Natural Resources Canada | Ressources naturelles Canada

ArcGIS™ Geodatabase Schema for Geological Map Production

DRAFT

Canada

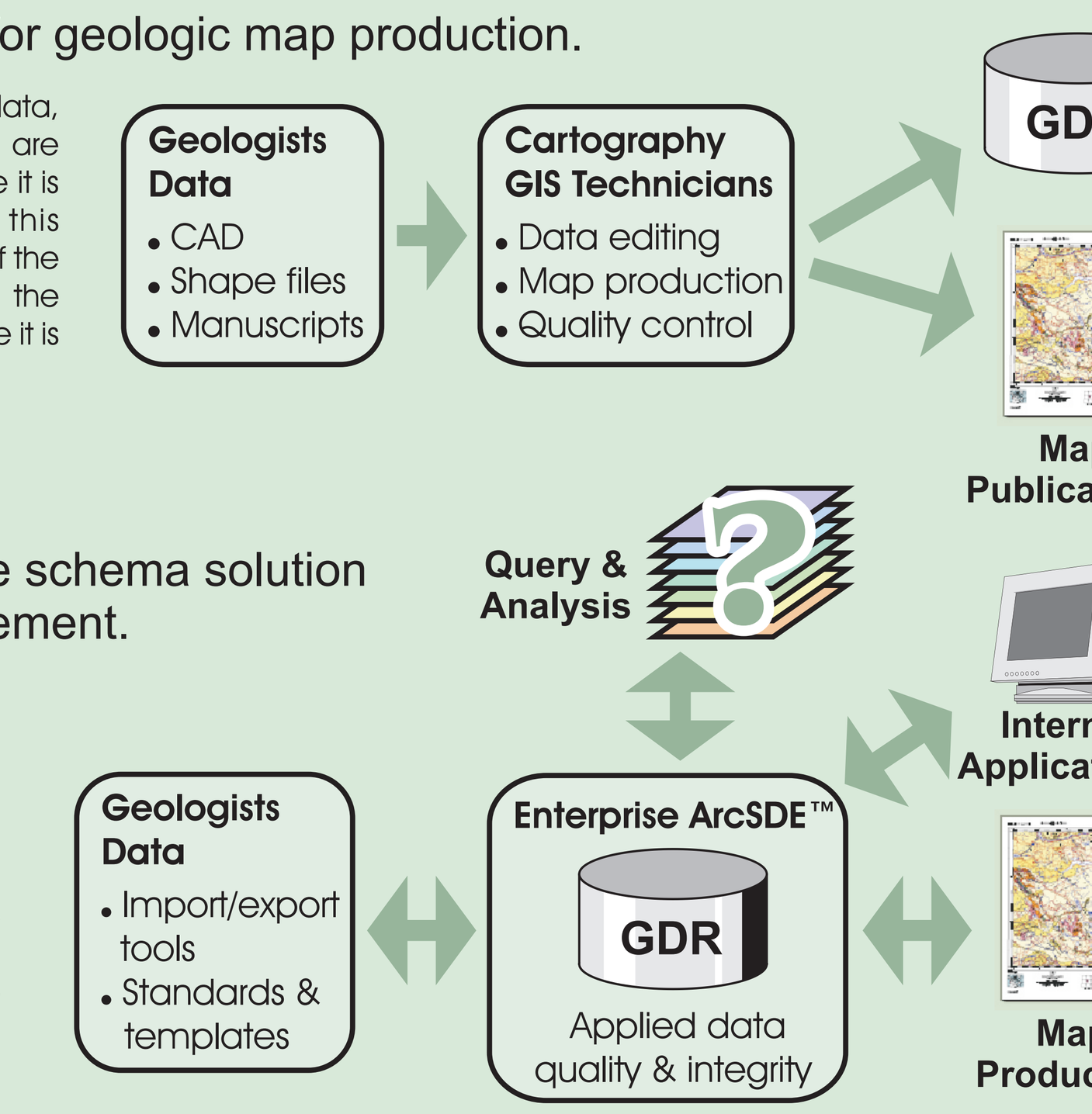
Overview

Phase 1 - Geodatabase schema for geologic map production.

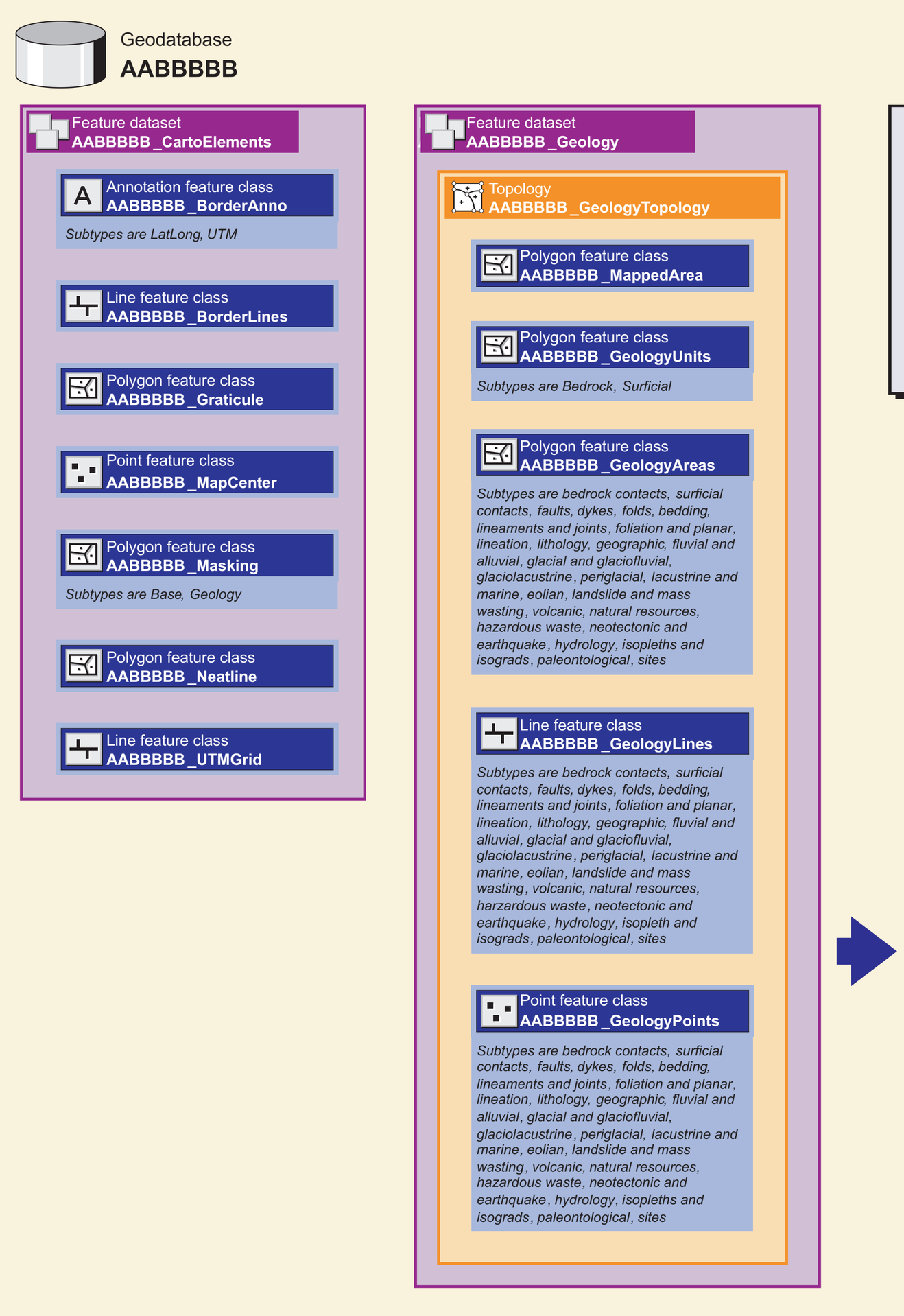
Based on the traditional linear workflow of spatial data, datasets in various formats from geologists are transferred to cartographers/GIS technicians where it is edited and manipulated to confirm to this geodatabase schema. Finally, after publication of the hardcopy, the spatial data is imported into the Geoscience Data Repository (GDR/ArcSDE™) where it is made available for internet applications.

