Assessment Report

for the Rude Creek South Property

Whitehorse Mining District
NTS Map Sheets 115J09 and 115J10
Latitude 62°34'58.80” N, Longitude 138°33'28.80” W

Claims Zar 1 – Zar 85 (YD119101 – YD119185)
and
Claims Zar 86 – Zar 629 (YD119186 - YD119729)

Preapared For:

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Summary

The Rude Creek South Property is situated in the west-central part of the Yukon Territory approximately 130 km south southeast of Dawson City and 140 km northwest of Carmacks.The property consists of one contiguous group of 629 contiguous quartz claim units for a total area of 1279 Ha.

Limited work has been conducted on the Rude Creek South Property as defined by it's current extents. Minfile occurrence number 115J 097, known as the Woe Occurrence, is the only documented historic work on the Rude Creek South Property. The property is located in the heart of Yukon's White Gold District approximately 40 kilometres southeast of the Coffee Creek gold property, 60 kilometres southeast of the Golden Saddle gold deposit, and 10 kilometres east of the Casino gold, copper and molybdenum porphyry deposit.

The puropse of the 2011 exploration program was to compile information for the property area through hostoric data acquistion, re-processing and interpretation of regional geophysical data by Condor Consulting, and a soil suitability desktop analysis provided by the Yukon Geological Survey.

Review of the information gathered in the 2011 report will provide the framework for generating exploration targets on the Rude Creek South property.

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INTRODUCTION

The prime objective of the 2011 exploration program was to compile data for the property with a goal of defining exploration targets. The data compilation included reprocessing the 2009 GSC/YGS regional aeromagnetic and radiometrics survey, a review of historic work in the Rude Creek South area, and a desktop soil suitability study conducted by Jeff Bond of the Yukon Geological Survey . The interpretation of this data, in correlation with both regional and property scale geology will be used to direct future exploration efforts.

Location and Access

The Rude Creek South Property is situated in the west-central part of the Yukon Territory at approximately 62°30' North latitude and 138°25' West longitude on N.T.S. mapsheet 115J09 and 115J10. The property is located approximately 130 km south southeast of Dawson City and 140 km northwest of Carmacks (Figure 1). Relief in the Rude Creek South area is on the order of 900 metres, with the highest point in the surrounding mountains at about 1600 metres. Summits and ridges are generally rounded and subdued, as the area lies in the part of the Yukon that was not glaciated during Pleistocene time.

Access to the property is gained principally by helicopter, with flights originating from either Dawson City or Carmacks. Historic report (AR# 093401) documented a seasonal airstrip that was located at the Rude Creek Placer Workings, which lies approximately 6 km's north of the current tenure boundary. If this airstrip is still operational it could provide an alternate strategy for staging field crews and equipment into the property. The same historic report indicated that the Rude Creek Placer Workings were also accessible via Casino Creek on a winter road. If the winter trail is still maintained then road access to a staging area 6 km north of the property may be possible. With the recent increase in the mineral exploration and mining industies throughout the Dawson Range/White Gold District road access is likley greatly improved since the late 1990's and early 2000's. Consulting with other local stakeholders will provide information on how to best access the property.

Ternure Description

The Rude Creek property consists of a continuous group of quartz claims; (Table 1; Figure 2). The Rude Creek claim block consists of 629 contiguous quartz claim units for a total area of 1279 Ha. The mineral claim boundaries have not yet been legally surveyed. Title to the claims is currently held 100% in the name “0890763 BC Ltd. - 100%”, a wholly owned subsidiary of Aben Resources Ltd.

Aben Resources has entered into an option agreement whereby the Company may earn a 100% interest in the 1279 Ha Rude Creek South gold, copper and molybdenum property located in the Dawson Range, Yukon. The Rude Creek South property is subject to a two percent (2%) net smelter return royalty ("NSR") in favour of the Optionor. Aben has been granted a right to purchase a 1% NSR at any time prior to the commencement of commercial production for the consideration of $1,000,000.

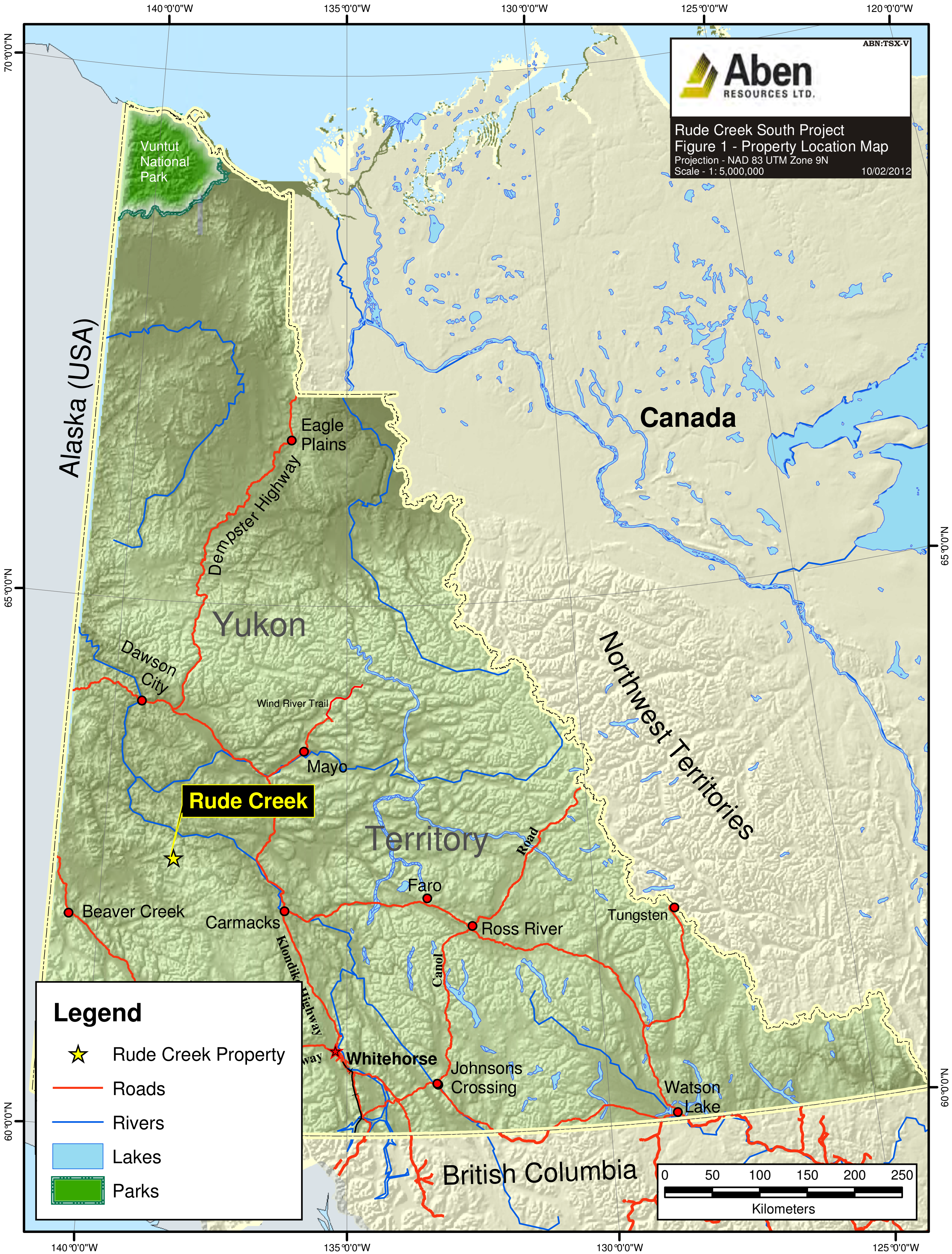

ABN:TSX-V
Aben RESOURCES LTD.
Rude Creek South Project
Figure 1 - Property Location Map
Projection - NAD 83 UTM Zone 9N
Scale - 1: 5,000,000
10/02/2012
140°0'0"W
135°0'0"W
130°0'0"W
125°0'0"W
120°0'0"W
70°0'0"N
65°0'0"N
60°0'0"N
Vuntut National Park
Alaska (USA)
Canada
Yukon
Territory
Northwest Territories
British Columbia
Eagle Plains
Dempster Highway
Dawson City
Wind River Trail
Mayo
Rude Creek
Faro
Road
Beaver Creek
Carmacks
Ross River
Tungsten
Canol
Klondike Highway
Whitehorse
Johnsons Crossing
Watson Lake
Legend
Rude Creek Property
Roads
Rivers
Lakes
Parks
0 50 100 150 200 250
Kilometers

Table 1 – Rude Creek South Tenure

Grant Number	Claim Number	Owner	Recorded Date	Expiry Date	Mining District
YD119101	ZAR 1	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119102	ZAR 2	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119103	ZAR 3	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119104	ZAR 4	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119105	ZAR 5	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119106	ZAR 6	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119107	ZAR 7	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119108	ZAR 8	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119109	ZAR 9	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119110	ZAR 10	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119111	ZAR 11	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119112	ZAR 12	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119113	ZAR 13	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119114	ZAR 14	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119115	ZAR 15	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119116	ZAR 16	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119117	ZAR 17	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119118	ZAR 18	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119119	ZAR 19	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119120	ZAR 20	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119121	ZAR 21	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119122	ZAR 22	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119123	ZAR 23	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119124	ZAR 24	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119125	ZAR 25	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119126	ZAR 26	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119127	ZAR 27	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse

Grant Number	Claim Number	Owner	Recorded Date	Expiry Date	Mining District
YD119128	ZAR 28	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119129	ZAR 29	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119130	ZAR 30	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119131	ZAR 31	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119132	ZAR 32	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119133	ZAR 33	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119134	ZAR 34	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119135	ZAR 35	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119136	ZAR 36	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119137	ZAR 37	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119138	ZAR 38	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119139	ZAR 39	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119140	ZAR 40	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119141	ZAR 41	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119142	ZAR 42	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119143	ZAR 43	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119144	ZAR 44	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119145	ZAR 45	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119146	ZAR 46	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119147	ZAR 47	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119148	ZAR 48	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119149	ZAR 49	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119150	ZAR 50	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119151	ZAR 51	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119152	ZAR 52	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119153	ZAR 53	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119154	ZAR 54	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119155	ZAR 55	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119156	ZAR 56	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse

Grant Number	Claim Number	Owner	Recorded Date	Expiry Date	Mining District
YD119157	ZAR 57	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119158	ZAR 58	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119159	ZAR 59	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119160	ZAR 60	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119161	ZAR 61	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119162	ZAR 62	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119163	ZAR 63	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119164	ZAR 64	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119165	ZAR 65	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119166	ZAR 66	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119167	ZAR 67	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119168	ZAR 68	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119169	ZAR 69	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119170	ZAR 70	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119171	ZAR 71	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119172	ZAR 72	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119173	ZAR 73	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119174	ZAR 74	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119175	ZAR 75	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119176	ZAR 76	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119177	ZAR 77	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119178	ZAR 78	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119179	ZAR 79	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119180	ZAR 80	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119181	ZAR 81	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119182	ZAR 82	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119183	ZAR 83	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119184	ZAR 84	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse

Grant Number	Claim Number	Owner	Recorded Date	Expiry Date	Mining District
YD119185	ZAR 85	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119186	ZAR 86	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119187	ZAR 87	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119188	ZAR 88	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119189	ZAR 89	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119190	ZAR 90	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119191	ZAR 91	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119192	ZAR 92	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119193	ZAR 93	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119194	ZAR 94	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119195	ZAR 95	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119196	ZAR 96	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119197	ZAR 97	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119198	ZAR 98	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119199	ZAR 99	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119200	ZAR 100	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119201	ZAR 101	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119202	ZAR 102	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119203	ZAR 103	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119204	ZAR 104	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119205	ZAR 105	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119206	ZAR 106	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119207	ZAR 107	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119208	ZAR 108	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119209	ZAR 109	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119210	ZAR 110	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119211	ZAR 111	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119212	ZAR 112	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse

Grant Number	Claim Number	Owner	Recorded Date	Expiry Date	Mining District
YD119213	ZAR 113	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119214	ZAR 114	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119215	ZAR 115	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119216	ZAR 116	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119217	ZAR 117	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119218	ZAR 118	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119219	ZAR 119	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119220	ZAR 120	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119221	ZAR 121	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119222	ZAR 122	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119223	ZAR 123	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119224	ZAR 124	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119225	ZAR 125	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119226	ZAR 126	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119227	ZAR 127	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119228	ZAR 128	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119229	ZAR 129	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119230	ZAR 130	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119231	ZAR 131	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119232	ZAR 132	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119233	ZAR 133	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119234	ZAR 134	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119235	ZAR 135	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119236	ZAR 136	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119237	ZAR 137	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119238	ZAR 138	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119239	ZAR 139	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119240	ZAR 140	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse

Grant Number	Claim Number	Owner	Recorded Date	Expiry Date	Mining District
YD119241	ZAR 141	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119242	ZAR 142	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119243	ZAR 143	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119244	ZAR 144	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119245	ZAR 145	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119246	ZAR 146	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119247	ZAR 147	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119248	ZAR 148	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119249	ZAR 149	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119250	ZAR 150	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119251	ZAR 151	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119252	ZAR 152	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119253	ZAR 153	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119254	ZAR 154	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119255	ZAR 155	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119256	ZAR 156	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119257	ZAR 157	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119258	ZAR 158	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119259	ZAR 159	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119260	ZAR 160	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119261	ZAR 161	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119262	ZAR 162	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119263	ZAR 163	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119264	ZAR 164	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119265	ZAR 165	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119266	ZAR 166	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119267	ZAR 167	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119268	ZAR 168	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse

Grant Number	Claim Number	Owner	Recorded Date	Expiry Date	Mining District
YD119269	ZAR 169	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119270	ZAR 170	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119271	ZAR 171	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119272	ZAR 172	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119273	ZAR 173	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119274	ZAR 174	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119275	ZAR 175	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119276	ZAR 176	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119277	ZAR 177	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119278	ZAR 178	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119279	ZAR 179	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119280	ZAR 180	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119281	ZAR 181	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119282	ZAR 182	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119283	ZAR 183	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119284	ZAR 184	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119285	ZAR 185	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119286	ZAR 186	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119287	ZAR 187	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119288	ZAR 188	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119289	ZAR 189	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119290	ZAR 190	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119291	ZAR 191	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119292	ZAR 192	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119293	ZAR 193	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119294	ZAR 194	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119295	ZAR 195	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119296	ZAR 196	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse

Grant Number	Claim Number	Owner	Recorded Date	Expiry Date	Mining District
YD119297	ZAR 197	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119298	ZAR 198	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119299	ZAR 199	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119300	ZAR 200	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119301	ZAR 201	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119302	ZAR 202	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119303	ZAR 203	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119304	ZAR 204	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119305	ZAR 205	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119306	ZAR 206	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119307	ZAR 207	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119308	ZAR 208	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119309	ZAR 209	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119310	ZAR 210	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119311	ZAR 211	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119312	ZAR 212	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119313	ZAR 213	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119314	ZAR 214	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119315	ZAR 215	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119316	ZAR 216	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119317	ZAR 217	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119318	ZAR 218	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119319	ZAR 219	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119320	ZAR 220	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119321	ZAR 221	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119322	ZAR 222	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119323	ZAR 223	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119324	ZAR 224	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse

Grant Number	Claim Number	Owner	Recorded Date	Expiry Date	Mining District
YD119325	ZAR 225	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119326	ZAR 226	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119327	ZAR 227	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119328	ZAR 228	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119329	ZAR 229	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119330	ZAR 230	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119331	ZAR 231	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119332	ZAR 232	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119333	ZAR 233	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119334	ZAR 234	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119335	ZAR 235	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119336	ZAR 236	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119337	ZAR 237	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119338	ZAR 238	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119339	ZAR 239	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119340	ZAR 240	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119341	ZAR 241	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119342	ZAR 242	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119343	ZAR 243	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119344	ZAR 244	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119345	ZAR 245	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119346	ZAR 246	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119347	ZAR 247	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119348	ZAR 248	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119349	ZAR 249	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119350	ZAR 250	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119351	ZAR 251	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119352	ZAR 252	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse

Grant Number	Claim Number	Owner	Recorded Date	Expiry Date	Mining District
YD119353	ZAR 253	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119354	ZAR 254	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119355	ZAR 255	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119356	ZAR 256	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119357	ZAR 257	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119358	ZAR 258	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119359	ZAR 259	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119360	ZAR 260	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119361	ZAR 261	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119362	ZAR 262	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119363	ZAR 263	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119364	ZAR 264	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119365	ZAR 265	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119366	ZAR 266	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119367	ZAR 267	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119368	ZAR 268	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119369	ZAR 269	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119370	ZAR 270	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119371	ZAR 271	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119372	ZAR 272	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119373	ZAR 273	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119374	ZAR 274	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119375	ZAR 275	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119376	ZAR 276	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119377	ZAR 277	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119378	ZAR 278	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119379	ZAR 279	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119380	ZAR 280	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse

Grant Number	Claim Number	Owner	Recorded Date	Expiry Date	Mining District
YD119381	ZAR 281	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119382	ZAR 282	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119383	ZAR 283	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119384	ZAR 284	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119385	ZAR 285	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119386	ZAR 286	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119387	ZAR 287	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119388	ZAR 288	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119389	ZAR 289	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119390	ZAR 290	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119391	ZAR 291	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119392	ZAR 292	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119393	ZAR 293	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119394	ZAR 294	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119395	ZAR 295	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119396	ZAR 296	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119397	ZAR 297	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119398	ZAR 298	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119399	ZAR 299	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119400	ZAR 300	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119401	ZAR 301	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119402	ZAR 302	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119403	ZAR 303	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119404	ZAR 304	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119405	ZAR 305	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119406	ZAR 306	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119407	ZAR 307	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119408	ZAR 308	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse

Grant Number	Claim Number	Owner	Recorded Date	Expiry Date	Mining District
YD119409	ZAR 309	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119410	ZAR 310	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119411	ZAR 311	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119412	ZAR 312	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119413	ZAR 313	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119414	ZAR 314	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119415	ZAR 315	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119416	ZAR 316	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119417	ZAR 317	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119418	ZAR 318	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119419	ZAR 319	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119420	ZAR 320	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119421	ZAR 321	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119422	ZAR 322	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119423	ZAR 323	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119424	ZAR 324	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119425	ZAR 325	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119426	ZAR 326	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119427	ZAR 327	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119428	ZAR 328	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119429	ZAR 329	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119430	ZAR 330	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119431	ZAR 331	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119432	ZAR 332	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119433	ZAR 333	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119434	ZAR 334	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119435	ZAR 335	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119436	ZAR 336	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse

Grant Number	Claim Number	Owner	Recorded Date	Expiry Date	Mining District
YD119437	ZAR 337	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119438	ZAR 338	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119439	ZAR 339	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119440	ZAR 340	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119441	ZAR 341	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119442	ZAR 342	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119443	ZAR 343	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119444	ZAR 344	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119445	ZAR 345	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119446	ZAR 346	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119447	ZAR 347	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119448	ZAR 348	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119449	ZAR 349	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119450	ZAR 350	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119451	ZAR 351	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119452	ZAR 352	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119453	ZAR 353	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119454	ZAR 354	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119455	ZAR 355	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119456	ZAR 356	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119457	ZAR 357	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119458	ZAR 358	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119459	ZAR 359	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119460	ZAR 360	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119461	ZAR 361	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119462	ZAR 362	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119463	ZAR 363	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119464	ZAR 364	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse

Grant Number	Claim Number	Owner	Recorded Date	Expiry Date	Mining District
YD119465	ZAR 365	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119466	ZAR 366	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119467	ZAR 367	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119468	ZAR 368	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119469	ZAR 369	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119470	ZAR 370	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119471	ZAR 371	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119472	ZAR 372	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119473	ZAR 373	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119474	ZAR 374	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119475	ZAR 375	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119476	ZAR 376	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119477	ZAR 377	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119478	ZAR 378	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119479	ZAR 379	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119480	ZAR 380	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119481	ZAR 381	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119482	ZAR 382	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119483	ZAR 383	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119484	ZAR 384	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119485	ZAR 385	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119486	ZAR 386	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119487	ZAR 387	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119488	ZAR 388	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119489	ZAR 389	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119490	ZAR 390	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119491	ZAR 391	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119492	ZAR 392	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse

Grant Number	Claim Number	Owner	Recorded Date	Expiry Date	Mining District
YD119493	ZAR 393	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119494	ZAR 394	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119495	ZAR 395	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119496	ZAR 396	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119497	ZAR 397	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119498	ZAR 398	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119499	ZAR 399	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119500	ZAR 400	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119501	ZAR 401	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119502	ZAR 402	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119503	ZAR 403	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119504	ZAR 404	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119505	ZAR 405	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119506	ZAR 406	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119507	ZAR 407	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119508	ZAR 408	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119509	ZAR 409	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119510	ZAR 410	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119511	ZAR 411	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119512	ZAR 412	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119513	ZAR 413	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119514	ZAR 414	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119515	ZAR 415	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119516	ZAR 416	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119517	ZAR 417	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119518	ZAR 418	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119519	ZAR 419	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119520	ZAR 420	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse

Grant Number	Claim Number	Owner	Recorded Date	Expiry Date	Mining District
YD119521	ZAR 421	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119522	ZAR 422	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119523	ZAR 423	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119524	ZAR 424	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119525	ZAR 425	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119526	ZAR 426	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119527	ZAR 427	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119528	ZAR 428	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119529	ZAR 429	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119530	ZAR 430	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119531	ZAR 431	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119532	ZAR 432	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119533	ZAR 433	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119534	ZAR 434	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119535	ZAR 435	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119536	ZAR 436	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119537	ZAR 437	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119538	ZAR 438	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119539	ZAR 439	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119540	ZAR 440	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119541	ZAR 441	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119542	ZAR 442	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119543	ZAR 443	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119544	ZAR 444	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119545	ZAR 445	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119546	ZAR 446	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119547	ZAR 447	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119548	ZAR 448	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse

Grant Number	Claim Number	Owner	Recorded Date	Expiry Date	Mining District
YD119549	ZAR 449	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119550	ZAR 450	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119551	ZAR 451	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119552	ZAR 452	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119553	ZAR 453	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119554	ZAR 454	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119555	ZAR 455	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119556	ZAR 456	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119557	ZAR 457	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119558	ZAR 458	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119559	ZAR 459	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119560	ZAR 460	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119561	ZAR 461	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119562	ZAR 462	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119563	ZAR 463	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119564	ZAR 464	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119565	ZAR 465	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119566	ZAR 466	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119567	ZAR 467	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119568	ZAR 468	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119569	ZAR 469	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119570	ZAR 470	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119571	ZAR 471	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119572	ZAR 472	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119573	ZAR 473	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119574	ZAR 474	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119575	ZAR 475	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119576	ZAR 476	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse

Grant Number	Claim Number	Owner	Recorded Date	Expiry Date	Mining District
YD119577	ZAR 477	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119578	ZAR 478	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119579	ZAR 479	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119580	ZAR 480	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119581	ZAR 481	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119582	ZAR 482	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119583	ZAR 483	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119584	ZAR 484	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119585	ZAR 485	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119586	ZAR 486	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119587	ZAR 487	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119588	ZAR 488	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119589	ZAR 489	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119590	ZAR 490	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119591	ZAR 491	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119592	ZAR 492	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119593	ZAR 493	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119594	ZAR 494	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119595	ZAR 495	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119596	ZAR 496	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119597	ZAR 497	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119598	ZAR 498	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119599	ZAR 499	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119600	ZAR 500	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119601	ZAR 501	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119602	ZAR 502	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119603	ZAR 503	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119604	ZAR 504	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse

