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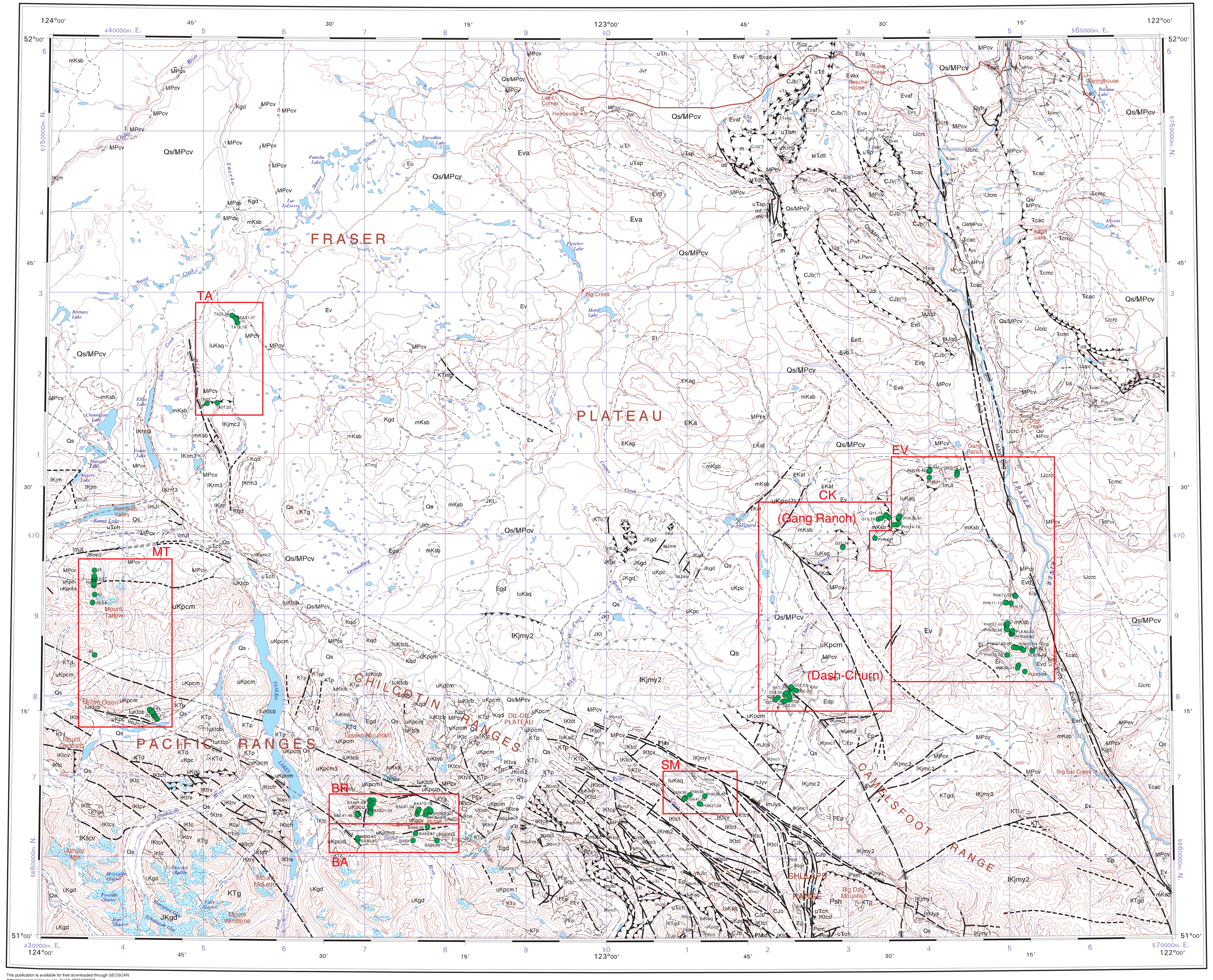

DESCRIPTIVE NOTES

Much of the present architecture of the North American Cordillera was established during the Cretaceous Period. The Laramide Orogeny in the Rockies, the main phase of plutonism in the Coast Plutonic Complex, and the Sierra Nevada / Franciscan subduction complex in California attest to great mobilism during Cretaceous time. Kinematic reconstructions of the Kula and Faralon plates suggest thousands of kilometres of oblique subduction below North America during the Cretaceous. The Cretaceous paleogeographic framework of the Cordillera is still uncertain, but it is being refined by recent paleomagnetism studies which complement results from other earth science methods.

The Taseko Lakes map area, in particular, has been the locus of intensive paleomagnetic study on Cretaceous rocks (Enkin, 2006, Fig. 3A). In the mid-1990s, paleomagnetic studies were interpreted to suggest that a major fault (>1000 km strike slip) cutting through this map area separated the Insular and Intermontane superterranes. The key paleomagnetic studies were on the Spences Bridge Group from rocks just east of map area 92O (Irving et al., 1995, 1996), and from the Silverquick and Powell Creek formations at Mt. Tatlow (Wynne et al., 1995). Subsequent mapping around Churn Creek revealed a stratigraphic contact apparently between the Spences Bridge volcanics below and the Silverquick chert pebble conglomerate above (Riesterer et al., 2001), suggesting that the two superterranes were tied together by the mid-Cretaceous. These geological correlations were then confirmed paleomagnetically (Haskin et al., 2003; Enkin et al., 2003; Enkin, 2006, Fig. 3B).

Paleomagnetic inclinations observed in Late Cretaceous rocks are anomalously shallow compared to those expected if the western half of the Canadian Cordillera were attached to cratonic North America at that time (Figure 2; Enkin, 2006, Fig. 4). Enkin et al. (2006) present results from 80 sites of the 95-85 Ma Silverquick and Powell Creek formations (mostly from within the bounds of map area 92O) which establish this paleomagnetic result to be among the most reliable in the literature. Similar anomalously shallow inclinations are observed at all 5 localities (Enkin et al., 2006, Fig.7). There are multiple field tests (tilt tests, conglomerate tests, contact tests, compatible polarity with the geomagnetic polarity timescale and regional coherence) which prove the primary nature of the remanence. Indistinguishable inclinations between volcanic flows and sedimentary rocks discount the possible effect of inclination shallowing.

Enkin (2006) reviewed Cretaceous paleomagnetic poles from around the globe to define the paleolatitude evolution of the western part of North America (Enkin, 2006, Fig. 2). The small dispersion of poles from the global data set argues strongly in favour of the time-average geomagnetic field being well described as a geocentric axial dipole. The paleolatitude of the western half of the Canadian Cordillera in the Late Cretaceous is interpreted to have been 2100±700 km south of its present position with respect to cratonic North America (Enkin, 2006). This difference is about 1000 km less than was inferred from data available a decade before, however it is still difficult to reconcile with paleogeographic and geological studies. Where is the locus of the paleomagnetically inferred motion and what traces did it leave in the geological record? The geological relations within map area 92O tie the blocks together by the mid-Cretaceous (other than Tertiary strike slip along Fraser fault). Either the paleomagnetic record of the western half of the Canadian Cordillera is anomalous or the locus of motion with respect to cratonic North America occurred west of this map sheet.