Phase 2 - Enterprise geodatabase schema solution for spatial data management.

A spatial data management system will centralize the GDR in an enterprise ArcSDE™ solution. Initially, templates and tools will ensure that the spatial data inputted by geologists will adhere to published standards and recommended practices. Additional processing of the spatial data by GIS technicians will ensure data quality and integrity. Finally, the data is made available, not just for cartographic map production, but for query and analysis, internet and web-mapping applications, and digital downloads.



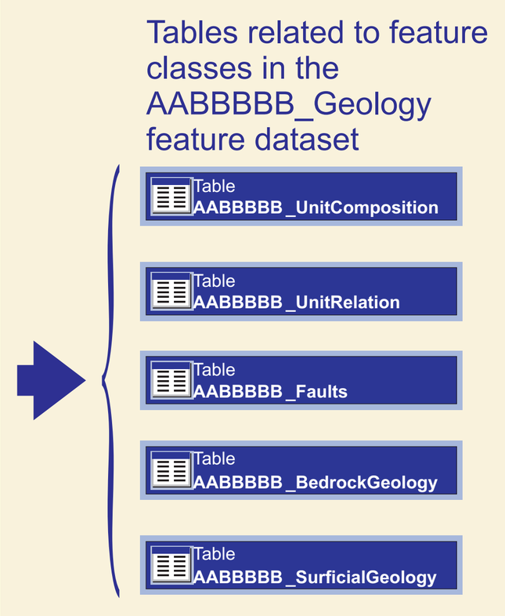
Geodatabase Quick Glance



The AABBBBB is a placeholder for a prefix appended to all elements of a geodatabase. The characters represent the following:

AA - the type of map publication, where AA is either
AS - for A-Series map publication
OF - for Open File map publication
BU - for map bulletin

BBBBB - the publication number



CartoElements Feature Dataset

Most of the feature classes associated with the map border are imported from the coverage model.

Simple feature class AABBBBB_BorderLines — Geometry: Polyline; Contains M values: No; Contains Z values: No

Map border lines.

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length	
OBJECTID	Object ID							
SHAPE	Geometry	Yes						
SYMBOL	Short integer	No			0			Symbol value imported from coverage.
SHAPE_Length	Double	Yes			0	0		

Simple feature class AABBBBB_Graticule — Geometry: Polygon; Contains M values: No; Contains Z values: No

Black and white graticules around border perimeter.

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length	
OBJECTID	Object ID							
SHAPE	Geometry	Yes						
SYMBOL	Short integer	No			0			Symbol value imported from coverage.
SHAPE_Length	Double	Yes			0	0		
SHAPE_Area	Double	Yes			0	0		

Simple feature class AABBBBB_MapCenter — Geometry: Point; Contains M values: No; Contains Z values: No

Contains single point defining center of map. Used for map surround purposes.

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length
OBJECTID	Object ID						
SHAPE	Geometry	Yes					

Simple feature class AABBBBB_Masking — Geometry: Polygon; Contains M values: No; Contains Z values: No

Polygons used to mask base and geologic features as part of the advanced masking options in ArcMap™

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length	
OBJECTID	Object ID							
SHAPE	Geometry	Yes						
FEATURE	Long integer	Yes	1		0			Sub-type field.
SHAPE_Length	Double	Yes			0	0		
SHAPE_Area	Double	Yes			0	0		

Subtypes of AABBBBB_Masking — Subtype field: FEATURE; Default subtype: 1

List of defined default values and domains for subtypes in this class

Subtype Code	Subtype Description	Field name	Default value	Domain
1	Base	No values set		
2	Geology	No values set		

Simple feature class AABBBBB_Neatline — Geometry: Polygon; Contains M values: No; Contains Z values: No

Contains single polygon based on the neatline of the border. Used for map surround purposes.

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length
OBJECTID	Object ID						
SHAPE	Geometry	Yes					
SHAPE_Length	Double	Yes			0	0	
SHAPE_Area	Double	Yes			0	0	

Simple feature class AABBBBB_UTMGrid — Geometry: Polyline; Contains M values: No; Contains Z values: No

UTM grid lines.

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length	
OBJECTID	Object ID							
SHAPE	Geometry	Yes						
SYMBOL	Short integer	No			0			Symbol value imported from coverage.
SHAPE_Length	Double	Yes			0	0		

Annotation feature class AABBBBB_BorderAnno — Geometry: ; Contains M values: No; Contains Z values: No

Latitude and longitude values, and UTM coordinates.