Grant Number	Claim Number	Owner	Recorded Date	Expiry Date	Mining District
YD119605	ZAR 505	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119606	ZAR 506	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119607	ZAR 507	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119608	ZAR 508	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119609	ZAR 509	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119610	ZAR 510	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119611	ZAR 511	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119612	ZAR 512	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119613	ZAR 513	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119614	ZAR 514	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119615	ZAR 515	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119616	ZAR 516	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119617	ZAR 517	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119618	ZAR 518	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119619	ZAR 519	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119620	ZAR 520	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119621	ZAR 521	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119622	ZAR 522	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119623	ZAR 523	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119624	ZAR 524	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119625	ZAR 525	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119626	ZAR 526	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119627	ZAR 527	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119628	ZAR 528	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119629	ZAR 529	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119630	ZAR 530	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119631	ZAR 531	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119632	ZAR 532	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse

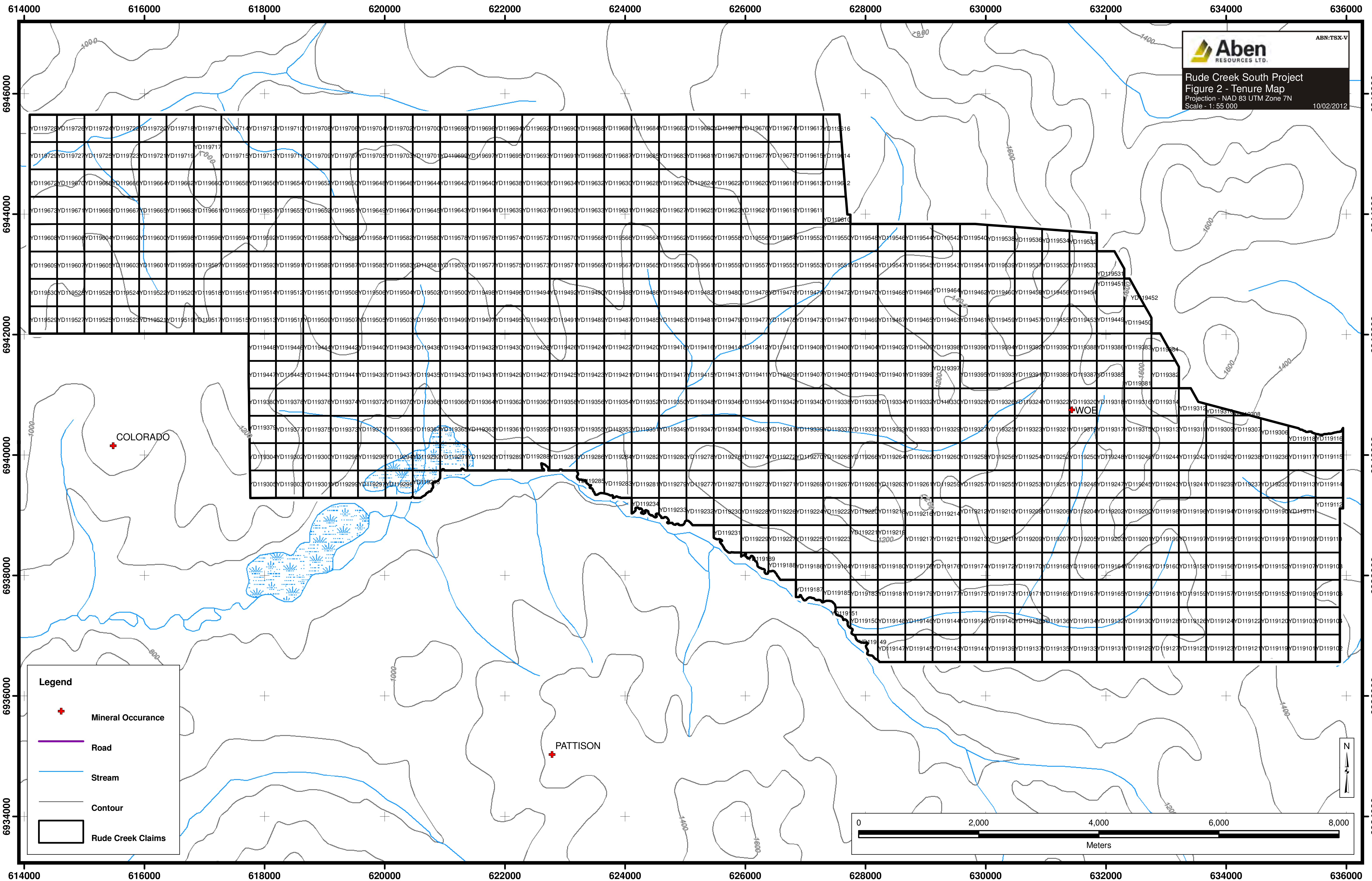
Grant Number	Claim Number	Owner	Recorded Date	Expiry Date	Mining District
YD119633	ZAR 533	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119634	ZAR 534	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119635	ZAR 535	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119636	ZAR 536	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119637	ZAR 537	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119638	ZAR 538	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119639	ZAR 539	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119640	ZAR 540	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119641	ZAR 541	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119642	ZAR 542	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119643	ZAR 543	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119644	ZAR 544	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119645	ZAR 545	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119646	ZAR 546	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119647	ZAR 547	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119648	ZAR 548	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119649	ZAR 549	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119650	ZAR 550	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119651	ZAR 551	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119652	ZAR 552	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119653	ZAR 553	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119654	ZAR 554	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119655	ZAR 555	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119656	ZAR 556	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119657	ZAR 557	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119658	ZAR 558	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119659	ZAR 559	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119660	ZAR 560	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse

Grant Number	Claim Number	Owner	Recorded Date	Expiry Date	Mining District
YD119661	ZAR 561	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119662	ZAR 562	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119663	ZAR 563	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119664	ZAR 564	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119665	ZAR 565	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119666	ZAR 566	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119667	ZAR 567	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119668	ZAR 568	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119669	ZAR 569	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119670	ZAR 570	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119671	ZAR 571	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119672	ZAR 572	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119673	ZAR 573	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119674	ZAR 574	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119675	ZAR 575	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119676	ZAR 576	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119677	ZAR 577	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119678	ZAR 578	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119679	ZAR 579	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119680	ZAR 580	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119681	ZAR 581	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119682	ZAR 582	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119683	ZAR 583	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119684	ZAR 584	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119685	ZAR 585	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119686	ZAR 586	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119687	ZAR 587	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119688	ZAR 588	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse

Grant Number	Claim Number	Owner	Recorded Date	Expiry Date	Mining District
YD119689	ZAR 589	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119690	ZAR 590	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119691	ZAR 591	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119692	ZAR 592	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119693	ZAR 593	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119694	ZAR 594	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119695	ZAR 595	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119696	ZAR 596	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119697	ZAR 597	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119698	ZAR 598	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119699	ZAR 599	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119700	ZAR 600	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119701	ZAR 601	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119702	ZAR 602	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119703	ZAR 603	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119704	ZAR 604	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119705	ZAR 605	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119706	ZAR 606	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119707	ZAR 607	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119708	ZAR 608	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119709	ZAR 609	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119710	ZAR 610	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119711	ZAR 611	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119712	ZAR 612	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119713	ZAR 613	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119714	ZAR 614	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119715	ZAR 615	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119716	ZAR 616	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse

Grant Number	Claim Number	Owner	Recorded Date	Expiry Date	Mining District
YD119717	ZAR 617	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119718	ZAR 618	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119719	ZAR 619	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119720	ZAR 620	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119721	ZAR 621	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119722	ZAR 622	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119723	ZAR 623	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119724	ZAR 624	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119725	ZAR 625	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119726	ZAR 626	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119727	ZAR 627	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119728	ZAR 628	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse
YD119729	ZAR 629	0890763 BC Ltd. - 100%	12/06/10	12/06/12	Whitehorse

*Expiry date as of recent applied certificate of work.


Aben RESOURCES LTD.
ABN:TSX-V
Rude Creek South Project
Figure 2 - Tenure Map
Projection - NAD 83 UTM Zone 7N
Scale - 1: 55 000
10/02/2012
COLORADO
WOE
PATTISON
Legend
Mineral Occurance
Road
Stream
Contour
Rude Creek Claims
0
2,000
4,000
6,000
8,000
Meters
N

Property and Surrounding Area History

The Rude Creek South property is located in the heart of Yukon's White Gold District approximately 40 kilometres southeast of the Coffee Creek gold property, 60 kilometres southeast of the Golden Saddle gold deposit, and 10 kilometres east of the Casino gold, copper and molybdenum porphyry deposit. The Casino deposit contains a resource of 8 million ounces of gold, 4.4 billion pounds of copper and 475 million pounds of molybdenum.

Limited work has been conducted on the Rude Creek South Property as defined by it's current extents. Minfile occurrence number 115J 097, known as the Woe Occurrence, is the only documented work history for the Rude Creek South Property. The mineral occurrence was staked as Woe (Claim Number YA74192) in October, 1981 by J. Sigurdson. The capsule geology attached to the minfile reads *" The claims are underlain by Paleozoic (?) schist and gneiss at the margin of a small stock of Cretaceous Coffee Creek Granite."* No Reference was indicated in the minfile capsule.

Aside from the major projects introduced at the beginning of this section, a number of mineral occurrences adjacent to the Rude Creek South property have undergone placer mining activities, exploration efforts focusing on ploymetallic Ag-Pb-Zn +/-Au veins, Cu-Mo-W+/-Au porphyry type mineralization, and intrusion-related Au-Bi mineralization. The following provides a summary for some of the exploration work from the immediate area.

Placer activity on Rude Creek started in 1915 with staking by Jens Rude and George Jensen. Most of the creek was staked folloving the initital discovery, and may of the claims were mined or explored. During June of 1915, up to 25 men were prospecting and mining along the creek. Most of the work on Rude Creek was done in the first 500 meters below the mouth of Trombley Creek. Interest in the area decreased over the years, and by the 1920's all of the claims on the creek had lapsed. In the summer of 1933, George Leslie staked a discovery claim at the mouth of Ray Creek. He soon entered a partnership with George Stevenson and they worked the the area until 1948. George Leslie worked on the claims until his death in 1954.

In the spring of 1979, Larry Smith acquired claims on Rude Creek, which he sold to Gold Crek Mining Ltd., for cash and production royalty. Gold Creek Mining went into production the following year, but only lasted until the end of the 1981 season. During 1987, Andre Fournier began mining on Rude Creek near it's confluence with Dip Creek. He mined this location until 1991 when he moved his operation. Reported gold production for the period of 1987-1990 was 3483 crude ounces.

Government silt geochemistry (GSC Open File 1363, Map 99-1986) collected from the Rude Creek area returned strongly anomalous Au (300 ppb), As (44 ppm), W, (50 ppm), and Sb (5.2 ppm), moderately anomalous Mo and weakly anomalous Sn.

The Rude Creek Ag-Pb-Zn-Au showing (Minfile #115 J 022) is located approximately 5 km north of the Rude Creek South tenure. The showing consists of a lens of galena and sphalerite about 4.6 meters long and up to 0.25 m wide, hosted within a vein 1.0 meters wide that strikes east through the Klotassin granodiorite. Grab samples from the vein have returned values up to 71.6 % Pb, 6.2 % Zn, 6517.5 g/t Ag, and 0.34 g/t Au. The vein was mined over 3.0 meters, activities were terminated as the vein pinched out along strike.

In 1970 a limited geological and geochemical program was conducted on the MO mineral claims by C.G. Carlson and R.J. Hilker. The MO claims are located on Mt. Cockfield, located between Colorado

Creek, and Battle Creek an area which lies approximately 3 km north of the Rude Creek South tenure. Their report concluded that the MO claim group is underlain by a large body of hornblende-biotite granodiorite intruded by small bodies of felsic porphyritic intrusives. Minor amounts of metasediments, apalite and pegmatite dykes were observed on the property. The geochemical survey outlined 3 zones which are statistically anomalous for copper. The three anomalies are open to the north and south. No significant molybdenum mineralization was located by the survey.

In 1970 Archer, Cathro and Associates Ltd., under a JV partnership with Newmont Mining and Dawson Range Joint Venture conducted geological mapping and geochemical sampling in the Mt. Cockfield area. The copper-molybdenum mineralization on Mt. Cockfield was discovered in the summer of 1969. It lies about 10 km east of the Casino property, and 3 km north of the Rude Creek South property. They concluded the the intrusions at Mt. Cockfield do not display strong hydrothermal alteration or composition complexity typical of the younger Prospector Mountain Plutonic suite Casino type intrusions. The work they completed suggests that the best mineralization occurs in fracture zones in the older Dawson Range Batholith, possible above a cupola of a younger aged intrusion.

In 1970, United Keno Hill Mines Ltd., conducted a six hole diamond drill program on it's Mt. Cockfield Co claim group. A total of 4479 feet of NQ core was drilled in six holes. The program targeted Cu-Mo porphyry type mineralization. The program indicated that the Cu-Mo mineralization intercepted in the drill holes was sub-economic.

In 1980, Cominco Ltd. conducted geological mapping and geochemical sampling on its Battle mineral claims. The Battle claims were staked in April 1980 to cover the source area of anomalous heavy mineral concentrate samples collected from the headwaters of Battle Creek, approximately 4 km north of the Rude Creek South tenure. Anomalous Cu and Mo values from contour soil sampling returned values that were sufficiently encouraging to warrant a recommentation for detailed soil sampling, and rock sampling.

In 1985 Kerr Addison Mines Limited conducted a geologica mapping, trenching , and geochemical sampling program on the KOE claims. The KOE claims lay approximately 125 km northwest of Carmacks, in the Dawson Range. The KOE claims lay approximately 2.5 km north of the Rude Creek South tenure. The KOE claims are the site of epithermal Au-Ag mineralization, adjacent to the Mt. Cockfield Cu-Mo occurrence. Float samples from the property returned values as much as 0.33 oz/t Au with 11.1 oz/t Ag, and in one extreme case, a select sample assaying 140 oz/t Ag. Au-Ag, and minor associated base metals are associated with massive quartz-arsenopyrite, in drusy quartz, and in structural breccia zones. Geochemical sampling from the 1985 program outlined a zone of interest some 100-meters by 200-meters in extent. One trench sample from this area returned an assay of 0.12 oz/t Au and 4.9 oz/t Ag over 0.35 meters.

In 1986 Archer, Cathro and Associates worked on the Mt. Cockfield property on behalf of Nordac Mining Corporation. A geochemical survey was conducted in the summer of 1986, and consisted of 10 regional traverses testing the central and southern part of the Mt. Cockfield property. The results indicated that background gold values on the property are very low, on the order of 2 to 3 ppb. A number of results returned values exceeding 50 ppb Au. Some of the best results, ranging up to 305 ppb Au, and situated generally north and south of the KOE shear zone. The local geology and mineralization style is of similar setting to that observed at the Mt. Skukum Complex where epithermal veins have been mined for their precious metal content. Archer, Cathro, and Associates concluded that the geological setting, and geochemically anomalous KOE shear zone the Mt. Cockfield area is considered a favorable target for epithermal precious metal mineralization.

In 1991 Noranda Exploration Company Ltd, completed a geochemical survey comprised of silt, soil, and rock sampling. The samples returned low Au values, and moderately anomalous Cu and Mo values. One rock sample returned a value of 43 ppb Au, 1035 ppm Cu, and 314 ppm Mo. The sample site was located approximately 1.5 km west of Mt. Cockfield, and is close to goechemically anomalous soil samples. Property visits by Noranda Exploration and Placer Dome Inc., in 1991 returned weakly anomalous gold values in both soil and rock samples. The sampling also returned some bismuth anomalies which were encouraging to the companies in light of the recently discovered intrusion-related gold+/-bismuth deposits in Alaska.

In 2001 Prospector International Resources Inc., reported work completed on the EIO claims, and intrusion-related Au prospect located 5 km north of the current extent of the Rude Creek South Tenure. The property was staked as follow-up to the strongly anomalous government geochemistry described above. Work on the property in 1999 and 2000 identified an east-west trending 150-meter by 550-meter Au-in-soil anomaly, defined by the 90^{th} percent value of 38 ppb Au. Gold values reached up to 1254 ppb and 331 ppb Au and were coincident with Bi (up to 39.35 ppm), As (up to 157 ppm) and Ag (up to 3071 ppb). The anomaly is underlain by locally tourminalized and chloritized biotite-horneblende granodiorite.

In 2009 Goldak Airborne Surveys was contracted to carry out an airborne geophysical survey over the Northern Stevenson Ridge Area, NTS 115J/09 and 115J/10. The data was published in YGS Open File 2009-28 and 29.

Geology

Regional Geology

(After B. Jaworski and M. Vanwermeskerken P.Geo, 2001, Johnston, 1995, and Payne et. al., 1987)

The project area occurs within the Yukon Tanana Terrane, which underlies much of the central and western Yukon and east central Alaska. There has been considerable debate as to weather the Yukon Tanana Terrane represents autochthonous North American strata, or a truly allchthonous terrane not directly related to North American margin or both (J.K. Mortensen, 1992). A compilation of the Yukon Tanana Terrane by Wheeler et. Al (1988), considers a large part of the terrane to represent a fragment of displaced North American continental margin.

The Yukon Tanana Terrane consists mainly of a poorly exposed assemblage of polydeformed metamorphic rocks derived from a variety of igneous and sedimentary protolith. The following assemblages, as described by J.O. Wheeler and P. McFeely, 1991, belong to the Yukon Tanana Terrane within the study area, listed from oldest to youngest:

- The Upper Properozoic to Cambrian Nisling assemblage, which represents a metamorphosed passive continential margin assemblage consisting of muscovite-biotite schist, phyllite, slate, micaceous quartzite, marble, skarn, greenstone and amphibolite.
- The Devonian-Missippian Wolverine Creek Metamorphic Suite, which is a partly metamorphosed igneous and sedimentary rocks. It consists of dark grey to black graphitic and micaceous quartzite with interfoliated graphitic, biotite muscovite schist, orthogneiss, quartz diorite, quartz monzonite, amphibolite, marble, and diorite schists.
- The Upper Proterozoic to Triassic Nisutlin subterrane, which consists of cataclastic sediments and volcanics of the pericrantonic Kootney Terrane.

(After Stevenson, 1995)

The Yukon Tanana Terrane has been intruded by four plutonic suites:

1) The mid-Cretaceous Dawson Range Batholith which consists of:

- undifferentiated granitoids, quartz-monzonite, granite, granodiorite, and quartz diorite

2) The late-Cretaceous Prospector Mountain Plutonic Suite which consists of:

- undifferentiated shallow level intrusions, rhyolite, dacite, syenite, andesite, gabbro, and quartz monzonite;
- Casino intrusions are characterized by quartz monzonite, aplite, and breccia pipes;

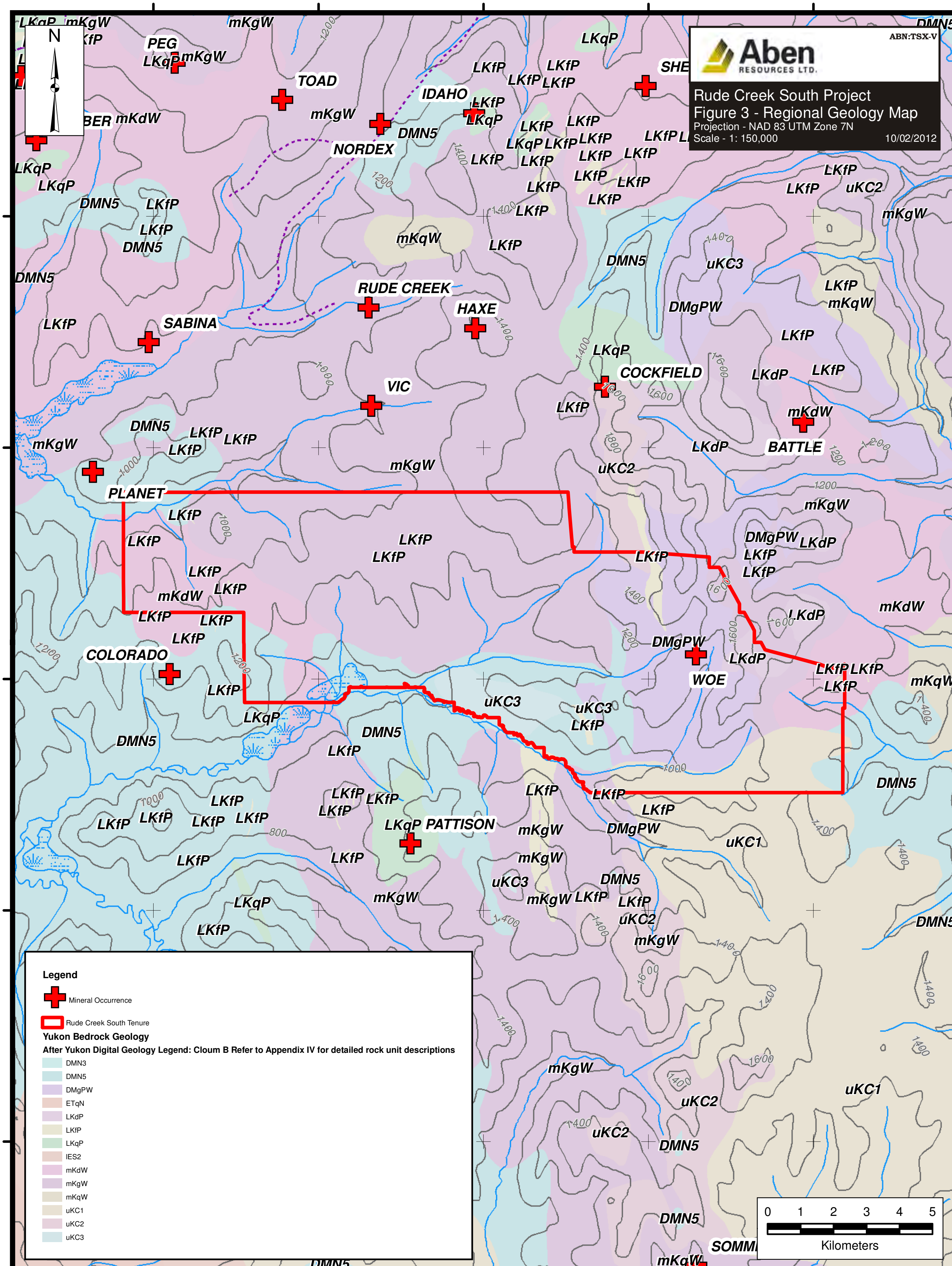
3) The upper-Cretaceous Carmacks Group which consists of:

- undifferentiated intermediate to mafic volcanic flows and pyroclastic deposits, pyroxene porphytitic flows, tuff, massive and vesicular glassy flows, breccia and debris flows, andesitic flows;
- andisite to latite flow, tuff and flow breccia ;

4) The early-Jurassic Minto Plutonic Suite which consists of:

- granodiorite, hornblende-biotite granodiorite to diorite, leucocratic granodiorite

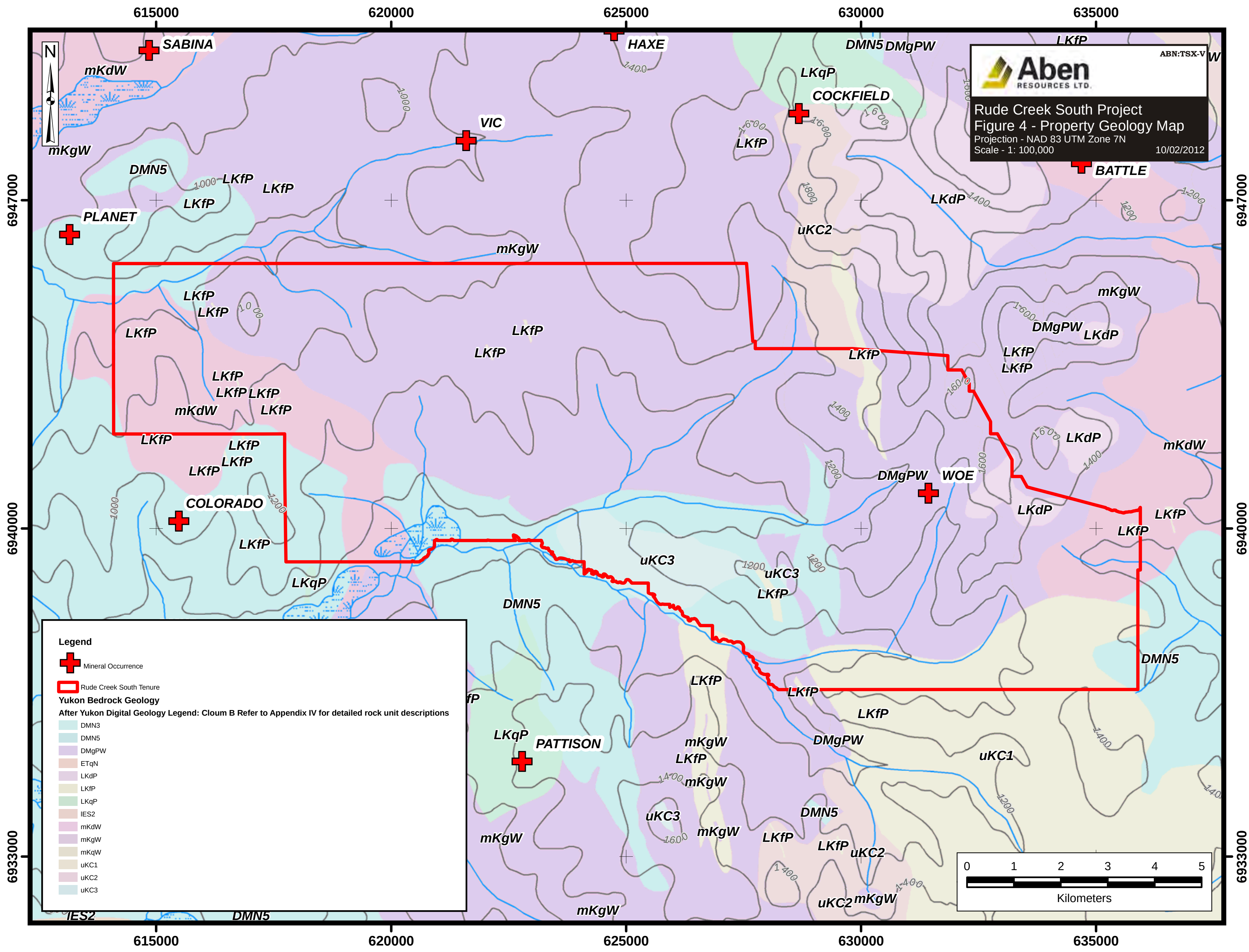
The district contains numerous mineral deposits and occurrences of economic interest. Copper and molybdenum deposits are associated with felsic plutons of at least two ages. Placer gold deposits are derived from lode gold deposits associated with felsic volcanic and sub-volcanic intrusions of the Mount Nansen Suite. Lead-zinc-silver veins are assoicated with late-stage intrusions of the Dawson Range and Prospector Mountain suites. Skarn deposits occur in rocks of the Yukon Metamorphic Complex along borders of younger plutonic rocks.


