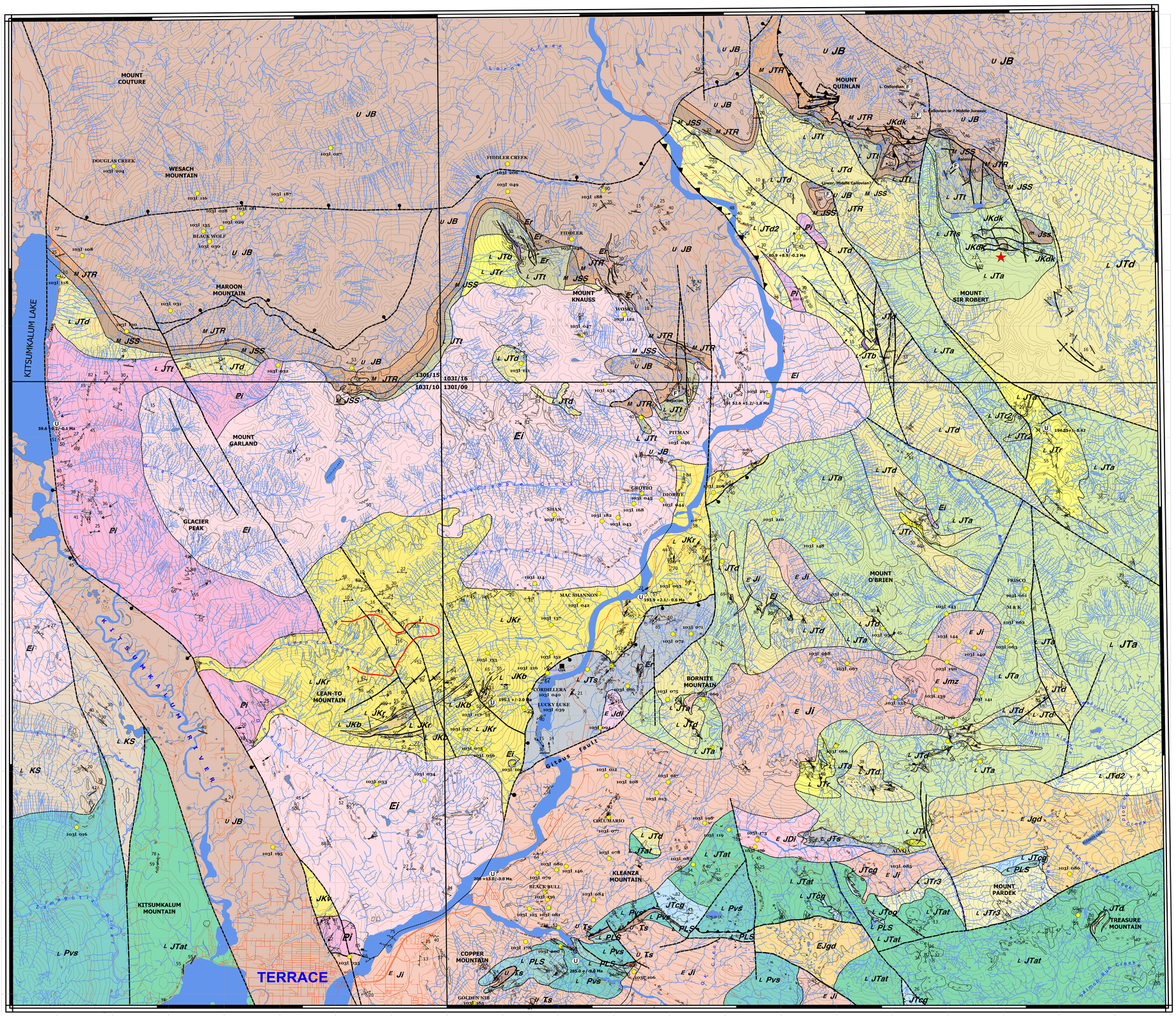


British Columbia Geological Survey

Ministry of Energy, Mines and Petroleum Resources
Mining and Minerals Division
BC Geological Survey