Intrusions of Eocene age are common in the Taseko Lakes map area. Battlement Ridge in particular is dominated by a thick pile of volcanic rocks of the Upper Cretaceous Powell Creek Formation, but it is floored by a previously unrecognized felsic intrusion similar to Eocene intrusions observed elsewhere in the region. The magnetism of the Battlement Ridge sites fails the tilt test and falls in a reverse polarity direction (Figure 2) proving that it does not hold the primary magnetization observed in sites collected farther south around Battlement and Amazon creeks. In other localities, Cretaceous rocks in the contact zone of Eocene intrusions similarly reveal post-tilting, generally reverse, polarity directions indicating remagnetization.

This compilation does not replace the original journal publications that contain detailed data and interpretations, but rather it places all the sites examined in this map area in a common geological context.

Table 3 provides a summary of paleomagnetism sites collected within Taseko Lakes map area. The Koenigsberger Ratio (Kn), a measure of the efficiency of magnetization, is the ratio of the natural remanent magnetization (NRM, in amperes/metre) to the induced magnetism (that is the geomagnetic field times the magnetic susceptibility, Susc, in SI units - amperes/metre / amperes/metre). The site mean remanence directions are given as declination (DEC) and inclination (INC) in both geographic coordinates (g) and stratigraphic coordinates (s). The 95% confidence interval is given under Alpha95. The localities are outlined in red boxes on the map.

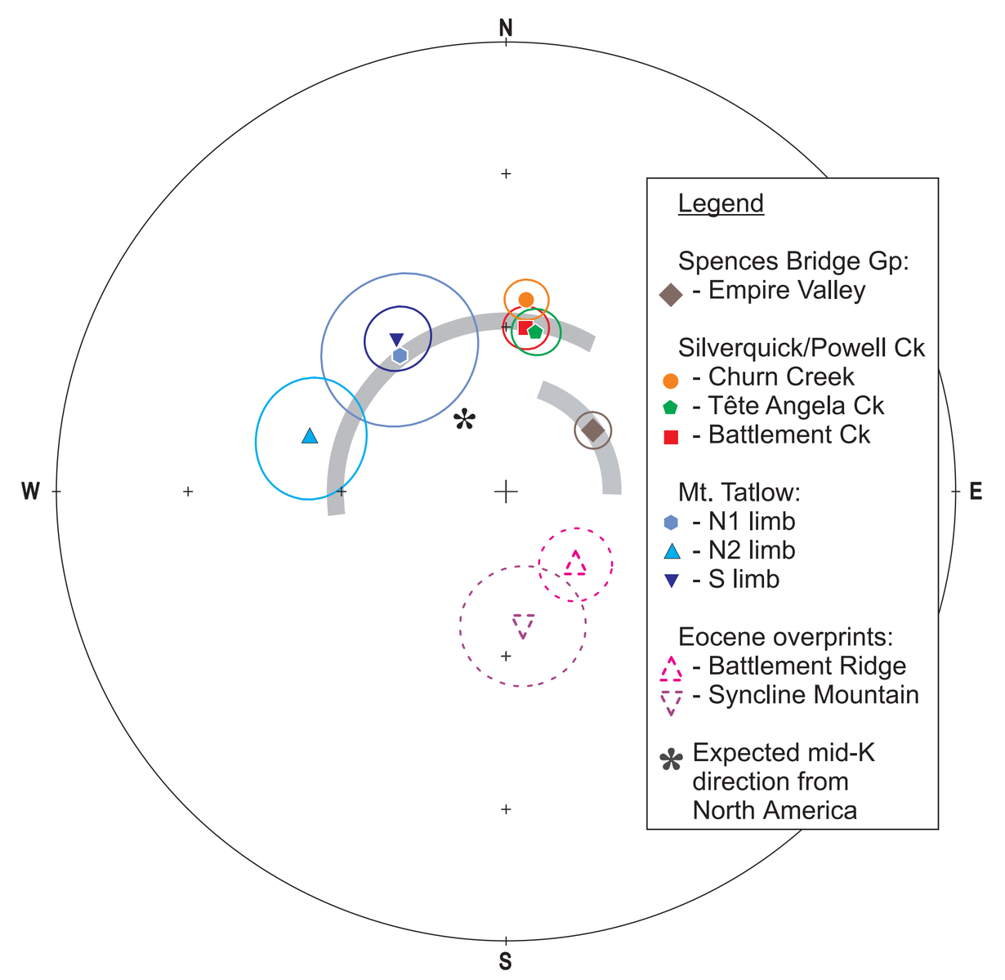

Figure 2. Stereograph of locality means of paleomagnetic directions with their 95% confidence circles. Solid symbols lie on the lower hemisphere, while open dashed symbols lie on the upper hemisphere. The 102±3 Ma Spences Bridge Group directions are significantly steeper than the directions from the 90±5 Ma Silverquick and Powell Creek formations, as illustrated with the respective gray arcs of constant inclination. The Silverquick / Powell Ck results tend to point towards the north, while the 3 sublocalities at Mount Tatlow demonstrate varying amounts of counterclockwise rotation. The Powell Creek Formation volcanics on Battlement Ridge and Syncline Mountain fail the tilt test, and thus record a remagnetization, interpreted to be the result of local Eocene intrusions and hydrothermal circulation.

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SYMBOLS

Paleomagnetism site with site number — PHK93

Table 3. Paleomagnetism sites collected within Taseko Lakes map area (NTS 92-O).