ABN:TSX-V
Aben Resources Ltd.
Rude Creek South Project
Figure 3 - Regional Geology Map
Projection - NAD 83 UTM Zone 7N
Scale - 1: 150,000
10/02/2012
Legend
Mineral Occurrence
Rude Creek South Tenure
Yukon Bedrock Geology
After Yukon Digital Geology Legend: Cloum B Refer to Appendix IV for detailed rock unit descriptions
DMN3
DMN5
DMgPW
ETqN
LKdP
LKfP
LKqP
lES2
mKdW
mKgW
mKqW
uKC1
uKC2
uKC3
0 1 2 3 4 5
Kilometers
PEG
TOAD
IDAHO
NORDEX
SHE
RUDE CREEK
HAXE
SABINA
COCKFIELD
VIC
BATTLE
PLANET
COLORADO
WOE
PATTISON
SOMM
615000
620000
625000
630000
635000
6954000
6947000
6940000
6933000
6926000

Property Geology

(After Condor Consulting, 2011, Open File 1995-2 (G) Stevenson, 1995)

Mid-Cretaceous granodiorite of the Dawson Range Batholith is the most common lithology mapped on the property. The western margin of the property is underlain by Cretaceous quartz diorite, and Cretaceous-Tertiary stocks of porphyritic felsite, which are interpreted to be part of the Prospector Mountain Suite. The eastern margin of the property is underlain by Devonian Orthogneiss of the Nasina Formation, Cretaceous-Tertiary stocks and apotheses of porphyritic felsite from the Prospector Mountain Suite, Cretaceous volcanics of the Carmacks Group in the SE corner, and Cretaceous gabbro of the Prospector Mountain Group in the NE corner of the property. Cretaceous sediments of the Carmacks Group have been mapped in the south central property area, as well as undifferentiated mica schist and quartzite of the Devonian Wolverine Creek Metamorphic Suite. Devonian quartzites of the Nasina Formation have been mapped in the northwest, southwest and southeast of the property. Detailed descriptions of the rock units appearing on Figure 4 are included in Appendix IV of the Condor Report.



615000
620000
625000
630000
635000
6947000
6940000
6933000
N
SABINA
HAXE
VIC
COCKFIELD
PLANET
BATTLE
WOE
COLORADO
PATTISON
ABN:TSX-V
Aben
RESOURCES LTD.
Rude Creek South Project
Figure 4 - Property Geology Map
Projection - NAD 83 UTM Zone 7N
Scale - 1: 100,000
10/02/2012
Legend
Mineral Occurrence
Rude Creek South Tenure
Yukon Bedrock Geology
After Yukon Digital Geology Legend: Cloum B Refer to Appendix IV for detailed rock unit descriptions
DMN3
DMN5
DMgPW
ETqN
LKdP
LKfP
LKqP
lES2
mKdW
mKgW
mKqW
uKC1
uKC2
uKC3
0
1
2
3
4
5
Kilometers

2011 Exploration Program

The 2011 Rude Creek South exploration program consisted of the following:

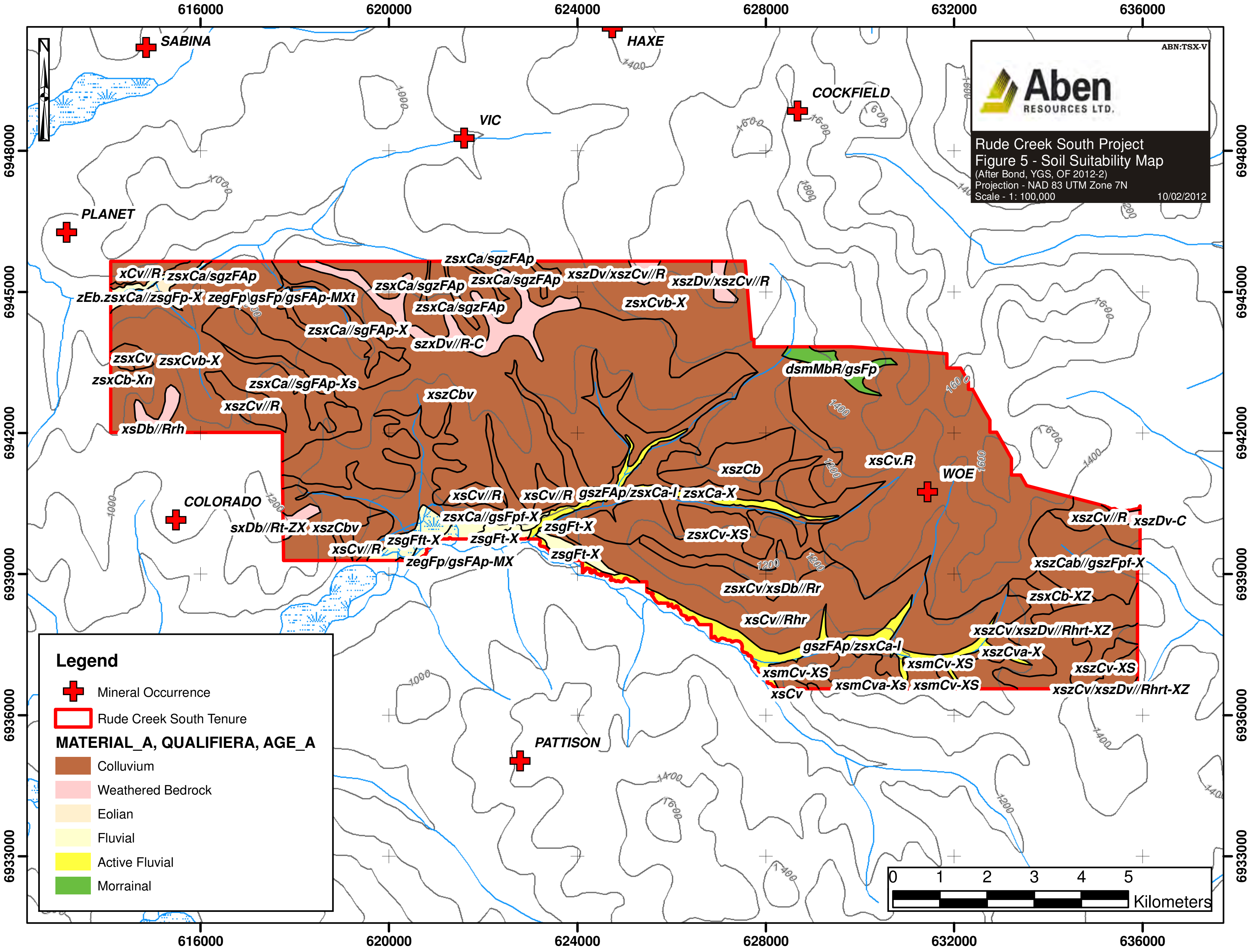
- Historic report research and data acquisition;
- Re-processing and interpretation of the Rude Creek South magnetic and radiometric data, which is a subset from the North Stevenson Ridge, Yukon, magnetic dataset. Condor Consulting from Lakewood, CO, USA were contracted to process and interpret the Rude Creek South geophysical data;
- Soil suitability mapping for the property was provided by Jeff Bond of the Yukon Geological Survey .

Total expenditures for the 2011 exploration program were $12,056.76; see Appendix II for a detailed description of costs incurred during the exploration program.

Soil Suitability Study

(after Bond, J.D. and Lipovsky, P.S., 2012)

A desktop soil classification was completed for the Rude Creek South tenure area by Jeff Bond of the Yukon Geological Survey. The purpose of the survey was to classify the various soil types on the property, and to help determine the ideal soil depth and technique for conducting geochemical soil surveys. The map that was produced indicates that the property is for the most part un-glaciated, yielding favorable ground conditions for soil sampling. Over 90 % of the property area is covered by colluvium, which by definition indicates that soil transport occurs locally under the force of gravity -driven processes of creep, solifluction, landslides, and snow avalanches. The soil structure is largely dependant on parent material. Weathered bedrock and loess typify upland colluvium deposits, and are generally poorly stratified, and silt rich. Steep surfaces are often comprised of coarse, angular rock fragments derived from rockfalls, and avalanches. Shallow surfaces are comprised of finer grained colluvium. Ridge tops across the northeastern region of the property are comprised of weathered bedrock. Decomposition of the bedrock varies depending on the various mechanical and chemical weathering processes affecting the region. Topographic lows are characterized by deposits of fluvial and organic sediments. These deposits have been transported in recent times (Holocene) by streams and rivers, and are deposited in floodplains and/or fans. The fluvial deposits consist of well-sorted, and rounded sands and gravels. It is recommended that a series of soil profile pits be studied for each target area before the soil surveys are underway to establish targeted soil horizons, and effective sampling techniques. Refer to figure 5 (after Bond, J.D. and Lipovsky, P.S., 2012.), and appendix V to review the soil classification map for the Rude Creek South tenure.


Rude Creek South Project
Figure 5 - Soil Suitability Map
(After Bond, YGS, OF 2012-2)
Projection - NAD 83 UTM Zone 7N
Scale - 1: 100,000
10/02/2012
Aben RESOURCES LTD.
ABN:TSX-V
Legend
Mineral Occurrence
Rude Creek South Tenure
MATERIAL_A, QUALIFIERA, AGE_A
Colluvium
Weathered Bedrock
Eolian
Fluvial
Active Fluvial
Morrainal
0 1 2 3 4 5
Kilometers
SABINA
HAXE
COCKFIELD
VIC
PLANET
COLORADO
WOE
PATTISON
616000
620000
624000
628000
632000
636000
6948000
6945000
6942000
6939000
6936000
6933000
xCv//R
zsxCa/sgzFAp
zEb.zsxCa//zsgFp-X
zegFp\gsFp/gsFAp-MXt
zsxCa/sgzFAp
xszDv/xszCv//R
xszDv/xszCv//R
xszCvb-X
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zsxCv
zsxCvb-X
zsxCb-Xn
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xszCv//R
xszCbv
xsDb//Rrh
dsmMbR/gsFp
xszCb
xsCv.R
xsCv//R
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zsgFt-X
zsxCv-XS
xszCv//R
xszDv-C
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zsxCb-XZ
xsCv//Rhr
xszCv/xszDv//Rhrt-XZ
gszFAp/zsxCa-I
xszCva-X
xsmCv-XS
xsmCv-XS
xszCv-XS
xsmCva-Xs
xsmCv-XS
xsCv
xszCv/xszDv//Rhrt-XZ

Geophysics Interpretation

(Conclusions derived from Condor Report)

The Rude Creek Tenure magnetic dataset, a subset of the North Stevenson Ridge 100 m gridded data, was assessed along with coincident DTM and radiometric data, and the available mapped geology. The assessment resulted in the identification of 32 discrete TA anomalous picks ranked low, moderate, and high priority based on magnetic response amplitude and TA location, local geology, and physiographic location. Five recce sites were also identified, RS1-RS5 that are groupings of the 32 TA picks. RS1, RS2, and RS3 are ranked higher priority for field follow up.

RS1 in the tenure south central area is a zone of higher magnetization centered on the eastern banks of a stream channel. The higher magnetization straddles the stream, encompassing both its eastern and western banks-valley slopes. The magnetic signature also straddles two mapped lithologies, a sedimentary sequence on the south, and granodiorite on the north. RS2 is an area of mapped porphyry on the tenure NW. The background rocks are granodiorite and quartz diorite. A group of several discrete higher magnetization signatures define RS2; the provided RS outlines can be used to guide field recce.

RS3 is defined by a group of higher magnetization signatures in the eastern half of the tenure, the common background geology is orthogneiss. The highest amplitude magnetic signature is located on a gabbro-capped mountain peak. Porphyry has also been mapped in RS3, and this recce site has the highest radiometric response.

Recce sites RS4 and RS5 have higher TA angle signatures located in volcanic and granodioritic rocks respectively. Though they are ranked lower priority than RS1, RS2, and RS3, they may also warrant field follow-up as their magnetic signatures are higher amplitude than the magnetic background response. RS4 has an associated higher K response that may be reflecting the mapped volcanic lithology, and RS5 has a higher overall radiometric response coincident with mapped granodiorites.

A full detailed report of the processing and interpretation of the geophysical and geologic data with maps for the Rude Creek South Property is provided in Appendix III.

CONCLUSIONS

The following conclusions can be drawn from the 2011 exploration program:

- Historic work in the Rude Creek, and Mt. Cockfield areas, north of the Rude Creek South property have focused on exploring the potential of Cu-Mo porphyry mineralization, epithermal Au-Ag mineralization, and vein hosted Ag-Pb-Zn+/-Au mineralization.
- The assessment of the re-processed geophysical data resulted in the identification of 32 discreet anomalies that have been ranked based on magnetic response amplitude, local geology, and physiographic location. Five recce sites were also identified, and ranked based on their priority for field follow-up.
- The desktop assessment of soil suitability indicates that a large part of the Rude Creek South property has soil conditions favorable for geochemical sampling.

RECOMMENDATIONS

An exploration program is recommended for the Rude Creek South property. The objective of the fieldwork will be to ground-truth selected geophysical anomalies, and conduct targeted geochemical surveys over the property area.

The recommended exploration program will include:

- Obtaining an orthorectified air photograph for the Rude Creek South area. The photo will be used to conduct a detailed pre-field topographic study of the property.
- Continued data compilation
- Detailed RGS silt data review and classification
- Prioritize soil/silt/prospecting areas by reviewing the geophysical interpretation and soil suitability map
- A field program consisting of geological mapping, prospecting, and geochemical surveys including: Infill silt sampling, ridge/spur and/or targeted soil sampling, geologic mapping, and prospecting.

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Yukon Geological Survey Open File 2009-28 and 2009-29.

Appendix I – Statement of Qualifications

STATEMENT OF QUALIFICATIONS

I, Michael A. McCuaig, B. Sc. Do hereby certify that:

I am currently employed as a Geologist, with TerraLogic Exploration Inc. with business address: Suite 200, 44-12th Avenue South, Cranbrook, BC, V1C 2R7.

I graduated with a Bachelor of Science Degree from St. Francis Xavier University in 2003.

I have worked as a geologist for five years since my graduation from university.

I have authored the assessment report titled "Assessment Report for the Rude Creek South Property Whitehorse Mining District NTS Map Sheets 115J09 and 115J10" on behalf of Aben Resources Ltd, Suite 2230 - 885 West Georgia Street Vancouver, BC V6C 3E8.

I am a full time employee with TerraLogic Exploration Inc. since June 1st, 2011 and currently hold no shares of Aben Resources Ltd.

Dated this 13th day of February 2012, in Cranbrook, British Columbia.

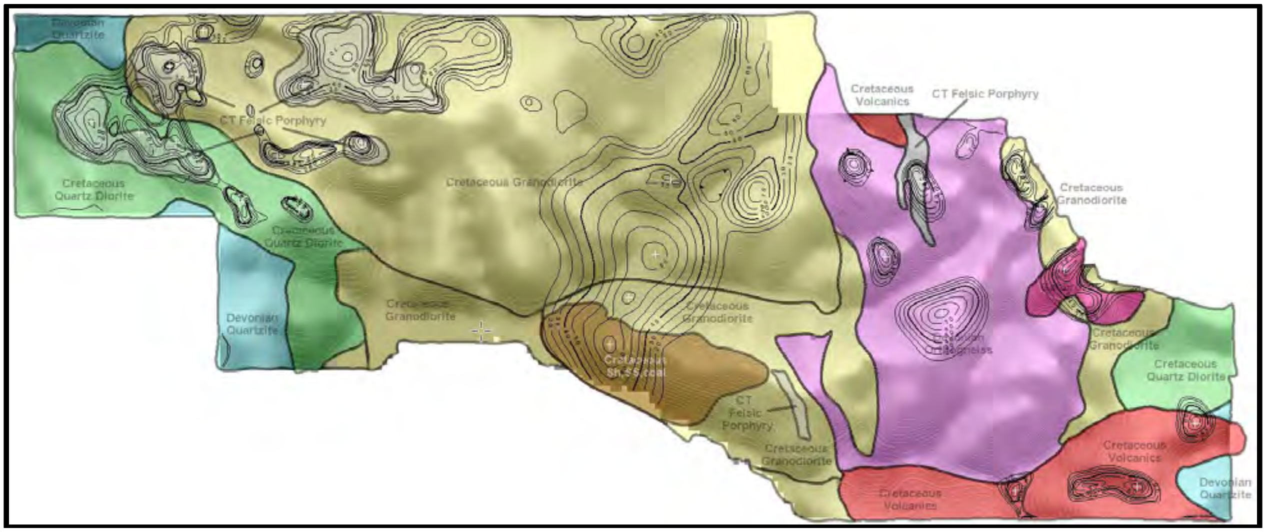
Michael A. McCuaig

Appendix II – Statement of Expenditures

2011 Rude Creek Expenditures					
Exploration Work type	**Comment**	**Days**			**Totals**
Office Studies	**List Personnel**				
Report preparation	Mike McCuaig, Geologist and GIS	3.1	$525.00	$1,627.50	
Report preparation	Aaron Higgs, Report Manager	0.2	$625.00	$125.00	
				$1,752.50	**$1,752.50**
Contractors and Subcontractors					
Geophysical - Condor Consulting	Regional Geophysical/Geological data processing and Interpretation			$8,960.23	
				$8,960.23	**$8,960.23**
TerraLogic Exploration Handling and Adminstration Fees on 3rd Party Disbursements					
				$1,344.03	**$1,344.03**
TOTAL Expenditures					**$12,056.76**

Appendix III – Geophysical Report

Processing and Interpretation of the Rude Creek Magnetic and Radiometric Data, Yukon, Canada



Higher Magnetic Tilt Angle Contours on Geology, Draped on DTM

Condor Consulting
Lakewood, CO USA

Contents

Introduction

This report covers the processing and basic interpretation of the Rude Creek tenure magnetic data that is a subset of the North Stevenson Ridge, Yukon, magnetic dataset. The regional radiometric data is also assessed. The Rude Creek tenure is held by Aben Resources Ltd. and the exploration program is managed by TerraLogic Exploration Inc. The property is located approximately 25 km south of an E-W stretch of the Yukon River and is centered on the NAD 83 UTM Zone 7N coordinate 625000 E 694100 N.

Regional Magnetic Setting

The Rude Creek magnetic data is a subset of the 400 m spaced North Stevenson Ridge survey that was gridded using 100 m cells. The regional setting of the Rude Creek tenure is seen below in Figure 1, with the tenure boundary the white outline. The Rude Creek tenure resides approximately 20 km south of a significant geologic terrane bounding magnetic linear, probably a fault, that is not identified on the available 1:250,000 geologic map of the area. The 1:250,000 geologic map identifies unfaulted supracrustal rocks over the magnetic break. The magnetic break is approximately 5 km south of the Yukon River, and appears to be the Tintina Fault Zone. The Rude Creek area is characterized by smaller, complex linear magnetic signatures that bound magnetic sub-terranes with variable magnetic textures. These magnetic linears may be faults that bound fault blocks, thrust sheets, and different lithologies in the area.

Local Geologic Setting

There is some geologic variability across the Rude Creek tenure. The 1:250,000 regional geology map was slightly modified for the area and is seen below in Figure 2. The main modifications are the truncation of geologic units on the map edges so that mapped units fit Figure 2, and the use of magnetic response data to possibly better map the Cretaceous-Tertiary Felsic Porphyry rocks on the grid NW. The Cretaceous granodiorites (yellow) are the most commonly mapped lithology on the property. Cretaceous quartz diorite (green) dominates the W tenure, and Devonian orthogneiss (light purple) dominates the E tenure. Cretaceous volcanics (red) are mapped on the grid SE. Cretaceous-Tertiary gabbro (magenta) crops out on an E tenure mountaintop. A Cretaceous shale and sandstone sequence (brown) is mapped in the S-central tenure. Devonian quartzite (blue) is found on the tenure NW, SW, and SE. Cretaceous-Tertiary felsic porphyry crops out at scattered locations across the tenure area.

