

095564

## 2011 Geophysical Survey Report Ten Mile Creek Project

### Claim Names:

Jual 30-36; Jual 39-40; Val 1-6; Val 8; Val 10; Val 12; Val 14-15; Val 17; Val 19

### Grant Numbers:

YC07829-YC07835; YC07838-YC07839; YC07772-YC07777;  
YC07779; YC07781; YC07783; YC07785-YC07786; YC07788;  
YC07790

NTS: 115N/09

Latitude 63° 30' N Longitude 140° 00' W

Dawson Mining District

Work performed between July 2<sup>nd</sup> and August 1<sup>st</sup>, 2011

Registered Owner: Bernard Kreft  
1 Locust Place  
Whitehorse, Yukon  
Y1A 5C4

Operator: Solomon Resources Limited  
PO Box 938,  
Vernon, B.C.  
V1T 6M8



*Report written by: Randall S. Rogers, P.Geo.  
January 21<sup>st</sup>, 2012*

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Campbell, Christopher, 2012. Airborne Geophysical Interpretation of the Ten Mile Creek Property, Dawson Mining District, Yukon.

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## **Introduction**

The Ten Mile Creek Gold Project comprises 309 mineral claims located 75 kilometers southwest of Dawson City and approximately 30 kilometers north-northwest of the White Gold Property of Kinross Gold Corp. and 60 kilometers north of the Coffee Gold Project of Kaminak Gold Corp.

Recent exploration developments at the Kinross Gold Corp. and Kaminak Gold Corp. White Gold and Coffee properties have been the catalyst for a great deal of new exploration projects in this portion of the Dawson Range and the Ten Mile Creek Gold Project is one of these.

Solomon's exploration program at Ten Mile Creek was initially focussed on the Jual Vein System identified by former operators of this property but as the results from the 2010 soil geochemical and surface geophysical surveys were received, it became readily apparent that the Jual Vein System was a very small component of a much larger gold target on the northernmost JV claim group extending over an area 3.0 kilometers by 1.5 kilometers in extent. Three extensive new soil geochemical anomalies were discovered within this broad target area, and the high gold values up to 1436 parts per billion (ppb) gold and 4630 parts per million (ppm) arsenic and the pronounced linearity of these anomalies suggest that the Jual Vein System is a spatially limited expression of what may be an extensive structurally controlled gold system that dominates the northernmost JV claim group.

The 2011 exploration program was focussed on expanding the geochemical soil sampling coverage on both the Jual-Val Claims and the Ten Claims and on obtaining airborne geophysical survey data on selected portions of the property.

The present report is the summary of the Geophysical Survey conducted in 2011 on the 22 Jual and Val Claims. Once the results of the 2011 geochemical soil sampling program are received the exploration data will be compiled and consideration will be given to the direction of further exploration.

## **Summary of Previous Investigations**

In the spring of 1998, Teck Corporation began exploration in the Ten Mile Creek area. The release of government Regional Geochemical Surveys had indicated anomalous gold and arsenic in stream sediments that were the catalyst for drawing attention to this area which had been historically underexplored. The area does have a rich history of placer mining and Ten Mile Creek has been actively mined since 1898.

In the course of their exploration program Teck staked the Ten 1 - 123 claims, the Jual 1 - 41 claims, the Five 1 - 10 claims and the Val 1 - 32 claims. From 1998 to 2000 Teck conducted exploration programs on these properties which included stream sediment, soil and rock sampling and geological mapping. Teck excavated a limited number of trenches over the most promising anomalies, but lost interest in the area and in 2008 some of the claims started to lapse. In April 2009 Radius Gold Corp. staked the RDU claims over a portion of the lapsed Teck claims while Yukon prospector Bernie Kreft negotiated acquisition of the surviving Teck claims subject to a right of first refusal. In 2009, Radius made a proposal to Kreft to acquire his

claims and Teck waived their right of first refusal. Radius then optioned the consolidated Ten Mile Creek Gold Project claims to Solomon Resources Limited.

In the 2010 field season, Solomon collected 2,650 soil geochemical samples on grids established in the central portion of the JV claim group and the northern portion of the Ten Mile claims.

Four significant soil geochemical anomalies were discovered in the 2010 field program:

The Skukum Zone is a significant sinuous gold in soil geochemical anomaly located on the JV claim group approximately 900 meters by 700 meters in extent with values up to 1436 parts per billion (ppb) gold and 4630 parts per million (ppm) arsenic.

The Jack London Zone is located one kilometer north of the Skukum Zone and is a soil geochemical anomaly 1600 meters by 600 meters in extent with a peak soil geochemical value of 260 ppb Gold. This highly prospective target will be trenched early in the 2011 exploration season.

The Sourdough Joe Zone is located one kilometer north-northeast of the Jack London Zone and is an elongated east-west soil geochemical anomaly measuring 1400 meters by 300 meters with a peak soil geochemical value of 141 ppb Gold. This highly prospective target will also be trenched early in the 2011 exploration season.

The Klondike Kate Zone is an east-west anomaly in the northern portion of the Ten Mile claim group four kilometers east of the Skukum Zone measuring approximately 1600 meters in length and 400 meters in width with gold in soil geochemical results as high as 698 ppb gold and 570 ppm arsenic.

Trenching of selected anomalies in 2010 returned gold values as high as 1.5 g/t gold over 2.0 meters.

Six exploratory diamond drill holes were completed in 2010, primarily directed at providing a better understanding of the historical mineralization of the property and to set the stage for drilling the highly anomalous soil geochemical anomalies discovered late in the 2010 field season.

The 2011 exploration program included expanded soil geochemical grids, airborne geophysics and geological mapping and demonstrated that these gold in soil geochemical anomalies are far more extensive than indicated by the 2010 results and the pronounced linearity of the anomalies suggests that the Jual Vein System is the surface expression of an extensive structurally controlled gold system that dominates the northernmost portion of the property and extends over an area 2700 meters by 3880 meters in size.

The Skukum Zone was extended to the west to cover an area in excess of 2000 meters by 800 meters in extent. The anomaly remains open to the east and mechanized trenching will be the next step in defining drill targets in this zone.

The Jack London Zone, located on the JV Claim Group north of the Skukum Zone, was significantly expanded northwesterly in the 2011 field program to 1600 meters by 600 meters in extent with a peak soil geochemical value of 787 ppb gold. This highly prospective target will be trenched in the next phase of the exploration program.

The Klondike Kate Zone was extended westerly in the 2011 field season to measure approximately 1950 meters by 800 meters in extent with gold in soil geochemical results as high as 698 ppb gold. This target displays a unique geochemical signature that suggests a different mineralization event from the other zones discovered to date on the property and further work is required before we commit to drilling here in the 2012 exploration season.

A helicopter-borne gamma-ray spectrometry and magnetic survey was contracted to Precision GeoSurveys Inc. and flown in July 2011 comprising acquisition of 296 line-kilometers of geophysical data.

Analysis of the geophysical survey was contracted to Christopher Campbell P.Geo. of Intrepid Geophysics Ltd.

The geophysical survey conducted in 2011 is the subject of this Assessment Report.

## List of Claims

Solomon holds an option from Radius Gold Inc. to earn a 51% interest in the property. The original Solomon-Radius option agreement covered 266 claims located under the *Yukon Quartz Mining Act* in the Dawson Mining District. On October 12<sup>th</sup>, 2010 Solomon acquired a further 43 mineral claims to protect the northern extension of the mineralized zones discovered in 2010 on the JV claim group as well as the southeastern flank of the Ten claim group which has yet to be explored. The option agreement has been amended to include the 309 claims that comprise the Ten Mile Creek Gold Project.

The 22 mineral claims that are subject of this Assessment Report are:

Claims for renewal		Ownership		Expiry Date
Claim name	Grant number	Claim Holder	Operator	(Current)
Jual 30-36	YC07829-YC07835	Bernard Kreft	Solomon Resources Limited	2015/08/07
Jual 39-40	YC07838-YC07839	Bernard Kreft	Solomon Resources Limited	2015/08/07
Val 1-6	YC07772-YC07777	Bernard Kreft	Solomon Resources Limited	2015/08/04
Val 8	YC07779	Bernard Kreft	Solomon Resources Limited	2015/08/04
Val 10	YC07781	Bernard Kreft	Solomon Resources Limited	2015/08/04
Val 12	YC07783	Bernard Kreft	Solomon Resources Limited	2015/08/04
Val 14-15	YC07785-YC07786	Bernard Kreft	Solomon Resources Limited	2015/08/04
Val 17	YC07788	Bernard Kreft	Solomon Resources Limited	2015/08/04
Val 19	YC07790	Bernard Kreft	Solomon Resources Limited	2015/08/04