Site	UTM Easting[1]	UTM Northing[1]	Locality	Geologic Unit	Approx Age (Ma)	Susc (SI)	NRM (A/m)	Koenigsberger Ratio Kn	DECg (°)	INCg (°)	DECs (°)	INCs (°)	Alpha95 (°)
TA: Tête Angela Creek (51.7°N, 123.7°W) [Enkin et al., 2006]													
TA01	451720	5716296	Tête Angela Creek	Powell Creek Fm.	85	5.71E-03	9.15E-02	0.40	281.4	74.9	7.3	73.0	4.7
TA02	451720	5716296	Tête Angela Creek	Powell Creek Fm.	85	8.81E-03	1.86E-01	0.53	297.0	69.0	354.6	66.8	7.0
TA03	450437	5716208	Tête Angela Creek	Powell Creek Fm.	85	1.22E-03	7.14E-02	1.46	288.3	72.0	9.7	56.7	5.1
TA18	454185	5726210	Tête Angela Creek	Powell Creek Fm.	85	1.36E-02	2.44E-01	0.45	110.6	74.8	17.6	67.8	6.0
TA19	454185	5726210	Tête Angela Creek	Powell Creek Fm.	85	9.77E-03	2.60E-01	0.67	74.9	76.1	11.9	59.2	6.8
TA25	453558	5727110	Tête Angela Creek	Powell Creek Fm.	85	2.37E-02	3.84E-02	0.41	103.7	69.0	39.9	63.9	13.8
TA26	453558	5727110	Tête Angela Creek	Powell Creek Fm.	85	1.07E-02	2.42E-01	0.57	98.5	73.4	29.1	63.8	5.0
TA31	454123	5726773	Tête Angela Creek	Powell Creek Fm.	85	6.21E-03	9.18E-02	0.37	235.6	83.3	354.3	57.5	9.6
TA32	454055	5726776	Tête Angela Creek	Powell Creek Fm.	85	3.76E-03	1.05E-01	0.70	89.6	84.7	12.9	52.9	4.8
TA33	454034	5726771	Tête Angela Creek	Powell Creek Fm.	85	2.09E-03	4.99E-02	0.60	205.6	82.9	358.9	60.2	7.5
TA34	454021	5726759	Tête Angela Creek	Powell Creek Fm.	85	2.64E-03	7.89E-02	0.70	150.4	87.7	6.3	55.6	8.0
TA35	454033	5726731	Tête Angela Creek	Powell Creek Fm.	85	3.37E-03	9.16E-02	0.68	76.2	82.5	15.5	50.8	5.2
TA36	454037	5726716	Tête Angela Creek	Powell Creek Fm.	85	5.26E-03	1.25E-01	0.60	60.4	88.7	5.9	53.0	7.5
TA37	454026	5726702	Tête Angela Creek	Powell Creek Fm.	85	6.99E-03	1.54E-01	0.55	148.0	86.3	8.1	56.6	6.0
BA: Battlement and Amazon Creeks (51.1°N, 123.3°W) [Enkin et al., 2006]													
BA63	476000	5661975	Battlement Creek	Powell Creek Fm.	85	2.14E-02	1.94E-01	0.23	73.2	87.2	25.7	64.8	1.8
BA64	476300	5662850	Battlement Creek	Powell Creek Fm.	85	7.72E-04	2.43E-02	0.78	308.8	88.7	17.4	66.2	2.8
BA65	476300	5662850	Battlement Creek	Powell Creek Fm.	85	5.55E-03	2.04E-01	0.98	319.9	86.2	12.8	64.5	2.4
BA66	476300	5662850	Battlement Creek	Powell Creek Fm.	85	8.41E-03	1.42E-01	0.42	306.4	82.8	4.7	63.8	2.0
BA67	476300	5662850	Battlement Creek	Powell Creek Fm.	85	9.28E-03	1.63E-01	0.48	142.4	80.1	15.6	62.0	4.2
BA68	477800	5663700	Battlement Ridge S	Powell Creek Fm.	85	2.87E-02	6.09E-01	0.53	313.3	62.2	341.6	46.4	4.3
BA69	477800	5663700	Battlement Ridge S	Powell Creek Fm.	85	2.50E-02	7.25E-01	0.71	312.1	72.1	350.6	54.4	3.2
BA80	469150	5662000	Amazon Creek	Powell Creek Fm.	85	6.92E-04	5.21E-02	1.88	297.0	82.7	14.9	58.8	5.2
BA81	469150	5662000	Amazon Creek	Powell Creek Fm.	85	1.03E-03	6.16E-02	1.48	277.6	84.6	18.7	60.9	5.0
BA82	469150	5662000	Amazon Creek	Powell Creek Fm.	85	1.07E-03	7.41E-02	1.75	285.9	71.5	352.9	58.5	1.5
BA83	469150	5662000	Amazon Creek	Powell Creek Fm.	85	8.99E-04	6.56E-02	1.84	296.4	79.8	9.4	58.3	3.1
BA90	469125	5662300	Amazon Creek	Powell Creek Fm.	85	7.60E-03	3.94E-01	1.34	306.6	77.0	6.0	55.4	3.6
BA91	469125	5662300	Amazon Creek	Powell Creek Fm.	85	1.48E-02	4.52E-01	0.76	271.6	76.6	2.2	63.0	2.4
BA92	469125	5662300	Amazon Creek	Powell Creek Fm.	85	7.91E-03	1.06E+00	3.30	255.2	77.9	7.1	66.2	3.6
BA93	469125	5662300	Amazon Creek	Powell Creek Fm.	85	1.17E-02	4.71E-01	0.99	244.6	77.4	9.0	68.4	3.6
BA95	478950	5661975	Rae Spur	Powell Creek Fm.	85	2.81E-02	2.46E-01	0.35	10.3	81.6	16.2	48.4	7.2
BA96	478950	5661975	Rae Spur	Powell Creek Fm.	85	2.56E-02	3.48E-01	0.33	334.9	78.2	6.0	47.4	5.0
BR: Battlement Ridge (51.2°N, 123.3°W) [Enkin et al., 2006]													
BAA01	470650	5667000	Battlement Ridge	Powell Creek Fm.	85	1.22E-02	3.74E-01	0.77	N/A	N/A	N/A	N/A	N/A
BAA02	471100	5666975	Battlement Ridge	Powell Creek Fm.	85	1.58E-04	6.24E-02	9.94	N/A	N/A	N/A	N/A	N/A
BAA03	470700	5666800	Battlement Ridge	Powell Creek Fm.	85	1.30E-02	2.00E-01	0.39	N/A	N/A	N/A	N/A	N/A
BAA04	470750	5666750	Battlement Ridge	Powell Creek Fm.	85	9.13E-03	5.21E-02	1.43	N/A	N/A	N/A	N/A	N/A