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length
OBJECTID	Object ID						
SHAPE	Geometry	Yes					
FeatureID	Long integer	Yes			0		
ZOrder	Long integer	Yes			0		
AnnotationClassID	Long integer	Yes	0		0		
Element	Blob	Yes			0	0	0
SymbolID	Long integer	Yes			0		
Status	Short integer	Yes	0	AnnotationStatus	0		
TextString	String	Yes					255
FontName	String	Yes					255
FontSize	Double	Yes			0	0	
Bold	Short integer	Yes		BooleanSymbolValue	0		
Italic	Short integer	Yes		BooleanSymbolValue	0		
Underline	Short integer	Yes		BooleanSymbolValue	0		
VerticalAlignment	Short integer	Yes		VerticalAlignment	0		
HorizontalAlignment	Short integer	Yes		HorizontalAlignment	0		
XOffset	Double	Yes			0	0	
YOffset	Double	Yes			0	0	
Angle	Double	Yes			0	0	
FontLeading	Double	Yes			0	0	
WordSpacing	Double	Yes			0	0	
CharacterWidth	Double	Yes			0	0	
CharacterSpacing	Double	Yes			0	0	
FlipAngle	Double	Yes			0	0	
Override	Long integer	Yes			0		
SHAPE_Length	Double	Yes			0	0	
SHAPE_Area	Double	Yes			0	0	

Subtypes of AABBBBB_BorderAnno — Subtype field: AnnotationClassID; Default subtype: 0

List of defined default values and domains for subtypes in this class

Subtype Code	Subtype Description	Field name	Default value	Domain
0	LatLong	Status Bold Italic Underline VerticalAlignment HorizontalAlignment	0	AnnotationStatus BooleanSymbolValue BooleanSymbolValue BooleanSymbolValue VerticalAlignment HorizontalAlignment
1	UTM	Status Bold Italic Underline VerticalAlignment HorizontalAlignment	0	AnnotationStatus BooleanSymbolValue BooleanSymbolValue BooleanSymbolValue VerticalAlignment HorizontalAlignment

Geodatabase domains for annotation

Coded value domain AnnotationStatus — Description: Valid annotation state values. Field type: Short integer; Split policy: Duplicate; Merge policy: Duplicate

Code	Description
0	Placed
1	Unplaced

Coded value domain BooleanSymbolValue — Description: Valid values are Yes and No. Field type: Short integer; Split policy: Duplicate; Merge policy: Duplicate

Code	Description
1	Yes
0	No

Coded value domain VerticalAlignment — Description: Valid symbol vertical alignment values. Field type: Short integer; Split policy: Duplicate; Merge policy: Default value

Code	Description
0	Top
1	Center
2	Baseline
3	Bottom

Coded value domain HorizontalAlignment — Description: Valid horizontal symbol alignment values. Field type: Short integer; Split policy: Duplicate; Merge policy: Default value

Code	Description
0	Left
1	Center
2	Right
3	Full

Geology Feature Dataset

Simple feature class AABBBBB_GeologyAreas — Geometry: Polygon; Contains M values: No; Contains Z values: No

Geological area features, other than geological units.

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length	
OBJECTID	Object ID							
SHAPE	Geometry	Yes						
FEATUREID	String	Yes					50	Unique feature ID assigned by author.
CATEGORY	Long integer	No	1		0			Sub-type field (see categories below).
FEATURE	Short integer	Yes			0			Unique geological feature value based on domains.
GENERATION	Short integer	Yes			0			Generation of geologic feature where applicable.
MAPTEXT	String	Yes					50	Text displayed on map that is associated with feature.
GEOUNIT	String	Yes					50	Underlying geologica map unit label (see GeologyUnits feature class).
CARTOMISC	String	Yes					50	
SHAPE_Length	Double	Yes			0	0		
SHAPE_Area	Double	Yes			0	0		

Subtypes of AABBBBB_GeologyAreas — Subtype field: CATEGORY; Default subtype: 1

List of defined default values and domains for subtypes in this class

Subtype Code	Subtype Description	Field name	Default value	Domain
1	bedrock contacts	FEATURE GENERATION	 0	Boundaries Generation
2	surficial contacts	FEATURE GENERATION	 0	Boundaries Generation
3	faults	FEATURE GENERATION	 0	Faults Generation
4	dykes	FEATURE GENERATION	 0	Dykes Generation
5	folds	FEATURE GENERATION	 0	Folds Generation
6	bedding	FEATURE GENERATION	 0	Bedding Generation
7	lineaments and joints	FEATURE GENERATION	 0	LineamentsJoints Generation
8	foliation and planar	FEATURE GENERATION	 0	FoliationPlanar Generation
9	lineation	FEATURE GENERATION	 0	Lineation Generation
10	lithology	FEATURE GENERATION	 0	Lithology Generation
11	geographic	FEATURE GENERATION	 0	Geographic Generation
12	fluvial and alluvial	FEATURE GENERATION	 0	FluvialAlluvial Generation
13	glacial and glaciofluvial	FEATURE GENERATION	 0	GlacialGlaciofluvial Generation
14	glaciolacustrine	FEATURE GENERATION	 0	Glaciolacustrine Generation
15	periglacial	FEATURE GENERATION	 0	Periglacial Generation
16	lacustrine and marine	FEATURE GENERATION	 0	LacustrineMarine Generation
17	eolian	FEATURE GENERATION	 0	Eolian Generation
18	landslide and mass wasting	FEATURE GENERATION	 0	LandslideMassWasting Generation
19	volcanic	FEATURE GENERATION	 0	Volcanic Generation
20	natural resources	FEATURE GENERATION	 0	NaturalResources Generation
21	hazardous waste	FEATURE GENERATION	 0	HazardousWaste Generation
22	neotectonic and earthquake	FEATURE GENERATION	 0	NeotectonicEarthquake Generation
23	hydrology	FEATURE GENERATION	 0	Hydrology Generation
24	isopleths and isograds	FEATURE GENERATION	 0	IsoplethsIsograds Generation
25	paleontological	FEATURE GENERATION	 0	Paleontological Generation
26	sites	FEATURE GENERATION	 0	Sites Generation

Simple feature class AABBBBB_GeologyPoints — Geometry: Point; Contains M values: No; Contains Z values: No

Type a description of this feature class or table in this placeholder text.

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length	
OBJECTID	Object ID							
SHAPE	Geometry	Yes						
STATIONID	String	Yes					50	Station ID of point feature.
FEATUREID	String	Yes					50	Unique feature ID assigned by author.
CATEGORY	Long integer	No	1		0			Sub-type field (see categories below).
FEATURE	Short integer	No			0			Unique geological feature value based on domains.
GENERATION	Short integer	Yes			0			Generation of geologic feature where applicable.
ORIENTATION	Short integer	No			0			Azimuthal display angle of geologic feature.
MAPTEXT	String	Yes					50	Text associated with feature that is displayed on map.
MAPUNIT	String	Yes					50	Underlying geologic map unit label (see GeologyUnits feature class).
CARTOMISC	String	Yes					50	Field used for cartographic production.