**Table 1: Claims for Renewal**

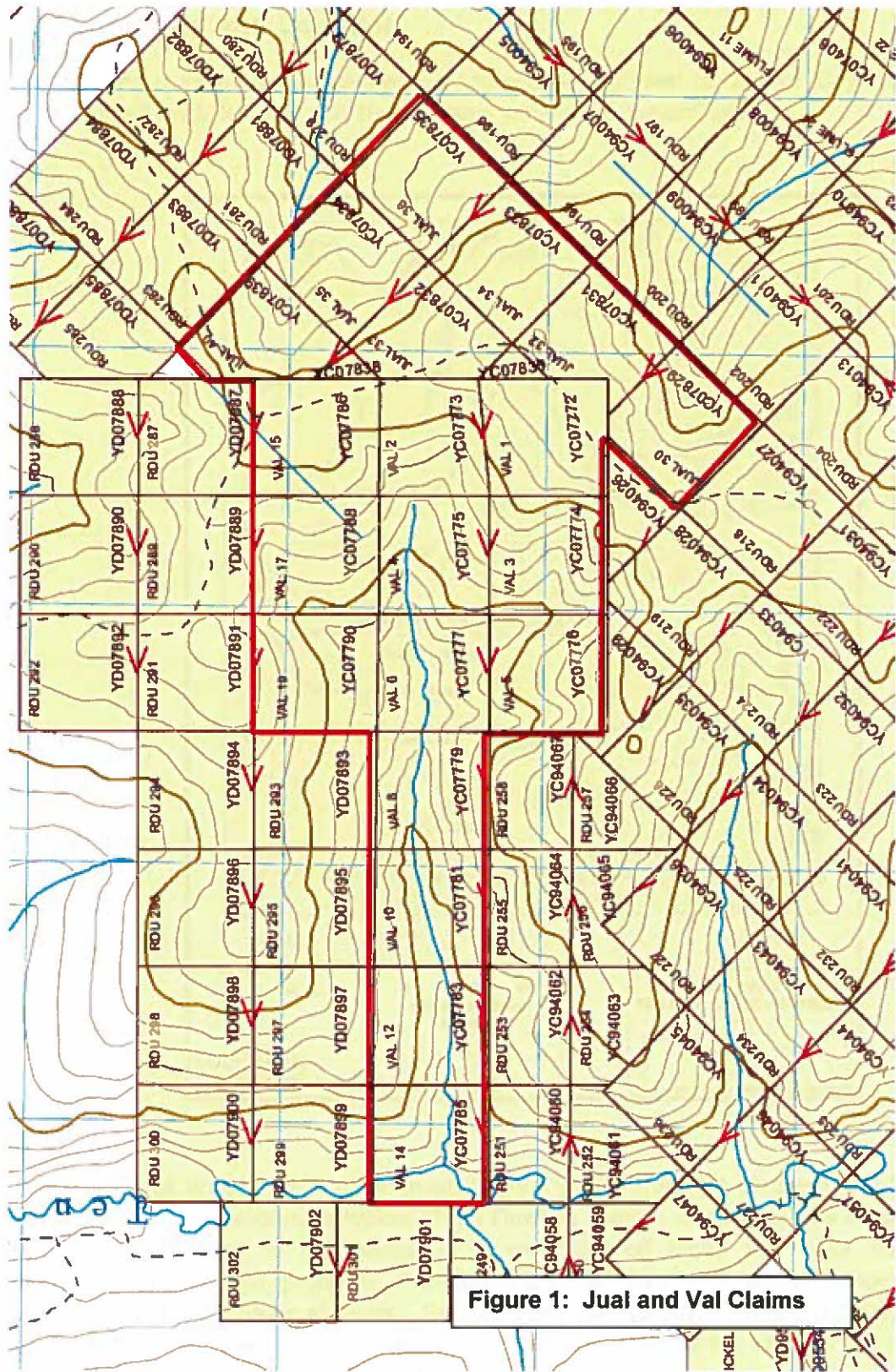
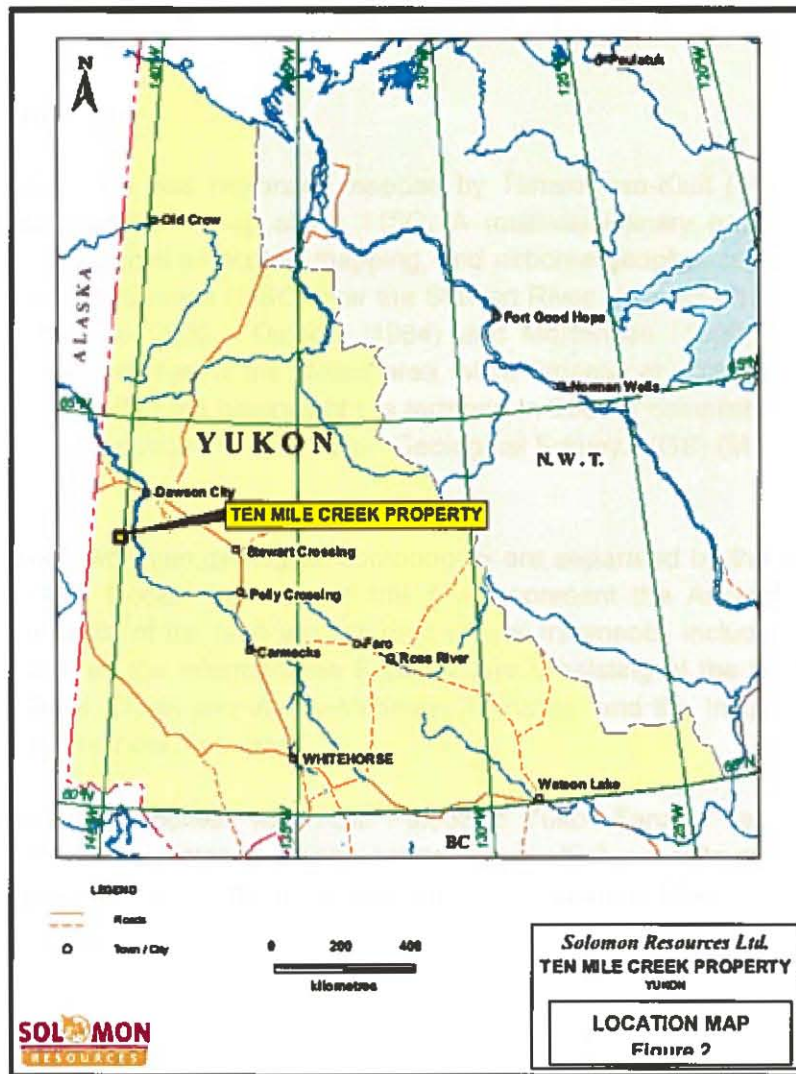


Figure 1: Jual and Val Claims

## Physiography and Location

The property is located approximately 75 kilometers southwest of Dawson City, 10 kilometers south of the Sixty Mile River and 10 kilometers west of the Yukon River.



Ten Mile Creek divides the northernmost Jua-Val claims from the southernmost Ten Claims. Topography on the property is typical of the Dawson Range, with rolling hills incised by steep sloped gullies, which is representative of water run-off being the major contributor to morphology, rather than glaciation. Permafrost typically covers the northern slopes, which are underlain by a thick cover of moss. South slopes are typically covered in alders and black spruce, while the highest elevation above 3000 feet ASL is above the tree line and covered with a layer of felsenmeer and/or thin layer of soil.

A serviceable four wheel drive road extends from the Lammers Airstrip at the conjunction of Ten Mile Creek with the Sixty Mile River and a network of ATV trails and tote roads extend from this road onto the Jual-Val claims.

The Ten Mile Creek Gold Project is readily accessible by roll-on/roll-off barge from the Yukon River. The 2011 exploration camp was situated on Ten Mile Creek two kilometers upstream from Lammers Airstrip and exploration was supported by fixed wing aircraft based out of Dawson City.

## **Geological Setting**

The Ten Mile Creek area was regionally mapped by Tempelman-Kluit (1974) on map sheet 115N and Bostock (1942) on map sheet 115O. A multi-disciplinary program, consisting of regional bedrock and surficial geological mapping, and airborne geophysics, was undertaken by the Geological Survey of Canada (GSC) over the Stewart River area, which included Solomon's claim area from 2000 to 2003. Debicki (1984) and Mortensen (1996) mapped the area immediately north and northeast of the project area, while Wheeler et al (1991), and Gordey and Makepeace (2001) compiled the geology of the territory. In 2006 a compilation map of the area was put together in conjunction with the Yukon Geological Survey (YGS) (M. Colpron, OF 2006-1).

In the central Yukon, two main geological components are separated by the major, northwest-trending Tintina Fault. Rocks northeast of this fault represent the Ancient North American margin. Rocks southwest of the fault are accreted crustal fragments, including the pericratonic Yukon- Tanana Terrane, the Intermontane Superterrane consisting of the Stikinia, Quesnellia, Slide Mountain, Cache Creek and Windy-McKinley Terranes, and the Insular Superterrane of the Wrangellia and Alexander Terranes.

The Ten Mile Property is located within the Paleozoic Yukon-Tanana Terrane (YTT) and is comprised of the Upper Devonian Snowcap assemblage, which consists of polydeformed and metamorphosed quartzite, psammite, pelite and marble (M. Colpron 2006).