Open File 2007-4

Geology of Terrace Map Area British Columbia

NTS 103I 9, 10, 15, 16

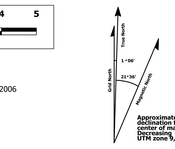
by: J.L. Nelson, R. Kennedy, J. Angen & S. Newman

Digital Cartography by Jeff Kyba

0 1 2 3 4 5
Kilometres

Scale 1:70,000

Field work carried out 2005, 2006
Printed March 2007



Legend

INTRUSIVE UNITS

Eocene
Carpenter Creek and Newtown Creek plutons; ca. 53 Ma
- Ei — Fine to medium-grained leucogranite and hornblende-bearing granite, granodiorite, diorite; felsite and andesite in dike complexes

Eocene
- Er — Rhyolite dikes

Paleocene
Kitsumkalum Intrusive Suite; ca. 60 Ma
- Pi — Foliated to unfoliated; granite, granodiorite, diorite.

Jurassic? Cretaceous? possibly ca. 80 Ma
- JKdk — Fine grained, porphyritic granodiorite dikes

Early Jurassic
Kleanza pluton; ca. 200 Ma
- E Ji — Undivided mafic, intermediate and felsic intrusive rocks
- E Jdi — Diorite, microdiorite,gabbro: heterogeneous in texture and composition: also porphyritic andesite dikes and small intrusions
- E Jmz — Pink, plagioclase-phyric, fine-grained monzonite
- E Jgd — Granodiorite, granite:equigranular, coarse to medium grained, homogeneous

STRATIFIED UNITS

Lower Cretaceous
Skeena Group
- L KS — Arkose, siltstone, mudstone, coal.

Upper Jurassic
Bowser Lake Group
- U JB — Sandstone, siltstone, shale, conglomerate; minor volcaniclastic units east of Mt. Quinlan

Middle Jurassic
Troy Ridge Facies
- M JTR — "Pyjama beds": alternating, thin-bedded black/dark grey weathering to pale green, pink and white, siliceous siltstone and felsic tuff.

Lower? To Middle Jurassic
Smithers Formation
- M Jss — ***Bajocian*** Argillite-bearing green, grey and brown sandstone; thin intervals of tuffaceous and glauconitic siltstone

Lower Jurassic
Telkwa Formation ca. 194-200 Ma

Upper tuffaceous member
- L JTt — Thin-bedded, bright maroon tuff and welded tuff, re-sedimented tuff, laminated limestone.

Flow-dominated division
- L JTa — Coherent, variably amygdaloidal andesite and basalt. Green, locally maroon to brick-red. Amygdules large to small. Andesites are plagioclase-phyric. In places contains minor dacite and rhyolite in bodies too small to depict at map scale.
- L JTb — Dark green fine grained to aphanitic basalt flows.
- L JTd — Dacite and ?rhyolite. In part coherent, flow-banded; also volcaniclastic with variable clast sizes and degree of welding. Red, maroon, lavender, pink, cream. Small plagioclase phenocrysts common, quartz rare. Contains minor amounts of andesite too small to depict at map scale.
- L JTd2 — Grey, plagioclase-phyric, coherent dacite flow? intrusion?
- L JTr — Rhyolite and lesser dacite. Coherent to volcaniclastic; grey, lavender, pink, cream.
- L JTr2 — Well-bedded sequence of rhyolite, rhyodacite, and andesite. Felsic units are welded tuffs, unwelded lapilli tuffs, coherent flows/domes.
- L JTts — Green, thin-bedded tuffaceous interval north of Mt. Sir Robert
- L JTs — Volcanic sandstone, siltstone, minor conglomerate; thin-bedded, green to maroon. At base of flow-dominated division in Kleanza Creek valley. Correlative inferred in hanging wall of Usk fault.

