline, glacier edge, map neat line
<i>REMARKS</i>	Comment field available for further explanation. Example: glacier outline from Geomatics Canada 2009
<i>REFERENCE</i>	An abbreviated reference for the current publication. Example: Fallas, K.M. and MacNaughton, R.B., 2013; CGM 101.
<i>SOURCE_REF</i>	An abbreviated publication reference for source information or data, or the name of the original data source. Example: Douglas, R.J.W. (1958); GSC Map 1052A
<i>MAP_ID</i>	NTS identifier or map name (if footprint does not correspond to an NTS footprint). Examples: 95C/7, NP-11/12, Melville Island, Northern Yukon

## ThinLithologies Feature Class

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**Explanation of Contents:** lithological units or layers which are too thin to be shown as areas on a printed map (defined relative to compilation scale)

**Attributes:**

<i>MAP_THEME</i>	Geological map theme or type (=bedrock, at surface). [Domain=map_theme]
<i>FEATURE</i>	The type of feature (=thin lithology). [Domain=feature_thin_lith]
<i>SUBFEATURE</i>	The type of thin unit. [Domain=subfeature_thin_lith] Examples: dyke, sill, vein, marker bed, distinctive lithology
<i>MAP_UNIT</i>	The name of the unit. Examples: Mackenzie Dykes, Jungle Ridge Member
<i>PARENTS</i>	The upper level hierarchy names for unit, if applicable (formation, group, suite, or assemblage name).
<i>CONFIDENCE</i>	The confidence in the position of the feature. [Domain=confidence] Examples: defined, approximate, inferred, concealed
<i>EVID_FROM</i>	Type of evidence used to interpret the feature. [Domain=evid_from] Examples: field observation, spectral imagery, geophysical survey data
<i>MAX_AGE</i>	The chronostratigraphic maximum age of the unit. Examples: Mesoproterozoic, 1580 Ma
<i>MIN_AGE</i>	The chronostratigraphic minimum age of the unit. Examples: Mesoproterozoic, 1520 Ma
<i>LITH_LIST</i>	A short list of lithologies present in the unit, in descending order of abundance. Example: diabase, marble, tuff
<i>GENESIS</i>	The geological process, or environment(s) of creation, of the map unit. Examples: igneous, subvolcanic
<i>REMARKS</i>	Remarks specific to the unit.
<i>LABEL</i>	Map unit abbreviation. Examples: MPt-MD, Dv-I-JR
<i>REFERENCE</i>	An abbreviated reference for the current publication. Example: Fallas, K.M. and MacNaughton, R.B., 2013; CGM 101.
<i>SOURCE_REF</i>	An abbreviated publication reference for source information or data, or the name of the original data source. Example: Douglas, R.J.W. (1958); GSC Map 1052A
<i>MAP_ID</i>	NTS identifier or map name (if footprint does not correspond to an NTS footprint). Examples: 95C/7, NP-11/12, Melville Island, Northern Yukon
<i>SYMBOL</i>	Symbol code corresponding to the feature's symbol (linestyle) in the FGDC symbol set.

## Faults Feature Class

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**Explanation of Contents:** fault traces, shear traces, or structural lineaments