Figure 3 shows the location of Solomon's claims in relation to the regional geology of the area. Intruded into this assemblage are a series of granitic plutons, varying from highly deformed to almost fresh looking. Dating of the Ten Mile intrusion has revealed a history of multi events dating as old as the Permian (263 Ma), and as young as the early Jurassic (174 Ma).

Much younger Palaeocene (56 Ma) feldspar porphyritic dikes cut the older rocks in a north, north-west direction.

The property scale geology has been found to consist primarily of Permian metamorphic rocks locally exhibiting schistose to gneissic deformation. The schists are mainly silicic and micaceous and the gneiss appears to be of felsic intrusive origin. A large Jurassic-Cretaceous granitic to monzonitic (locally highly silicic) intrusive body underlies the central portion of the property and mapping in the 2010 field season indicates that a larger and possibly coeval intrusive body underlies a portion of the northern JV claim group. Late stage feldspar porphyry dykes related to the Carmacks Volcanic package cut through the country rock in a northerly trend.

Structurally, the Paleozoic rocks exhibit a regional foliation characterized by high strain transposition of layering in the gneiss and schist with abundant intrafolial isoclinal folding that appears to be rootless. The intensity of strain locally grades to mylonitic facies. Primary compositional layering in metasedimentary rocks, unit contacts, and a pre-existing foliation can be traced around closures of the transposition folds, indicating they are at least S2 structures. Secondary deformation appears to accompany the regional metamorphism, which occurred during the mid-Permian.

Geological mapping of the area has proven difficult due to a paucity of outcrop.

## **Work Program: Geophysical Survey**

Precision GeoSurveys Inc. was contracted to fly an airborne gamma-ray spectrometer and magnetic survey over the northern portion of the Ten Mile Creek property. Survey operations were based out of the Black Hills Creek camp approximately 60 kilometers east of the property.

The survey was flown from July 20<sup>th</sup> to July 21<sup>st</sup> 2011 and final coverage consisted of 230.075 line-kilometres, including tie lines, on Block A, with a further 65.926 line-kilometres over Block B (see Figure 4.)

Flight lines were flown northeast-southwest (Azimuth 045°-225°) with a line separation of 100 meters and tie lines were flown orthogonal to the traverse lines (Azimuth 135°-315°) at intervals of 1,000 meters. Survey production was hampered by both poor weather conditions and magnetic storms.

The survey employed a Scintrex cesium vapour CS-3 magnetometer housed in a front-mounted "stinger" and a Pico Envirotec GRS-10 Gamma Spectrometer utilizing 16.8 litres of NaI

downward looking and 4.2 litres NaI of upward looking crystals. Ancillary equipment consisted of a base station magnetometer, laser altimeter, and an AGIS data acquisition system to facilitate data synchronization / recording and navigation. The instrumentation was installed in an AS350-D single engine light helicopter (Registration C-GOHK) provided by Vertical Air Ltd. The helicopter flew at an average airspeed of 110.9 km/h (30.8 m/s) with a nominal sensor height of approximately 35 metres, mean terrain clearance. In several portions of the survey area, thick forest and rolling topography forced the pilot to exceed normal terrain clearance for reasons of safety; the actual mean bird height is ~40 meters as determined by the laser altimeter with a maximum recorded being almost 150 meters.

It is possible that some valid anomalous features may have escaped detection or be relatively subdued in areas where the helicopter height exceeded 100 meters.

The Precision Geosurveys report, (Poon, Jenny, 2011. Precision Geosurveys Inc.: Airborne Geophysical Survey Report, Ten Mile Creek Gold Project – Block and Block B) is found in Appendix I as a supplement to the interpretation report of Intrepid Geophysics Ltd. and Appendix II includes larger print format maps of the geophysical survey as well as the survey data on CD.

Longitude	Latitude	Easting	Northing
140.1316133	63.53837882	543173	7045869
140.1587868	63.52751924	541838	7044641
140.1401765	63.51719503	542779	7043503
140.1599503	63.50846272	541808	7042517
140.1163650	63.48900245	544007	7040378
140.0328495	63.52644683	548103	7044610
140.0683092	63.54274746	546313	7046400
140.0831316	63.53726034	545585	7045778
140.0961012	63.54183927	544933	7046279
140.1180453	63.53285703	543856	7045263

Table 2: Block A survey polygon coordinates using WGS 84 in zone 7N.

Longitude	Latitude	Easting	Northing
140.0479245	63.48556610	547421	7040044
140.0212256	63.47367316	548771	7038739
139.9763821	63.49351862	550970	7040985
140.0024440	63.50581936	549651	7042335

Table 3: Block B survey polygon coordinates using WGS 84 in zone 7N.

downward looking and 4.2 litres NaI of upward looking crystals. Ancillary equipment consisted of a base station magnetometer, laser altimeter, and an AGIS data acquisition system to facilitate data synchronization / recording and navigation. The instrumentation was installed in an AS350-D single engine light helicopter (Registration C-GOHK) provided by Vertical Air Ltd. The helicopter flew at an average airspeed of 110.9 km/h (30.8 m/s) with a nominal sensor height of approximately 35 metres, mean terrain clearance. In several portions of the survey area, thick forest and rolling topography forced the pilot to exceed normal terrain clearance for reasons of safety; the actual mean bird height is ~40 meters as determined by the laser altimeter with a maximum recorded being almost 150 meters.

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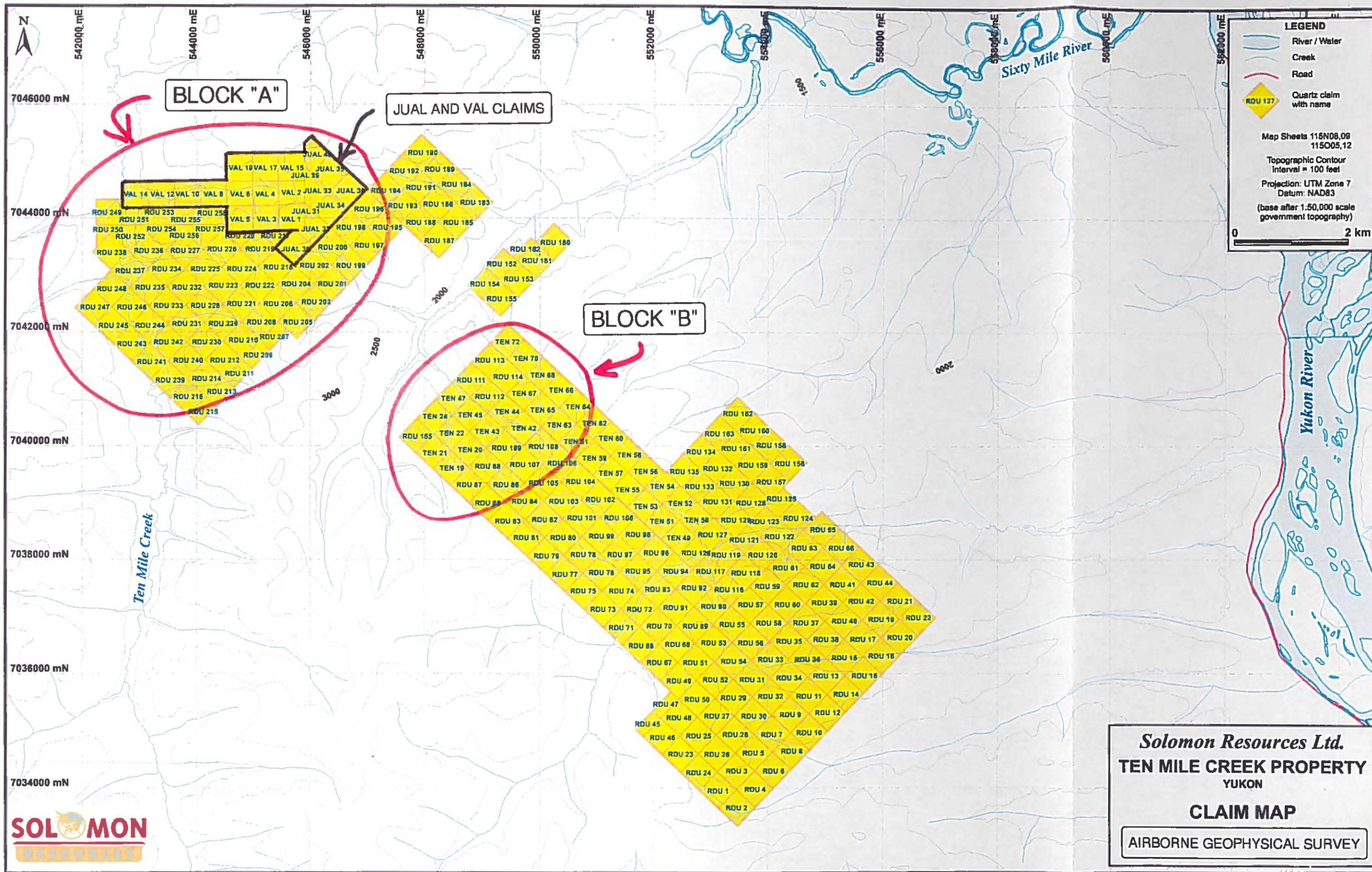
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140.0831316	63.53726034	545585	7045778
140.0961012	63.54183927	544933	7046279
140.1180453	63.53285703	543856	7045263

Table 2: Block A survey polygon coordinates using WGS 84 in zone 7N.