BAA05	471000	5666600	Battlement Ridge	Powell Creek Fm.	85	8.08E-04	1.64E-02	0.55	N/A	N/A	N/A	N/A	N/A
BAA06	471010	5666590	Battlement Ridge	Powell Creek Fm.	85	7.60E-04	1.14E-02	0.38	N/A	N/A	N/A	N/A	N/A
BAA07	471020	5666580	Battlement Ridge	Powell Creek Fm.	85	1.26E-03	1.63E-02	0.32	N/A	N/A	N/A	N/A	N/A
BAA08	471030	5666570	Battlement Ridge	Powell Creek Fm.	85	8.74E-04	3.53E-02	1.02	N/A	N/A	N/A	N/A	N/A
BAA09	471040	5666560	Battlement Ridge	Powell Creek Fm.	85	5.88E-04	8.38E-03	0.30	N/A	N/A	N/A	N/A	N/A
BAA10	478000	5665800	Battlement Ridge	Powell Creek Fm.	85	7.08E-03	2.64E-01	0.94	N/A	N/A	N/A	N/A	N/A
BAA11	477950	5665900	Battlement Ridge	Powell Creek Fm.	85	1.82E-02	2.66E-01	0.37	N/A	N/A	N/A	N/A	N/A
BAA12	477950	5665900	Battlement Ridge	Powell Creek Fm.	85	1.56E-02	2.46E-01	0.40	N/A	N/A	N/A	N/A	N/A
BAB21	470600	5666300	Battlement Ridge	Powell Creek Fm.	85	9.31E-03	3.02E-01	0.81	N/A	N/A	N/A	N/A	N/A
BAB22	470750	5666200	Battlement Ridge	Powell Creek Fm.	85	6.27E-03	7.32E-01	2.93	N/A	N/A	N/A	N/A	N/A
BAB23	470650	5665950	Battlement Ridge	Powell Creek Fm.	85	9.86E-03	4.11E+00	10.46	N/A	N/A	N/A	N/A	N/A
BAB24	470750	5665850	Battlement Ridge	Powell Creek Fm.	85	1.59E-02	3.84E-01	0.61	N/A	N/A	N/A	N/A	N/A
BAB25	470650	5665450	Battlement Ridge	Powell Creek Fm.	85	1.12E-02	2.23E-01	0.50	N/A	N/A	N/A	N/A	N/A
BAB26	470700	5665650	Battlement Ridge	Powell Creek Fm.	85	9.16E-03	1.32E-01	0.36	N/A	N/A	N/A	N/A	N/A
BAB27	470720	5665600	Battlement Ridge	Powell Creek Fm.	85	9.32E-03	2.21E-01	0.60	N/A	N/A	N/A	N/A	N/A
BAB28	470740	5665500	Battlement Ridge	Powell Creek Fm.	85	3.82E-04	2.02E-03	0.26	N/A	N/A	N/A	N/A	N/A
BAB29	470760	5665400	Battlement Ridge	Powell Creek Fm.	85	3.58E-02	1.77E-01	0.12	N/A	N/A	N/A	N/A	N/A
BAB30	478150	5665500	Battlement Ridge	Powell Creek Fm.	85	1.67E-02	7.38E-01	1.11	N/A	N/A	N/A	N/A	N/A
BAB31	478050	5665550	Battlement Ridge	Eocene intrusion	50	1.57E-02	5.64E-01	0.90	N/A	N/A	N/A	N/A	N/A
BAB32	478200	5665700	Battlement Ridge	Powell Creek Fm.	85	1.54E-02	2.29E-01	0.37	N/A	N/A	N/A	N/A	N/A
BAC41	469100	5665350	Battlement Ridge	Powell Creek Fm.	85	1.10E-02	2.37E-01	0.49	N/A	N/A	N/A	N/A	N/A
BAC42	469150	5665300	Battlement Ridge	Powell Creek Fm.	85	3.08E-02	3.66E-01	0.30	N/A	N/A	N/A	N/A	N/A
BAC43	469200	5665250	Battlement Ridge	Powell Creek Fm.	85	1.10E-02	9.92E-01	2.28	N/A	N/A	N/A	N/A	N/A
BAC44	469220	5665220	Battlement Ridge	Powell Creek Fm.	85	2.18E-02	2.65E-01	0.31	N/A	N/A	N/A	N/A	N/A
BAC45	469150	5665150	Battlement Ridge	Powell Creek Fm.	85	1.18E-02	2.02E+00	4.30	N/A	N/A	N/A	N/A	N/A
BAC46	469050	5665200	Battlement Ridge	Powell Creek Fm.	85	1.22E-02	1.13E-01	0.23	N/A	N/A	N/A	N/A	N/A
BAC47	477600	5665400	Battlement Ridge	Powell Creek Fm.	85	6.44E-04	1.91E-02	0.74	N/A	N/A	N/A	N/A	N/A
BAC48	477550	5665250	Battlement Ridge	Powell Creek Fm.	85	6.93E-04	2.62E-02	0.95	N/A	N/A	N/A	N/A	N/A
BAC49	477500	5665200	Battlement Ridge	Powell Creek Fm.	85	6.71E-04	8.60E-02	2.85	N/A	N/A	N/A	N/A	N/A
BAC50	477600	5665600	Battlement Ridge	Powell Creek intrusion	85	2.17E-03	2.95E+00	34.05	N/A	N/A	N/A	N/A	N/A
BAC51	476500	5665250	Battlement Ridge	Powell Creek Fm.	85	5.88E-03	5.14E-02	0.22	N/A	N/A	N/A	N/A	N/A
BAC52	476600	5665600	Battlement Ridge	Powell Creek intrusion	85	9.62E-03	3.57E-01	0.93	N/A	N/A	N/A	N/A	N/A
BAC53	476650	5665700	Battlement Ridge	Powell Creek Fm.	85	8.26E-04	5.24E-02	1.59	N/A	N/A	N/A	N/A	N/A
BAC54	476750	5665850	Battlement Ridge	Powell Creek Fm.	85	2.84E-03	3.47E-02	0.31	N/A	N/A	N/A	N/A	N/A
SM: Syncline Mountain (51.1°N, 122.9°W) [Enkin et al., 2006]													
PMK35	509749	5667302	Syncline Mountain	Silverquick fm.	90	2.38E-04	1.71E-03	0.18	N/A	N/A	N/A	N/A	N/A
PMK36	510353	5667640	Syncline Mountain	Silverquick fm.	90	1.82E-02	7.49E-01	1.03	N/A	N/A	N/A	N/A	N/A
PMK37	511521	5666558	Syncline Mountain	Silverquick fm.	90	3.20E-04	1.46E-03	0.11	N/A	N/A	N/A	N/A	N/A
PMK38	511642	5666502	Syncline Mountain	Silverquick fm.	90	3.44E-04	2.70E-03	0.20	N/A	N/A	N/A	N/A	N/A
PMK39	512199	5667485	Syncline Mountain	Silverquick fm.	90	1.57E-04	2.66E-03	0.43	N/A	N/A	N/A	N/A	N/A
PMK40	512205	5667487	Syncline Mountain	Silverquick fm.	90	2.87E-04	1.08E-03	0.09	N/A	N/A	N/A	N/A	N/A