**Attributes:**

<i>MAP_THEME</i>	Geological map theme or type (=bedrock, at surface). [Domain=map_theme]
<i>FEATURE</i>	The type of feature. [Domain=feature_faults] Examples: fault, shear, structural lineament
<i>SUBFEATURE</i>	The type of fault. [Domain=subfeature_faults] Examples: thrust; dextral strike-slip; generic, steep dip
<i>ATTITUDE</i>	The attitude of the fault. [Domain=attitude_structures] Examples: overturned, upright, not applicable
<i>CONFIDENCE</i>	The confidence in the position of the feature. [Domain=confidence] Examples: defined, approximate, inferred, concealed
<i>EVID_FROM</i>	Type of evidence used to interpret the feature. [Domain=evid_from] Examples: field observation, spectral imagery, geophysical survey data
<i>GENERATION</i>	The phase of generation. [Domain=generation] Examples: first, second, third, undefined
<i>MAX_AGE</i>	The chronostratigraphic maximum age of the fault. Examples: Middle Ordovician, 466 Ma
<i>MIN_AGE</i>	The chronostratigraphic minimum age of the fault. Examples: Early Silurian, 430 Ma
<i>NAME</i>	The name of the feature (if one exists). Examples: Lewis Thrust, Conundrum Fault, Great Slave Lake Shear Zone
<i>PROPERTIES</i>	Other properties of interest such as: seismic activity, relationship to dominant structural grain, unusual geometries. Examples: seismically active, klippe, fenster
<i>MOVEMENT</i>	A description of vertical fault movement for faults where the hanging wall cannot be established (i.e. generic, steep dip fault). [Domain=movement] Examples: SW side down, N side down
<i>HWALL_DIR</i>	The direction of the side of the fault on which the hanging wall occurs (for faults where a hanging wall can be identified, i.e. normal, reverse, thrust). [Domain=direction] Examples: SW, NE, inward, undefined
<i>REMARKS</i>	Comment field for further explanation of the fault. Example: interpreted from seismic data
<i>REFERENCE</i>	An abbreviated reference for the current publication. Example: Fallas, K.M. and MacNaughton, R.B., 2013; CGM 101.
<i>SOURCE_REF</i>	An abbreviated publication reference for source information or data, or the name of the original data source. Example: Douglas, R.J.W. (1958); GSC Map 1052A
<i>MAP_ID</i>	NTS identifier or map name (if footprint does not correspond to an NTS footprint). Examples: 95C/7, NP-11/12, Melville Island, Northern Yukon
<i>SYMBOL</i>	A GSC or mapping project code used in conjunction with a style file to symbolize features and to auto-generate map legend symbols.

## Folds Feature Class

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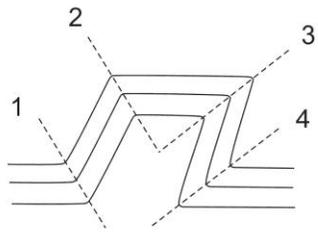
**Explanation of Contents:** fold traces

**Attributes:**

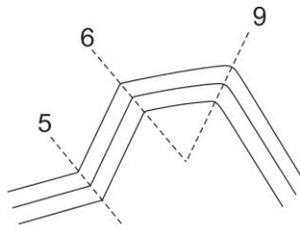
<i>MAP_THEME</i>	Geological map theme or type (=bedrock, at surface). [Domain=map_theme]
<i>FEATURE</i>	The type of feature (=fold). [Domain=feature_folds]
<i>SUBFEATURE</i>	The type of fold. [Domain=subfeature_folds] Examples: anticline, anticlinorium, syncline, synformal sheath, arch, trough
<i>ATTITUDE</i>	The attitude of the fold. [Domain=attitude_structures] Examples: overturned, upright
<i>CONFIDENCE</i>	Confidence in the position of the feature. [Domain=confidence] Examples: defined, approximate, inferred, concealed
<i>EVID_FROM</i>	Type of evidence used to interpret the feature. [Domain=evid_from] Examples: field observation, spectral imagery, geophysical survey data
<i>GENERATION</i>	The phase of generation. [Domain=generation] Examples: first, second, third, undefined
<i>MAX_AGE</i>	The chronostratigraphic maximum age of the fold. Examples: Middle Ordovician, 466 Ma
<i>MIN_AGE</i>	The chronostratigraphic minimum age of the fold. Examples: Early Silurian, 430 Ma
<i>FOLDTREND</i>	The approximate direction of plunge (=trend) of the fold axis. [Domain=direction_folds]
<i>FOLDPLUNGE</i>	The approximate magnitude of plunge of the fold axis. Examples: shallow, moderate, steep
<i>NAME</i>	The name of the feature, if a named feature. Examples: Babiche Anticline, Porcupine Creek Anticlinorium
<i>PROPERTIES</i>	Other properties of interest such as: shape, symmetry, interlimb angle Examples: chevron, cylindrical, symmetrical, tight, open
<i>REMARKS</i>	Comment field available for further explanation of the feature.
<i>REFERENCE</i>	An abbreviated reference for the current publication. Example: Fallas, K.M. and MacNaughton, R.B., 2013; CGM 101.
<i>SOURCE_REF</i>	An abbreviated publication reference for source information or data, or the name of the original data source. Example: Douglas, R.J.W. (1958); GSC Map 1052A
<i>MAP_ID</i>	NTS identifier or map name (if footprint does not correspond to an NTS footprint). Examples: 95C/7, NP-11/12, Melville Island, Northern Yukon
<i>ARROW_DIR</i>	Direction in which the arrows for the limbs point for overturned and monocline symbols, or direction of short arrow (steep limb) for asymmetrical fold symbols. [Domain=direction_folds] Examples: SW, NE, not applicable (for symmetrical symbols)
<i>SYMBOL</i>	A GSC or mapping project code used in conjunction with a style file to symbolize features and to auto-generate map legend symbols.