Subtypes of AABBBBB_GeologyPoints — Subtype field: CATEGORY; Default subtype: 1

List of defined default values and domains for subtypes in this class

Subtype Code	Subtype Description	Field name	Default value	Domain
1	bedrock contacts	FEATURE GENERATION ORIENTATION	 0 0	Boundaries Generation Orientation
2	surficial contacts	FEATURE GENERATION ORIENTATION	 0 0	Boundaries Generation Orientation
3	faults	FEATURE GENERATION ORIENTATION	 0 0	Faults Generation Orientation
4	dykes	FEATURE GENERATION ORIENTATION	 0 0	Dykes Generation Orientation
5	folds	FEATURE GENERATION ORIENTATION	 0 0	Folds Generation Orientation
6	bedding	FEATURE GENERATION ORIENTATION	 0 0	Bedding Generation Orientation
7	lineaments and joints	FEATURE GENERATION ORIENTATION	 0 0	LineamentsJoints Generation Orientation
8	foliation and planar	FEATURE GENERATION ORIENTATION	 0 0	FoliationPlanar Generation Orientation
9	lineation	FEATURE GENERATION ORIENTATION	 0 0	Lineation Generation Orientation
10	lithology	FEATURE GENERATION ORIENTATION	 0 0	Lithology Generation Orientation
11	geographic	FEATURE GENERATION ORIENTATION	 0 0	Geographic Generation Orientation
12	fluvial and alluvial	FEATURE GENERATION ORIENTATION	 0 0	FluvialAlluvial Generation Orientation
13	glacial and glaciofluvial	FEATURE GENERATION ORIENTATION	 0 0	GlacialGlaciofluvial Generation Orientation
14	glaciolacustrine	FEATURE GENERATION ORIENTATION	 0 0	Glaciolacustrine Generation Orientation
15	periglacial	FEATURE GENERATION ORIENTATION	 0 0	Periglacial Generation Orientation
16	lacustrine and marine	FEATURE GENERATION ORIENTATION	 0 0	LacustrineMarine Generation Orientation
17	eolian	FEATURE GENERATION ORIENTATION	 0 0	Eolian Generation Orientation
18	landslide and mass wasting	FEATURE GENERATION ORIENTATION	 0 0	LandslideMassWasting Generation Orientation
19	volcanic	FEATURE GENERATION ORIENTATION	 0 0	Volcanic Generation Orientation
20	natural resources	FEATURE GENERATION ORIENTATION	 0 0	NaturalResources Generation Orientation
21	hazardous waste	FEATURE GENERATION ORIENTATION	 0 0	HazardousWaste Generation Orientation
22	neotectonic and earthquake	FEATURE GENERATION ORIENTATION	 0 0	NeotectonicEarthquake Generation Orientation
23	hydrology	FEATURE GENERATION ORIENTATION	 0 0	Hydrology Generation Orientation
24	isopleths and isograds	FEATURE GENERATION ORIENTATION	 0 0	IsoplethsIsograds Generation Orientation
25	paleontological	FEATURE GENERATION ORIENTATION	 0 0	Paleontological Generation Orientation
26	sites	FEATURE GENERATION ORIENTATION	 0 0	Sites Generation Orientation

Simple feature class AABBBBB_GeologyLines — Geometry: Polyline; Contains M values: No; Contains Z values: No

Geological line features.

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length	
OBJECTID	Object ID							
SHAPE	Geometry	Yes						
FEATUREID	String	Yes					50	Unique feature ID assigned by author.
CATEGORY	Long integer	No	1		0			Sub-type field (see categories below).
FEATURE	Short integer	Yes			0			Unique geological feature value based on domains.
CONFIDENCE	Short integer	Yes			0			Confidence level of geologic feature.
GENERATION	Short integer	Yes			0			Generation of geologic feature where applicable.
MAPTEXT	String	Yes					50	Text displayed on map that is associated with feature.
CARTOMISC	String	Yes					50	Field used for cartographic production.
MAPUNIT	String	Yes					50	Underlying geologica map unit label (see GeologyUnits feature class).
SHAPE_Length	Double	Yes			0	0		

Relationship class AABBBBB_ExternalFaults
Type: Simple; Cardinality: One to many; Notification: None
Forward label: GeologyLines; Backward label: ExternalFaultInfo

Origin table	Destination feature class
Name: AABBBBB_Faults Primary key: FAULT_ID Foreign key: FEATUREID	Name: AABBBBB_GeologyLines

No relationship rules defined.

Table AABBBBB_Faults

Supplementary data supplied by author. Faults in table are related to faults in feature class based on unique ID assigned by author.

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length	
OBJECTID	Object ID							
FAULT_ID	String	Yes					50	Unique fault ID assigned by author.
MODIFIER	String	Yes					30	Fault modifier.
ATTITUDE	String	Yes					30	Fault attitude.
CONFIDENCE	String	Yes					30	Confidence level of fault.
DIP_FP	String	Yes					10	Dip value.
DIP_DIR_FP	String	Yes					30	Dip direction.
MOVEMENT	String	Yes					30	Fault movement.
NAME	String	Yes					50	Name given to fault.
NTS	String	Yes					12	NTS index number in which fault exists.

Subtypes of AABBBBB_GeologyLines — Subtype field: CATEGORY; Default subtype: 1

List of defined default values and domains for subtypes in this class

Subtype Code	Subtype Description	Field name	Default value	Domain
1	bedrock contacts	FEATURE CONFIDENCE GENERATION		Boundaries Confidence Generation
2	surficial contacts	FEATURE CONFIDENCE GENERATION		Boundaries Confidence Generation
3	faults	FEATURE CONFIDENCE GENERATION		Faults Confidence Generation
4	dykes	FEATURE CONFIDENCE GENERATION		Dykes Confidence Generation
5	folds	FEATURE CONFIDENCE GENERATION		Folds Confidence Generation
6	bedding	FEATURE CONFIDENCE GENERATION		Bedding Confidence Generation
7	lineaments and joints	FEATURE CONFIDENCE GENERATION		LineamentsJoints Confidence Generation
8	foliation and planar	FEATURE CONFIDENCE GENERATION		FoliationPlanar Confidence Generation
9	lineation	FEATURE CONFIDENCE GENERATION		Lineation Confidence Generation
10	lithology	FEATURE CONFIDENCE GENERATION		Lithology Confidence Generation
11	geographic	FEATURE CONFIDENCE GENERATION		Geographic Confidence Generation
12	fluvial and alluvial	FEATURE CONFIDENCE GENERATION		FluvialAlluvial Confidence Generation
13	glacial and glaciofluvial	FEATURE CONFIDENCE GENERATION		GlacialGlaciofluvial Confidence Generation
14	glaciolacustrine	FEATURE CONFIDENCE GENERATION		Glaciolacustrine Confidence Generation
15	periglacial	FEATURE CONFIDENCE GENERATION		Periglacial Confidence Generation
16	lacustrine and marine	FEATURE CONFIDENCE GENERATION		LacustrineMarine Confidence Generation
17	eolian	FEATURE CONFIDENCE GENERATION		Eolian Confidence Generation
18	landslide and mass wasting	FEATURE CONFIDENCE GENERATION		LandslideMassWasting Confidence Generation
19	volcanic	FEATURE CONFIDENCE GENERATION		Volcanic Confidence Generation
20	natural resources	FEATURE CONFIDENCE GENERATION		NaturalResources Confidence Generation
21	harzardous waste	FEATURE CONFIDENCE GENERATION		HazardousWaste Confidence Generation
22	neotectonic and earthquake	FEATURE CONFIDENCE GENERATION		NeotectonicEarthquake Confidence Generation
23	hydrology	FEATURE CONFIDENCE GENERATION		Hydrology Confidence Generation
24	isopleth and isograds	FEATURE CONFIDENCE GENERATION		IsoplethsIsograds Confidence Generation
25	paleontological	FEATURE CONFIDENCE GENERATION		Paleontological Confidence Generation
26	sites	FEATURE CONFIDENCE GENERATION		Sites Confidence Generation

Simple feature class AABBBBB_GeologyUnits — Geometry: Polygon; Contains M values: No; Contains Z values: No

Contains bedrock and surficial geological units.