PMK41	509650	5667200	Syncline Mountain	Silverquick fm.	90	3.15E-04	1.18E-03	0.09	N/A	N/A	N/A	N/A	N/A
PMK42	509650	5667150	Syncline Mountain	Silverquick fm.	90	3.49E-04	2.28E-03	0.16					
MT: Mount Tatlow (51.4°N, 123.8°W) [Wynne et al., 1995]													
1	444250	5677035	Mt. Tatlow S limb	Silverquick fm.	90	5.11E-04	4.54E-03	0.18	N/A	N/A	N/A	N/A	N/A
2	444175	5677125	Mt. Tatlow S limb	Silverquick fm.	90	4.23E-04	6.08E-03	0.36	226	61	316.9	50.7	6.0
3	444000	5677400	Mt. Tatlow S limb	Silverquick fm.	90	4.34E-04	6.35E-03	0.37	223	61	327.9	41.1	5.0
4	443850	5677500	Mt. Tatlow S limb	Silverquick fm.	90	8.39E-04	3.05E-02	0.88	202	46	308.6	59.6	3.0
5	443800	5677600	Mt. Tatlow S limb	Silverquick fm.	90	2.78E-04	6.21E-03	0.56	207	47	311.8	61.3	4.0
6	443750	5677750	Mt. Tatlow S limb	Silverquick fm.	90	4.05E-04	4.75E-03	0.26	206	51	342	58	4.0
7	443760	5677785	Mt. Tatlow S limb	Silverquick fm.	90	3.26E-04	1.17E-02	0.74	212	42	299.4	53	5.0
8	443700	5677875	Mt. Tatlow S limb	Silverquick fm.	90	3.76E-04	1.10E-02	0.68	203	41	327.1	69.4	5.0
9	443500	5678000	Mt. Tatlow S limb	Silverquick fm.	90	4.63E-04	1.26E-02	0.65	195	52	357.1	51.3	5.0
10	443450	5678125	Mt. Tatlow S limb	Maastrichtian intrusion	70	7.36E-04	4.99E-02	4.06	211	64	352.6	37.1	8.0
11	443415	5678175	Mt. Tatlow S limb	Silverquick fm.	90	2.43E-04	3.39E-03	0.36	N/A	N/A	N/A	N/A	N/A
12	443375	5678200	Mt. Tatlow S limb	Silverquick fm.	90	4.38E-04	6.77E-03	0.44	N/A	N/A	N/A	N/A	N/A
13	443325	5678230	Mt. Tatlow S limb	Maastrichtian intrusion	70	2.86E-02	7.21E-01	0.63	N/A	N/A	N/A	N/A	N/A
14	443300	5678250	Mt. Tatlow S limb	Silverquick fm.	90	9.83E-03	2.74E-01	0.87	N/A	N/A	N/A	N/A	N/A
15	436400	5693600	Mt. Tatlow N limb	Silverquick fm.	90	1.28E-03	3.86E-02	0.76	328	-22	307.8	56.5	7.0
16	436405	5693630	Mt. Tatlow N limb	Silverquick fm.	90	1.86E-03	2.80E-02	0.68	346	-11	323.1	76.1	8.0
17	436410	5693930	Mt. Tatlow N limb	Silverquick fm.	90	1.36E-03	2.56E-02	0.45	N/A	N/A	N/A	N/A	N/A
18	436420	5693950	Mt. Tatlow N limb	Maastrichtian intrusion	70	8.13E-04	1.17E-02	0.43	N/A	N/A	N/A	N/A	N/A
19	436425	5694220	Mt. Tatlow N limb	Silverquick fm.	90	3.65E-04	1.26E-02	0.53	N/A	N/A	N/A	N/A	N/A
20	436430	5694235	Mt. Tatlow N limb	Silverquick fm.	90	3.60E-04	3.59E-03	0.4	339	-11	325.9	62.7	7.0
21	436435	5694340	Mt. Tatlow N limb	Maastrichtian intrusion	70	3.47E-04	4.40E-03	0.2	N/A	N/A	N/A	N/A	N/A
22	436440	5694350	Mt. Tatlow N limb	Silverquick fm.	90	2.89E-04	1.06E-02	0.3	336	-34	334.8	40.2	8.0
23	436450	5694410	Mt. Tatlow N limb	Silverquick fm.	90	5.50E-04	4.34E-03	0.69	330	-21	320.3	49.9	12.0
24	436455	5694500	Mt. Tatlow N limb	Silverquick fm.	90	2.25E-04	2.68E-03	0.23	N/A	N/A	N/A	N/A	N/A
25	436460	5694600	Mt. Tatlow N limb	Silverquick fm.	90	2.23E-04	7.99E-04	0.15	N/A	N/A	N/A	N/A	N/A
26	436465	5694640	Mt. Tatlow N limb	Silverquick fm.	90	3.45E-04	7.26E-04	0.05	N/A	N/A	N/A	N/A	N/A
27	436470	5694800	Mt. Tatlow N limb	Silverquick fm.	90	2.99E-04	6.82E-04	0.06	N/A	N/A	N/A	N/A	N/A
28	436475	5695500	Mt. Tatlow N limb	Silverquick fm.	90	5.89E-04	6.61E-03	0.28	N/A	N/A	N/A	N/A	N/A
50	436250	5691500	Mt. Tatlow section 2 N limb	Powell Creek Fm.	85	2.11E-02	6.55E-01	0.63	297	-1	267.6	60.4	6.0
51	436250	5691500	Mt. Tatlow section 2 N limb	Powell Creek Fm.	85	2.87E-02	6.59E-01	0.56	306	-16	297.1	53.3	9.0
52	436250	5691500	Mt. Tatlow section 2 N limb	Powell Creek Fm.	85	1.92E-02	7.32E-01	1.02	297	-16	285	49.1	5.0
53	436250	5691500	Mt. Tatlow section 2 N limb	Powell Creek Fm.	85	8.64E-03	5.99E-01	0.97	297	-19	287.4	46.6	6.0
54	436250	5691500	Mt. Tatlow section 2 N limb	Powell Creek Fm.	85	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
60	436500	5685000	Mt. Tatlow	Silverquick fm.	90	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
62	436500	5692500	Mt. Tatlow	Silverquick fm.	90	1.17E-03	1.61E-02	0.79	344	8	295.2	72.4	14.0
R4	436410	5693800	Mt. Tatlow N limb	Silverquick fm.	90	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
R5	443600	5677950	Mt. Tatlow S limb	Silverquick fm.	90	N/A	N/A	N/A	205	50	320	55.9	8.0