Longitude	Latitude	Easting	Northing
140.0479245	63.48556610	547421	7040044
140.0212256	63.47367316	548771	7038739
139.9763821	63.49351862	550970	7040985
140.0024440	63.50581936	549651	7042335

Table 3: Block B survey polygon coordinates using WGS 84 in zone 7N.



**BLOCK "A"**

**JUAL AND VAL CLAIMS**

**BLOCK "B"**

VAL 19 VAL 17 VAL 15 VAL 14 VAL 12 VAL 10 VAL 8 VAL 6 VAL 4 VAL 2 JUAL 35 JUAL 36 JUAL 37 JUAL 38 JUAL 39 JUAL 40 JUAL 41 JUAL 42 JUAL 43 JUAL 44 JUAL 45 JUAL 46 JUAL 47 JUAL 48 JUAL 49 JUAL 50 JUAL 51 JUAL 52 JUAL 53 JUAL 54 JUAL 55 JUAL 56 JUAL 57 JUAL 58 JUAL 59 JUAL 60 JUAL 61 JUAL 62 JUAL 63 JUAL 64 JUAL 65 JUAL 66 JUAL 67 JUAL 68 JUAL 69 JUAL 70 JUAL 71 JUAL 72 JUAL 73 JUAL 74 JUAL 75 JUAL 76 JUAL 77 JUAL 78 JUAL 79 JUAL 80 JUAL 81 JUAL 82 JUAL 83 JUAL 84 JUAL 85 JUAL 86 JUAL 87 JUAL 88 JUAL 89 JUAL 90 JUAL 91 JUAL 92 JUAL 93 JUAL 94 JUAL 95 JUAL 96 JUAL 97 JUAL 98 JUAL 99 JUAL 100 JUAL 101 JUAL 102 JUAL 103 JUAL 104 JUAL 105 JUAL 106 JUAL 107 JUAL 108 JUAL 109 JUAL 110 JUAL 111 JUAL 112 JUAL 113 JUAL 114 JUAL 115 JUAL 116 JUAL 117 JUAL 118 JUAL 119 JUAL 120 JUAL 121 JUAL 122 JUAL 123 JUAL 124 JUAL 125 JUAL 126 JUAL 127 JUAL 128 JUAL 129 JUAL 130 JUAL 131 JUAL 132 JUAL 133 JUAL 134 JUAL 135 JUAL 136 JUAL 137 JUAL 138 JUAL 139 JUAL 140 JUAL 141 JUAL 142 JUAL 143 JUAL 144 JUAL 145 JUAL 146 JUAL 147 JUAL 148 JUAL 149 JUAL 150 JUAL 151 JUAL 152 JUAL 153 JUAL 154 JUAL 155 JUAL 156 JUAL 157 JUAL 158 JUAL 159 JUAL 160 JUAL 161 JUAL 162 JUAL 163 JUAL 164 JUAL 165 JUAL 166 JUAL 167 JUAL 168 JUAL 169 JUAL 170 JUAL 171 JUAL 172 JUAL 173 JUAL 174 JUAL 175 JUAL 176 JUAL 177 JUAL 178 JUAL 179 JUAL 180 JUAL 181 JUAL 182 JUAL 183 JUAL 184 JUAL 185 JUAL 186 JUAL 187 JUAL 188 JUAL 189 JUAL 190 JUAL 191 JUAL 192 JUAL 193 JUAL 194 JUAL 195 JUAL 196 JUAL 197 JUAL 198 JUAL 199 JUAL 200 JUAL 201 JUAL 202 JUAL 203 JUAL 204 JUAL 205 JUAL 206 JUAL 207 JUAL 208 JUAL 209 JUAL 210 JUAL 211 JUAL 212 JUAL 213 JUAL 214 JUAL 215 JUAL 216 JUAL 217 JUAL 218 JUAL 219 JUAL 220 JUAL 221 JUAL 222 JUAL 223 JUAL 224 JUAL 225 JUAL 226 JUAL 227 JUAL 228 JUAL 229 JUAL 230 JUAL 231 JUAL 232 JUAL 233 JUAL 234 JUAL 235 JUAL 236 JUAL 237 JUAL 238 JUAL 239 JUAL 240 JUAL 241 JUAL 242 JUAL 243 JUAL 244 JUAL 245 JUAL 246 JUAL 247 JUAL 248 JUAL 249 JUAL 250 JUAL 251 JUAL 252 JUAL 253 JUAL 254 JUAL 255 JUAL 256 JUAL 257 JUAL 258 JUAL 259 JUAL 260 JUAL 261 JUAL 262 JUAL 263 JUAL 264 JUAL 265 JUAL 266 JUAL 267 JUAL 268 JUAL 269 JUAL 270 JUAL 271 JUAL 272 JUAL 273 JUAL 274 JUAL 275 JUAL 276 JUAL 277 JUAL 278 JUAL 279 JUAL 280 JUAL 281 JUAL 282 JUAL 283 JUAL 284 JUAL 285 JUAL 286 JUAL 287 JUAL 288 JUAL 289 JUAL 290 JUAL 291 JUAL 292 JUAL 293 JUAL 294 JUAL 295 JUAL 296 JUAL 297 JUAL 298 JUAL 299 JUAL 300

TEN 72 TEN 70 TEN 68 TEN 66 TEN 64 TEN 62 TEN 60 TEN 58 TEN 56 TEN 54 TEN 52 TEN 50 TEN 48 TEN 46 TEN 44 TEN 42 TEN 40 TEN 38 TEN 36 TEN 34 TEN 32 TEN 30 TEN 28 TEN 26 TEN 24 TEN 22 TEN 20 TEN 18 TEN 16 TEN 14 TEN 12 TEN 10 TEN 8 TEN 6 TEN 4 TEN 2

7046000 mN

7044000 mN

7042000 mN

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7044000 mN

7046000 mN

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546000 mE

548000 mE

550000 mE

552000 mE

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556000 mE

558000 mE

560000 mE

562000 mE

564000 mE

Ten Mile Creek

Sixty Mile River

Yukon River

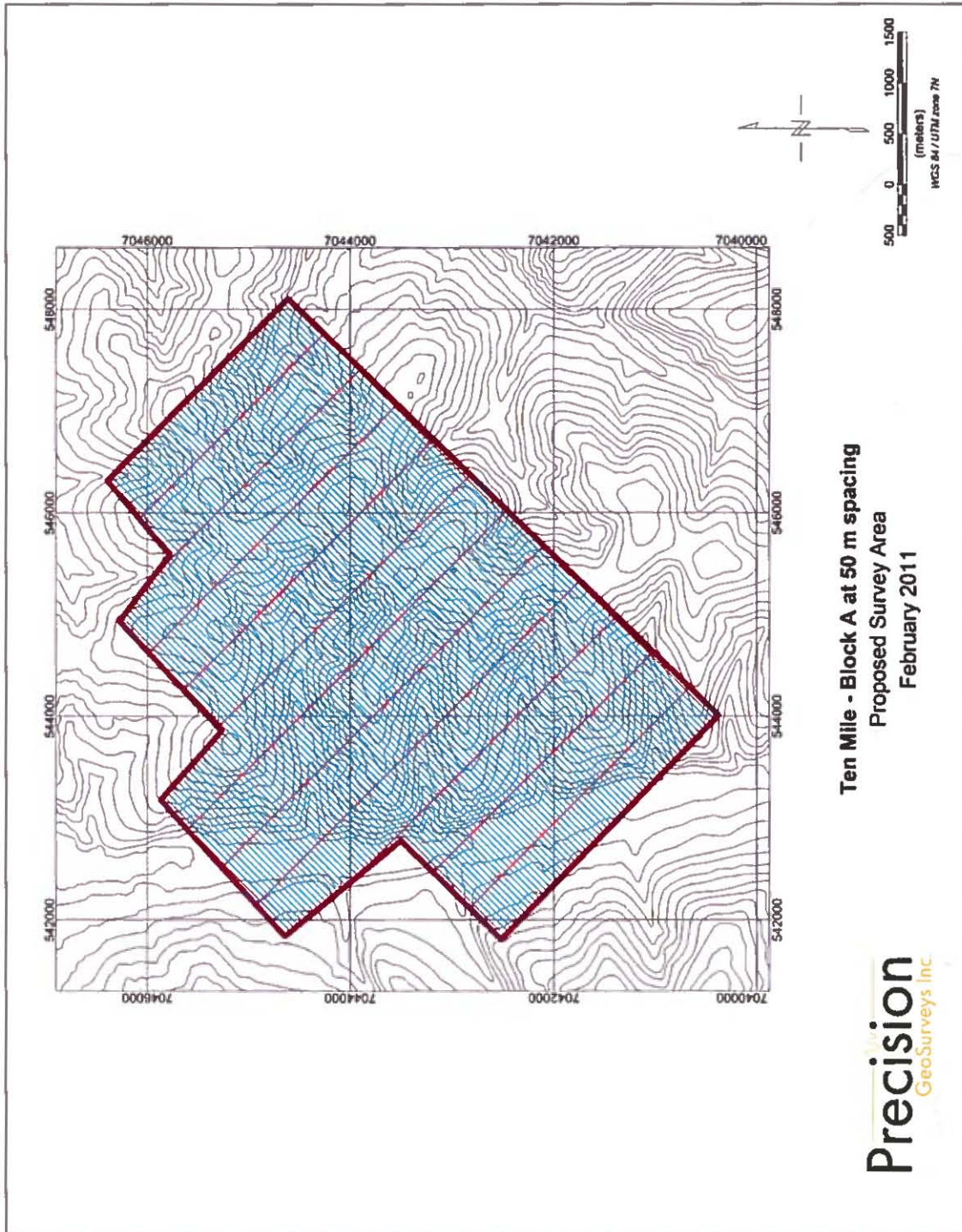


Figure 5. Geophysical Survey Block "A"

