

TABLE OF GEOLOGICAL FORMATIONSGATAGA DISTRICT STRATIGRAPHY

<u>AGE</u>	<u>SYMBOL</u>	<u>UNIT</u>	<u>LITHOLOGY</u>
Upper Devonian to Miss.	UDGS	<u>GUNSTEEL FORMATION</u>	
	DG _{un}	Undivided	- Shale: dark grey to Gunsteel black, silvery-grey (Gunsteel) weathering, laminated.
	DG _{ch}	Hanging wall	- Porcellanite: dark grey Ribbon Chert to black, silvery grey weathering, ribbon bedded (<5cm), with graphitic shale partings and interbedded = DG _{ch} .
	DG _{ex}	Silicic Exhalative	- Cream to grey "honey combed" vuggy quartz.
	DB _{eh}	Hanging wall Barite	- Barite: unmineralized, Barren laminated, white to grey; grading to blebby, calcareous, occurs in black porcellanite.
	DG _{th}	Hanging wall Poker Chip Shale	- Shale to porcellanite: dark grey, silver-grey weathering, distinct graphitic partings < 3 cm apart, commonly < 1 cm; laminated, commonly with siltstone laminae.
	DG _{dl}	Distinctly Laminated Unit	- Rhythmically interlaminated on a scale of about 1 cm; siliceous siltstone, fine grained laminated pyrite, black siliceous shale & blebby barite.

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<u>GUNSTEEL FORMATION</u>			
	DG _{PR}	Pregnant Shale	- Shale to porcellanite: dark grey to black, silver-grey to rusty weathering, silty; bedding thicker than 3 cm, massive to laminated; good slaty cleavage in outcrop; nodules and laminae of barite, pyrite and calcite.
	DE _{VN}	Veins and Sweats	- Barite: medium to coarsely crystalline, common galena in strain shadows and irregular patches, in veins and sweats. Barite talus slopes at Cirque and Elf showings are dominated by this unit.
	DE _{MS}	Massive Sulphides	- Pyrite, sphalerite and galena: massive, medium to coarsely crystalline, minor barite. High grade, zinc rich.
	DE _{SP}	Sulphides-Barite	- High grade sphalerite, galena and pyrite with >20% and <60% crudely laminated, barite.
	DE _{ES}	Barite-	- Barite with <40% pyrite, >4% Pb + Zn Sulphides discontinuously laminated, finely crystalline.
	DE _{EX}	Barite Breccia	- Intraformational breccia of barite, often with siltstone fragments, locally coarse crystalline, with <40% irregular laminae and matrix of pyrite + barite.

<u>AGE</u>	<u>SYMBOL</u>	<u>UNIT</u>	<u>LITHOLOGY</u>
<u>GUNSTEEL FORMATION</u>			
	DG _{BP}	Barren Pregnant Shale	- Shale to porcellanites: black, moderately to very siliceous silty, graphitic So partings 3-10 cm; diffuse pyrite laminae, poorly to well cleaved, barren of Pb-Zn mineralization, grades into DG _{CP} .
	DG _{TF}	Footwall Poker Chip	- Shale: grey to black, silvery weathering, distinct graphitic partings < 3cm apart, Shale commonly 1 cm, internally finely laminated, common siltstone laminae same as DG _{TH} .
	DB _{BP}	Footwall Barren Weathering Barite	- Barite: unmineralized, laminated, light grey, rusty grading to blebby (BFB), calcareous, in black porcellanite, within DG _{CP} .
	DG _{CP}	Footwall Ribbon Chert	- Porcellanite: dark grey to black, silvery-grey weathering, ribbon bedded (<5cm), with graphitic shale interlaminae and partings = DG _{CH} .

DEVONIAN LIMESTONE

Devonian	DLL	Limestone	- light to medium grey laminated limestone.
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Upper Silurian

SILURIAN SILTSTONE

- SS_{ex} - Siltstone: medium grey, dolomitic, laminated, includes Intraformational breccia.
 - SS_{ss} - Siltstone: light orange-weathering dolomitic, with common burrows, feeding fans and burrow mottling
 - SS_{sl} - Limestone: grey weathering, laminated or burrow mottled, silty - calcareous.
- LOCAL UNCONFORMITY-

SILURIAN CHERT

Lower to
Mid Silurian SRC

Silurian
Chert

- Porcellanite: streaky white-striped, ribbon bedded, with black calcareous graptolitic shale partings, some dolomitic siltstone.

SILURIAN LIMESTONE

Lower

SRL

Silurian
Limestone

- Limestone, grey, rhythmic flaggy to blocky bedded, calcisiltite and fine calcarenite turbidites with graptolitic shale interbeds.
- LOCAL UNCONFORMITY-

Ordovician ORR

ROAD RIVER GROUP

- | | | |
|-----|---------------------------|---|
| ORC | Ordovician
Chert | - Porcellanite: black
(+ white?), ribbon bedded,
with limestone concretions. |
| ORG | Ordovician
Graptolitic | - Shale: black, silvery-grey
(gunsteel) to black
weathering, variably
calcareous, graptolitic,
minor chert, local barite
horizons. |
| ORQ | Ordovician
Quartzite | - Quartzose sandstone
turbidites with minor
dolomite, carbonate fossil
fragments and graptolitic
shale interbeds. |
| ORP | Rusty Shale | - Shale: black, rusty and buff
to light grey weathering,
graptolitic, commonly
calcareous. |
| ORD | Dolostone | - Dolostone: orange
weathering, silty. |
| ORS | Silty Shale | - Silty shale to Siltstone:
dark grey, tan to pink
weathering, laminated,
graptolitic, variably
calcareous,
stratigraphically below to
slightly above the Ospika
Volcanics (OV). |

MODIFIERS

a	Calcite nodules, includes Septarian nodules
b	Barite nodules
c	Chert nodules
d	Dolomitic
e	Visible sphalerite \pm galena laminae
f	Highly sheared - when alone denotes FAULT clay to sandy gouge
g	Carbonaceous or graphitic
h	Interbedded with shale
i	Intraformational breccia/conglomerate
j	Volcaniclastic or tuffaceous
k	Calcareous
l	Laminated i.e. bedding <1 cm.
m	Massive bedded
n	Nodular pyrite
o	Silty if shale; shaly if siltstone; i.e. silty shale
p	Laminar banded pyrite
q	Quartz veining
r	Disseminated pyrite
s	Siliceous
t	Siltstone laminae and thin beds (calcareous and non-calcareous) - usually turbidites
u	Tectonic (U-) Breccia - when alone denotes FAULT breccia
v	Veins of pyrite \pm sphalerite \pm galena \pm quartz \pm calcite \pm barite
w	Bioturbated ("Wormy")
x	With conglomerate interbeds
y	Pyrite laminae (individual)
z	Disseminated sphalerite