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length	
OBJECTID	Object ID							
SHAPE	Geometry	Yes						
FEATUREID	String	Yes					50	Unique feature ID assigned by author.
CATEGORY	Long integer	Yes	1		0			Sub-type field.
MAPUNIT	String	Yes					50	Unique value for geological polygon.
CARTOMISC	String	Yes					50	Field used for cartographic production.
SHAPE_Length	Double	Yes			0	0		
SHAPE_Area	Double	Yes			0	0		

Subtypes of AABBBBB_GeologyUnits — Subtype field: CATEGORY; Default subtype: 1

List of defined default values and domains for subtypes in this class

Subtype Code	Subtype Description	Field name	Default value	Domain	
1	Bedrock	No values set			Bedrock geological polygons.
2	Surficial	No values set			Surficial geological polygons.

Relationship class AABBBBB_UnitLabel
Type: Simple; Cardinality: One to many; Notification: None
Forward label: AABBBBB_GeologyUnits; Backward label: AABBBBB_UnitComposition

Origin table	Destination feature class
Name: AABBBBB_UnitComposition Primary key: MAPUNIT Foreign key: MAPUNIT	Name: AABBBBB_GeologyUnits

No relationship rules defined.

Table AABBBBB_UnitComposition

Defines the geological units that compose a polygon.

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length	
ID	Object ID							
MAPUNIT	String	No					50	Unique value for each type of geological polyon.
MAPLABEL	String	Yes					50	Text string used to label polygon in ArcMap.
VENEER	String	Yes					50	Geological unit represented as a veneer (surficial).
UNIT_1	String	Yes					50	First geological unit.
UNIT_2	String	Yes					50	Second geological unit.
UNIT_3	String	Yes					50	Third geological unit.
RELATION	Short integer	Yes			0			Unique relationship ID between veneer and geological units.

See note below

Relationship class AABBBBB_BedrockUnit1
Type: Simple; Cardinality: One to many; Notification: None
Forward label: UnitComposition1; Backward label: BedrockGeologyUnit

Origin table	Destination table
Name: AABBBBB_BedrockLegend Primary key: GEOUNIT Foreign key: UNIT_1	Name: AABBBBB_UnitComposition

No relationship rules defined.

Relationship class AABBBBB_BedrockUnit2
Type: Simple; Cardinality: One to many; Notification: None
Forward label: UnitComposition2; Backward label: BedrockGeologyUnit

Origin table	Destination table
Name: AABBBBB_BedrockLegend Primary key: GEOUNIT Foreign key: UNIT_2	Name: AABBBBB_UnitComposition

No relationship rules defined.

Relationship class AABBBBB_BedrockUnit3
Type: Simple; Cardinality: One to many; Notification: None
Forward label: UnitComposition3; Backward label: BedrockGeologyUnit

Origin table	Destination table
Name: AABBBBB_BedrockLegend Primary key: GEOUNIT Foreign key: UNIT_3	Name: AABBBBB_UnitComposition

No relationship rules defined.

Optional direct relationship class to the AABBBBB_BedrockGeology table is possible if all polygons are composed of only one geological unit.

Relationship class AABBBBB_Relation
Type: Simple; Cardinality: One to many; Notification: None
Forward label: UnitComposition; Backward label: UnitRelation

Origin table	Destination table
Name: AABBBBB_UnitRelation Primary key: RELATION Foreign key: RELATION	Name: AABBBBB_UnitComposition

No relationship rules defined.

Table AABBBBB_UnitRelation

Defines the relationships between geological units in cases where more than one geological unit exists in a polygon.

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length	
OBJECTID	Object ID							
RELATION	Short integer	No			0			Unique identifier for each relationship.
DESCRIPTION	String	Yes					100	Definition of relationship.

Table AABBBBB_BedrockGeology

Definition of bedrock geological units.

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length	
OBJECTID	Object ID							
GEOUNIT	String	No					50	Code string for geological unit.
GEOGROUP	String	Yes					100	Group in which geological unit exists.
FORMATION	String	Yes					100	Formation name in which geological unit exists.
MEMBER	String	Yes					100	Member name in which geological unit exists.
MAX_AGE	String	Yes					50	Maximum age of geological unit.
MIN_AGE	String	Yes					50	Minimum age of geological unit.
MAJOR_LITH	String	Yes					250	Major lithologies that exist in geological unit.
MINOR_LITH	String	Yes					250	Minor lithologies that exist in geological unit.
DESCRIPTION	String	Yes					250	Description of geological unit.
REMARKS	String	Yes					250	Remarks by author of geological unit.
LEG_ORDER	String	Yes					18	Legend order of geological unit.
NTS	String	Yes					12	NTS index number in which geological unit exists.

Similar relationship classes as shown above exist between the AABBBBB_UnitComposition and AABBBBB_SurficialGeology tables, with an additional relationship class required for the VENEER field in the AABBBBB_UnitComposition table.

Table AABBBBB_SurficialGeology

Definition of surficial geological units. (Additional fields yet to be constructed)

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length	
OBJECTID	Object ID							
GEOUNIT	String	No					50	Code string for surficial geological unit.