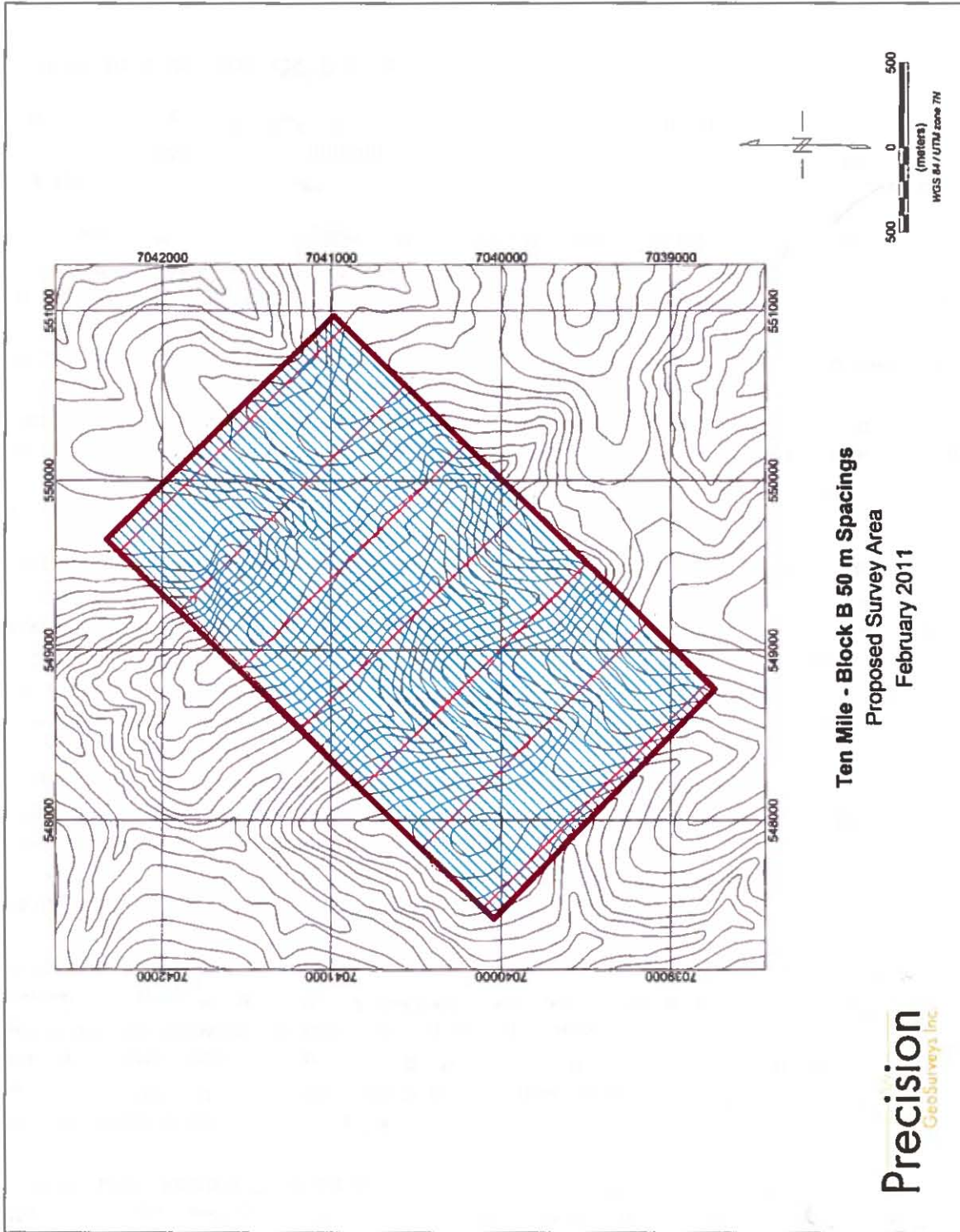


Figure 6. Geophysical Survey Block "B"

## Interpretation and Conclusions

Interpretation of the geophysical survey was contracted to Christopher Campbell P. Geo. of Intrepid Geophysics Ltd. Campbell's report is found at Appendix I to this Assessment report, but the key conclusions are summarized hereunder:

A number of dominant structural orientations have been identified which include: the central portion of survey area Block A (i.e. the Jual and Val claims subject of this report) is dominated by an east-west system, observed in both datasets, magnetics and radiometrics, flanked on both sides by strong north-northwest trending magnetic elements. The strong lineation shown on the eastern side of this block corresponds to the Jual vein system (comprised of flat to moderately dipping quartz veins, stockworks and faults in the Mesozoic intrusion). Significant structural disturbance is felt reasonable and indeed is observed in the magnetic derivatives. The southernmost survey area Block B is dominated by a NNW-trending fabric with two notable magnetic highs interpreted as local-scale intrusions; structural disturbances are evident about these inferred intrusions.

The strong magnetic lineation which corresponds with the eastern flank of the identified eTh/K low on Block A (i.e. the Jual and Val claims subject of this report) and the known Jual vein system suggests this to be a priority area for further investigation. Similarly, although it is believed little work has so far been done on the southernmost Block B, the eTh/K low indicated there does have correlation to strong magnetic lineation, suggesting good potential for structural offset and faulting; this too suggests itself as a priority area for follow-up.

In the Block A radiometric survey, an anomalously low Th/K ratio is noted coincident with an east-west cross-fabric as revealed by the magnetics; this area corresponds to mapped (regional geology) biotite granites. Areas for follow-up include the boundaries or margins of the area of interest or 'AOI' above, where intersections of the prevailing northwest-southeast fabric by the east-west cross linears suggests some structural offset.

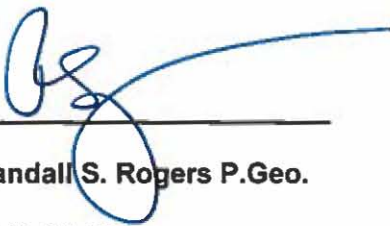
While not part of the Jual-Val claims subject of this report it is worth noting that in the Block "B" radiometric survey an anomalously low eTh/K ratio was noted, again corresponding to mapped biotite granites. However, an east-west cross-cutting fabric is noted at least on the northwest flank of the low eTh/K zone. Areas for follow-up therefore include the boundaries or margins of this AOI above, where intersections of the prevailing NW-SE fabric by the east-west cross linears suggest some structural offset.

A program of geological prospecting, geochemical soils augering, sampling and ground geophysics consisting of magnetics and 3D induced polarization / resistivity is recommended to further delineate the conductive zones and possible identify disseminated sulphides which in turn could indicate anomalous gold mineralization.

## Statement of Qualifications

I, Randall Stewart Rogers, with business address at Solomon Resources Limited, PO Box 938, Vernon, B.C., V1T 6M8, hereby certify that:

- I am a practising Geologist, located in Vernon B.C.;
- I am a member in good standing with the Association of Professional Engineers and Geoscientists of British Columbia (Licence 35584) and the Association of Professional Engineers, Geologists and Geophysicists of Alberta (Licence 36474);
- I hold a Bachelor of Science (Honours) degree in Geology (1980) from the University of British Columbia;
- I hold a Master of Science degree in Mineral Exploration (1981) from Queen's University at Kingston;
- I have practiced my profession as a geologist since graduation;
- I have a direct interest in the operations of Solomon Resources Ltd.: I am the Chief Executive Officer and President of the Company and a shareholder.
- I have based this report on:
  - Field work conducted by exploration contractors under my direct supervision
  - Historical research into past operations on the claims and adjacent to the claims
- I consent to the use of this report for any Filing Statement, Statement of Material Facts, or support document.



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**Randall S. Rogers P.Geol.**

**2012-01-20**

## Statement of Expenditures

An Application for a Certificate of Work (Grouping HD03065) was filed at Dawson Mining Recorder August 8<sup>th</sup>, 2011 allocating \$ 8,882.83 in work to the renewal of these claims.