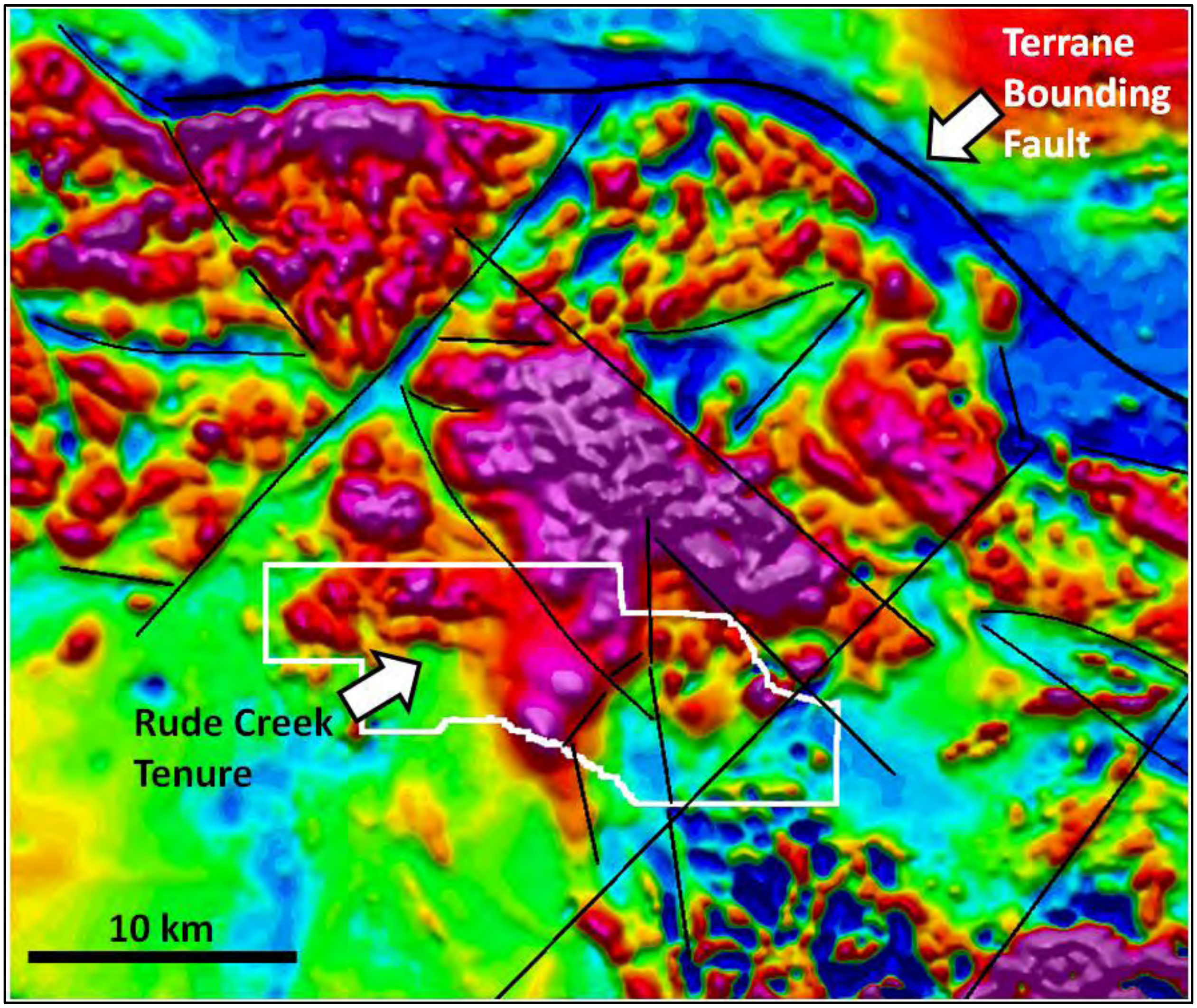


Figure 1. Basic regional magnetic linear interpretation of the Rude Creek Tenure area. Background image is the TMI residual magnetics.

Topography

The tenure area covers significant topography, with over 1100m of relief (Figure 3). Topography can effect both magnetic and radiometric responses and subsequent interpretation when there is variable terrain clearance over a survey area. The most common topographic effect is the attenuation of magnetic responses and radiometric ppm or percentages over steeper and deeper valleys where terrain clearances are often greatest.

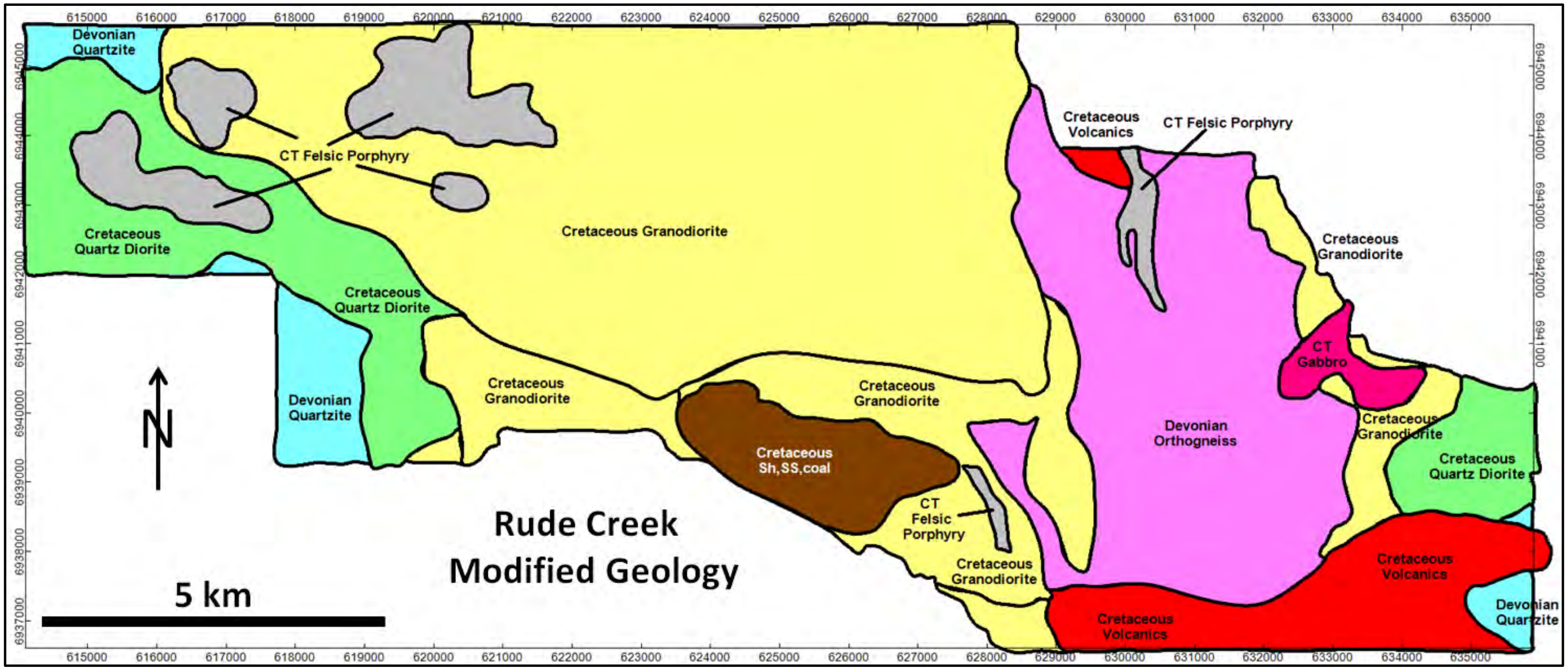


Figure 2.Geology map of the Rude Creek tenure area, modified from the Yukon 1:250,000 geology map.

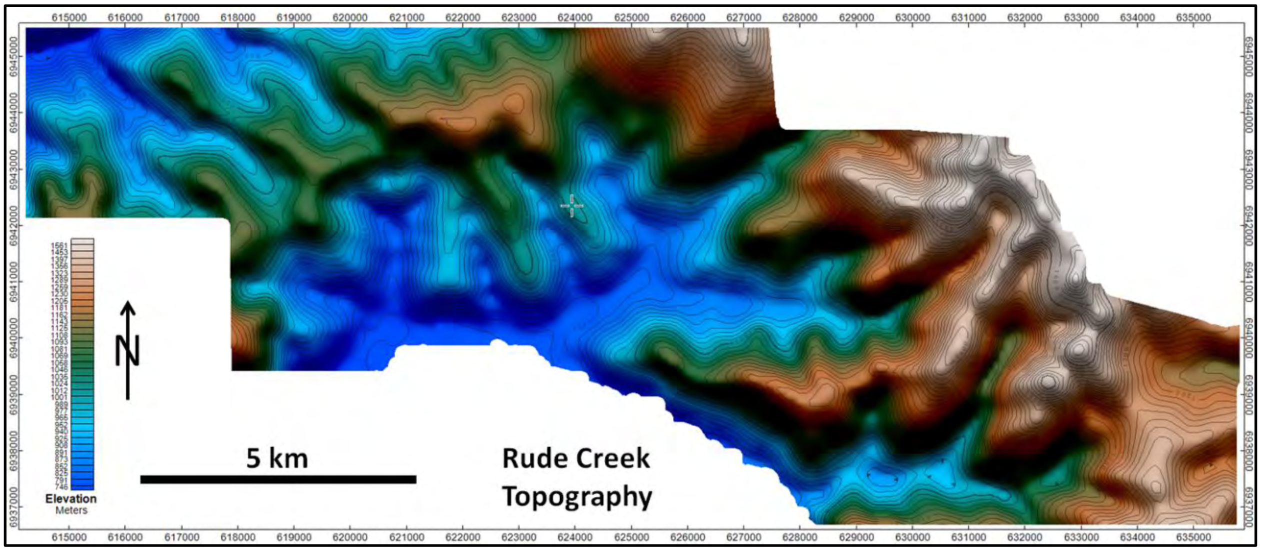


Figure 3. Rude Creek topographic relief.

Magnetic Data Processing

The magnetic data was obtained as total magnetic intensity (TMI), residual TMI, and 1st vertical derivative (1VD) 100 m grids. The grids are projected using the NAD83 UTM zone 7N projection system. The TMI grid was subsequently filtered to reduced-to-pole (RTP), RTP-1VD, and magnetic tilt angle (TA) grids. Pitney Bowes ***Profile Analyst*** was used for the magnetic filtering; a discussion of the filters is presented in Appendix A.

Radiometric Data Processing

The radiometric data used is regional 400 m gridded potassium (K) percent and uranium (U) and thorium (Th) ppm. The three radioactive element isotopes are plotted as a KUTH ternary image, and K percentages are plotted as a grid. Elevated K percentages may be an indicator of porphyry alteration systems.

Magnetic and Radiometric Interpretation

The magnetic interpretation which is thought to be more significant precedes the radiometric interpretation. The gridded outcomes are draped on topography to help place the anomalous geophysical signatures.

Figure 4 is a drape of the RTP grid on topography. Four higher-amplitude magnetic signatures stand out, the 1st highest amplitude response “1” over the gabbro-peaked mountain on the tenure east, the 2nd a larger high amplitude response “2” on the northern granondiorite peaks, the 3rd a broad higher amplitude response “3” that straddles both granodiorite and sedimentary sequences in a lower elevation drainage and its surrounding higher elevation valley flanks, and a 4th RTP response “4” in an area of mapped porphyry rocks.

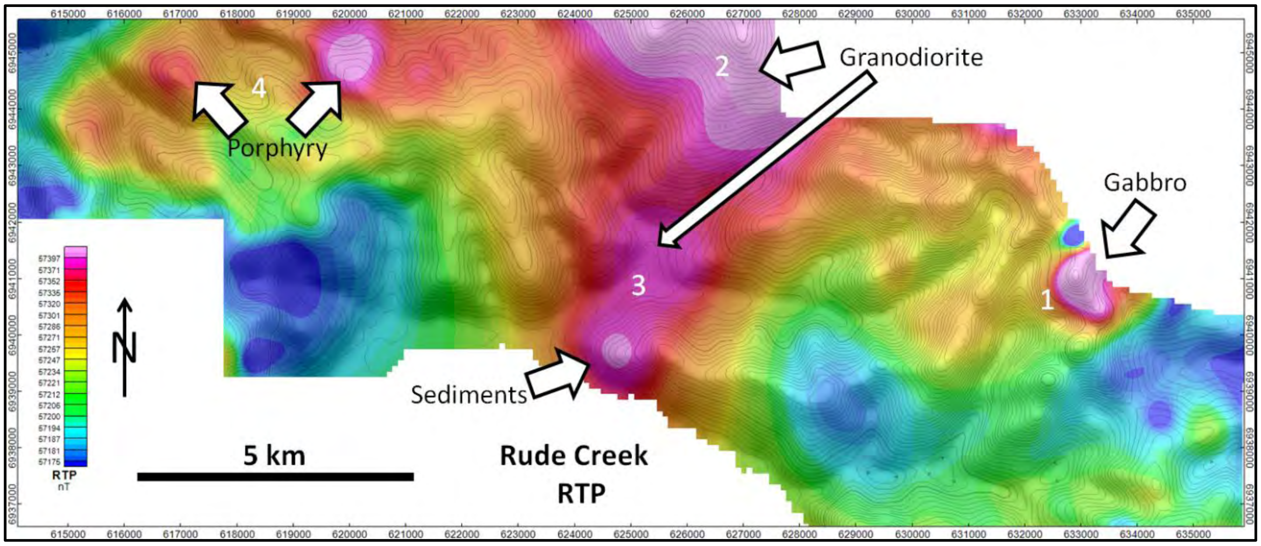


Figure 4. RTP draped on topography. RTP anomaly sites 1-4 are discussed in the text.

Figure 5 is a drape of the RTP-1VD image on topography. This map focuses the higher amplitude, more anomalous magnetic responses into higher resolution discrete signatures. The gabbro remains an anomalous magnetic high at site 1, but at least eight other discrete RTP-1VD high responses are now noted on the east of the grid. The broad response at site 2 has split in two, and forms an arcuate higher amplitude signature that opens to the SW, and that has dropped out over the steep drainage channel on the south mountainside. The RTP signature at site 3 has also come more into focus, forming a figure-8 signature with a higher amplitude RTP-1VD lobe on the more-northern granodiorites, and a 2nd higher amplitude lobe on the more-southern sediments. The long-axis of the figure-8 signature is coincident and parallel with a stream channel that in itself is interesting and somewhat unusual as most of the higher amplitude magnetic signatures are on higher elevation mountaintops or ridge crests. Lastly, the RTP signature at site 4 has split up into at least six discrete RTP-1VD signatures in an area of mapped porphyry rocks.

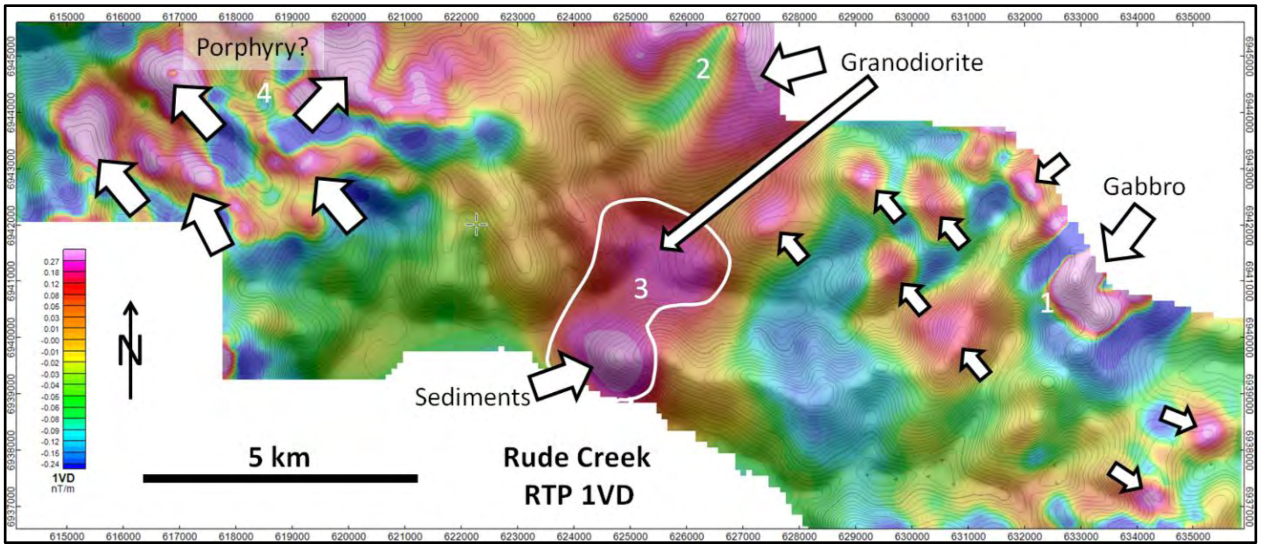


Figure 5. Drape of RTP-1VD image on topography. The four broader RTP signatures have become more focused, discrete and numerous RTP-1VD signatures.

Figure 6 is a basic interpretation of the TA. The TA further focuses the original TMI response down to more discrete magnetic source locations, where higher angles (closer to 90 degrees) should be located over the magnetic sources. The peak TA values in degrees were picked from the TA plan returning 32 discrete locations that when grouped together by outlining returns the five reconnaissance (recce) site (RS) locations seen in Figure 6. The table of 32 TA picks is seen in Appendix B.

The highest priority grouping is “RS1” that is comprised of five TA picks. The larger RS1 magnetic zone encompasses a stream channel and the river banks or valley slopes that bound it, particularly the slopes on the east of the river channel. The stream channel magnetic zone encompassed by TA numbers greater than zero is large, at approximately 4 km NNE-SSW x 3 km ESE-WNW. The magnetic zone also crosscuts the sedimentary unit on the south. It is not known if this magnetic signature is related to alteration, but its size, location in a stream channel, its straddling two different mapped lithologies, and its straddling different topographic elevations makes it the highest priority RS for follow-up.

The 2nd highest priority grouping of TA picks is “RS2” on the tenure NW. Mapped felsic porphyry rocks are scattered throughout this area, and the TA returns at least seven irregular groupings of higher angle TA values. The RS outlines in this area can be used as a guide for any field recce traverses.

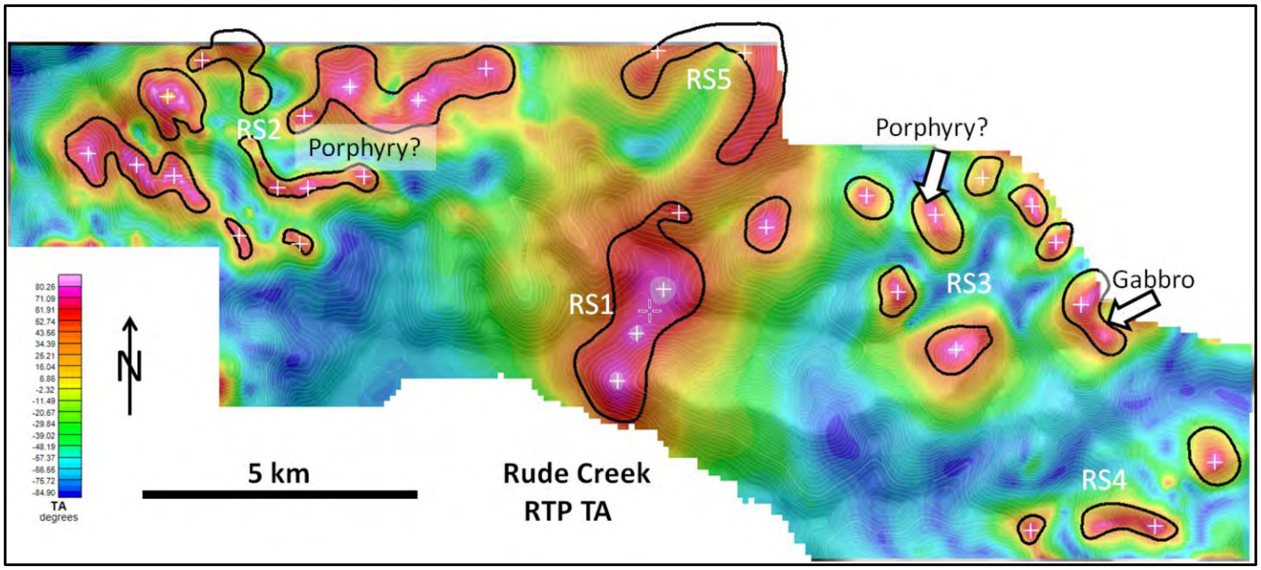


Figure 6. TA image with 32 higher angle TA picks as crosses. The black outlines enclose groups of higher angle TA picks or individual picks and their larger TA signatures. Recce sites RS1-RS5 are proposed groupings of higher TA that may warrant follow-up field investigation as to their magnetic sources.

The 3rd highest priority TA pick grouping is comprised of the eight outlines that define "RS3" on the east half of the tenure. The mapped gabbro peak returns the highest amplitude magnetic response on the tenure, so is ranked low priority as it is unlikely that the gabbro is mineralized. The eastern half of the tenure returns the highest radiometric responses though, as shown in Figures 7 and 8. As higher K percentages are located in RS3, and as most of the TA outlines reside in mapped orthogneiss and granodiorite and not gabbro, the nine outlined TA picks in RS3 may warrant further recce follow-up. Perhaps the most interesting RS3 signature is the "Porphyry?" one pointed out by the arrow. This signature is coincident with mapped porphyry. Porphyries can be associated with elevated K-percentages due to potassic alteration, though it is unknown at this point if this is the case at RS3.

The recce site ranked 4th is "RS4" on the tenure SE. The higher TA angles enclosed by the three outlines occur in mapped volcanic rocks that have K percentages elevated above background, though the elevated K-percentages are lower amplitude than those on the mountain peaks to the NNW in RS3 that include the gabbro and granodiorite. The eastern and western RS4 outlines straddle or are close to volcanic contacts with quartz diorite (east) and orthogneiss (west).

The 5th and lowest priority recce site of higher TA is U-shaped "RS5" located on the north of the tenure on two mountain peaks separated by a steep southward drainage. The mountain peaks were picked as they may present landing sites for a helicopter, as the mountain slopes enclosed by the U-shaped TA outline may be too steep to land on or access. The Rude Creek tenure outline truncates the northern closure of the U-shaped TA response. The RS5 mountain peaks have elevated K-percent, though not as high as those seen in RS3. The table below Figure 8 lists the five RS and their attributes.

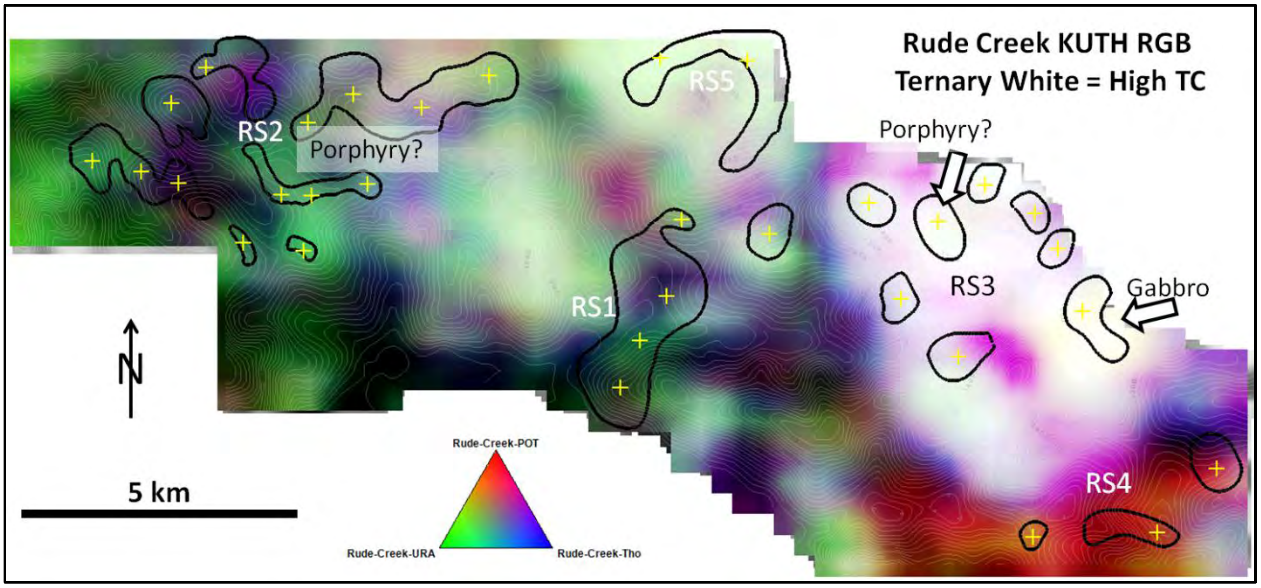


Figure 7. KUTH RGB, white areas are higher cumulative radioelement ppm (U, TH) or percentages (K). Large annulus-shaped higher percentage radiometric signature located at RS3 includes mapped porphyry and gabbro. K=red, U=green, Th = blue.