Topology AABBBBB_GeologyTopology

Participating feature classes and weights

Feature class	Weight
AABBBBB_GeologyPoints	1
AABBBBB_GeologyLines	1
AABBBBB_GeologyAreas	1
AABBBBB_GeologyUnits	1
AABBBBB_MappedArea	1

Topology rules:

Feature in target feature class	Topology rule	Features in comparison feature class
AABBBBB_GeologyUnits: Bedrock	Must Not Overlap	
AABBBBB_GeologyUnits: Surficial	Must Not Overlap	
AABBBBB_GeologyUnits: Bedrock	Must Not Have Gaps	
AABBBBB_GeologyUnits: Surficial	Must Not Have Gaps	
AABBBBB_GeologyPoints	Must Be Properly Inside	AABBBBB_MappedArea
AABBBBB_GeologyLines: bedrock contacts	Must Be Covered By Boundary Of	AABBBBB_GeologyUnits: Bedrock
AABBBBB_GeologyLines: faults	Must Be Covered By Boundary Of	AABBBBB_GeologyUnits: Bedrock
AABBBBB_GeologyLines: dykes	Must Be Covered By Boundary Of	AABBBBB_GeologyUnits: Bedrock
AABBBBB_GeologyLines: surficial contacts	Must Be Covered By Boundary Of	AABBBBB_GeologyUnits: Surficial
AABBBBB_GeologyUnits	Must Be Covered By	AABBBBB_MappedArea

Simple feature class AABBBBB_MappedArea — Geometry: Polygon; Contains M values: No; Contains Z values: No

Defines the extent of geologic mapping.

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length
OBJECTID	Object ID						
SHAPE	Geometry	Yes					
SHAPE_Length	Double	Yes			0	0	
SHAPE_Area	Double	Yes			0	0	

Standard domains

Coded value domain Categories — Description: Geological categories; Field type: Long integer; Split policy: Default value; Merge policy: Default value

Code	Description
1	bedrock contacts
2	surficial contacts
3	faults
4	dykes
5	folds
6	bedding
7	lineaments and joints
8	foliation and planar
9	lineation
10	lithology
11	geographic
12	fluvial and alluvial
13	glacial and glaciofluvial
14	glaciolacustrine
15	periglacial
16	lacustrine and marine
17	eolian
18	landslide and mass wasting
19	volcanic
20	natural resources
21	hazardous waste
22	neotectonic and earthquake
23	hydrology
24	isopleths and isograds
25	paleontological
26	sites

Coded value domain Confidence — Description: Confidence of features; Field type: Short integer; Split policy: Default value; Merge policy: Default value

Code	Description
1	defined
2	approximate
3	inferred
4	assumed
5	concealed
12	approximate, queried
13	inferred, queried
14	assumed, queried
15	concealed, queried
50	unknown
60	undifferentiated
100	arbitrary

Range domain Generation — Description: Generation of geologic features; Field type: Short integer; Split policy: Default value; Merge policy: Default value

Minimum value	Maximum value
0	10

Range domain Orientation — Description: Angle of point features; Field type: Short integer; Split policy: Default value; Merge policy: Default value

Minimum value	Maximum value
0	360

Coded value domains for geologic features

Coded value domain Boundaries — Description: Boundary features; Field type: Short integer; Split policy: Default value; Merge policy: Default value

Code	Description
1000	contact
1010	intrusive contact
1020	stratigraphic contact
1030	gradational contact
1100	boundary
1900	mapping limit
1910	field limit

Coded value domain Faults — Description: Fault features; Field type: Short integer; Split policy: Default value; Merge policy: Default value

Code	Description
3000	fault
3010	fault, minor
3011	fault, minor, inclined
3012	fault, minor, vertical
3020	fault, major
3021	fault, major, inclined
3022	fault, major, vertical
3050	normal fault
3051	normal fault, hanging wall on left side
3052	normal fault, hanging wall on right side
3055	normal fault, dextral
3056	normal fault, sinistral
3057	normal fault, sense unknown
3100	brittle fault
3105	brittle fault, dextral
3106	brittle fault, sinistral
3107	brittle fault, sense unknown
3200	thrust fault
3201	thrust fault, upthrust on left side
3202	thrust fault, upthrust on right side
3250	overturned thrust fault
3251	overturned thrust fault, hanging wall on left side
3252	overturned thrust fault, hanging wall on right side
3300	strike-slip fault
3305	strike-slip fault, dextral
3306	strike-slip fault, sinistral
3307	strike-slip fault, sense unknown
3350	oblique-slip fault
3355	oblique-slip fault, dextral
3356	oblique-slip fault, sinistral
3357	oblique-slip fault, sense unknown
3400	shear zone
3405	shear zone, dextral
3406	shear zone, sinistral
3407	shear zone, sense unknown
3410	shear zone boundary
3420	ductile shear zone
3425	ductile shear zone, dextral
3426	ductile shear zone, sinistral
3427	ductile shear zone, sense unknown
3430	ductile shear zone boundary
3900	dip, direction and/or plunge known
3901	lineation, direction and/or plunge known
3902	symbol indicating hanging wall on left side
3903	symbol indicating hanging wall on right side
3904	symbol indicating strike-slip

Coded value domain Dykes — Description: Dyke features; Field type: Short integer; Split policy: Default value; Merge policy: Default value

Code	Description
4000	dyke
4010	dyke, inclined
4020	dyke, vertical
4030	dyke, variable thickness
4100	diabase dyke
4110	Franklin diabase dyke
4120	Mackenzie diabase dyke
4200	diamondiferous dyke
4210	gabbro dyke
4220	granitoid dyke
4230	mafic dyke
4310	dyke, type 1
4320	dyke, type 2
4330	dyke, type 3
4340	dyke, type 4
4350	dyke, type 5
4360	dyke, type 6
4370	dyke, type 7
4380	dyke, type 8
4390	dyke, type 9

Coded value domain Folds (not complete) — Description: Fold features; Field type: Short integer; Split policy: Default value; Merge policy: Default value

Code	Description
5000	anticline
5001	anticline, upright
5002	anticline, overturned
5050	syncline
5051	syncline, upright
5052	syncline, overturned

Coded value domain Bedding — Description: Bedding features; Field type: Short integer; Split policy: Default value; Merge policy: Default value

Code	Description
6000	bedding
6001	bedding, top known
6002	bedding, top unknown
6010	bedding, horizontal
6011	bedding, horizontal, top known
6012	bedding, horizontal, top unknown
6020	bedding, inclined
6021	bedding, inclined, top known
6022	bedding, inclined, top unknown
6030	bedding, vertical
6031	bedding, vertical, top known
6032	bedding, vertical, top unknown
6040	bedding, overturned
6041	bedding, overturned, top known
6042	bedding, overturned, top unknown
6050	bedding, upright
6051	bedding, upright, top known
6052	bedding, upright, top unknown
6100	bedding in volcanics
6110	bedding in volcanics, horizontal
6120	bedding in volcanics, inclined
6130	bedding in volcanics, vertical
6140	bedding in volcanics, overturned
6200	pillow lava
6201	pillow lava, top known
6202	pillow lava, top unknown
6210	pillow lava, horizontal
6211	pillow lava, horizontal, top known
6212	pillow lava, horizontal, top unknown
6220	pillow lava, inclined
6221	pillow lava, inclined, top known
6222	pillow lava, inclined, top unknown
6230	pillow lava, vertical
6231	pillow lava, vertical, top known
6232	pillow lava, vertical, top unknown
6240	pillow lava, overturned
6241	pillow lava, overturned, top known
6242	pillow lava, overturned, top unknown