Site	UTM Easting[1]	UTM Northing[1]	Locality	Geologic Unit	Approx Age (Ma)	Susc (SI)	NRM (A/m)	Koenigsberger Ratio Kn	DECg (°)	INCg (°)	DECs (°)	INCs (°)	Alpha95 (°)
CK: Churn Creek (Gang Ranch and Dash-Churn) (51.4°N, 122.6°W) [Enkin et al., 2003]													
D17	522177	5680190	Dash-Churn	Powell Creek Fm.	85	9.00E-03	2.88E-01	0.80	337.6	59.4	3.5	45.4	3.4
D18	522150	5680013	Dash-Churn	Powell Creek Fm.	85	6.24E-03	2.88E-01	1.16	N/A	N/A	N/A	N/A	N/A
D19	522150	5680013	Dash-Churn	Powell Creek Fm.	85	7.02E-03	3.59E-01	1.28	343.1	57.7	9.1	51.1	8.8
D20	522150	5680013	Dash-Churn	Powell Creek Fm.	85	9.47E-04	4.08E-01	10.80	N/A	N/A	N/A	N/A	N/A
D21	522150	5680013	Dash-Churn	Eocene intrusion	45	7.32E-03	2.59E-01	0.89	N/A	N/A	N/A	N/A	N/A
D22	521961	5679231	Dash-Churn	Powell Creek Fm.	85	1.22E-03	1.46E-01	3.02	N/A	N/A	N/A	N/A	N/A
D23	522202	5679297	Dash-Churn	Powell Creek Fm.	85	6.27E-03	2.12E-01	0.85	226.8	63.2	354.6	62.8	13.1
D24	522715	5679455	Dash-Churn	Powell Creek Fm.	85	7.16E-03	1.18E+00	4.14	N/A	N/A	N/A	N/A	N/A
D25	523123	5680742	Dash-Churn	Paleogene strata	65	2.90E-04	5.00E-03	0.40	N/A	N/A	N/A	N/A	N/A
D26	523535	5680578	Dash-Churn	Powell Creek Fm.	85	4.95E-03	7.60E-02	0.39	N/A	N/A	N/A	N/A	N/A
D27	523535	5680578	Dash-Churn	Eocene intrusion	45	2.49E-02	1.66E-01	0.17	N/A	N/A	N/A	N/A	N/A
D28	523535	5680578	Dash-Churn	Powell Creek Fm.	85	5.12E-03	9.60E-02	0.45	N/A	N/A	N/A	N/A	N/A
D29	522605	5680329	Dash-Churn	Powell Creek Fm.	85	4.84E-03	1.29E+00	6.71	340.5	49.9	1.3	45.0	4.7
D30	522312	5680288	Dash-Churn	Powell Creek Fm.	85	1.17E-03	2.80E-01	5.99	331.5	65.2	9.1	60.4	4.8
D34	521259	5679711	Dash-Churn	Powell Creek Fm.	85	1.03E-03	1.90E-02	0.49	334.7	54.1	353.3	45.5	6.3
D35	521259	5679711	Dash-Churn	Powell Creek Fm.	85	1.10E-03	2.70E-02	6.23	N/A	N/A	N/A	N/A	N/A
D36	521258	5679711	Dash-Churn	Powell Creek Fm.	85	1.40E-03	3.50E-02	0.63	336.6	75.8	11.2	64.2	13.1
D37	520932	5679450	Dash-Churn	Powell Creek Fm.	85	1.11E-02	1.70E-01	0.38	N/A	N/A	N/A	N/A	N/A
D52	522920	5681033	Dash-Churn	Powell Creek Fm.	85	1.13E-02	3.16E-01	0.70	N/A	N/A	N/A	N/A	N/A
D53	522920	5681033	Dash-Churn	Powell Creek Fm.	85	2.25E-03	3.54E-01	3.95	N/A	N/A	N/A	N/A	N/A
D54	522700	5679850	Dash-Churn	Eocene intrusion	45	9.12E-03	1.36E-01	0.47	N/A	N/A	N/A	N/A	N/A
G11	535021	5702098	Gang Ranch	Silverquick fm.	90	3.05E-03	5.80E-02	0.48	45.7	78.3	9.8	54.4	6.6
G12	535013	5702090	Gang Ranch	Silverquick fm.	90	4.45E-03	8.20E-02	0.46	34.2	74.6	4.5	50.6	8.1
G13	534669	5702377	Gang Ranch	Eocene intrusion	45	3.19E-02	9.60E-01	0.76	N/A	N/A	N/A	N/A	N/A
G14	534623	5702235	Gang Ranch	Powell Creek Fm.	85	3.07E-04	2.60E-02	2.16	49.5	73.2	11.5	51.3	13.3
G15	533703	5701855	Gang Ranch	Powell Creek Fm.	85	7.03E-04	3.30E-02	1.25	273.9	62.2	11.1	48.9	15.0
G16	534049	5701961	Gang Ranch	Powell Creek Fm.	85	2.13E-03	5.70E-02	0.67	91.8	66.3	24.8	58.2	4.8
G31	529312	5698420	Gang Ranch	Powell Creek Fm.	85	8.00E-03	3.26E-01	1.02	34.1	71.3	11.4	48.8	5.9
G32	529300	5698400	Gang Ranch	Powell Creek Fm.	85	4.62E-03	1.87E-01	1.02	63.2	79.0	6.1	64.4	5.8
G33	529300	5698390	Gang Ranch	Powell Creek Fm.	85	5.96E-03	2.31E-01	0.97	18.9	75.9	356.0	55.9	7.9
G34	529300	5698350	Gang Ranch	Powell Creek Fm.	85	8.69E-03	2.98E-01	0.86	54.4	82.3	6.2	63.4	6.5
EV: Spence Bridge Group at Empire Valley and Churn Creek (51.4°N, 122.3°W) [Haskin et al., 2003]													
PHK02	551455	5685820	South Ridge	Spences Bridge Gp.	105	1.78E-02	4.11E+00	5.79	103.3	50.4	68.6	70.8	3.5
PHK03	551455	5685820	South Ridge	Spences Bridge Gp.	105	1.53E-02	3.15E+00	5.16	117.6	62.1	43.4	84.0	3.7
PHK04	551455	5685820	South Ridge	Spences Bridge Gp.	105	2.39E-02	5.82E+00	6.13	106.7	59.5	46.8	78.0	4.3
PHK05	549700	5685000	Lone Cabin Creek	Spences Bridge Gp.	105	2.88E-04	2.70E-03	0.24	N/A	N/A	N/A	N/A	N/A
PHK06	549700	5685000	Lone Cabin Creek	Spences Bridge Gp.	105	2.58E-04	3.40E-03	0.33	59.0	63.7	101.0	68.9	9.7
PHK10	550171	5691429	Empire Valley Ranch	Spences Bridge Gp.	105	2.27E-02	8.49E-01	0.94	135.8	45.1	142.2	61.3	9.0
PHK11	549591	5691490	Empire Valley Ranch	Spences Bridge Gp.	105	2.16E-02	8.98E+00	10.47	99.9	63.8	70.3	77.6	8.4
PHK12	549591	5691490	Empire Valley Ranch	Spences Bridge Gp.	105	1.30E-02	6.45E+00	12.51	105.0	64.4	78.4	79.2	5.8
PHK13	549450	5691490	Empire Valley Ranch	Spences Bridge Gp.	105	9.58E-03	7.54E+00	19.79	116.4	42.8	113.7	59.4	10.0
PHK14	536015	5701141	Churn Creek	Spences Bridge Gp.	105	6.13E-02	7.81E-01	0.32	N/A	N/A	N/A	N/A	N/A
PHK15	536235	5701285	Churn Creek	Spences Bridge Gp.	105	1.38E-02	1.10E+01	20.00	N/A	N/A	N/A	N/A	N/A
PHK16	535636	5701167	Churn Creek	Eocene intrusion	45	3.81E-02	1.13E+00	0.75	331.6	76.0	18.1	65.0	6.4
PHK25	536392	5702203	Churn Creek	Spences Bridge Gp.	105	7.24E-03	6.37E-01	2.21	45.8	75.6	17.7	44.4	5.8
PHK26	536392	5702200	Churn Creek	Spences Bridge Gp.	105	2.91E-03	2.46E+00	21.18	199.7	72.6	349.6	72.3	6.9
PHK27	536200	5701910	Churn Creek	Spences Bridge Gp.	105	3.12E-02	3.48E+00	2.81	150.3	57.3	76.3	71.3	4.0
PHK28	536200	5701900	Churn Creek	Spences Bridge Gp.	105	4.91E-02	2.87E+00	1.47	135.1	54.6	76.4	62.4	4.4
PHK29	536200	5701950	Churn Creek	Eocene intrusion	45	2.11E-02	7.67E-01	0.91	N/A	N/A	N/A	N/A	N/A
PHK30	536300	5702000	Churn Creek	Spences Bridge Gp.	105	4.08E-02	7.70E-01	0.47	86.4	82.6	17.1	54.3	8.9