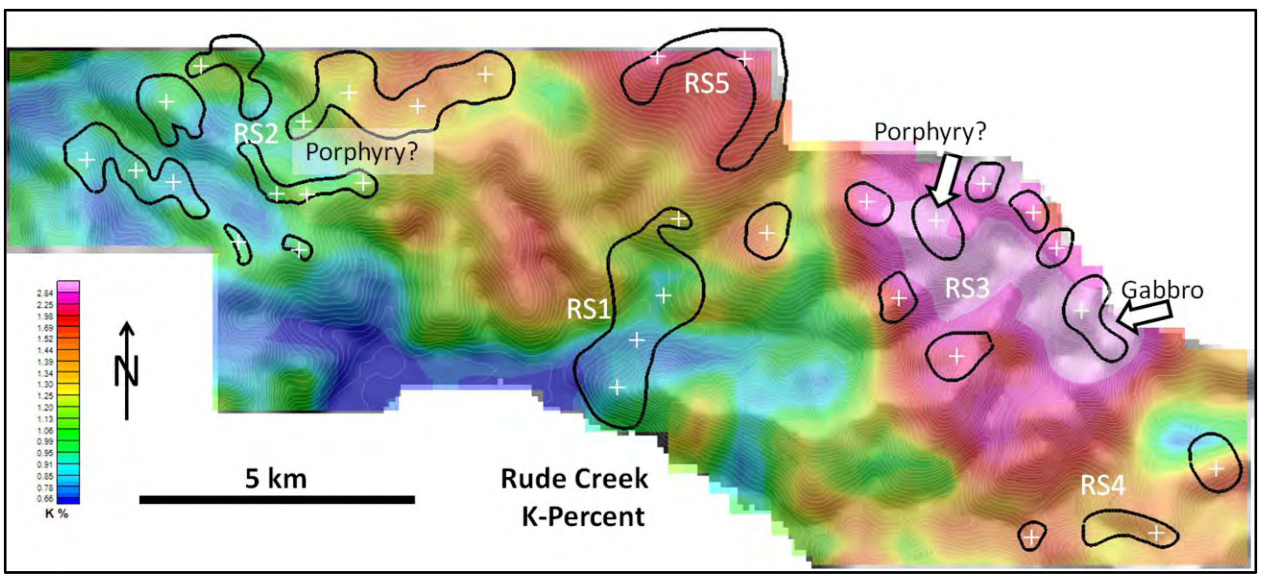


Figure 8. Potassium concentration map. Higher K % located at RS3, with porphyry and gabbro, and RS5 which are high mountain peaks.

Table of Reconnaissance Sites

Recce Site	Enclosed TA Picks	Priority	Notes
RS1	TA1,TA2,TA3,TA4,TA29	1	Larger RTP high centered on stream channel and eastern bank, straddles sedimentary sequence and granodiorites
RS2	TA17,TA18,TA19,TA20, TA21,TA22,TA23,TA24,TA25,TA26,TA27,TA28,TA30, TA31	2	Discrete RTP-1VD highs in area of mapped felsic porphyry surrounded by granodiorite
RS3	TA5,TA6,TA7,TA8,TA12,TA13,TA14,TA32	3	Discrete RTP-1VD highs in zone of higher radiometric response over an orthogneiss, with one mapped porphyry
RS4	TA9,TA10,TA11	4	Discrete RTP-1VD highs in mapped volcanics
RS5	TA15,TA16	5	Higher RTP-1VD response with elevated radiometric response on granodiorite mountain peaks

The higher TA angles can be contoured and draped on the geologic map that in turn can be draped on topography. The result is seen in Figure 9. The five recce sites are plotted, with the three higher priority sites pointed out by the arrows. The TA contours are an alternative to the simpler TA outlines seen in Figures 6-8. Large format plates of the RTP-1VD and TA magnetic, K radiometric, and geology are provided as georegistered maps, snapshots of these are seen in Appendix C.

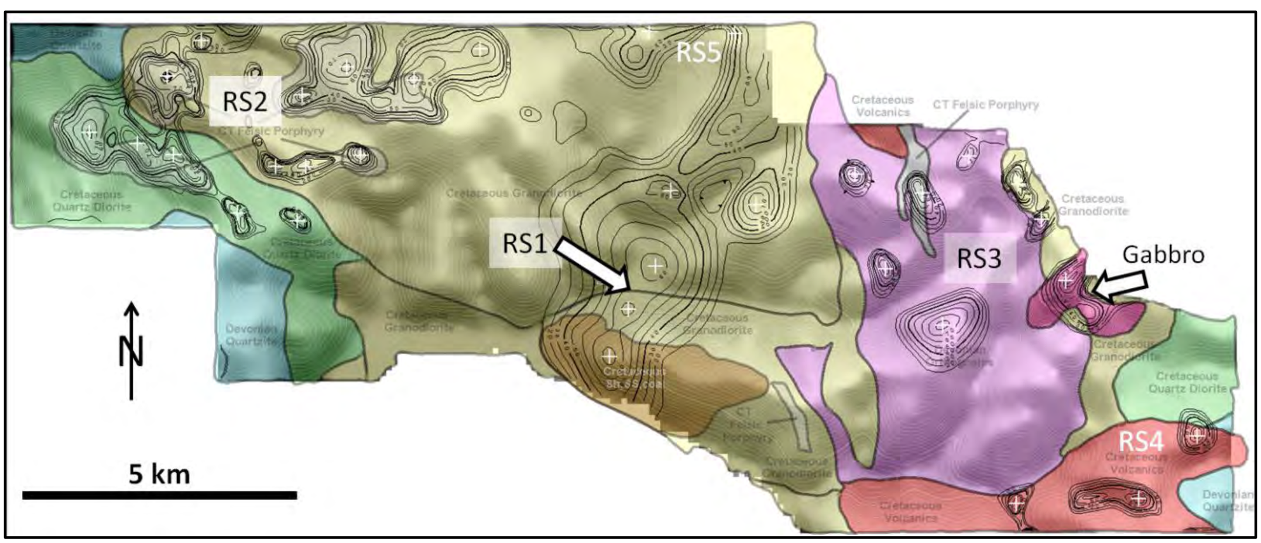


Figure 9. Higher angle TA signature contours on the geology map that is draped on the topographic surface.

Conclusions

The Rude Creek Tenure magnetic dataset, a subset of the North Stevenson Ridge 100 m gridded data, was assessed along with coincident DTM and radiometric data, and the available mapped geology. The assessment resulted in the identification of 32 discrete TA anomalous picks ranked low, moderate, and high priority based on magnetic response amplitude and TA location, local geology, and physiographic location. Five recce sites were also identified, RS1-RS5 that are groupings of the 32 TA picks. RS1, RS2, and RS3 are ranked higher priority for field follow up.

RS1 in the tenure south central area is a zone of higher magnetization centered on the eastern banks of a stream channel. The higher magnetization straddles the stream, encompassing both its eastern and western banks-valley slopes. The magnetic signature also straddles two mapped lithologies, a sedimentary sequence on the south, and granodiorite on the north.

RS2 is an area of mapped porphyry on the tenure NW. The background rocks are granodiorite and quartz diorite. A group of several discrete higher magnetization signatures define RS2; the provided RS outlines can be used to guide field recce.

RS3 is defined by a group of higher magnetization signatures in the eastern half of the tenure, the common background geology is orthogneiss. The highest amplitude magnetic signature is located on a gabbro-capped mountain peak. Porphyry has also been mapped in RS3, and this recce site has the highest radiometric response.

Recce sites RS4 and RS5 have higher TA angle signatures located in volcanic and granodioritic rocks respectively. Though they are ranked lower priority than RS1, RS2, and RS3, they may also warrant field follow-up as their magnetic signatures are higher amplitude than the magnetic background response. RS4 has an associated higher K response that may be reflecting the mapped volcanic lithology, and RS5 has a higher overall radiometric response coincident with mapped granodiorites.

Respectfully Submitted,

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Condor Consulting
November 30, 2011

Appendix A. Notes on Magnetic Processing

New enhancement filters for geological mapping

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SUMMARY

Two types of filters have been developed for the purpose of enhancing weak magnetic anomalies from near-surface sources while simultaneously enhancing low-amplitude, long-wavelength magnetic anomalies from deep-seated or regional sources. The Edge filter group highlights edges surrounding both shallow and deeper magnetic sources. The results are used to infer the location of the boundaries of magnetised lithologies. The Block filter group has the effect of transforming the data into "zones" which, similar to image classification systems, segregate anomalous zones into apparent lithological categories. Both filter groups change the textural character of a dataset and thereby facilitate interpretation of geological structures.

The effect of each filter is demonstrated using theoretical model studies. The models include both shallow and deep sources with a range of magnetisations. Comparative studies are made with traditional filters using the same theoretical models. In order to simulate real conditions, Gaussian noise has been added to the model response. Techniques for noise reduction and geological signature enhancement are discussed in the paper.

The new approaches are applied to actual magnetic survey data covering part of the Goulburn 1:100 000 scale map sheet area, New South Wales. Some new geological inferences revealed by this process are discussed

Key words: Enhancement filters, magnetic sources, geological mapping.

INTRODUCTION

High-resolution aeromagnetic survey data represent a rich source of detailed information for mapping surface geology as well as for mapping deep tectonic structure. Traditional enhancement techniques, such as first vertical and horizontal derivatives (1VD, 1HD), analytic signal (AS), and high-pass in-line or grid filters are used in enhancing magnetic anomalies from near-surface geology.

In recent years the potential field tilt filter has been introduced (Miller and Singh, 1994) and it has achieved recognition for its value in the analysis of potential field data for structural mapping and enhancement of both weak and strong magnetic anomalies (Verduzco *et al*, 2004). The total horizontal derivative of the TMI reduced to the pole is also widely used for detecting edges or boundaries of magnetic sources (Cordell and Grauch, 1985; Blakely and Simpson, 1986; Phillips, 1998).

Several disadvantages pertain to the use of these traditional filters. They often only diffusely identify source location and boundaries, particularly in colour image presentations. They usually emphasise short wavelength anomalies at the expense of signal from deeper magnetic sources and the range of amplitudes remaining in the filtered output may dominate the source boundary information being sought. In addition, some traditional filters emphasise noise with resultant impact on the interpretation of source boundaries.

This paper identifies new processes which have been developed to address these disadvantages and provide output which can improve map-based interpretations.

Unless otherwise stated, all filters have been operated on TMI data reduced to the pole (RTP).

METHOD AND RESULTS

Theoretical Model Testing

A theoretical 2D grid of total magnetic intensity (TMI) computed at the surface was created by forward 3D modelling of the TMI response from a set of theoretical magnetic sources having variable width, strike extent, depth, depth extent (DE), dip, magnetic susceptibility and strike azimuth. A list of these parameters is presented in Table 1. In two of the sources, remanence was simulated using negative magnetic susceptibility. The TMI of the theoretical models was computed at a geomagnetic inclination of -60 degrees using a notional east–west line spacing of 200 m and a grid cell size of 40 m. The TMI grid was then reduced to the pole (RTP) (Figure 1).

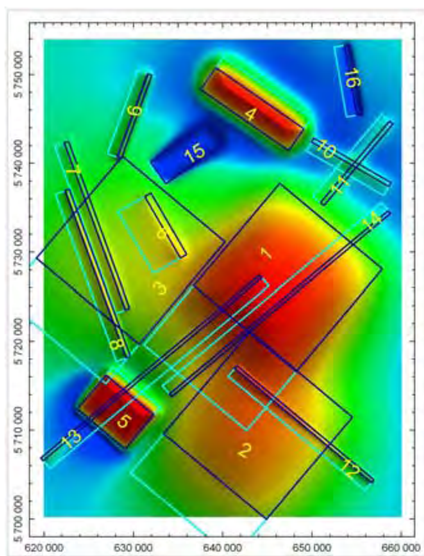

Figure 1. RTP image derived from multiple theoretical 3D magnetic sources, shown as wire frame outlines

A set of traditional filters was operated on the theoretical RTP grid. They include AS, 1VD, modulus of horizontal derivatives (MS) and Tilt and the results are presented in

Figure 2. The output grids variously show discontinuous trending (crossed sources in upper right of AS image), diffuse, weak edges (deep source in centre right of the MS image) and lack of precise source edge definition (1VD and Tilt).

Model Label	Depth (m)	Width (m)	DE (m)	Dip (deg)	Magnetic Susceptibility (SI)	Strike Length (m)	Azimuth (deg)
1	4000	15000	15000	120	0.010	15000	-050
2	6000	15000	10000	120	0.010	15000	-050
3	10000	15000	10000	120	0.010	15000	-050
4	1000	3000	4000	70	0.010	12000	-055
5	500	5000	2000	60	0.010	7000	-050
6	1000	800	2000	150	0.005	8000	-030
7	600	500	2000	120	0.001	20000	-020
8	200	500	2000	120	0.001	20000	-020
9	500	500	2000	120	0.003	10000	020
10	1000	500	2000	120	0.003	10000	-060
11	1000	500	2000	120	0.003	12000	040
12	200	400	2000	120	0.001	20000	-050
13	500	400	1000	40	0.002	32000	050
14	500	400	1000	140	0.001	32000	050
15	600	3000	4000	90	-0.002	8000	055
16	400	600	2000	120	-0.010	8000	-010

Table 1. List of parameters of theoretical magnetic sources

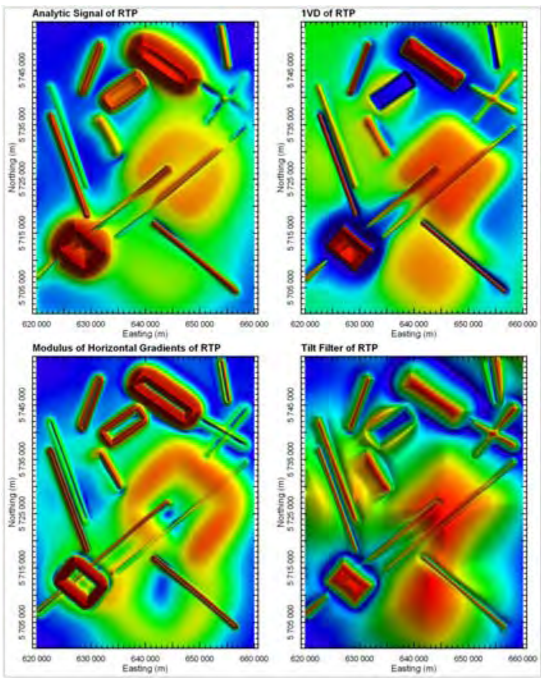

Figure 2. Comparison of enhancement filters of RTP: AS, 1VD, MS and Tilt filter. The models used are those depicted in Figure 1.

Edge Filters

The first avenue of development was to increase the sharpness of the anomalies used to map the edge of the magnetic sources. The MS grid yields anomaly peaks over the source edge locations, whereas these edges coincide with gradients in the 1VD, Tilt and AS filtered outputs. None of these filters produces easily interpreted edges in image form when the sources are weakly magnetised or are deep.

A new linear, derivative-based filter termed the ZS-Edgezone filter has been developed to improve edge detection in these situations. Its effect is shown in Figure 3 using the same theoretical models discussed earlier. The advantages of the filter are greatly increased anomaly sharpness over source edges and compression of the amplitude range so that differences in the original TMI amplitudes do not persist to dominate the edge interpretation. This has the ancillary effect that the method can be modified to provide automated edge conversion to vectors for use in GIS systems.

Although this filter significantly improves the precision of edge determination, it is subject to normal potential field limitations which determine that source edges cannot be resolved where the source is narrow relative to its depth. The filter also can produce a “halo” type artefact due to superposition of the response of a limited depth extent shallow source (Figure 1, Model 6) on that of deeper sources. A similar “halo” effect can be seen around the edges of remanently magnetised Model 15, also in Figure 1.

The ZS-Edge filter (Figure 4) has also been developed to map source edges. This filter differs from the ZS-Edgezone filter in that a greater contribution of the TMI anomaly amplitude over the source is retained, thereby improving anomaly characterisation at the expense of edge sharpness.

Both these filters produce edges which migrate down-dip towards the deepest edge of the source. This effect produces anomaly asymmetry that can assist interpretation of dip, although this effect is more pronounced for the ZS-Edge filter than for the ZS-Edgezone filter. Down-dip source extensions are depicted in cyan in Figure 1.

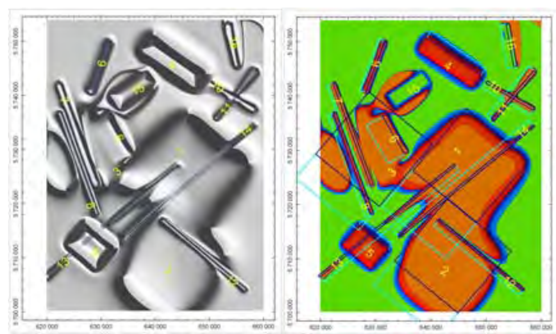

Figure 3. Anomaly edge and block enhancements using the ZS-Edgezone (left) and ZS-Block filters (right). Model positions are shown using wire frames.

Block Filters

In attempting to improve edge detection filters, an obvious progression is to highlight the magnetic regions whose edges have been mapped. To do this, a set of filters called “block” filters has been developed.

The Block filter group has the effect of transforming the potential field data into “zones” which, similar to image classification systems, segregate anomalous zones into apparent lithological categories. These filters can be imported for use in image classification systems or displayed in RGB space with other grids for empirical classification purposes.

The block filters, like the edge filters, are linear, derivative-based filters which use a combination of derivative and amplitude compression techniques to render the magnetic data into regions whose edges are sharply defined and whose amplitudes have a reduced range in comparison to the original TMI.

The ZS-Block filter (Figure 3) and the ZS-Plateau filter (Figure 4) depict the magnetic data as a 2D plan of apparent magnetic source distribution. Artefacts may occur as discussed for the edge filters.

The choice of ZS-Block, ZS-Plateau or ZS-Area filters will depend on the data characteristics of each magnetic survey and on the end-use requirement. The ZS-Plateau filter, for example, yields less variation in amplitude "texture" over a magnetic unit that either the ZS-Block or ZS-Area filters.

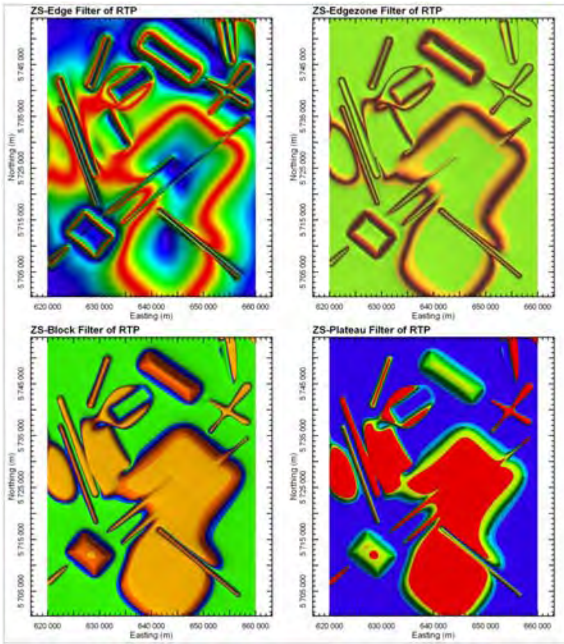

Figure 4. Comparison of ZS-Edge, ZS-Edgezone, ZS-Block and ZS-Plateau filtered outputs of RTP data

Effects of Noise

The influence of noise on the operation of these enhanced grids was tested by adding a large component of noise to the theoretical TMI profile data. This noise had a Gaussian distribution with a standard deviation equal to ten percent of the TMI standard deviation. The noise-modified TMI profile data were then de-spiked using a non-linear technique. Both the noise-affected and the de-spiked TMI data were then gridded and converted to RTP. The RTP data were then processed both with the traditional and newly developed filters.

Figure 5 shows the effect of the noise on the computations. The image of the noise-affected 1VD RTP data (top right) shows that weak and deep sources have been severely masked by the noise. Significant improvement can be achieved by using de-spiked data (lower left) or by low-pass grid filtering — for example, using an upward continuation filter (lower right).

Figure 6 shows that if real data with significant noise is encountered, a standard de-spiking or low-pass smoothing procedure may be used to achieve successful application of both the traditional and newly developed filters.

Figure 6 also depicts the use of enhanced outputs in RGB space to provide examples of how the combination of amplitude information (red colour) with edge information (green and blue colours) can be used to highlight source boundaries and remanence in a single image.

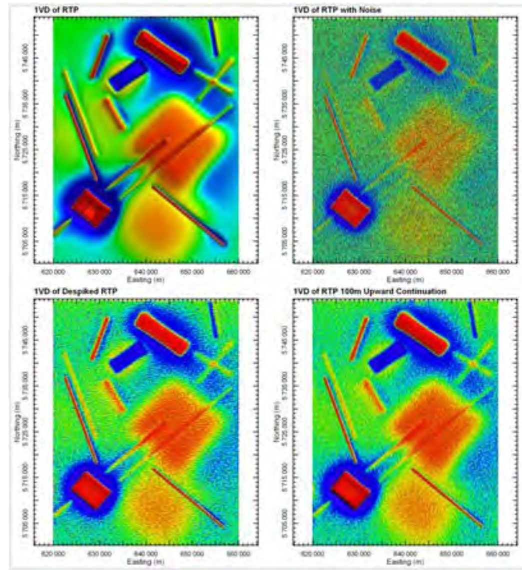

Figure 5. Comparison of 1VD of original model RTP data (top left) with noise-affected RTP data (top right) and noise-reduced RTP data (lower images)

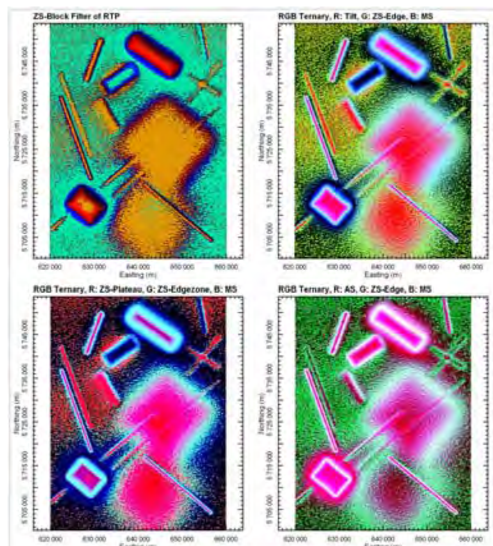

Figure 6. ZS-Block filter using noise-reduced RTP data (top left) and examples of filter combinations in RGB space using noise-reduced RTP data

Application to Field Data, Goulburn 1:100 000 Scale Map Sheet Area, New South Wales

Both the traditional and new enhancement filters were applied to test their suitability for geological definition to airborne magnetic survey data over the Goulburn 1:100 000 scale map sheet area (Johnson *et al*, 2003). These data were acquired as part of a joint program between the NSW Department of Mineral Resources and Geoscience Australia, with 250 m–spaced east–west flightlines. The magnetometer sensor occupied a nominal terrain clearance of 80 m. This dataset was selected since new detailed geological mapping had been recently completed. All the enhancements have been computed using TMI data reduced to the pole.