Note:

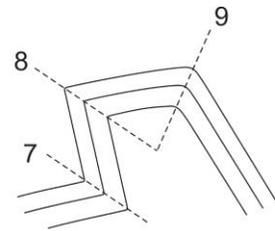
Four unusual fold types, “anticline, homeoclinic”, “syncline, homeoclinic”, “anticline, contraclinal”, and “syncline, contraclinal” are available in this data model in addition to variations of monoclines to delineate special cases associated with box folding (see diagram below for an illustration of the applicable geometry in cross-section).



1: monocline, synclinal bend, upright  
 2: monocline, anticlinal bend, upright  
 3: monocline, anticlinal bend, overturned  
 4: monocline, synclinal bend, overturned



5: syncline, homeoclinic, upright  
 6: anticline, homeoclinic, upright  
 9: anticline, upright



7: syncline, contraclinal, overturned  
 8: anticline, contraclinal, overturned  
 9: anticline, upright

## MeasuredSections Feature Class

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**Explanation of Contents:** measured stratigraphic sections

**Attributes:**

<i>MAP_THEME</i>	Geological map theme or type (=bedrock, at surface). [Domain=map_theme]
<i>FEATURE</i>	The type of feature (=measured stratigraphic section). [Domain=feature_sections]
<i>SUBFEATURE</i>	The type of measured section. [Domain=subfeature_sections] Examples: type section, reference section, study section
<i>SECTION_ID</i>	The unique section identifier. Examples: KB1943-1, NE1977-Mount Lloyd George
<i>SEC_UNIT</i>	A list of units in the section.
<i>UNIT_AGE</i>	The ages of the units listed in the sec_unit field.
<i>OBSERVER</i>	The geologist who measured the section. Examples: E.D. Kindle, B.S. Norford
<i>SEC_YEAR</i>	The year the section was measured.
<i>BASE_LAT</i>	Latitude coordinate for the base of the section (in decimal degrees).
<i>BASE_LONG</i>	Longitude coordinate for the base of the section (in decimal degrees).
<i>TOP_LAT</i>	Latitude coordinate for the top of the section (in decimal degrees).
<i>TOP_LONG</i>	Longitude coordinate for the top of the section (in decimal degrees).
<i>GEO_DATUM</i>	The horizontal datum for geographic coordinates. [Domain=hor_datum] Examples: NAD27, NAD83, WGS84
<i>CONFIDENCE</i>	Confidence in the location of the section. [Domain=section_confidence] Examples: defined, approximate, obliterated
<i>LOC_REMARK</i>	Comment field available for remarks concerning the location of the section.
<i>REFERENCE</i>	An abbreviated reference for the current publication. Example: Fallas, K.M. and MacNaughton, R.B., 2013; CGM 101.
<i>SOURCE_REF</i>	An abbreviated publication reference for source information or data, or the name of the original data source. Example: Douglas, R.J.W. (1958); GSC Map 1052A
<i>MAP_ID</i>	NTS identifier or map name (if footprint does not correspond to an NTS footprint). Examples: 95C/7, NP-11/12, Melville Island, Northern Yukon
<i>SYMBOL</i>	A GSC or mapping project code used in conjunction with a style file to symbolize features and to auto-generate map legend symbols.