Coded value domain LineamentsJoints — Description: Lineament and joint features; Field type: Short integer; Split policy: Default value; Merge policy: Default value

Code	Description
7000	lineament
7010	depressional lineament
7200	joint
7210	joint, horizontal
7220	joint, inclined
7230	joint, vertical
7400	fracture

Coded value domain FoliationPlanar (not complete) — Description: Foliation and planar features; Field type: Short integer; Split policy: Default value; Merge policy: Default value

Code	Description
8000	foliation
8100	shear foliation, inclined
8200	layering
8201	layering, top known
8202	layering, top unknown
8240	layering, overturned
8241	layering, overturned, top known
8242	layering, overturned, top unknown

Coded value domain Lineation (not complete) — Description: Lineation features; Field type: Short integer; Split policy: Default value; Merge policy: Default value

Code	Description
9000	bedrock lineation
9100	elongation lineation

Coded value domain Lithology — Description: Lithology features; Field type: Short integer; Split policy: Default value; Merge policy: Default value

Code	Description
10000	local occurrence
10100	bedrock outcrop
10101	bedrock outcrop, small
10102	bedrock outcrop, large
10103	bedrock outcrop, massive
10104	bedrock outcrop, isolated
10110	bedrock outcrop area
10150	kimberlite
10160	kimberlite boulder

Coded value domain Geographic — Description: Geographic features; Field type: Short integer; Split policy: Default value; Merge policy: Default value

Code	Description
11000	cliff
11010	cliff in bedrock
11020	cliff face in bedrock
11030	erosional scarp
11040	escarpment
11050	escarpment in bedrock
11060	escarpment in drift
11070	escarpment in unconsolidated material
11100	gorge
11110	ridge
11200	tor

Coded value domain FluvialAlluvial — Description: Fluvial and alluvial features; Field type: Short integer; Split policy: Default value; Merge policy: Default value

Code	Description
12000	fluvial channel
12001	fluvial channel, small
12002	fluvial channel, large
12010	fluvial channel, abandoned
12011	fluvial channel, abandoned, small
12012	fluvial channel, abandoned, large
12020	burried channel
12030	burried valley
12050	fluvial transport direction
12060	paleocurrent direction
12100	terrace
12110	terrace edge
12120	terrace escarpment
12130	terrace scarp

Coded value domain GlacialGlaciofluvial — Description: Glacial and glaciofluvial features; Field type: Short integer; Split policy: Default value; Merge policy: Default value

Code	Description
13000	arête
13001	arête, fresh
13002	arête, subdued
13003	arête, fresh and subdued
13004	arête, abandoned
13010	channel
13011	channel, small
13012	channel, large
13020	channel, abandoned
13021	channel, abandoned, small
13022	channel, abandoned, large
13050	cirque
13051	cirque, fresh
13052	cirque, subdued
13054	cirque, abandoned
13060	crag and tail
13061	crag and tail, small
13062	crag and tail, large
13070	crevasse filling
13080	DeGeer moraine
13090	deposits, glaciofluvial
13100	drumlin
13110	drumlin, direction known
13120	drumlin, direction assumed
13130	drumlin, direction unknown
13140	drumlin, length known
13150	drumlin or fluting
13160	drumlin, drumlinoid ridge, or fluting
13170	drumlinoid
13171	drumlinoid hill
13172	drumlinoid ridge
13173	drumlinoid till form
13200	end moraine
13201	end moraine, small
13202	end moraine, large
13210	end or lateral moraine
13220	erratic
13230	esker
13231	esker, direction known
13232	esker, direction assumed
13233	esker, direction inferred
13234	esker, direction unknown
13240	flute cast
13250	fluting
13251	fluting, small
13252	fluting, large
13255	fluting, parallel to ice flow
13260	hummock
13270	hummocky moraine
13280	hummocky terrain
13300	ice contact delta
13305	ice contact face
13320	ice flow direction
13350	ice limit
13360	ice margin
13361	ice margin, type 1
13362	ice margin, type 2
13363	ice margin, type 3
13364	ice margin, type 4
13365	ice margin, type 5
13366	ice margin, type 6
13367	ice margin, type 7
13368	ice margin, type 8
13369	ice margin, type 9
13380	ice moulded bedrock
13381	ice moulded form in bedrock
13382	ice moulded form in till
13390	ice scour
13400	interlobate moraine
13410	kame
13420	kame field
13430	kame or conical gravel hill
13450	lateral moraine
13460	lateral sheer moraine
13500	meltwater channel
13501	meltwater channel, small
13502	meltwater channel, large
13510	meltwater channel, direction known
13511	meltwater channel, direction known, small
13512	meltwater channel, direction known, large
13520	meltwater channel, direction unknown
13521	meltwater channel, direction unknown, small
13522	meltwater channel, direction unknown, large
13530	meltwater channel, adbandoned
13531	meltwater channel, adbandoned, small
13532	meltwater channel, adbandoned, large
13540	meltwater channel, adbandoned, direction known
13541	meltwater channel, adbandoned, direction known,small
13542	meltwater channel, adbandoned, direction known, large
13550	meltwater channel, adbandoned, direction unknown
13551	meltwater channel, adbandoned, direction unknown,small
13552	meltwater channel, adbandoned, direction unknown, large
13600	meltwater scour
13610	moraine
13620	moraine, ridge
13621	moraine, ridge, small
13622	moraine, ridge, large
13630	ribbed moraine
13640	roche mountonnée
13645	roche mountonnée or whaleback
13650	rock glacier
13660	streamlined landform
13700	striation
13710	striation, direction known
13720	striation, direction poorly defined
13730	striation, direction unknown
13750	till flute
13760	till lineation

Coded value domain Glaciolacustrine — Description: Glaciolacustrine features; Field type: Short integer; Split policy: Default value; Merge policy: Default value

Code	Description
14000	beach
14001	beach, small
14002	beach, large
14010	beach ridge
14011	beach ridge, small
14012	beach ridge, large
14020	beach ridge crest
14025	beach ridge, spit, or bar
14030	delta
14040	delta, perched
14050	deposits, glaciolacustrine
14060	erosional bench
14100	glacial lake
14110	glacial lake limit
14120	glacial lake margin
14130	glacial lake beach
14140	glacial lake shoreline
14150	glacial lake spillway
14200	marine limit
14201	marine limit with elevation
14210	marine washing limit
14211	marine washing limit with elevation
14250	overflow channel or spillway
14260	raised beach
14270	raised shoreline
14300	strandline

Coded value domain Periglacial — Description: Periglacial features; Field type: Short integer; Split policy: Default value; Merge policy: Default value