Figure 7 shows a comparison of part of the Goulburn 1:100 000 map sheet area surface geology with the ZS-Area filter output. In the area surrounding location C, the ZS-Area filter transforms the magnetic data into separate magnetic units, which comprise the Devonian Bindook Volcanic Complex. The magnetic regions correlate closely with mapped andesites (Dkqa–cream coloured unit in Figure 7) whilst the intervening less-magnetic units correlate with rhyolitic ignimbrites (Dkqy–red unit in Figure 7)

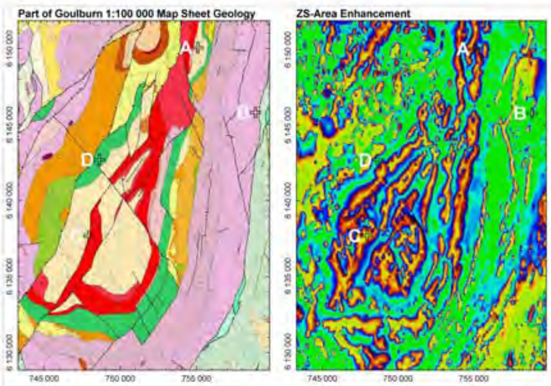

Figure 7. Comparison of geology and ZS-Area enhancement over the Bindook Volcanic Complex

Figure 8 displays some of the advantages of the edge detection filters. At location A, ambiguity concerning the continuity of Quialigo Formation units (cream and red units in Figure 7) is resolved by the ZS-Edgezone filter. At location B, a subtle lineament is confirmed, whilst at location D, the extent of the Bullamalita Conglomerate (green unit in Figure 7) is clearly mapped by the ZS-Edge filter. Structural breaks are often more easily interpreted using these transforms, for example, immediately southwest of location D.

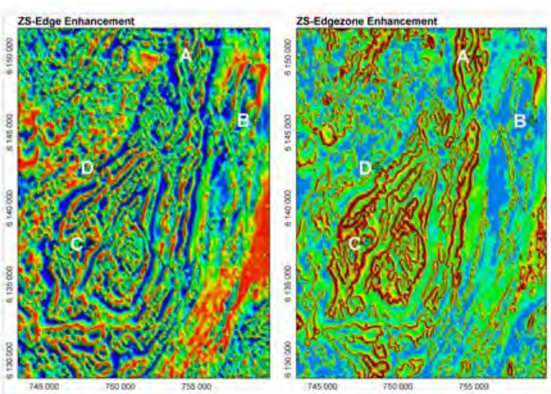

Figure 8. Comparison of ZS-Edge and ZS-Edgezone enhancements over the Bindook Volcanic Complex

Figure 9 shows standard RTP and Tilt transforms over the same area for reference.

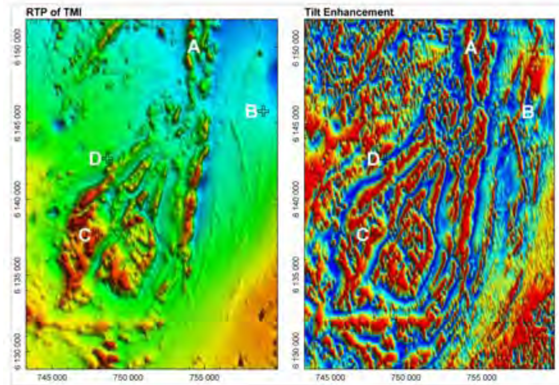

Figure 9. Comparison of RTP and Tilt filters over the Bindook Volcanic Complex

CONCLUSIONS

Traditional filters used to enhance magnetic data, including the more recently developed potential field tilt filter, are currently used to assist in determination of the location and extent of magnetic units.

Newly developed derivative-based filters may be used to improve the precision of source edge detection and, by extension, the determination of the spatial extent of magnetic units. These filters are demonstrated to perform successfully on both strongly magnetised features as well as on weakly magnetised or deep magnetic features. Artefacts may result particularly where anomaly superposition occurs.

The impact of noise in real data may be accommodated by these new methods provided noise-reduction techniques are employed.

The new filter outputs may be used as part of regional or detailed geological mapping projects, including in classification systems or in RGB space, to improve lithological discrimination and mapping.

The speed of magnetic unit mapping can be considerably increased through reliance on edge detection filters. Further improvements in mapping speed can be envisaged through automated conversion of edge anomalies to vector files.

ACKNOWLEDGMENTS

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Appendix B. Anomalous TA Pick Reconnaissance Sites

ID	X	Y	Rank	Priority	Notes
TA1	624753	6939706	1	High	In sedimentary sequence, alteration response?
TA2	625089	6940545	1	High	In granodiorite, alteration response?
TA3	625566	6941320	1	High	In granodiorite, alteration response?
TA4	627374	6942405	2	Moderate	In granodiorite, alteration response?
TA5	629130	6942960	3	Low	In orthogneiss
TA6	630344	6942624	2	Moderate	In porphyry, alteration response?
TA7	629685	6941268	3	Low	In orthogneiss
TA8	630705	6940261	2	Moderate	In orthogneiss
TA9	632022	6937085	3	Low	Near volcanic-gneiss contact
TA10	634204	6937162	2	Moderate	In volcanics
TA11	635250	6938286	2	Moderate	Near volcanic-diorite contact
TA12	632900	6941049	3	Low	On known gabbro
TA13	632461	6942146	3	Low	On gneiss-granodiorite contact
TA14	632048	6942779	3	Low	On gneiss-granodiorite contact
TA15	626987	6945465	2	Moderate	In granodiorite, alteration response?
TA16	625463	6945503	2	Moderate	In granodiorite, alteration response?
TA17	622442	6945193	2	Moderate	In granodiorite, porphyry alteration?
TA18	621254	6944638	1	High	In porphyry, alteration response?
TA19	620053	6944871	1	High	In porphyry, alteration response?
TA20	620299	6943295	1	High	In porphyry, alteration response?
TA21	619253	6944367	2	Moderate	In porphyry, alteration response?
TA22	619317	6943089	1	High	In granodiorite, alteration response?
TA23	619175	6942120	2	Moderate	In quartz diorite, alteration response?
TA24	618104	6942263	2	Moderate	In quartz diorite, alteration response?
TA25	616851	6944703	1	High	In porphyry, alteration response?
TA26	616967	6943308	1	High	In porphyry, alteration response?
TA27	616309	6943502	1	High	In porphyry, alteration response?
TA28	615457	6943696	2	Moderate	In porphyry, alteration response?
TA29	625838	6942663	2	Moderate	In granodiorite, alteration response?
TA30	617458	6945335	3	Low	In granodiorite, alteration response?
TA31	618785	6943097	2	Moderate	In granodiorite, alteration response?
TA32	631167	6943277	3	Low	In orthogneiss

Appendix C. RTP-1VD, TA, Potassium, and Geology Plates

Plate C1: RTP-1VD Magnetic

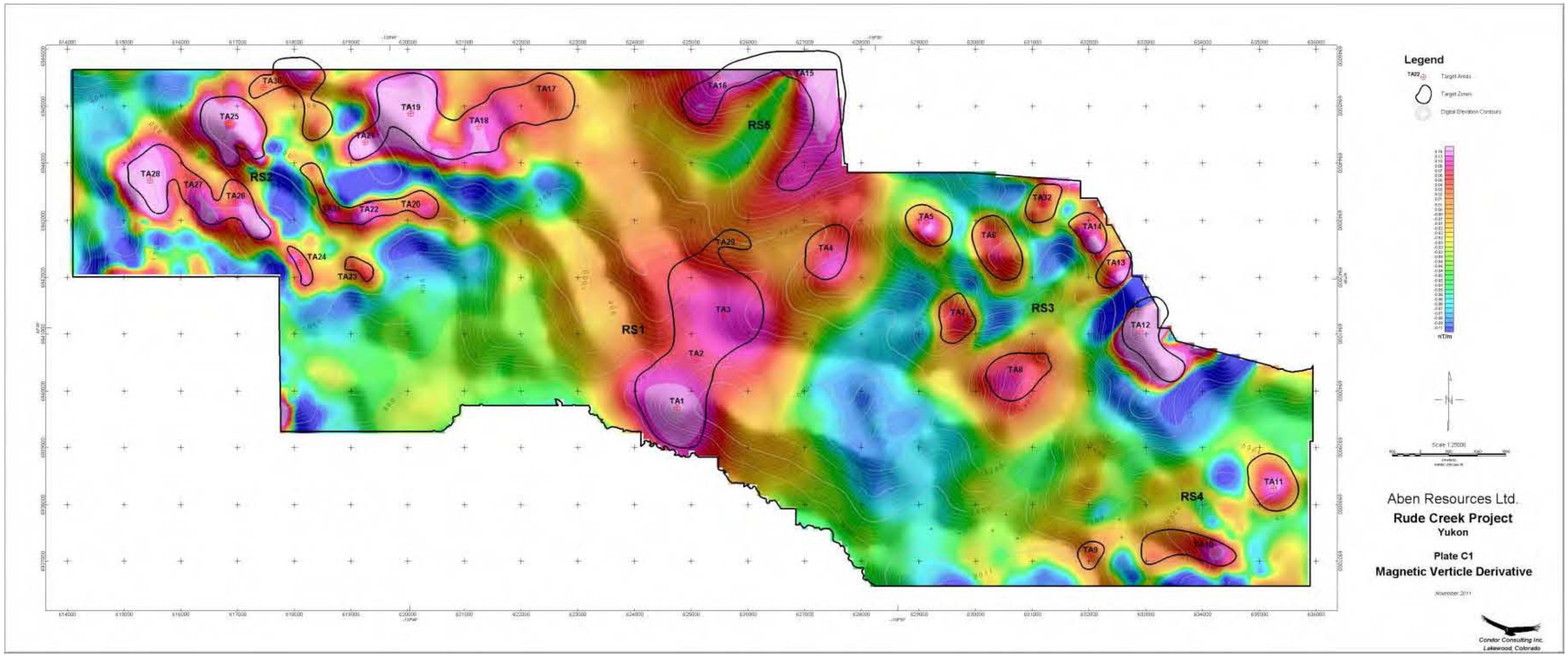


Plate C2: TA Magnetic

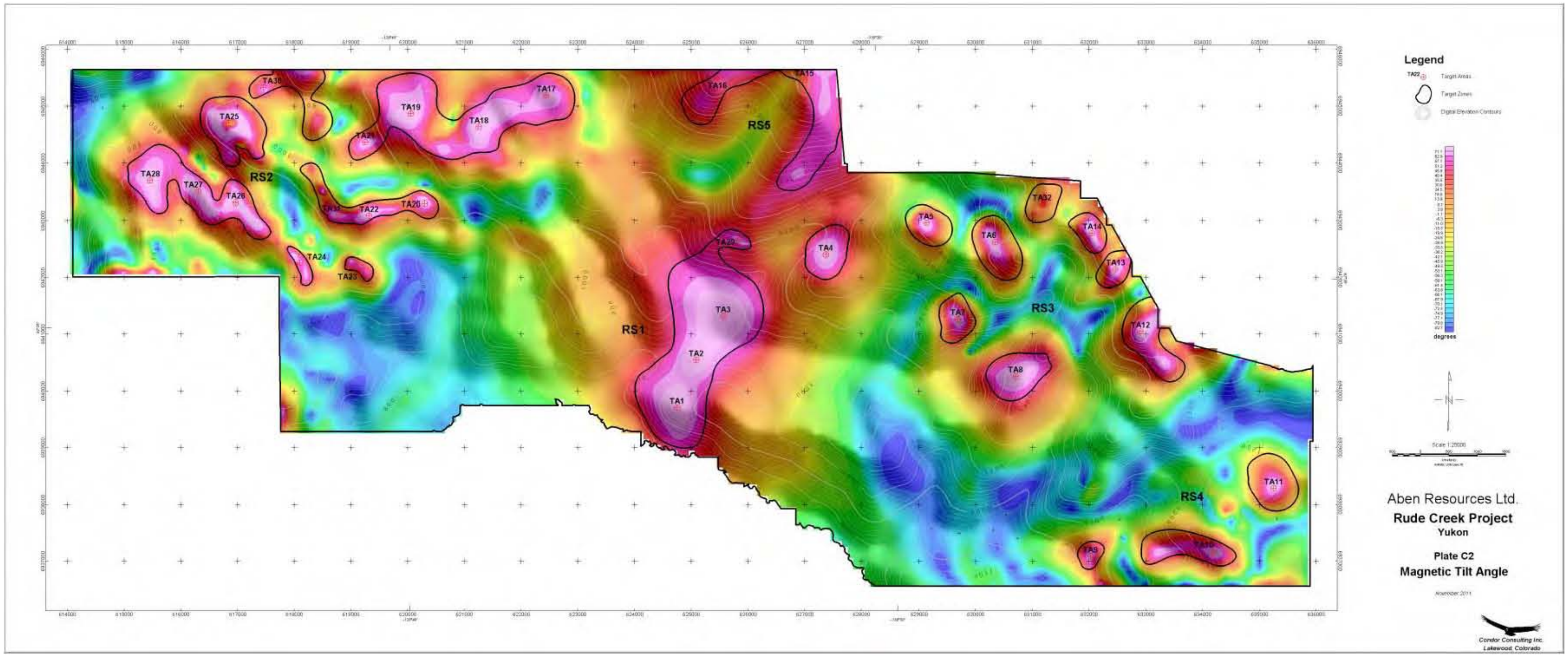


Plate C3: Potassium (K) Radiometric Percentage

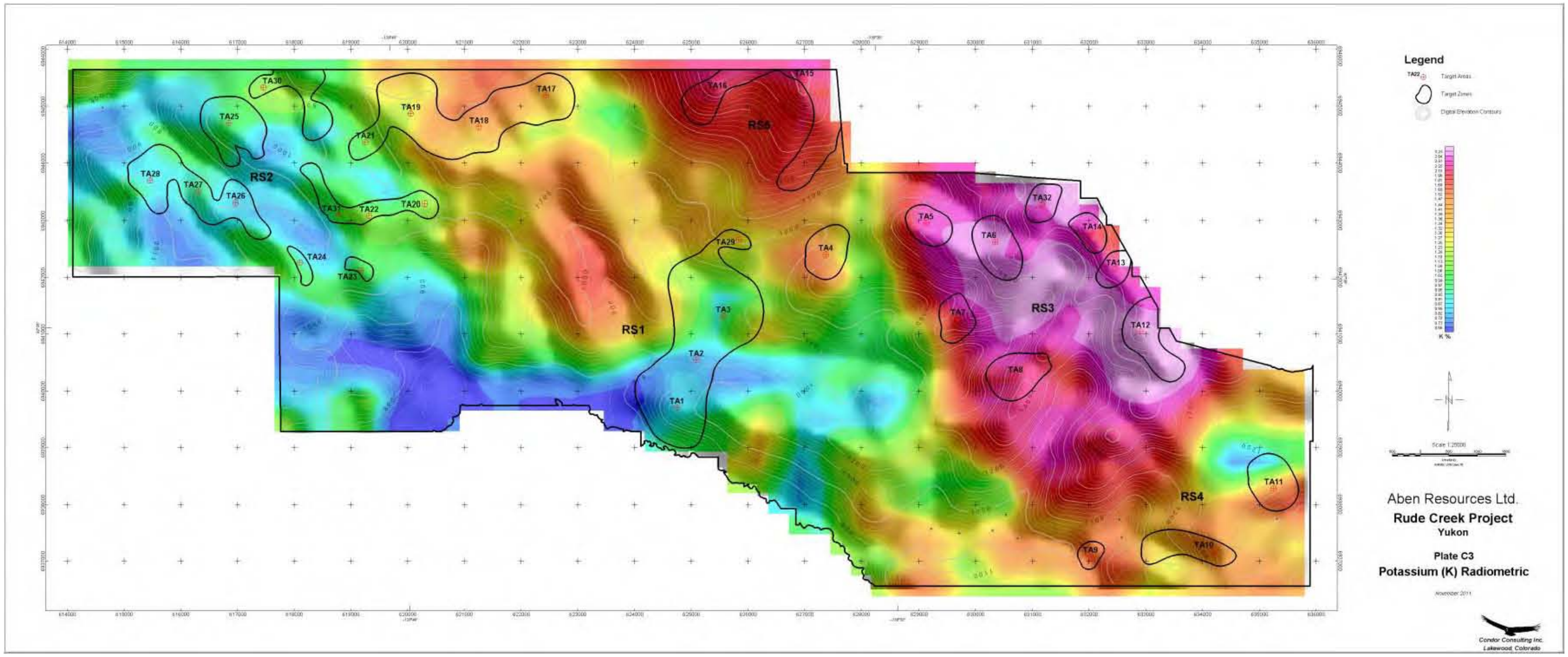
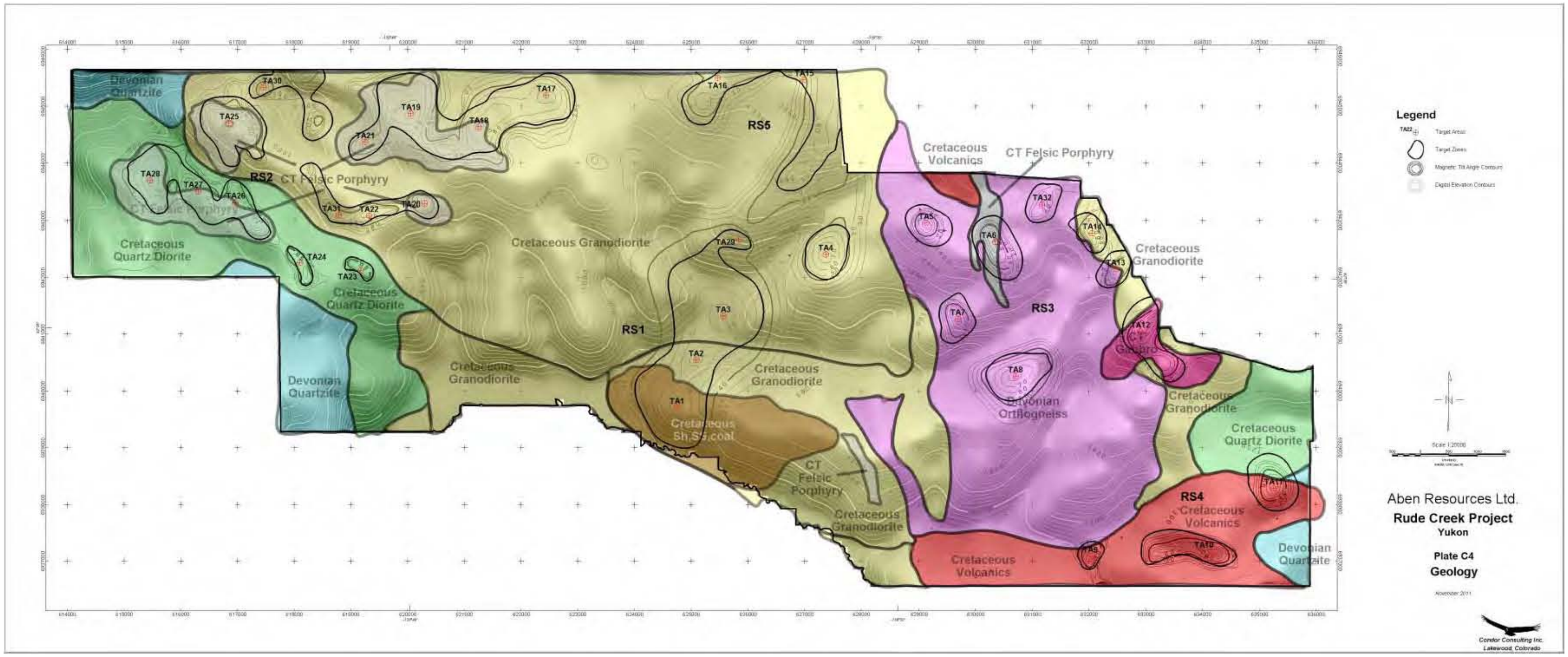


Plate C4: Rude Creek Tenure Geology Map



Appendix IV – Yukon Digital Geology

Bedrock Geology Legend

LEGEND INDEX MAP

BEDROCK GEOLOGY

LEGEND: COLUMN B

(Alphabetical Index)

QUATERNARY

Q

Q: QUATERNARY
unconsolidated glacial, glaciofluvial and glaciolacustrine deposits; fluviatile silt, sand, and gravel, and local volcanic ash, in part with cover of soil and organic deposits

TERTIARY(?) AND QUATERNARY

TQS

TQS: SELKIRK
resistant, brown weathering, columnar jointed, vesicular to massive basalt flows; minor pillow basalt; basaltic tuff and breccia **(Selkirk Volcanics)**

PLIOCENE

PW: WALSH

PW

undivided felsic volcanics (1) and conglomerate, sandstone, and mudstone (2)

1. resistant, white weathering, massive rhyolite. **(Walsh Creek)**
2. resistant, thick bedded to massive, well-indurated conglomerate with minor interbedded sandstone; white mudstone with interbedded gritty sandstone and minor coal **(Walsh Creek)**

MIOCENE TO PLIOCENE

MPMC

MPMC: MILES CANYON

dark red to brown weathering, columnar jointed olivine basalt flows, commonly amygdaloidal and vesicular; ultramafic xenoliths **(Miles Canyon Basalt)**

LOWER EOCENE

IES

IES: SKUKUM

various felsic volcanic dykes, plugs, domes, laccoliths and flows (1) and (2)

1. flow banded rhyolite flows and breccia, andesite flows and breccia, tuff, pyroclastic and epiclastic rocks, granite conglomerate; rhyolite feldspar porphyry domes, plugs and laccoliths; feldspar +/- hornblende +/- quartz-phyric felsite dykes and plugs **(Skukum Gp. including Boudette Creek, Butte Creek, Cleft Mountain, Crozier Breccia, Crozier Tuff and Lava, Gault, Jones Creek, Lemieux Creek, MacCauley Creek, Mount Reid, Partridge Lake, Vesuvius and Watson River)**
2. heterogeneous intermediate to felsic, hornblende-feldspar porphyritic tuff, flow breccia; volcaniclastic mudstone, sandstone and conglomerate; aphanitic to feldspar porphyritic dacite flows and dykes; flow-banded rhyolite and felsic dykes and sills **(Mount Creedon Volcanics, some strata formerly mapped as Mt. Nansen Gp.)**

EARLY TERTIARY

ETN

ETN: NISLING RANGE SUITE

medium to coarse grained equigranular to porphyritic rocks of intermediate composition (g), fine to coarse grained, equigranular and porphyritic granitic rocks of felsic composition (q) and felsic dyke rocks (f)

- f. orange and buff weathering light-coloured feldspar porphyry dyke and flow rocks of intermediate to acid composition
- g. biotite-hornblende granodiorite (locally K-feldspar megacrysts), quartz monzonite, quartz diorite; minor granodiorite-gneiss; hornblende and biotite hornblende diorite; biotite quartz feldspar porphyry and porphyritic biotite quartz monzonite **(Ruby Range Suite)**

q. leucocratic, biotite granite; miarolitic alaskite; saccharoidal textured, mafic-poor biotite granite; biotite-hornblende granite to leucocratic granodiorite with sparse, white, alkali feldspar phenocrysts; biotite quartz monzonite **(Nisling Range Suite, Nisling Range Alaskite, Coffee Creek Granite, Annie Ned Granite)**