PHK31	536216	5702089	Churn Creek	Spences Bridge Gp.	105	2.57E-02	1.02E+00	1.00	93.3	78.5	24.4	54.1	5.9
PHK40	533300	5699500	Churn Creek	Spences Bridge Gp.	105	2.52E-02	2.10E+00	2.09	120.5	50.7	118.8	22.1	8.3
PHK46	540000	5707800	West Gang Ranch	Spences Bridge Gp.	105	1.78E-02	1.88E+00	2.66	92.2	49.8	83.1	69.9	4.1
PHK47	540050	5707800	West Gang Ranch	Spences Bridge Gp.	105	1.78E-02	1.46E+00	2.06	101.5	57.7	100.2	78.4	6.9
PHK48	540000	5707800	West Gang Ranch	Spences Bridge Gp.	105	1.50E-02	4.50E+00	7.52	86.2	46.9	74.3	66.2	10.9
PHK49	540100	5707900	West Gang Ranch	Spences Bridge Gp.	105	9.40E-03	2.66E-01	0.71	103.0	69.4	214.7	89.7	14.0
PHK50	549602	5688248	Empire Valley	Spences Bridge Gp.	105	1.20E-02	7.83E-01	1.63	334.9	68.5	318.6	36.6	7.1
PHK51	549600	5688700	Empire Valley	Eocene intrusion	45	9.74E-03	6.85E-02	0.18	N/A	N/A	N/A	N/A	N/A
PHK52	549550	5688800	Empire Valley	Eocene intrusion	45	1.36E-02	5.93E-01	1.10	N/A	N/A	N/A	N/A	N/A
PHK53	549700	5688750	Empire Valley	Eocene intrusion	45	1.34E-02	2.33E-01	0.44	N/A	N/A	N/A	N/A	N/A
PHK55	549750	5688950	Empire Valley	Spences Bridge Gp.	105	1.08E-03	6.93E-01	16.20	167.5	60.2	356.0	75.7	4.2
PHK56	549700	5688150	Empire Valley	Spences Bridge Gp.	105	1.35E-02	5.80E-01	1.08	14.3	41.2	344.5	23.3	9.5
PHK57	550552	5685998	South Ridge	Spences Bridge Gp.	105	6.10E-03	6.59E+00	27.21	121.2	53.5	99.4	79.4	4.9
PHK58	550200	5687600	North Ridge	Spences Bridge Gp.	105	1.65E-02	3.66E+00	5.60	84.1	69.9	18.8	59.3	7.0
PHK59	550300	5687600	North Ridge	Spences Bridge Gp.	105	2.13E-02	2.50E+00	2.96	141.3	64.9	27.7	80.9	13.3
PHK60	550350	5687600	North Ridge	Spences Bridge Gp.	105	1.10E-02	3.18E+00	7.26	103.3	70.1	20.6	65.8	6.5
PHK61	550250	5687750	North Ridge	Spences Bridge Gp.	105	1.76E-02	1.64E+00	2.34	105.8	68.2	25.4	66.6	4.7
PHK62	550250	5687750	North Ridge	Spences Bridge Gp.	105	1.62E-02	4.21E+00	6.52	93.9	58.9	41.2	58.7	8.2
PHK63	550874	5685920	South Ridge	Spences Bridge Gp.	105	2.36E-02	4.59E+00	4.89	116.4	64.1	24.2	83.7	5.5
PHK64	550874	5685874	South Ridge	Spences Bridge Gp.	105	2.28E-02	7.19E+00	7.94	131.7	70.5	307.1	82.5	11.0
PHK65	550873	5685874	South Ridge	Spences Bridge Gp.	105	1.69E-02	9.13E+00	13.56	107.1	64.2	23.4	79.6	4.9
PHK66	550500	5685925	South Ridge	Spences Bridge Gp.	105	2.12E-02	4.55E+00	5.41	112.0	55.8	69.7	78.3	4.7
PHK68	551112	5683709	Lone Cabin Creek	Spences Bridge Gp.	105	4.23E-03	6.50E-01	3.86	N/A	N/A	N/A	N/A	N/A
PHK69	551115	5683700	Lone Cabin Creek	Spences Bridge Gp.	105	1.34E-02	5.78E+00	10.85	9.8	52.2	63.3	74.4	11.5
PHK70	551115	5683699	Lone Cabin Creek	Spences Bridge Gp.	105	1.46E-02	6.52E+00	11.25	25.0	64.6	110.2	69.6	9.3
PHK71	550999	5683400	Lone Cabin Creek	Spences Bridge Gp.	105	1.32E-02	8.17E+00	15.52	N/A	N/A	N/A	N/A	N/A
PHK72	550650	5692400	Empire Valley Ranch	Spences Bridge Gp.	105	3.33E-02	2.29E+00	1.73	150.9	45.2	109.8	67.0	15.5
PHK73	550655	5692400	Empire Valley Ranch	Spences Bridge Gp.	105	3.61E-02	2.48E+00	1.72	146.1	47.7	99.5	66.0	10.8
PHK74	550750	5692300	Empire Valley Ranch	Spences Bridge Gp.	105	3.05E-02	1.28E+01	10.53	143.7	70.4	21.1	72.3	5.6
PHK75	550755	5692300	Empire Valley Ranch	Spences Bridge Gp.	105	9.88E-03	6.83E+00	17.36	198.8	77.4	335.4	67.6	10.6
PHK76	543500	5707600	East Gang Ranch	Spences Bridge Gp.	105	1.03E-02	1.68E+01	41.08	333.1	66.8	38.4	60.0	10.0
PHK77	543495	5707625	East Gang Ranch	Spences Bridge Gp.	105	9.57E-03	9.60E+00	25.23	314.0	59.0	16.0	65.7	9.0
PHK78	543495	5707630	East Gang Ranch	Spences Bridge Gp.	105	9.75E-03	5.61E+00	14.47	290.7	48.4	330.1	71.7	8.7
PHK79	543500	5707700	East Gang Ranch	Spences Bridge Gp.	105	6.79E-03	2.06E+01	76.26	348.0	67.0	43.2	54.8	3.5
PHK80	543500	5707700	East Gang Ranch	Spences Bridge Gp.	105	6.88E-03	1.65E+01	60.31	4.5	68.2	50.4	50.2	3.5
PHK81	543500	5707475	East Gang Ranch	Spences Bridge Gp.	105	8.69E-03	2.53E+01	73.08	282.2	59.2	2.1	81.4	10.3
PHK82	543450	5707300	East Gang Ranch	Spences Bridge Gp.	105	8.19E-03	1.35E+01	41.59	338.9	56.0	23.6	52.6	6.9
PLK03	551900	5682950	Lone Cabin Creek	Spences Bridge Gp.	105	2.98E-02	7.98E-01	0.67	N/A	N/A	N/A	N/A	N/A
PLK04	551900	5682950	Lone Cabin Creek	Spences Bridge Gp.	105	3.09E-02	3.24E+00	2.67	27.9	71.3	142.3	67.7	5.9
PLK21	540100	5707900	West Gang Ranch	Spences Bridge Gp.	105	1.45E-02	1.12E+00	1.93	N/A	N/A	N/A	N/A	N/A
PLK30	551712	5685600	South Ridge	Spences Bridge Gp.	105	2.07E-02	8.60E-01	1.05	99.9	44.8	72.4	64.9	8.4
PLK31	551715	5685600	South Ridge	Spences Bridge Gp.	105	2.05E-02	3.74E+00	4.58	106.1	49.8	74.1	71.4	4.5
PLK32	551720	5685600	South Ridge	Spences Bridge Gp.	105	1.60E-02	1.59E+00	2.50	117.8	44.5	103.1	70.1	4.0
PLK33	552800	5685500	South Ridge	Spences Bridge Gp.	105	2.19E-02	1.90E+00	2.18	117.4	46.0	100.9	71.5	9.9
PLK34	552805	5685500	South Ridge	Spences Bridge Gp.	105	1.83E-02	2.56E+00	3.84	115.6	45.9	97.4	71.0	3.4
PLK35	552807	5685500	South Ridge	Spences Bridge Gp.	105	1.40E-02	7.27E+00	13.09	109.2	48.0	82.5	71.0	5.2
PLK40	550330	5687900	North Ridge	Spences Bridge Gp.	105	1.96E-02	3.40E+00	4.37	90.6	72.6	16.1	61.9	4.5
PLK41	550350	5687950	North Ridge	Spences Bridge Gp.	105	2.12E-02	3.38E+00	4.00	104.9	70.3	20.1	66.4	8.0
PLK42	550400	5688000	North Ridge	Spences Bridge Gp.	105	2.09E-02	2.57E+00	3.08	105.8	64.8	33.8	66.1	14.1
PMK21	540037	5707000	West Gang Ranch	Spences Bridge Gp.	105	5.30E-02	1.09E+00	5.16	N/A	N/A	N/A	N/A	N/A