## Traverses Feature Class

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**Explanation of Contents:** traces of traverse paths

**Attributes:**

<i>MAP_THEME</i>	Geological map theme or type (=bedrock, at surface). [Domain=map_theme]
<i>FEATURE</i>	The type of feature (=traverse). [Domain=feature_traverses]
<i>TRAVERS_ID</i>	Unique identifier for the traverse. Example: AC1971-05.
<i>TRAV_DATE</i>	Date the traverse was undertaken (yyyy-mm-dd).
<i>LEADER</i>	The name of the person leading the traverse.
<i>PARTNER</i>	The name of the traverse assistant(s) or partner(s).
<i>WEATHER</i>	Comments on weather conditions for the day.
<i>REMARKS</i>	Further remarks on the traverse as required.
<i>REFERENCE</i>	An abbreviated reference for the current publication. Example: Fallas, K.M. and MacNaughton, R.B., 2013; CGM 101.
<i>SOURCE_REF</i>	An abbreviated publication reference for source information or data, or the name of the original data source. Example: Douglas, R.J.W. (1958); GSC Map 1052A
<i>MAP_ID</i>	NTS identifier or map name (if footprint does not correspond to an NTS footprint). Examples: 95C/7, NP-11/12, Melville Island, Northern Yukon
<i>SYMBOL</i>	A GSC or mapping project code used in conjunction with a style file to symbolize features and to auto-generate map legend symbols.

## Traces Feature Class

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**Explanation of Contents:** traces of supplementary features not typically essential to the geological interpretation

**Attributes:**

<i>MAP_THEME</i>	Geological map theme or type (=bedrock, at surface). [Domain=map_theme]
<i>FEATURE</i>	The type of feature (=trace). [Domain=feature_traces]
<i>SUBFEATURE</i>	The type of trace. [Domain=subfeature_traces] Examples: bedding form line, structural line of section, lineament, seismic line, joint, geophysical anomaly
<i>DESCRIPTN</i>	A short description of the trace for clarification. Examples: positive aeromagnetic anomaly
<i>NAME</i>	The name of the feature. Examples: Cross-section A-B, Shell A64-117 (seismic line)
<i>REMARKS</i>	Further remarks on the feature as required.
<i>REFERENCE</i>	An abbreviated reference for the current publication. Example: Fallas, K.M. and MacNaughton, R.B., 2013; CGM 101.
<i>SOURCE_REF</i>	An abbreviated publication reference for source information or data, or the name of the original data source. Example: Douglas, R.J.W. (1958); GSC Map 1052A
<i>MAP_ID</i>	NTS identifier or map name (if footprint does not correspond to an NTS footprint). Examples: 95C/7, NP-11/12, Melville Island, Northern Yukon
<i>SYMBOL</i>	A GSC or mapping project code used in conjunction with a style file to symbolize features and to auto-generate map legend symbols.

## Limits Feature Class

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**Explanation of Contents:** limits or boundaries of supplementary features not essential to the geological interpretation

**Attributes:**

<i>MAP_THEME</i>	Geological map theme or type (=bedrock, at surface). [Domain=map_theme]
<i>FEATURE</i>	The type of feature. [Domain=feature_limits] Examples: limit, boundary
<i>SUBFEATURE</i>	The type of limit or boundary. [Domain=subfeature_limits] Examples: gas field; mine, surface; outcrop extent, lava flow margin, etc.
<i>DESCRIPTN</i>	A short description of the limit or boundary for clarification of unique subfeatures. Example: working coal mine, outline current as of 2005 (mine, surface)
<i>NAME</i>	The name of the feature. Example: Kotaneelee Gas Field
<i>REMARKS</i>	Further remarks on the feature as required.
<i>REFERENCE</i>	An abbreviated reference for the current publication. Example: Fallas, K.M. and MacNaughton, R.B., 2013; CGM 101.
<i>SOURCE_REF</i>	An abbreviated publication reference for source information or data, or the name of the original data source. Example: Douglas, R.J.W. (1958); GSC Map 1052A
<i>MAP_ID</i>	NTS identifier or map name (if footprint does not correspond to an NTS footprint). Examples: 95C/7, NP-11/12, Melville Island, Northern Yukon
<i>SYMBOL</i>	A GSC or mapping project code used in conjunction with a style file to symbolize features and to auto-generate map legend symbols.