UPPER CRETACEOUS

uKC

uKC: CARMACKS
a volcanic succession dominated by basic volcanic strata (1), but including felsic volcanic rocks dominantly (?) at the base of the succession (2) and locally, basal clastic strata (3) (70 ma approx)

1. augite olivine basalt and breccia; hornblende feldspar porphyry andesite and dacite flows; vesicular, augite phyric andesite and trachyte; minor sandy tuff, granite boulder conglomerate, agglomerate and associated epiclastic rocks **(Carmacks Gp., Little Ridge Volcanics, Casino Volcanics)**
2. acid vitric crystal tuff, lapilli tuff and welded tuff including feeder plugs and necks; felsic volcanic flow rocks and quartz feldspar porphyries; green and purple massive tuff-breccia with feldspar phyric fragments **(Carmacks Gp., Donjek Volcanics, some rocks formerly mapped as Mt. Nansen Gp.; the felsic part of the Carmacks Gp. is difficult to distinguish from similar Tertiary and mid-Cretaceous (Mt. Nansen) felsic volcanic strata)**
3. medium-bedded, poorly sorted, coarse- to fine-grained sandstone, pebble conglomerate, shale, tuff, and coal; massive to thick bedded locally derived granite or quartzite pebble to boulder conglomerate **(Carmacks Gp.)**

UPPER CRETACEOUS

uKW

uKW: WINDY-TABLE
resistant, columnar jointed, quartz-phyric dacite flows, ash and lapilli tuff; maroon weathering, basal sedimentary and epiclastic rocks; dacite flows and flow breccia; brown basalt flows; includes dykes of quartz feldspar porphyry (80 ma approx) **(Open Creek Volcanics)**

LATE CRETACEOUS TO TERTIARY

LKP

LKP: PROSPECTOR MOUNTAIN SUITE
grey, fine to coarse grained, massive, granitic rocks of felsic (q) intermediate (g) rarely mafic (d) composition and related felsic dykes (f)

d. coarsely crystalline gabbro and diorite
g. hornblende-biotite granodiorite, hornblende diorite, quartz diorite **(Wheaton Valley Granodiorite)**
q. quartz monzonite, biotite quartz-rich granite; porphyritic alaskite and granite with plagioclase and quartz-eye phenocrysts; biotite and hornblende quartz monzodiorite, granite, and leucocratic granodiorite with local alkali feldspar phenocrysts **(Prospector Mountain Suite, Carcross Pluton)**
y. syenite
f. quartz-feldspar porphyry

MID-CRETACEOUS

mKN

mKN: MOUNT NANSEN
massive aphyric or feldspar-phyric andesite to dacite flows, breccia and tuff; massive, heterolithic, quartz- and feldspar-phyric, felsic lapilli tuff; flow-banded quartz-phyric rhyolite and quartz-feldspar porphyry plugs, dykes, sills and breccia **(Mount Nansen Gp., Byng Creek Volcanics, Hutshi Gp.)**

MID-CRETACEOUS

mKW

mKW: WHITEHORSE SUITE
grey, medium to coarse grained, generally equigranular granitic rocks of felsic (q), intermediate (g), locally mafic (d) and rarely syenitic (y) composition

d. hornblende diorite, biotite-hornblende quartz diorite and mesocratic, often strongly magnetic, hypersthene-hornblende diorite, quartz diorite and gabbro **(Whitehorse Suite, Coast Intrusions)**
g. biotite-hornblende granodiorite, hornblende quartz diorite and hornblende diorite; leucocratic, biotite hornblende granodiorite locally with sparse grey and pink potassium feldspar phenocrysts **(Whitehorse Suite, Casino granodiorite, McClintock granodiodrite, Nisling Range granodiorite)**
q. biotite quartz-monzonite, biotite granite and leucogranite, pink granophyric quartz monzonite, porphyritic biotite leucogranite, locally porphyritic (K-feldspar) hornblende monzonite to syenite, and locally porphyritic leucocratic quartz monzonite **(Mt. McIntyre Suite, Whitehorse Suite, Casino Intrusions, Mt. Ward Granite, Coffee Creek Granite)**
y. hornblende syenite, grading to granite or granodiorite **(Whitehorse Suite)**

EARLY CRETACEOUS

EKgT: TESLIN SUITE

EKgT

leucocratic, fine to coarse-grained, equigranular, hornblende- biotite granite, granodiorite, quartz monzonite and quartz monzodiorite, locally with sparse grey and pink potassium feldspar phenocrysts; associated aplitic phases and dykes **(Teslin Suite)**

UPPER JURASSIC AND LOWER CRETACEOUS

uJKT

uJKT: TANTALUS
massive to thickly bedded chert pebble conglomerate and gritty quartz-chert-feldspar sandstone; interbedded dark grey shale, argillite, siltstone, arkose and coal; at one locality includes red-weathering dacite to andesite flows at base **(Tantalus)**

MID-JURASSIC

MJB

MJB: BRYDE SUITE
undeformed granitic rocks from two plutonic bodies one of predominantly felsic (q) and the other of intermediate composition (g)

q. medium to fine grained, equigranular, leucocratic monzonite, syenite and granite and related dykes of dacite to andesite porphyry with euhedral andesine, hornblende and locally quartz in aphanitic greenish, or grey groundmass **(Teslin Crossing Stock)**

g. medium grained, hornblende monzodiorite, hornblende-biotite quartz monzodiorite and minor hornblendite; pink, potassium feldspar megacrystic, hornblende granite to granodiorite and associated easterly trending mafic dyke swarms **(Mt. Bryde Pluton; Bennett Granite)**

EARLY JURASSIC

EJgA

EJgA: AISHIHIK SUITE
medium- to coarse- grained, foliated biotite-hornblende granodiorite; biotite rich screens and gneiss schlieren; foliated hornblende diorite to monzodiorite with local K-feldspar megacrysts; may include unfoliated monzonite of the Long Lake Suite **(Aishihik Suite)**

EARLY JURASSIC

EJL

EJL: LONG LAKE SUITE
mostly felsic granitic rocks (q) but locally grading to syenitic (y)

y. resistant, dark weathering, massive, coarse- to very coarse- grained and porphyritic, mesocratic hornblende syenite; locally sheared, commonly fractured and saussuritized; locally has well developed layering of aligned pink K-feldspar tablets **(Big Creek Syenite)**

q. massive to weakly foliated, fine to coarse grained biotite, biotite-muscovite and biotite-hornblende quartz monzonite to granite, including abundant pegmatite and aplite phases; commonly K-feldspar megacrystic **(Long Lake Suite)**

LOWER AND MIDDLE JURASSIC, HETTANGIAN TO BAJOCIAN

JL

JL: LABERGE
poorly sorted, medium bedded to massive arkosic sandstone and minor shale with interbeds and thick members of resistant heterolithic pebble and boulder conglomerate; recessive, dark brown weathering, thin bedded, dark brown to greenish, silty shale **(Laberge Gp.)**

LOWER JURASSIC, PLEINSBACHIAN TO TOARCIAN

lJN

lJN: NORDENSKIOLD
resistant, reddish brown weathering, massive, khaki-green dacite tuff with fresh plagioclase, hornblende and biotite; grades locally to pale green, punky weathering, salt and pepper textured, massive sandstone; interbedded conglomerate **(Nordenskiold Dacite)**

MESOZOIC

Mg

Mg: MESOZOIC GRANITIC ROCKS UNDIVIDED
poorly described granitic rocks of uncertain age including diorite, quartz monzonite, and monzonite

LATE TRIASSIC

LTrgS

LTrgS: STIKINE SUITE
coarse-grained, foliated, gabbroic hornblende orthogneiss; coarse-grained hornblende-biotite granite and granodiorite with K-feldspar megacrysts; foliated, fine- to medium-grained hornblende quartz diorite to diorite with minor biotite **(Tally Ho Leucogabbro, Little River Batholith, Friday Creek diorite)**

UPPER TRIASSIC, CARNIAN TO NORIAN

uTrAK

uTrAK: AKSALA
mixed clastic-carbonate assemblage divisible into three dominant facies including calcareous greywacke (1), locally thick carbonate (2) and red-coloured clastics (3) **(Aksala)**

uTrAK2

1. brown shale, black and minor red siltstone, greenish, calcareous greywacke and interbedded bioclastic, argillaceous limestone; igneous- or limestone-clast pebble and cobble conglomerate; lahaaric debris flows; rare feldspar-augite porphyry flows **(Casca mb. of Aksala)**
2. massive to thick bedded limestone; minor thin bedded argillaceous to sooty limestone; coarsely crystalline, massive dolostone; minor laminated chert; massive to poorly bedded, limestone conglomerate debris flows and fanglomerate **(Hancock mb. of Aksala)**
3. red weathering, medium bedded, green and red greywacke and pebble conglomerate; red shale partings and minor interbedded, red, bioturbated siltstone; crystal-rich greywacke and shale; coarse-grained, tan to brown, massive, lithic arenite **(Mandanna mb. of Aksala)**

UPPER TRIASSIC, CARNIAN AND OLDER (?)

uTrP

uTrP: POVOAS
augite or feldspar phyric, locally pillowed andesitic basalt flows, breccia, tuff, sandstone and argillite; local dacitic breccia and tuff with minor limestone; greenschist, chlorite schist, chlorite-augite-feldspar gneiss, amphibolite **(Povoas)**

MIDDLE TRIASSIC

mTrJ

mTrJ: JOE MOUNTAIN
massive basalt flows; fine- to locally medium-grained feldspar and pyroxene?-phyric, pillowed andesite; variably altered massive microdiorite; heterolithic diamictite; coarse-grained and locally pegmatitic, hornblende gabbro and diorite **(Joe Mountain Volcanics)**

UPPER PALEOZOIC

uPT

uPT: TAKHINI
variably sheared and metamorphosed metabasite, amphibolite gneiss, tuff, wacke and marble with minor quartz mica schist and orthogneiss

PROTEROZOIC TO MESOZOIC

PMm

PMm: UNDIVIDED METAMORPHICS
dark purplish brown staurolite cordierite biotite hornfels with relict schistose texture; quartz-sericite-chlorite schist; minor quartzite **(metamorphosed Jura-Cretaceous Dezadeash Gp.? and undivided Nisling assem.)**

DEVONIAN TO CRETACEOUS?

PMW
PMW4

PMW: WINDY
oceanic assemblage of ultramafic rocks (1), greenstone (2), chert (3) and carbonate (4) and metamorphosed equivalents? (5)

1. dun-brown weathering, dark green to black, partly serpentinized massive harzburgite and dunite
2. sheared and foliated greenstone and related volcanic rocks; minor cherty tuff
3. interbedded brown argillite, cherty slate and quartzite
4. thin-bedded limestone and marble
5. quartz-chlorite-sericite schist, epidote-actinolite greenschist, quartzite, slate, quartz-mica schist, limestone

MIDDLE PERMIAN

PqS

PqS: SULPHUR CREEK SUITE
moderately to strongly foliated biotite quartz monzonite gneiss, the Sulphur Creek Orthogneiss; coarse grained, homogeneous, hornblende-biotite-bearing granite, granodiorite and quartz-monzonite with narrow foliated and mylonitic zones of the Ram Stock **(Sulphur Creek Orthogneiss, Ram Stock)**

CARBONIFEROUS AND PERMIAN

CPK
CPK2

CPK: KLONDIKE SCHIST
poorly understood assemblage of metamorphosed pelitic/volcanic rocks (1) and minor marble (2), including phyllite of uncertain association (3)

1. tan to rusty and black weathering muscovitic and/or chloritic quartzite and quartz-muscovite-chlorite schist; quartz and/or feldspar augen-bearing quartz-muscovite (+/-chlorite) schist; includes augen gneiss and amphibolite **(Klondike Schist)**
2. resistant, white weathering, white sugary marble with a ductile flow fabric; crystalline marble **(Klondike Schist)**
3. silvery grey muscovite chlorite quartz phyllite

PROTEROZOIC AND PALEOZOIC

PPa

PPa: AMPHIBOLITE
metamorphosed mafic rocks including amphibolite (1) and ultramafic rocks (2) of unknown association; i.e.) may belong in part or entirely to Nisling, Nasina,

and Slide Mountain assemblages and (3), mafic-ultramafic intrusions within Nasina assemblage

1. medium to dark green weathering chlorite (+/-biotite) schist, amphibolite, banded amphibolite gneiss, garnet amphibolite; minor chloritic quartz-mica schist, graphitic quartz-mica schist, quartzite, and limestone
2. variably altered and serpentinized ultramafic rocks
3. calcareous actinolite-plagioclase-chlorite-biotite schist, plagioclase-actinolite-chlorite schist, and lesser carbonaceous phyllite and quartzite; metamorphosed ultramafic rocks including dunite and pyroxenite, locally serpentinized

LATE DEVONIAN TO MISSISSIPPIAN

DMPE

DMPE: PELLY GNEISS SUITE - NORTHEAST
variably deformed granitic rocks of predominantly felsic (q) to intermediate composition (g) northeast of Tintina Fault **(Simpson Range Suite)**

q. resistant, medium grey weathering, porphyritic (pink K-feldspar) biotite quartz monzonite; generally fresh to weakly saussuritized, locally shattered and recemented

g. massive, resistant., medium grey weathering, blocky, dark green protomylonite and mylonite derived from hornblende granodiorite to quartz diorite; granitic gneiss

LATE DEVONIAN TO MISSISSIPPIAN

DMPW

DMPW: PELLY GNEISS SUITE - SOUTHWEST
variably deformed granitic rocks of predominantly felsic (q) to intermediate composition (g) southwest of Tintina Fault

q. foliated equigranular medium-grained muscovite quartz monzonite; moderately to strongly foliated K-feldspar augen-hearing quartz monzonitic to granitic gneiss **(S. Fiftymile Batholith, Mt. Burnham Orthogneiss,)**

g. foliated medium grained, homogeneous biotite granite gneiss to biotite or hornblende granodiorite gneiss; massive to strongly foliated dioritic to granodioritic gneiss; includes interfoliated amphibolite, quartz-mica schist and phyllite **(Selwyn Gneiss, Pelly Gneiss, N. Fiftymile Batholith, Moose Creek Orthogneiss)**

DEVONIAN, MISSISSIPPIAN AND(?) OLDER

DMN: NASINA

DMN
DMN2

graphitic quartzite and muscovite quartz-rich schist (1), (3)-(5), and(?) (6) with interspersed marble (2) and probable correlative successions (7) - (9)

1. dark grey to black, fine grained graphitic and non-graphitic quartzite, grey micaceous quartzite and quartz muscovite (+/-chlorite; +/- feldspar augen) schist, locally garnetiferous; minor graphitic stretched metaconglomerate and metagrit **(Nasina assem.)**
2. marble **(Nasina assem.)**
3. quartzite, micaceous quartzite, quartz muscovite (+/-chlorite; +/- feldspar augen) schist, and minor metaconglomerate and metagrit as in (1), but may locally include significant Nisling Assemblage
4. quartzite, micaceous quartzite, quartz muscovite (+/-chlorite; +/- feldspar augen) schist, and minor metaconglomerate and metagrit as in (1), but may locally include significant Klondike Schist Assemblage
5. black-weathering, massive, dark grey to black strongly graphitic quartzite with lesser grey micaceous quartzite and quartz mica schist; commonly shows alternating light and dark grey colour lamination **(Nasina quartzite)**
6. biotite schist or gneiss; association uncertain, may belong to Nisling Assemblage
7. medium green to yellow green muscovite-chlorite-actinolite-epidote-albite +/-biotite schist to quartz-rich schist, local albite porphyroblasts; green and yellow banded biotite+/-magnetite schist (metatuff?); micaceous quartzite; minor metachert **(Hazel)**
8. hornblende-oligoclase-quartz+/-biotite +/-actinolite mafic gneiss and schist; hornblende amphibolite; sheared metaplutonic rock with interleaved quartzite and muscovite+/- biotite+/-oligoclase+/-garnet schist; bands of quartzofeldspathic melt **(Dorsey)**
9. fine grained actinolite+chlorite-muscovite+/-epidote phyllite and schist; calcareous metavolcanic rocks; quartzite; marble; sheared felsic to intermediated metaplutonic rocks; minor calcareous green metasiltstone or metatuff and sandy metacarbonate **(Ram Creek)**
10. eclogite

LATE PROTEROZOIC AND PALEOZOIC

PPN
PPN2

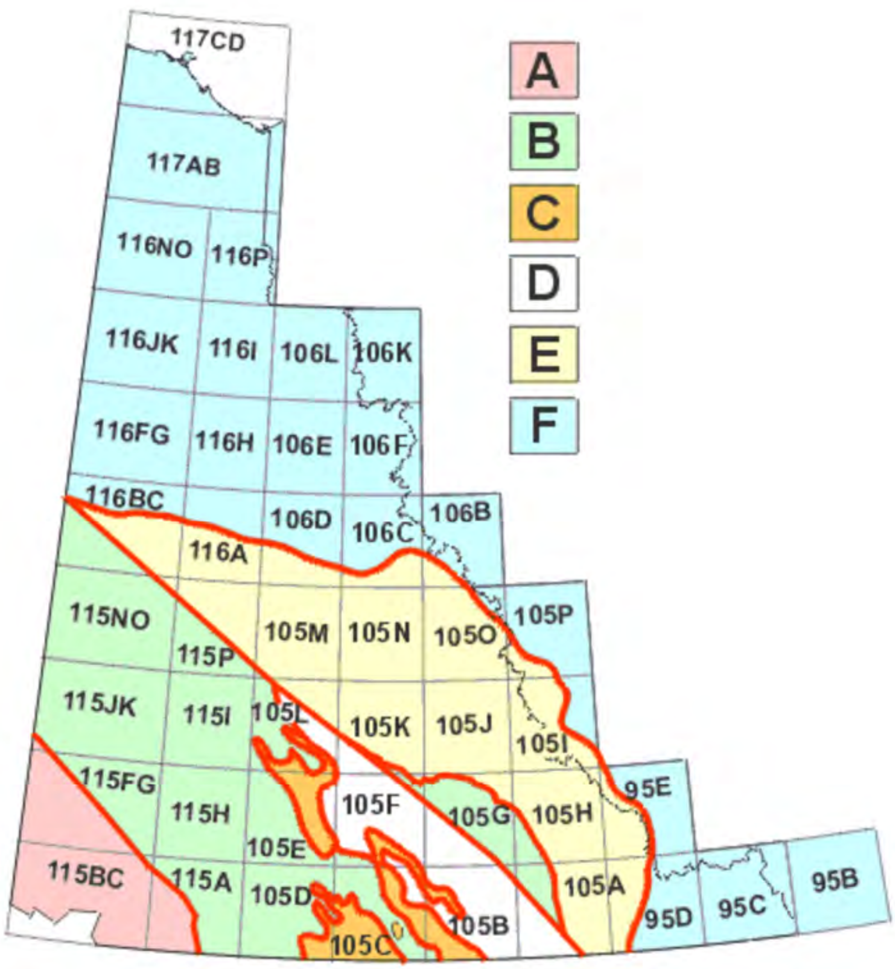
PPN: NISLING

assemblage characterized by mica quartz feldspar schist (1) and abundant locally thick limestone members (2); (3) includes possibly equivalent strata northeast of Tintina Fault

1. dark grey to brown, biotite-muscovite-quartz-feldspar schist, quartzite and micaceous quartzite, garnetiferous; felsic chlorite-biotite orthogneiss; rare amphibolite; minor(?) two-mica gneiss and hornblende diorite gneiss; may include Nasina Assem. **(Nisling assem.)**

2. bleached white-weathering, white to grey, coarsely crystalline, flow banded, fetid marble; graphite, chert, metabasite and calc-silicate lamina are common **(Nisling assem.)**
3. calcareous quartz psammite, marble, calcareous chlorite-biotite schist and calcsilicate; calcareous garnet-biotite-muscovite schist, rare amphibolite; biotite-quartz-muscovite schist and lesser quartz-feldspar-muscovite augen schist **(assignment uncertain, could belong to DMN (Nasina))**

Location Index for Legend



GO TO COLUMN

A

B

C

D

E

F

MISC

The legend consists of several columns, referenced by colour to one of the general regions indicated (A to F). Together, if placed side by side, these columns comprise a single legend for the map; legend units are not duplicated, but are placed in the column for the area in which they are most widely found. To find units that overlap several regions it may therefore be necessary to search more than one column. For example, some of the units represented in COLUMN C (orange in figure) underlie small areas within the region of COLUMN B (green in figure).

Appendix V – Surficial Geology Map

YGS Open File 2012-2

(In Pocket)

MARGINAL NOTES

INTRODUCTION

The topography in this largely unglaciated portion of the northern Dawson Range is characterized by broad ridges, convex slopes and v-shaped valleys (Fig. 1). The western flanks of the Mount Cockfield massif are located along the eastern edge of the map area, while Stevenson Ridge separates Dip and Rude creeks to the north from Klotassin River and Colorado Creek to the south. Ridges and summits range in elevation from 1000 to 1800 m above sea level. Upland surfaces consist largely of loess-enriched weathered bedrock (Fig. 2) and colluvium modified by periglacial processes such as cryoturbation and solifluction. Bedrock outcrop and tors are commonly found along alpine ridges, and less commonly in valley bottoms where spurs intersect high order valley bottoms. Slopes are generally covered in mantles of colluvium that grade into thick loess-enriched aprons along lower slopes and valley bottoms. First and second order streams are confined to narrow valleys with largely locally derived floodplain sediment. Higher order streams such as Dip Creek, Colorado Creek and Klotassin River meander through wide valley bottoms filled with more distally derived sediment (colluvium and retransported loess). The broad braided floodplains of the Donjek and White rivers to the southwest are the source of most of the eolian or wind-blown silt and fine sand (loess) deposited throughout the map area.

Isolated alpine glaciers existed on Mount Cockfield during the Pleistocene. At least one of these glaciers extended west into the headwaters of a Victor Creek tributary during the Reid glaciation. The only other evidence of glaciation in the map area is found in the headwaters of Canadian Creek, immediately northwest of Patton Hill, where remnants of early Pleistocene cirques exist.

PERMAFROST

Permafrost is widespread but discontinuous in the map area (Bond & Lipovsky, 2011). Several landforms that indicate the presence of permafrost were found in the map area, including solifluction lobes, aufeis, open system pingos (Fig. 3) and thermokarst ponds (Fig. 4). Permafrost distribution and character (depth, thickness and ice content) vary widely with local scale variations in both macro and micro-topography, surface cover and soil texture. It is commonly absent on steep south-facing slopes with bedrock outcrop and thin, coarse-grained colluvial veneers. It is most prevalent on north-facing slopes and in valley bottoms where thick fine-grained colluvial aprons (interbedded loess, colluvium and peat) and organic veneers are located. Ice-rich permafrost is most commonly found in valley bottoms and zones of groundwater convergence (Fig 5). Clearing or disturbance of organic cover in these areas may lead to rapid thaw and terrain destabilization.

HEAVY MINERAL SAMPLING

Preliminary heavy mineral sampling was undertaken in Casino, Canadian, Rude and Colorado creeks.