The Application for Certificate of work and Cost Summary was registry stamped by the Dawson Mining Recorder QD01424.

### *Detailed Cost Breakdown:*

#### Reconnaissance Flight

Lakehead Helicopters Inc. on July 2, 2011

2.0hrs @ \$950.00/h:	\$1,900.00		
GST (12%):	<u>\$ 228.00</u>		
		<b>Total</b>	<b>\$ 2,128.00</b>

#### Airborne Geophysical Survey – Jual/Val claims

(25% of total Survey plus fuel costs)

Survey flown on July 17-21, 2011 by Precision Geosurveys Inc.

#### Break down of costs on Jual/Val Claims

66 line km of mag-spec survey @\$66/km:	\$ 4,356.00		
Operating costs (fuel):	\$ 189.38		
Camp costs:	\$ 168.75		
GST	<u>\$ 235.71</u>		
Total Survey Cost	\$ 4,949.83		

Total Survey cost on Jual/Val Claims: **\$ 4,949.83**

Fuel and transport of fuel (Solomon Resources): **\$ 1,405.00**

#### File Preparation

Geologist @400.00/day for 1 day: **\$ 400.00**

Total assessment credit for Jual/Val renewal = **\$ 8,882.83**

Item	Notes	Cost
Reconnaissance Flight Lakehead Helicopters	July 2 <sup>nd</sup> , 2011	\$ 2,128.00
Geophysical Survey Precision Geosurveys Inc.	July 17 <sup>th</sup> , 2011 to July 21 <sup>st</sup> , 2011	\$ 4,356.00
Supplied Fuel		\$ 189.38
Camp Costs		\$ 168.75
GST		\$ 235.71
Helicopter Fuel and Freight	Provided by Solomon	\$ 1,405.00
File Prep - Geologist		\$ 400.00
	TOTAL	\$ 8,882.83

**Table 4: Statement of Expenditures**

### **Selected References**

- Campbell, Christopher, 2012. Airborne Geophysical Interpretation of the Ten Mile Creek Property, Dawson Mining District, Yukon (Internal Solomon Resources Limited Report.)
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- Potts, Steve, 2011. Ten Mile Property, Dawson Mining District, Yukon: 2010 Geological Report - Soil Sampling, Trenching And Drill Program (Internal Solomon Resources Limited Report.)

# **Airborne Geophysical Interpretation**

of the

## **Ten Mile Creek Property**

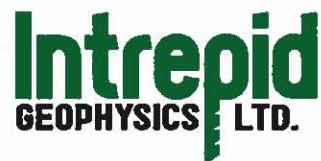
**Dawson Mining District, Yukon**

**NTS Map Sheets 115N/08–09 and 115O/05–12**

for



by



Christopher Campbell, P. Geo.  
January 21, 2011

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Project no.10-263-SRB

## Summary

A helicopter-borne gamma-ray spectrometry and magnetic survey was flown by Precision GeoSurveys Inc. in July 2011 over the Ten Mile Creek Property ~67.5 kilometres southwest of Dawson City, Yukon; the survey is comprised of ~296 line-kilometres of data split between two close by blocks. Survey lines were acquired on a grid pattern of 100 m spaced traverses oriented northeast–southwest, controlled by 1,000 m spaced tie lines oriented perpendicular. Products obtained from this airborne geophysical survey include the total magnetic intensity, (magnetic) calculated vertical gradient, and apparent radioelement parameters of absorption dose rate, potassium concentration, and equivalent Thorium and Uranium concentrations. Geosoft-format and ascii databases of the profile data, as well as geosoft-format grids were provided by Precision.

Enhanced derivative grids of the magnetics were generated and imaged as part of this interpretation; a texture and phase analysis of the magnetics was undertaken in order to identify and map possible zones of structural complexity which may in turn indicate zones of favourable mineralization. A profile-by-profile review of magnetics and radiometrics was carried out preparatory to identifying high-priority areas of interest and zones for further investigation and ground follow-up.

The original objectives of this survey were two-fold:

- provide high resolution gamma-ray spectrometry and magnetic data for the indirect detection and delineation of sulphide-associated gold occurrences
- facilitate the mapping of bedrock lithologies and structure which in turn influence the emplacement or hosting of economic mineralization.

These objectives have been or are being met via this interpretation; the data has enabled both the mapping and delineation of controlling structures, and identification of anomalous radioactivity patterns suggesting alteration which in turn may be associated with gold bearing rocks.

Enhancement filters applied to the magnetic grid have highlighted a number of dominant structural orientations and trends. Definite 'breaks' in the predominately NW–NNW magnetic fabric are shown by the magnetics (particularly via multiscale edge detection analysis) An anomalously low Th/K ratio is noted on Block A as being coincident with an east–west cross-fabric; this area corresponds to mapped (regional geology) biotite granites. Areas for follow-up include the boundaries or margins of the area of interest or 'AOI' above, where intersections of the prevailing NW–SE fabric by the east–west cross linears suggests some structural offset.

An anomalously low eTh/K ratio is similarly noted on Block B; this again corresponds to mapped (regional geology) biotite granites. However, an east–west cross-cutting fabric is noted at least on the northwest flank of the low eTh/K zone. Areas for follow-up therefore include the boundaries or margins of this AOI above, where intersections of the prevailing NW–SE fabric by the east-west cross linears suggests some structural offset.

While it is not expected that quartz-vein type auriferous mineralization would give rise to discrete geophysical responses, structural anomalies have been identified which could reflect faults or shears that in turn could serve as conduits or host units for auriferous mineralization. Zones of possible potassic alteration are also identified with priority targets indicated. Key zones of interest are felt to lay on both Block A and B, and are presented as the basis for further investigation and ground follow-up.

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## 1. Introduction

The Ten Mile Creek Gold Project comprises 323 mineral claims located within the Dawson Mining District of Canada's Yukon Territory approximately 30 kilometers north-northwest of the White Gold Property of Kinross Gold Corp. and 60 kilometers north of the Coffee Gold Project of Kaminak Gold Corp.

The White Gold discovery of Underworld Resources was made in 2008; extensive drilling in 2009 has outline a total indicated and inferred mineral resources of 1,480,870 ounces of gold at an average grade of 2.71 g/t in the Golden Saddle zone which remains open for expansion. The structurally-hosted, intrusion-related gold deposit lays within the Dawson Range Magmatic Belt which is better known for its porphyry potential. The discovery has generated a staking rush that continues to grow in tandem with new discoveries of epithermal style lode gold and copper-gold-molybdenum porphyries.<sup>1</sup>

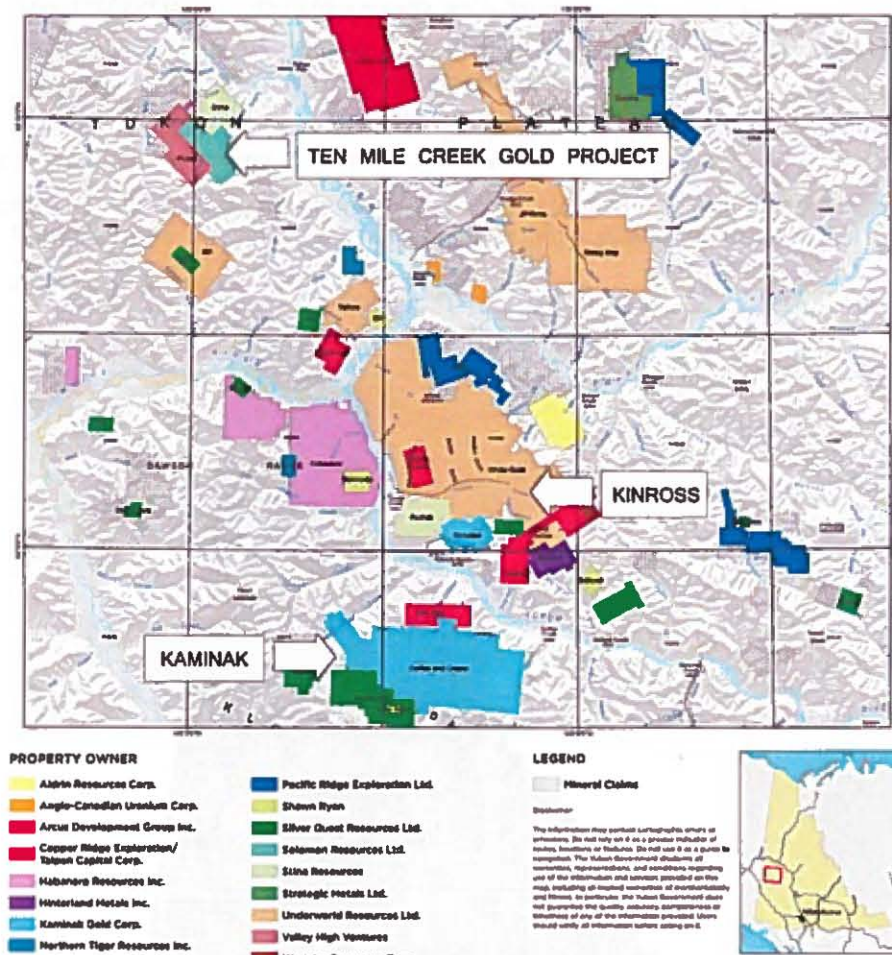


Figure 1. White Gold area play

The Ten Mile Creek property was originally staked by Teck Resources Limited following a regional reconnaissance program in the Dawson Range. Teck explored the property from 1998 to

<sup>1</sup> Solomon Resources Ltd., 2010, <http://www.solomonresources.ca/index.php/properties-mainmenu-30/canada-mainmenu-33/yukon/ten-mile-creek-gold-project>

2000 with a program of geological mapping, soil and rock sampling and limited trenching in which it identified five diamond drill targets prior to abandoning its Yukon projects in 2001.