[1] NAD83, Zone 10

LOCATION MAP

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GEOLOGY

TASEKO LAKES

BRITISH COLUMBIA

Scale 1:250 000/Échelle 1/250 000

kilometres 5 0 5 10 15 20 kilomètres

Universal Transverse Mercator Projection
North American Datum 1983

Projection transverse universelle de Mercator
Système de référence géodésique nord-américain, 1983

Authors: J.B. Mahoney, C.J. Hickson, J.W. Haggart, P. Schiarizza, P.B. Read, R.J. Enkin, P. van der Heyden, and S. Israel

Geology by P. Schiarizza, C.J. Hickson, P.B. Read, J.B. Mahoney, P. van der Heyden, and S. Israel

Geological compilation by P. Schiarizza, J.B. Mahoney, and C.J. Hickson

Paleomagnetism contributions by R.J. Enkin, J. Baker, M.L. Haskin, J.B. Mahoney, E. Irving, J. Wynne, and J.A. Maxson

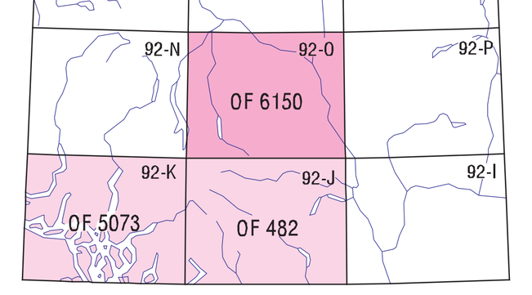
Review by G.J. Woodsworth

Cartography by C.L. Wagner, Geological Survey of Canada, Pacific Division

Any revisions or additional geological information known to the user would be welcomed by the Geological Survey of Canada

Digital base map from data compiled by Natural Resources Canada, modified by the Geological Survey of Canada

Mean magnetic declination 2013, 17°43´E, decreasing 13.0´ annually. Readings vary from 17°22´ in the SE corner to 18°03´ in the NW corner of the map



NATIONAL TOPOGRAPHIC SYSTEM REFERENCE AND INDEX TO ADJOINING GEOLOGICAL SURVEY OF CANADA MAPS

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GEOLOGICAL SURVEY OF CANADA
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2013
SHEET 4 OF 6
FEUILLET 4 DE 6

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Sheet 4 of 5, Paleomagnetism

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