Site Number	Location (UTM Zone 7, NAD 83)	Type	Results
10JB035	620907 E, 6951534 N	pan (x2)	4 colours
10PL023	612327 E, 6953362 N	pan (x2)	4 colours + 1 wire gold ($1.81/yd @ $1000/oz)
10PL024	621503 E, 6939541 N	pan	no gold
10PL027	622945 E, 6939751 N	pan	no gold
10PL028	623005 E, 6939705 N	pan	no gold
10PL031	621904 E, 6939632 N	pan	no gold
10PL035	615928 E, 6948100 N	pan	no gold
10RG001	612327 E, 6953362 N	sluice (75 gallons)	14 colours ($0.49/yd @ $1000/oz)
10JB057	609920 E, 6959105 N	sluice (50 gallons)	149 fine colours ($1.24/yd @ $1000/oz), abundant magnetite

DATA SOURCES

This surficial geology map was interpreted from high resolution digital stereo imagery (1:40 000 scale aerial photographs flown in 1989*). Selective field checking was performed in July 2010.

*National Air Photo Library photographs A27481 (1989): 6-15, 73-82, 100-109, 168-176 and A27517 (1989): 57-65.

Figure 1.View to the west of Rude Creek placer mine (10JB034) with Dip Creek in the background.

Figure 2. Frost-shattered weathered bedrock exposure approximately 1 m thick above *in situ* fractured bedrock (below dashed line) on the summit of Patton Hill (10JB023).

Figure 3. Collapsed open system pingo (with green thaw pond) in headwaters of tributary to Dip Creek (10PL039). Aufeis (icing) exposed in creek on left side of photo (10PL038).

Figure 4. Thermokarst thaw pond (10PL040) formed in a loess blanket located in Dip Creek valley.

Figure 5. Ice-rich permafrost in silty colluvial veneer on upper slopes of Casino property (10PL014).

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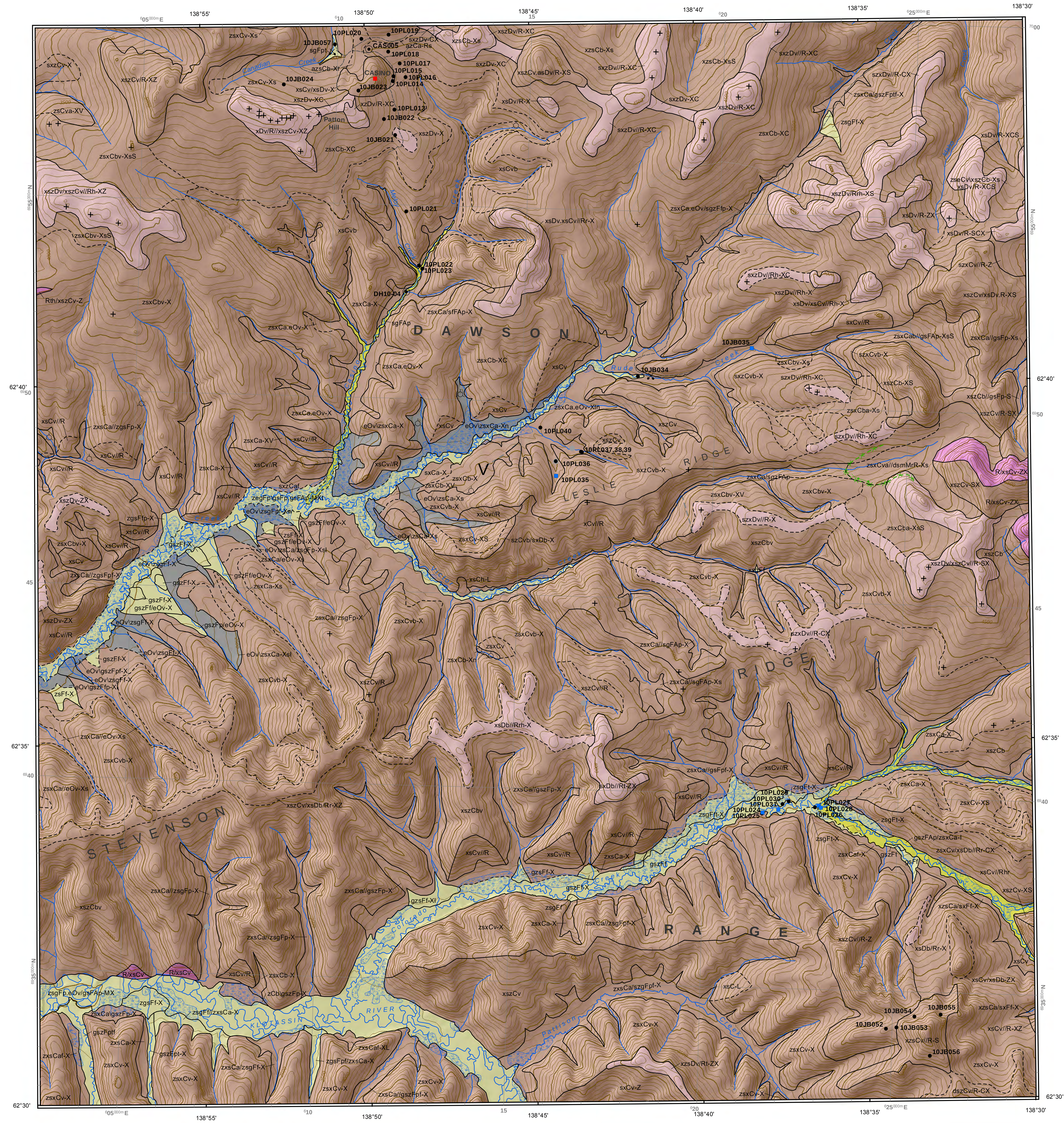

1:50 000 scale topographic base data produced by CENTRE FOR TOPOGRAPHIC INFORMATION, NATURAL RESOURCES CANADA

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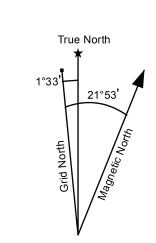
FIVE THOUSAND METRE GRID
Universal Transverse Mercator Projection
North American Datum 1983
Zone 7

CONTOUR INTERVAL 100 FEET
Elevations in feet above Mean Sea Level

SURFICIAL GEOLOGY
COLORADO CREEK
YUKON 115J/10

SCALE 1:50 000

0 1 2 3 4 5
kilometres



Use diagram only to obtain numerical values
APPROXIMATE MEAN DECLINATION NOVEMBER 2011
FOR CENTRE OF MAP

115J/14 COFFEE CREEK GSC open file 4344	115J/15 BRITANNIA CREEK GSC open file 4345	115J/16 CRIPPLE CREEK GSC open file 4346
115J/11 DOYLE CREEK open file 2012-3	115J/10 COLORADO CREEK open file 2012-2 MAP LOCATION	115J/09 SELWYN RIVER open file 2012-1
115J/06	115J/07 MOUNT PATTISON	115J/08 APEX MOUNTAIN

TERRAIN CLASSIFICATION SYSTEM

This surficial geology map was classified using the Terrain Classification System for British Columbia (Howes and Kenk, 1997), with minor modification to meet standards set by the Yukon Geological Survey. For example, we have added some permafrost process subclasses to accomodate the wider variety of permafrost features found in Yukon. We have also added an age classification to distinguish materials deposited during different Pleistocene glaciations.

A sample map unit label is shown below to illustrate the terrain classification system. Surficial materials form the core of the polygon map unit labels and are symbolized with a single upper case letter. Lower case textures are written to the left of the surficial material, and lower case surface expressions are written to the right. An upper case activity qualifier (A = active; I = inactive) may be shown immediately following the surficial material designator. The glacial qualifier "G" may alternatively be written immediately following the surficial material to indicate glacially modified materials. Age is indicated by a capital letter that follows the surface expression but precedes the process modifiers. Geomorphological processes (capital letters) and subclasses (lower case letters) always follow a dash symbol ("-").

sgFGptM-Xs
GEOMORPHOLOGICAL PROCESS(ES) (-X = permafrost)
SUBCLASS(ES) (s = sheetflow)
AGE (M = McConnell)
SURFACE EXPRESSION (pt = plain, terrace)
QUALIFIER (G = glacial; A = active; or I = inactive)
SURFICIAL MATERIAL (F = fluvial)
TEXTURE (sg = sand, gravel)

Due to scale limitations, up to 4 terrain units may be included in a single map unit label (e.g. sgFGptM.dsmMbM/xsCv\zcLGpM-XsV). Each component is separated by a delimiter that indicates relative proportions between the components (".", "/", "//") or a stratigraphic relationship "\").

"." - terrain units on either side of the symbol are of approximately equal proportion
"/" - terrain unit(s) before the symbol is more extensive than the one(s) following
"//" - terrain unit(s) before the symbol is considerably more extensive than the one(s) following
"\" - terrain unit(s) before the "\" symbol stratigraphically overlies the one(s) following

1st terrain unit >50% of map unit / 2nd terrain unit 30-49% of map unit // 3rd terrain unit 10-29% of map unit \ Underlying terrain unit

SURFICIAL MATERIALS

Surficial materials are non-lithified, unconsolidated sediments. They are produced by weathering, sediment deposition, biological accumulation, human and volcanic activity. In general, surficial materials are of relatively young geological age and they constitute the parent material of most (pedological) soils. Note that a single polygon will be coloured only by the dominant surficial material, but other materials may exist in that unit.

HOLOCENE

O — Organic: Organic deposits are accumulations of vegetative matter thicker than 1 m. They are commonly found in floodplains, areas of near-surface permafrost such as north-facing slopes, and locations where there is poor drainage. Thin veneers of organic material are widespread and generally unmapped. Organic material in the map area commonly consists of peat with fibric to mesic decomposition.

E — Eolian: Sediment transported and deposited by wind. The dominant eolian sediment in the map area is loess, which is predominantly silty in texture with a smaller fraction of fine sand. Loess veneers and blankets were deposited over the landscape during glacial periods. On stable sites, the loess is intact, whereas in cryoturbated or colluviated areas, the loess is reworked into the soil profile and its presence is indicated by the "z" textural symbol. Resedimented loess is a major component of colluvial aprons in the area. Ice-rich permafrost is common within low-lying eolian sediments.

C — Colluvium: Material transported and deposited by down-slope, gravity-driven processes such as creep, solifluction, landslides and snow avalanches. Colluvium is the most dominant surficial material in the northern Dawson Range as most of the area escaped Pleistocene glaciation. It commonly has a stratified structure with a highly variable texture and composition controlled by the parent material, transport mechanism and travel distance. Colluvium on uplands and slopes in the northern Dawson Range is generally derived from weathered bedrock and loess, resulting in a silt-rich diamicton containing angular, local bedrock clasts. On steeper slopes colluvium is generally coarser grained, as it has been deposited by rapid mass wasting processes such as rock fall, debris flows and avalanches. Slower processes such as sheetwash, solifluction and creep occur on gentler slopes and produce finer grained colluvium. Colluvial aprons found on lower slopes are commonly ice-rich and are primarily composed of resedimented loess and peat.

F, F^A — Fluvial: Sediments transported and deposited by modern streams and rivers, found in floodplains, fans and terraces. Fluvial deposits typically consist of well-sorted stratified sand and gravel comprising sub-angular to rounded clasts. In the unglaciated regions of the northern Dawson Range, low order streams are confined to very narrow V-shaped valleys and their fluvial deposits are generally not mapped due to scale limitations; their sediments, however, are more coarse grained and more locally derived than in higher order streams. Active fluvial (FA) materials are subject to regular flooding.

Glaciofluvial: Sediments transported and deposited by glacial meltwater above, in, below, or adjacent to a glacier. Glaciofluvial materials are deposited in meltwater channels, eskers, plains, terraces, kames and deltas. Sediments consist of moderately to well-sorted, rounded, stratified sand and gravel, although the nature and texture may vary locally depending on transport distance. Near surface ground ice is generally absent in glaciofluvial deposits unless there is a poorly drained underlying unit present.

FG^M — LATE WISCONSIN - MCCONNELL (M)
No McConnell glaciofluvial deposits are found in the map area.

FG^R — ILLINOIAN - REID (R)
No Reid glaciofluvial terraces are found in the map area.

Morainal: Morainal (till) materials are diamicts deposited by either: primary glacial processes such as lodgement, deformation and melt-out (ablation); or secondary glacial processes caused by gravity and water. Therefore, this term applies to all types of till including flow tills, which are not directly deposited by glacial ice. Ablation tills are relatively coarse grained and tend to have a hummocky or rolling surface expression; lodgement tills typically have a finer grained matrix with fewer clasts and a smoother surface expression. Tills are generally colluviated when found on slopes. Permafrost is widespread within morainal deposits. As most of the northern Dawson Range is unglaciated, morainal sediments are rare in the region. Even in upland areas that show evidence of alpine glaciation, no morainal sediments remain as they have likely been buried in colluvium and/or modified by intense periglacial and colluvial processes.

M^M — LATE WISCONSIN - MCCONNELL (M)
No McConnell morainal sediments are found in the map area.

M^G — EARLY WISCONSIN - GLADSTONE (G)
No Gladstone morainal sediments are found in the map area.

M^R — ILLINOIAN - REID (R)
No Reid morainal sediments are found in the map area.

LG — Glaciolacustrine: Stratified sand, silt and clay deposited in a lake that formed on, in, under or beside a glacier; may contain dropstones (ice-rafted clasts). Ice-rich permafrost and thermokarst erosion is widespread in these deposits as they are generally poorly drained with high *in situ* moisture contents that promote the growth of massive ice lenses. No glaciolacustrine sediments are exposed in the map area.

PRE-QUATERNARY

R — Bedrock: In general, the bedrock geology of the northern Dawson Range consists of Paleozoic metamorphic rocks of the Yukon-Tanana terrane intruded by Cretaceous and early Cenozoic plutons (Bennett et al., 2010). Regionally, the Cretaceous intrusions are associated with major strike-slip faults that may extend into the Dawson Range, imposing a primary northwest-trending structural trend in the region. Second-order, northeast-trending structures extending up Dip Creek may be associated with extension and local copper-gold mineralization (Bennett et al., 2010). Much of the map area is underlain by the mid-Cretaceous Dawson Range batholith granodiorite (Whitehorse suite), which was intruded by Late Cretaceous plutons (Prospector Mountain suite)(Gordey and Makepeace, 2003). Stevenson Ridge is primarily composed of Paleozoic quartzite and schist of the Yukon-Tanana terrane.

D — Weathered bedrock: bedrock decomposed or disintegrated *in situ* by processes of chemical and/or mechanical weathering such as freeze-thaw. Weathered bedrock is common in the uplands of the northern Dawson Range, especially along ridge tops and near tors. The material texture is coarse grained and sandy where derived from plutonic bedrock, although a silty component may be present due to incorporation of loess by cryoturbation.

SYMBOLS

GEOLOGICAL BOUNDARIES:
defined
approximate
assumed

AGE OF GLACIAL FEATURES:
McConnell (M) - late Wisconsin
Gladstone (G) - early Wisconsin
Reid (R) - Illinoian
Pre-Reid (>R) - early to middle Pleistocene

GLACIAL FEATURES:
moraine ridge
meltwater channel
cirque
arete

GLACIAL LIMITS:
defined
approximate
assumed

OTHER LINEAR FEATURES:
escarpment
lineation (fault, joint, tension crack)
sand dunes
strandline

TOPOGRAPHIC FEATURES:
contours
streams
trails
wetlands

GROUND OBSERVATION SITES:
(labelled with site number, e.g. 10JB004)
field station
stratigraphic section
radiocarbon sample
cosmogenic sample
heavy mineral sample
erratic, unspecified age
erratic, Gladstone
erratic, Reid
no erratics found

OTHER SURFACE FEATURES:
open system pingo; uncollapsed, collapsed
tor
drumlin (coloured by glacial age)
cryoplanation terrace
kettle
landslide, active layer detachment
palsa
thermokarst pond
placer mine
Yukon mineral occurrence

TEXTURE

Texture refers to the size, shape and sorting of particles in clastic sediments, and the proportion and degree of decomposition of plant fibre in organic sediments. Texture is indicated by up to three lower case letters, placed immediately before the surficial material designator, listed in order of decreasing abundance.

Specific clastic textures
a - blocks: angular particles >256 mm in size
b - boulders: rounded particles >256 mm in size
k - cobbles: rounded particles >64 - 256 mm in size
p - pebbles: rounded particles >2 - 64 mm in size
s - sand: particles between >0.0625 - 2 mm in size
z - silt: particles 2 µm - 0.0625 mm in size
c - clay: particles ≤2 µm in size

Common clastic textural groupings
d - mixed fragments: a mixture of rounded and angular particles >2 mm in size
x - angular fragments: a mixture of angular fragments >2 mm in size (*i.e.*, a mixture of blocks and rubble)
g - gravel: a mixture of two or more size ranges of rounded particles >2 mm in size (*e.g.*, a mixture of boulders, cobbles and pebbles); may include interstitial sand
r - rubble: angular particles between 2 and 256 mm; may include interstitial sand
m - mud: a mixture of silt and clay; may also contain a minor fraction of fine sand
y - shells: a sediment consisting dominantly of shells and/or shell fragments

Organic terms
o - organic: general organic materials
e - fibric: the least decomposed of all organic materials; it contains amounts of well-preserved fibre (40% or more) that can be identified as to botanical origin upon rubbing
u - mesic: organic material at a stage of decomposition intermediate between fibric and humic
h - humic: organic material at an advanced stage of decomposition; it has the lowest amount of fibre, the highest bulk density, and the lowest saturated water-holding capacity of the organic materials; fibres that remain after rubbing constitute less than 10% of the volume of the material

SURFACE EXPRESSION

Surface expression refers to the form (assemblage of slopes) and pattern of forms expressed by a surficial material at the land surface. This three-dimensional shape of the material is equivalent to 'landform' used in a non-genetic sense (*e.g.*, ridges, plain). Surface expression symbols also describe the manner in which unconsolidated surficial materials relate to the underlying substrate (*e.g.*, veneer). Surface expression is indicated by up to three lower case letters, placed immediately following the surficial material designator, listed in order of decreasing extent.

a - apron: a wedge-like slope-toe complex of laterally coalescent colluvial fans and blankets. Longitudinal slopes are generally less than 15° (26%) from apex to toe with flat or gently convex/concave profiles

b - blanket: a layer of unconsolidated material thick enough (>1 m) to mask minor irregularities of the surface of the underlying material, but still conforms to the general underlying topography; outcrops of the underlying unit are rare

c - cone: a cone or sector of a cone, mostly steeper than 15° (26%); longitudinal profile is smooth and straight, or slightly concave/convex; typically applied to talus cones

f - fan: sector of a cone with a slope gradient less than 15° (26%) from apex to toe; longtitudinal profile is smooth and straight, or slightly concave/convex

h - hummock: steep sided hillock(s) and hollow(s) with multidirectional slopes dominantly between 15-35° (26-70%) if composed of unconsolidated materials, whereas bedrock slopes may be steeper; local relief >1 m; in plan, an assemblage of non-linear, generally chaotic forms that are rounded or irregular in cross-profile; commonly applied to knob-and-kettle glaciofluvial terrain

l - delta: landform created at the mouth of a river or stream where it flows into a body of water; gently sloping surfaces between 0-3° (0-5%), and moderate to steeply sloping fronts between 16-35° (27-70%); glaciofluvial deltas in the map area are typically coarse-grained with steep sides and gently inclined kettled or channeled surfaces

m - rolling: elongate hillock(s); slopes dominantly between 3-15° (5-26%); local relief >1 m; in plan, an assemblage of parallel or sub-parallel linear forms with subdued relief (commonly applied to bedrock ridges and fluted or streamlined till plains)

p - plain: a level or very gently sloping, unidirectional (planar) surface with slopes 0-3° (0-5%); relief of local surface irregularities generally <1 m; applied to (glacio)fluvial floodplains, organic deposits, lacustrine deposits and till plains

r - ridge: elongate hillock(s) with slopes dominantly 15-35° (26-70%) if composed of unconsolidated materials; bedrock slopes may be steeper; local relief is >1 m; in plan, an assemblage of parallel or sub-parallel linear forms; commonly applied to drumlinized till plains, eskers, morainal ridges, crevasse fillings and ridged bedrock

t - terrace: a single or assemblage of step-like forms where each step-like form consists of a scarp face and a horizontal or gently inclined surface above it; applied to fluvial and lacustrine terraces and stepped bedrock topography

v - veneer: a layer of unconsolidated materials too thin to mask the minor irregularities of the surface of the underlying material; 10 cm - 1m thick; commonly applied to eolian/loess veneers and colluvial veneers

GEOMORPHOLOGICAL PROCESSES

Geomorphological processes are natural mechanisms of weathering, erosion and deposition that result in the modification of the surficial materials and landforms at the earth's surface. Unless a qualifier (A (active) or I (inactive)) is used, all processes are assumed to be active, except for deglacial processes. Up to three upper case letters may be used to indicate processes. These are listed in order of decreasing importance and placed after the surface expression symbol, following a dash (-) symbol.

Subclasses are used to provide more specific information about a general geomorophological process, and are represented by lower case letter(s) placed after the related process designator. Up to two subclasses can be associated with each process. Process subclasses used on this map are defined with the related process below.

EROSIONAL PROCESSES

V - gully erosion: running water, mass movement and/or snow avalanching, resulting in the formation of parallel and sub-parallel, long, narrow ravines

FLUVIAL PROCESSES

B - braiding channel: active floodplain consists of many diverging and converging channels separated by unvegetated bars

I - irregularly sinuous channel: a clearly defined main channel displaying irregular turns and bends without repetition of similar features; backchannels may be common, and minor side channels and a few bars and islands may be present, but regular and irregular meanders are absent

J - anastamosing channel: a channel zone where channels diverge and converge around many islands. The islands are vegetated and have surfaces that are far above mean maximum discharge levels

M - meandering channel: a clearly defined channel characterized by a regular and repeated pattern of bends with relatively uniform amplitude and wave length

MASS MOVEMENT PROCESSES

F - slow mass movements: slow downslope movement of masses of cohesive or non-cohesive surficial material and/or bedrock by creeping, flowing or sliding

L - mass movement with an unspecified rate

R - rapid mass movements: rapid downslope movement by falling, rolling, sliding or flowing of dry, moist or saturated debris derived from surficial material and/or bedrock

Subclasses: (b) rockfall; (d) debris flow; (g) rock creep; (s) debris slide; (u) slump in surficial material

PERIGLACIAL PROCESSES

C - cryoturbation: movement of surficial materials by heaving and/or churning due to frost action (repeated freezing and thawing)

S - solifluction: slow gravitational downslope movement of saturated non-frozen overburden across a frozen or otherwise impermeable substrate

X - permafrost processes: processes controlled by the presence of permafrost, and permafrost aggradation or degradation

Z - general periglacial processes: solifluction, cryoturbation and nivation, possibly occuring in a single polygon

Subclasses: (e) thermokarst erosion; (f) thaw flow slides; (l) segregated ice; (n) pingo; (t) thermokarst subsidence; (r) patterned ground; (s) sheetwash; (w) ice-wedge polygons

DEGLACIAL PROCESSES

E - channeled by meltwater: erosion and channel formation by meltwater alongside, beneath, or in front of a glacier

H - kettled: depressions in surficial materials resulting from the melting of buried glacier ice

T - ice contact: landforms that developed in contact with glacier ice such as kames

SURFICIAL MATERIAL AGE

GLACIATION	TIME PERIOD	APPROXIMATE GLACIAL MAXIMUM	MARINE ISOTOPE STAGE
M - McConnell	late Wisconsin	15 000 years ago	2
G - Gladstone	early Wisconsin	55 000 years ago	4
R - Reid	Illinoian	130 000 years ago	6
>R - Pre-Reid	early to middle Pleistocene	2.6 million to 200 000 years ago	8-102

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

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Yukon Geological Survey
Energy, Mines and Resources
Government of Yukon

Open File 2012-2

Surficial Geology of Colorado Creek (NTS 115J/10) Yukon (1:50 000 scale)

by

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