Volcaniclastic-dominated division
- L JTat — Plagioclase-phyric andesite lapilli tuff: coarse to fine-grained, monolithologic to lapilli-tuff breccia, lapilli-tuff breccia, compositionally polymictic. Minor hornblende and rare clinopyroxene phenocrysts. Also plagioclase-phyric andesite flows and flow breccia; minor dacite, rhyolite, and volcanic sedimentary rocks. Green, maroon and bright burgundy.
- L JTr3 — Mt Pardek felsic unit: rhyolite, andesite volcaniclastics
- L JTcg — Polymictic conglomerate,volcanic-derived sandstone, siltstone and lapilli tuff. Contains both intraformational (plagioclase-phyric andesite and dacite) and extraformational (limestone, chert, felsite, clinopyroxene-phyric volcanic) clasts.

Kitselas facies ca. 194-195 Ma
- L JKr — White-weathering, light grey rhyolite (and rhyodacite?) lapilli tuff,welded tuff, ignimbrite; also grey coherent rhyolite. Minor coherent basalt, basalt breccia; rhyolite-derived clastic sedimentary beds.
- L JKb — Basalt: coherent, brecciated.

Triassic(?)
- U Ts — Thin-bedded black to dark grey siliceous argillite, siltstone, chert

Permian
Zymoetz Group
- L Pls — Limestone, marble, silty limestone, calcareous mudstone; minor green + pink lapilli tuff and volcanic sandstone
- L Pvs — Green, fine to coarse-grained lapilli tuff, bedded volcanic sandstone, siltstone; polylithic conglomerate transitional to lapilli tuff with limestone clasts; volcanic rocks.

SYMBOLS

- Contact (Inferred, Approximate, Defined)
- Fault (Inferred, Approximate, Defined)
- Normal Fault (Inferred, Approximate, Defined)
- Thrust Fault (Inferred, Approximate, Defined)
- Unconformity (Inferred, Approximate, Defined)
- Limits of outcrop observed
- Bedding: (tops unknown, tops known)
- Dike; (inclined, vertical); vein
- Lineation (Le, elongation); L1; L2; M1 (mineral); Fold axis (F1) ...
- Brittle Shear / Fault Plane; Slickenside/fault lineation
- Foliation - first phase (S1); igneous flow banding
- Fold axis (anticline upright, overturned; syncline upright, overturned)
- Gossan outline
- Field Station
- Mineral Occurence, MINFILE
- Mineral occurence, new 2006 discovery
- U-Pb zircon locality
- Fossil Locality
- Contours at 100m intervals
- Road
- River
- Lake