## Isograds Feature Class

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**Explanation of Contents:** Isograd lines indicating the appearance of index minerals.

**Attributes:**

<i>MAP_THEME</i>	Geological map theme or type (=bedrock, at surface). [Domain=map_theme]
<i>FEATURE</i>	Type of feature(=isograd). [Domain=feature_isograds]
<i>SUBFEATURE</i>	Subdivision of the feature type. [Domain=subfeature_isograds] Examples: chlorite in, biotite in, garnet in, kyanite in
<i>CONFIDENCE</i>	Confidence in the position of the feature. [Domain=confidence]
<i>MIN_DIR</i>	The side of the line that would have the index mineral present. [Domain=direction]
<i>REMARKS</i>	Further clarification of the isograd if required.
<i>REFERENCE</i>	An abbreviated reference for the current publication. Example: Fallas, K.M. and MacNaughton, R.B., 2013; CGM 101.
<i>SOURCE_REF</i>	Abbreviated publication reference for source information or data, or the name of the original data source. Example: Douglas, R.J.W. (1958); GSC Map 1052A
<i>MAP_ID</i>	NTS identifier or map name (if footprint does not correspond to an NTS footprint). Examples: 95C/7, NP-11/12, Melville Island, Northern Yukon
<i>SYMBOL</i>	A GSC or mapping project code used in conjunction with a style file to symbolize features and to auto-generate map legend symbols.

## POLYGON DATA FEATURE CLASSES

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### OverprintZones Feature Class

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**Explanation of Contents:** zones of structural or secondary overprint

**Attributes:**

<i>MAP_THEME</i>	Geological map theme or type (=bedrock, at surface). [Domain=map_theme]
<i>FEATURE</i>	The type of feature (=overprint). [Domain=feature_overprint]
<i>SUBFEATURE</i>	The type of overprint zone. [Domain=subfeature_overprint] Examples: fault zone, shear zone, alteration zone, breccia zone
<i>DESCRIPTN</i>	A short description of the type of overprint zone or its properties.
<i>MAX_AGE</i>	The chronostratigraphic maximum age of the overprint zone. Examples: Middle Ordovician, 466 Ma
<i>MIN_AGE</i>	The chronostratigraphic minimum age of the overprint zone. Examples: Early Silurian, 430 Ma
<i>NAME</i>	The name of the feature, if applicable. Examples: Cate Creek Duplex, Great Slave Lake Shear Zone, Manetoe Facies
<i>REMARKS</i>	Comment field for further explanation of the overprint zone. Example: interpreted from seismic data
<i>REFERENCE</i>	An abbreviated reference for the current publication. Example: Fallas, K.M. and MacNaughton, R.B., 2013; CGM 101.
<i>SOURCE_REF</i>	An abbreviated publication reference for source information or data, or the name of the original data source. Example: Douglas, R.J.W. (1958); GSC Map 1052A
<i>MAP_ID</i>	NTS identifier or map name (if footprint does not correspond to an NTS footprint). Examples: 95C/7, NP-11/12, Melville Island, Northern Yukon
<i>SYMBOL</i>	A GSC or mapping project code used in conjunction with a style file to symbolize features and to auto-generate map legend symbols.