Code	Description
15000	boulder field
15010	boulder ridge
15020	cryoplanation terrace
15030	felsenmeer
15040	frost heaved and shattered rock
15050	ice-wedge polygon
15051	ice-wedge polygon, small
15052	ice-wedge polygon, large
15060	karst area
15070	karst depression
15080	karst sinkhole
15100	thermokarst depression
15101	thermokarst depression, small
15102	thermokarst depression, large
15110	thermokarst depression, collapse activity
15120	kettle
15121	kettle, small
15122	kettle, large
15130	kettle depression
15140	kettles, aligned
15150	palsa
15160	palsen
15170	palsen and peat plateau
15180	pingo
15200	periglacial patterned ground
15210	polygonal patterned ground
15220	solifluction flow
15230	solifluction lobe
15231	solifluction lobe, small
15232	solifluction lobe, large
15233	solifluction lobe, massive
15240	solifluction megalobe
15250	solifluction terrace
15260	sorted circles
15270	stone stripe, fine debris
15280	stone stripe, coarse debris

Coded value domain LacustrineMarine — Description: Lacustrine and marine features; Field type: Short integer; Split policy: Default value; Merge policy: Default value

Code	Description
16000	marine limit
16010	former shoreline
16020	erosional shoreline
16030	shoreline cliff
16040	spit or bar
16050	beach ridges
16060	wave-cut bench
16070	wave-cut scarp
16080	iceberg scour
16090	trawl marks
16200	sponge bioherm

Coded value domain Eolian — Description: Eolian features; Field type: Short integer; Split policy: Default value; Merge policy: Default value

Code	Description
17000	area of active wind erosion
17006	area of active wind erosion, with minor attached dunes
17010	dune crest
17020	scarp on dune crest
17030	dune ridge
17031	dune ridge, small
17032	dune ridge, large
17040	dunes
17050	dunes, inactive
17055	dunes, inactive, non-directional
17060	dunes, stablized
17070	dunes, transverse
17100	sand dune
17200	eroding wind direction
17210	sediment transport direction
17220	sediment transport direction, determined from dunes
17230	sediment transport direction, determined from dune bedding
17240	sediment transport direction, determined from eolian crossbedding
17250	blowout rim
17260	blowout rim, origin in dune field
17270	blowout rim, origin in bedrock

Coded value domain LandslideMassWasting — Description: Landslide and mass wasting features; Field type: Short integer; Split policy: Default value; Merge policy: Default value

Code	Description
18000	active thaw slump
18010	avalanche track
18020	debris flow track
18030	landslide
18040	rockslide
18050	landslide or rockslide
18060	landslide, direction of movement indicated
18070	brow of landslide
18080	landslide scar
18081	landslide scar, small
18082	landslide scar, large
18090	retrogressive thaw flow side
18100	talus slope

Coded value domain Volcanic — Description: Volcanic features; Field type: Short integer; Split policy: Default value; Merge policy: Default value

Code	Description
19000	volcano

Coded value domain NaturalResources — Description: Natural resource features; Field type: Short integer; Split policy: Default value; Merge policy: Default value

Code	Description
20000	carving stone location
20010	coal seam
20020	iron formation
20030	vein
20040	quarry
20045	quarry, active
20046	quarry, abandoned
20050	quarry or mine
20055	quarry or mine, active
20056	quarry or mine, abandoned
20060	gravel pit
20065	gravel pit, active
20066	gravel pit, abandoned
20070	gravel and/or sand pit
20075	gravel and/or sand pit, active
20076	gravel and/or sand pit, abandoned
20080	sand pit
20085	sand pit, active
20086	sand pit, abandoned
20090	mine
20095	mine, active
20096	mine, abandoned
20100	mine tailings
20120	mine waste
20200	peat extraction
20210	salt flat
20220	salt flat, saline groundwater discharge
20300	gossan
20400	mineral occurrence
20410	gold occurrence

Coded value domain HazardousWaste (not complete) — Description: Hazardous waste features; Field type: Short integer; Split policy: Default value; Merge policy: Default value

Code	Description
21000	hazardous waste site

Coded value domain NeotectonicEarthquake — Description: Neotectonic and earthquake features; Field type: Short integer; Split policy: Default value; Merge policy: Default value

Code	Description
22000	earthquake epicenter
22001	earthquake epicenter, magnitude less than 3
22002	earthquake epicenter, magnitude 3-3.99
22003	earthquake epicenter, magnitude 4-4.99
22004	earthquake epicenter, magnitude 5-5.99
22005	earthquake epicenter, magnitude 6-6.49
22006	earthquake epicenter, magnitude 6.5-6.99
22007	earthquake epicenter, magnitude 7-7.49
22008	earthquake epicenter, magnitude 7.5 or larger

Coded value domain Hydrology — Description: Hydrology features; Field type: Short integer; Split policy: Default value; Merge policy: Default value

Code	Description
23000	glacier
23010	glacier limit
23020	glacier boundary
23030	glacier flow direction
23040	glacier and/or icecap
23100	groundwater
23110	groundwater sapping channel
23200	spring
23210	water well

Coded value domain IsoplethsIsograds — Description: Isopleth and isograd features; Field type: Short integer; Split policy: Default value; Merge policy: Default value

Code	Description
24000	line of equal chemical value
24010	line of equal physical property
24100	line of equal percipitation
24110	line of equal runoff
24120	line of equal thickness
24200	line of equal chemical property of water
24210	line of equal physical property of water
24220	line of equal water-level change

Coded value domain Paleontological — Description: Paleontological features; Field type: Short integer; Split policy: Default value; Merge policy: Default value

Code	Description
25000	fossil
25010	fossil locality
25011	fossil locality, with collection number
25100	fossil locality, Holocene

Coded value domain Sites — Description: Field site observances; Field type: Short integer; Split policy: Default value; Merge policy: Default value

Code	Description
26000	archaeological
26010	aerial observation
26100	borehole location
26101	borehole location with analyses
26102	borehole location with stratigraphy
26150	drillhole location
26151	drillhole location, inclination known
26152	drillhole location, inclination unknown
26200	field location
26210	field observation
26211	field observation, with elevation
26212	field observation, with GPS elevation
26213	field observation, with altimeter reading
26220	photograph location
26300	sample collected
26310	sample collected, geochemical analysis
26320	sample collected, lithogeochemical analysis
26330	sample collected, till analysis
26400	geochronology location
26410	radiocarbon age determination
26420	U/Pb age determination

Credits

This poster has been produced using the following scripts and/or software:
- Geodatabase Diagammer,an ArcScript written by Greg Nichols, available from ESRI® online Support Center.
- Microsoft® Visio Standard Edition
- CorelDraw® X3

ESRI®, ArcGIS™, ArcMap™and ArcSDE™ are trademarks, registered trademarks, or service marks of ESRI® in the United States, the European Community, or certain other jurisdictions.

Created by Vic Dohar, Natural Resources Canada.