2006 Geochemical data (for 2005 data fom 103I/09, see Open File 2006-3)

Station number	UTM East	UTM North	Alcelle sample number	Description
SLAM04-7	516364	6077127	Bowser-Lake Group	qz arrs, arkl rbnfly ssy, #4 ps gcc, bcc
SLAM04-8	515362	6067262		qz arrs, arkl rbnfly ssy, #4 ps gcc, bcc
SLAM06-2	550306	6074156		ave dacite/qz-k-phyric tnt yr sent,anlt Trodlar
SLAM07-1	511326	6071081		Ash
SLAM07-2	511326	6071081		qz-k-feldspar-porphyritic felsic intrusion
SLAM07-3	511326	6071081		qz-k-feldspar-porphyritic felsic intrusion
SLAM07-10	515151	6075276		qz-k-feldspar-porphyritic felsic intrusion
SLAM07-11	515151	6075276		qz-k-feldspar-porphyritic felsic intrusion
SLM 4-10	515209	6055231		drown,qz?k-qz dkrk,f-m,bdd,tr gcc, grey, Lrf
SLM 4-18	515401	6053391		drown,qz?k-qz dkrk,f-m,bdd,tr gcc, grey, Lrf
SLM 4-19	515401	6053391		drown,qz?k-qz dkrk,f-m,bdd,tr gcc, grey, Lrf
SLM 4-20	515428	6075271		qz-k-feldspar-porphyritic felsic intrusion
SLM 4-9	515428	6075271		qz-k-feldspar-porphyritic felsic intrusion
SLM2717	515791	6074456		Pyrite in 39 ctg
SLM2718	515791	6074456		Pyrite in 39 ctg
SLM2812	515982	6077762		qz-k-feldspar-porphyritic felsic intrusion
SR-SS11-A1	516561	6071701	Thorne-Sill	Fuzzy f m bioturb grwk.
SR-SS11-F1	516561	6071701	Thorne-Sill	Fuzzy f m gr m cmbrs-ss,bioturb.
SLM2217-B	515302	6071027	Thorne-Sill	qz arrs, qzy m gr m, ms, BLP outcrop
SR-SS11-D1	516304	6071551	Thorne-Sill	arrs qzy m gr m, ms, ST or facal foot
SR-SS11-E1	516307	6071556	Thorne-Sill	arrs qzy m gr m, ms, ST or facal foot
SR-SS16-A1	516561	6071701		silicified zone alteration on edge of large granite, head of tr-ss 11
SR-SS16-A2	516561	6071701		silicified zone alteration on edge of large granite, head of tr-ss 11
SR0911-12	514374	6070914		Cu stained granite + qz, arrs m f, tr ss?
SR0911-13	514374	6070914		Cu stained granite + qz, arrs m f, tr ss?
SR0911-02a	511228	6061506		f m gr, dpr bdd,ms, 2L, 2Lm - 2dkf, tr? dkrbr bdd
SR0911-02b	511228	6061506		f m gr, dpr bdd,ms, 2L, 2Lm - 2dkf, tr? dkrbr bdd
SRP0102-02	515081	6071403	Blue Lake Group	qzy arenite, rooted in Fun 2 cstrs
SRP0103-05	511341	6054127	Bowser-Lake Group	Multi rock,ind,,mmbrs
SRP0117-02	511139	6071219	Bowser-Lake Group	Cu, staining in felsic and dacitic rk?#1896
SRP0217-08a	516291	6074206	Bowser-Lake Group	qz arrs of Beaverly suffolds
SRP0217-08b	516291	6074206	Bowser-Lake Group	qz drawn through,ms
SRP0232-01	516762	6073905	Bowser-Lake Group	suffolds in rambles and drawn
SRP0232-02	516291	6073905	Bowser-Lake Group	Cu, staining in Trout? diffaction zone
SRP0232-03	516173	6073906	Bowser-Lake Group	> heavy sample of underlyiNg felsiedrawn suffolds and mauzeNs in lime/cstnd
SRP0232-05	516084	6073206	Bowser-Lake Group	qzy arrs, ms
SRP0401-02	516428	6071251	Gold Zone	Rock sample - gabbro, qzy in quartz vein
SRP0401-07a	516158	6070307	Gold Zone	Rock sample - gabbro, qzy in quartz vein
SRP0401-08	516241	6070786	Gold Zone	Rock sample
SRP0401-09	516241	6070786	Gold Zone	Rock sample
SRP0401-07b	516158	6070307	Gold Zone	Rock sample - gabbro, qzy in quartz vein
SRP0401-08	516241	6070786	Gold Zone	Rock sample
SRP0401-09	516241	6070786	Gold Zone	Rock sample
SRP0401-05	516042	6070214	Gold Zone	qzy, rare bn sneak, ch,ms; qzy v,aka,ifcc, and cy,
SRP0401-07	516042	6070214	Gold Zone	hydpy,ifcc and cl stains w/ calm ig
SRP0411-01	516186	6050411	Gold Zone	Rock frmes ig, boxing dies
SRP0214-04	515 5m	6067127		qz arr
SRP0214-09	516 665	6054171		Brec gneiss

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