Solomon's 2010–2011 field exploration programs have been directed at examining historical mineralization on the property in light of new information gleaned from other projects in the White Gold Camp. A high priority target was the Jual Vein System (located on the Jual claims, Block A - airborne survey) with numerous north-northwesterly trending, flat to moderately dipping quartz veins and stockworks with gold values identified by Teck ranging from 8–16 g/t gold. Trenching conducted by Teck of selected soil geochemical anomalies yielded results of 1.6 g/t gold over 25 meters (including 11.1 g/t gold over three meters) and 1.0 g/t gold over 19 meters (including 8.5 g/t over 1.5 meters).

An airborne gamma-ray spectrometer and magnetic survey was conceived and designed to complement this field work cover the property and aid in the design of the 2011–2012 exploration program. Overarching objectives of this survey were two-fold:

- provide high resolution radiometric and magnetic data for the indirect detection and delineation of sulphide-associated gold occurrences,
- facilitate the mapping of bedrock lithologies and structure which in turn may influence the emplacement or hosting of economic mineralization.

A helicopter-borne gamma-ray spectrometry and magnetic survey was carried out in July 2011 over the Ten Mile Creek property; the interpretation of that survey is the focus of this report.

### 1.1. Location and Access

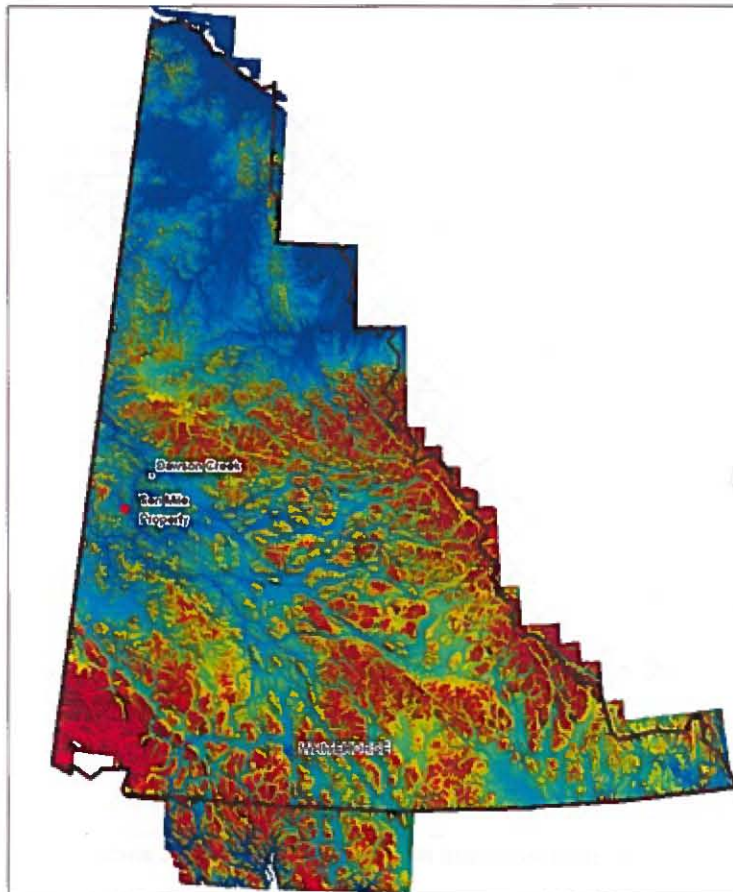


Figure 2. Yukon Location Map

The property centre is located ~67.5 km south west of Dawson City. It lies 10 km to the south of the Sixty Mile River and 10 km west of the Yukon River. The Ten Mile Creek Gold Project is readily accessible by roll-on/roll-off barge from the Yukon River and serviced by a well-maintained airstrip on the Sixty Mile River. A well-maintained four wheel drive road extends from the 60 Mile River at Lammers Airfield approximately 9 kilometres southwesterly along Ten Mile Creek to the Ten Mile Placer Camp owned and operated by No Name Resources Inc. and DuLac Mining. ATV trails extend westerly from the 10 Mile Creek Road to the central portion of the Jual-Val (JV) claims (the northernmost group of claims) and the location of the Teck/Solomon trenches peripheral to the Jual Vein system. The southernmost claims group (known collectively as the Ten Claims) is at present only accessible by helicopter.

## 1.2. Claims

Solomon holds an option from Radius Gold Inc. (TSX-V:RDU) to earn a 51% interest in the property by spending \$2.5m on exploration and making staged cash and share payments of \$500,000 cash and 1 million shares over 3 years; Radius Gold in turn holds an option agreement with Bernard Kreft for his 54 claims (listed below and outline in blue on the following image) which includes calls for cash and share payments to Mr. Kreft, and an initial sampling program. As well, a 1.0% NSR is payable to Mr. Kreft and a 1.5% NSR is payable to Teck by Radius; Radius has the right to reduce the Kreft NSR to 0.25% for \$1.0 million. The entire property consists of 323 mineral claims totalling 63,605.9 hectares (Table 1).