## MapUnits Feature Class

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**Explanation of Contents:** bedrock map units (identical structure to UnitLabels Feature Class)

**Attributes:**

<i>MAP_THEME</i>	Geological map theme or type (=bedrock, at surface). [Domain=map_theme]
<i>FEATURE</i>	The type of feature. [Domain=feature_mapunit_area] Examples: map unit, unmapped area
<i>MAP_UNIT</i>	The name of the map unit. Examples: Sayunei Formation, Wildhorn Member, Nisutlin Batholith
<i>PARENTS</i>	The upper level hierarchy names for map unit, if applicable (formation, group, suite, or assemblage name). Examples: Rapitan Group, Scatter Formation, Cassiar Suite
<i>MAX_AGE</i>	The chronostratigraphic maximum age of the unit. Examples: Middle Ordovician, 466 Ma
<i>MIN_AGE</i>	The chronostratigraphic minimum age of the unit. Examples: Early Silurian, 430 Ma
<i>LITH_LIST</i>	A short list of lithologies present in the map unit, in descending order of abundance. Example: sandstone, shale, conglomerate
<i>GENESIS</i>	Geological process, or environment(s) of creation, of the map unit. Examples: sedimentary, marine; igneous, plutonic; metasedimentary
<i>REMARKS</i>	Remarks specific to the map unit.
<i>LABEL</i>	Map unit abbreviation. Examples: Dv-P, NPt-Sa, ICT-Sc-W
<i>REFERENCE</i>	An abbreviated reference for the current publication. Example: Fallas, K.M. and MacNaughton, R.B., 2013; CGM 101.
<i>MAP_ID</i>	NTS identifier or map name (if footprint does not correspond to an NTS footprint). Examples: 95C/7, NP-11/12, Melville Island, Northern Yukon
<i>SYMBOL</i>	A GSC colour code used in conjunction with a style file to symbolize features and to auto-generate map legend symbols.

## DriftMapUnits Feature Class

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**Explanation of Contents:** drift map units (identical structure to DriftLabels Feature Class)

**Attributes:**

<i>MAP_THEME</i>	Geological map theme or type (=bedrock, at surface). [Domain=map_theme]
<i>FEATURE</i>	The type of feature. [Domain=feature_mapunit_area] Examples: map unit, unmapped area
<i>MAP_UNIT</i>	The name of the map unit. Examples: Quaternary alluvium, Quaternary rockslide
<i>PARENTS</i>	The upper level hierarchy names for map unit (formation, group or suite name). Examples: Laurentian till
<i>MAX_AGE</i>	The chronostratigraphic maximum age of the unit. Examples: Pleistocene, 1.2 Ma
<i>MIN_AGE</i>	The chronostratigraphic minimum age of the unit. Examples: Holocene, 0 Ma
<i>LITH_LIST</i>	A short list of sediment present in the map unit, in descending order of abundance. Example: sand, mud, gravel
<i>GENESIS</i>	The geological process or environment(s) of creation of the map unit. Examples: sedimentary, continental - glacial
<i>REMARKS</i>	Remarks specific to the map unit.
<i>LABEL</i>	Map unit abbreviation. Examples: Qt-a, Qt-ls
<i>REFERENCE</i>	An abbreviated reference for the current publication. Example: Fallas, K.M. and MacNaughton, R.B., 2013; CGM 101.
<i>MAP_ID</i>	NTS identifier or map name (if footprint does not correspond to an NTS footprint). Examples: 95C/7, NP-11/12, Melville Island, Northern Yukon
<i>SYMBOL</i>	A GSC colour code used in conjunction with a style file to symbolize features and to auto-generate map legend symbols.

## Sources Feature Class

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**Explanation of Contents:** extents of source data contributing to the compilation

**Attributes:**

<i>MAP_THEME</i>	Geological map theme or type (=bedrock, at surface). [Domain=map_theme]
<i>FEATURE</i>	The type of feature (=source area). [Domain=feature_sources]
<i>REMARKS</i>	Clarifying comments regarding the sources.
<i>REFERENCE</i>	An abbreviated reference for the current publication. Example: Fallas, K.M. and MacNaughton, R.B., 2013; CGM 101.
<i>SOURCE_REF</i>	An abbreviated publication reference for source information or data, or the name of the original data source. Example: Douglas, R.J.W. (1958); GSC Map 1052A
<i>MAP_ID</i>	NTS identifier or map name (if footprint does not correspond to an NTS footprint). Examples: 95C/7, NP-11/12, Melville Island, Northern Yukon
<i>SYMBOL</i>	A GSC or mapping project code used in conjunction with a style file to symbolize features and to auto-generate map legend symbols.