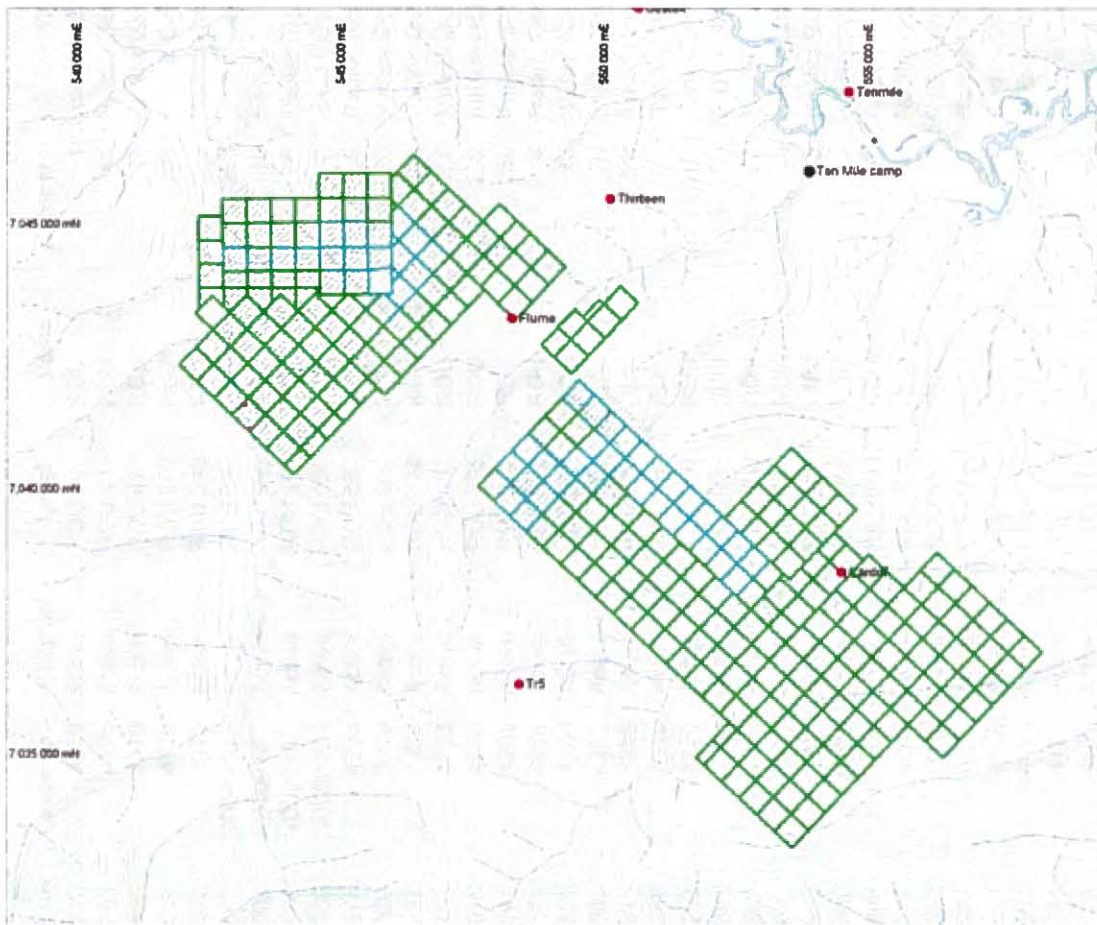


Figure 3. Claim Map with airborne geophysics flight path

Quartz claim	Grant no.	Lease no.	Status	Label	Name	Number	Owner	Staked	Recorded	Expiry	Area (ha)
25280894	YC93810	4179	Active	RDU 1	RDU	1	Radius Gold Inc. - 100%	20090416	20090429	20110429	209.0
25280901	YC93853	4179	Active	RDU 44	RDU	44	Radius Gold Inc. - 100%	20090416	20090429	20110429	209.0
25280902	YC93856	4179	Active	RDU 47	RDU	47	Radius Gold Inc. - 100%	20090418	20090429	20110429	91.4
25280946	YC94016	4179	Active	RDU 207	RDU	207	Radius Gold Inc. - 100%	20090420	20090429	20110429	115.1
25280947	YC94022	4179	Active	RDU 213	RDU	213	Radius Gold Inc. - 100%	20090420	20090429	20110429	115.5
25280415	YC94062	ND00010	Active	RDU 253	RDU	253	Radius Gold Inc. - 100%	20090420	20090429	20110429	144.7
25280416	YC93904	ND00010	Active	RDU 95	RDU	95	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0
25280417	YC93905	ND00010	Active	RDU 96	RDU	96	Radius Gold Inc. - 100%	20090418	20090429	20110429	210.4
25280418	YC93909	ND00010	Active	RDU 100	RDU	100	Radius Gold Inc. - 100%	20090418	20090429	20110429	211.3
25286719	YC93874	4233	Active	RDU 65	RDU	65	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0
25285893	YC93829	3220	Active	RDU 20	RDU	20	Radius Gold Inc. - 100%	20090416	20090429	20110429	209.0
25286774	YC93937	4233	Active	RDU 128	RDU	128	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0
25286776	YC93966	4233	Active	RDU 157	RDU	157	Radius Gold Inc. - 100%	20090419	20090429	20110429	209.0
25286777	YC94018	4233	Active	RDU 209	RDU	209	Radius Gold Inc. - 100%	20090420	20090429	20110429	115.1
25286780	YC94047	4233	Active	RDU 238	RDU	238	Radius Gold Inc. - 100%	20090420	20090429	20110429	209.0
25285193	YC93813	4206	Active	RDU 4	RDU	4	Radius Gold Inc. - 100%	20090416	20090429	20110429	209.0
25285195	YC93857	4206	Active	RDU 48	RDU	48	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0
25285196	YC93865	4206	Active	RDU 56	RDU	56	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0
25286892	YD07888	4233	Active	RDU 288	RDU	288	Radius Gold Inc. - 100%	20090913	20090918	20120429	209.0
25287870	YC93888	4218	Active	RDU 79	RDU	79	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0
25285515	YD07897	3220	Active	RDU 297	RDU	297	Radius Gold Inc. - 100%	20090913	20090918	20120429	213.9
25287281	YC93882	4233	Active	RDU 73	RDU	73	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0
25287287	YC93961	4233	Active	RDU 152	RDU	152	Radius Gold Inc. - 100%	20090419	20090429	20110429	150.4
25286461	YC93823	4233	Active	RDU 14	RDU	14	Radius Gold Inc. - 100%	20090416	20090429	20110429	209.0
25286462	YC93899	4233	Active	RDU 90	RDU	90	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0
25285026	YC94059	4206	Active	RDU 250	RDU	250	Radius Gold Inc. - 100%	20090420	20090429	20110429	118.2
25285027	YC94048	4206	Active	RDU 239	RDU	239	Radius Gold Inc. - 100%	20090419	20090429	20110429	209.0
25284365	YC93816	4206	Active	RDU 7	RDU	7	Radius Gold Inc. - 100%	20090416	20090429	20110429	209.0
25284368	YC93868	4206	Active	RDU 59	RDU	59	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0
25281690	YC93921	4179	Active	RDU 112	RDU	112	Radius Gold Inc. - 100%	20090419	20090429	20110429	189.0
25281691	YC93967	4179	Active	RDU 158	RDU	158	Radius Gold Inc. - 100%	20090419	20090429	20110429	197.2
25281694	YC94013	4179	Active	RDU 204	RDU	204	Radius Gold Inc. - 100%	20090420	20090429	20110429	209.0
25282616	YC93818	4179	Active	RDU 9	RDU	9	Radius Gold Inc. - 100%	20090416	20090429	20110429	209.0
25282620	YC93872	4179	Active	RDU 63	RDU	63	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0
25282632	YC94037	4179	Active	RDU 228	RDU	228	Radius Gold Inc. - 100%	20090420	20090429	20110429	209.0

25282633	YC94029	4179	Active	RDU 220	RDU	220	Radius Gold Inc. - 100%	20090420	20090429	20110429	93.8
25284393	YC93866	4206	Active	RDU 57	RDU	57	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0
25293030	YC94035	ND00013	Active	RDU 226	RDU	226	Radius Gold Inc. - 100%	20090420	20090429	20110429	209.0
25294053	YC93873	ND00006	Active	RDU 64	RDU	64	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0
25293283	YD07898	ND00013	Active	RDU 298	RDU	298	Radius Gold Inc. - 100%	20090913	20090918	20120429	209.0
25292705	YD07901	4200	Active	RDU 301	RDU	301	Radius Gold Inc. - 100%	20090913	20090918	20120429	202.4
25293657	YC93933	4190	Active	RDU 124	RDU	124	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0
25293660	YC93943	4190	Active	RDU 134	RDU	134	Radius Gold Inc. - 100%	20090418	20090429	20110429	191.2
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25294582	YC94060	ND00006	Active	RDU 251	RDU	251	Radius Gold Inc. - 100%	20090420	20090429	20110429	143.0
25291233	YC93999	4227	Active	RDU 190	RDU	190	Radius Gold Inc. - 100%	20090419	20090429	20110429	209.0
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25288684	YD07862	4218	Active	RDU 262	RDU	262	Radius Gold Inc. - 100%	20090913	20090918	20120429	209.0
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25291612	YD07875	4200	Active	RDU 275	RDU	275	Radius Gold Inc. - 100%	20090913	20090918	20120429	209.9
25291613	YD07899	4200	Active	RDU 299	RDU	299	Radius Gold Inc. - 100%	20090913	20090918	20120429	212.3
25289021	YC93914	4184	Active	RDU 105	RDU	105	Radius Gold Inc. - 100%	20090419	20090429	20110429	209.0
25289975	YC93819	4239	Active	RDU 10	RDU	10	Radius Gold Inc. - 100%	20090416	20090429	20110429	209.0
25290012	YC93843	4239	Active	RDU 34	RDU	34	Radius Gold Inc. - 100%	20090416	20090429	20110429	209.0
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25289269	YC94044	4239	Active	RDU 235	RDU	235	Radius Gold Inc. - 100%	20090420	20090429	20110429	209.0
25299950	YC93902	4208	Active	RDU 93	RDU	93	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0
25299199	YC93885	4203	Active	RDU 76	RDU	76	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0
25300032	YC93927	4208	Active	RDU 118	RDU	118	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0
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25301799	YC93855	4250	Active	RDU 46	RDU	46	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0
25299242	YC93924	4203	Active	RDU 115	RDU	115	Radius Gold Inc. - 100%	20090419	20090429	20110429	189.0
25299243	YC93928	4203	Active	RDU 119	RDU	119	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0

25299244	YC93944	4203	Active	RDU 135	RDU	135	Radius Gold Inc. - 100%	20090418	20090429	20110429	191.5
25299245	YC93841	4203	Active	RDU 32	RDU	32	Radius Gold Inc. - 100%	20090416	20090429	20110429	209.0
25300038	YC93968	4208	Active	RDU 159	RDU	159	Radius Gold Inc. - 100%	20090419	20090429	20110429	197.2
25300044	YC94032	4208	Active	RDU 223	RDU	223	Radius Gold Inc. - 100%	20090420	20090429	20110429	209.0
25301807	YC93997	4250	Active	RDU 188	RDU	188	Radius Gold Inc. - 100%	20090419	20090429	20110429	209.0
25301811	YC94005	4250	Active	RDU 196	RDU	196	Radius Gold Inc. - 100%	20090419	20090429	20110429	209.2
25301812	YC94006	4250	Active	RDU 197	RDU	197	Radius Gold Inc. - 100%	20090419	20090429	20110429	209.0
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25302109	YC93863	4250	Active	RDU 54	RDU	54	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0
25302117	YC93932	4250	Active	RDU 123	RDU	123	Radius Gold Inc. - 100%	20090418	20090429	20110429	141.2
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25298921	YC94051	4203	Active	RDU 242	RDU	242	Radius Gold Inc. - 100%	20090419	20090429	20110429	209.0
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25297271	YC93994	3223	Active	RDU 185	RDU	185	Radius Gold Inc. - 100%	20090419	20090429	20110429	210.4
25297273	YC94010	3223	Active	RDU 201	RDU	201	Radius Gold Inc. - 100%	20090420	20090429	20110429	209.0
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25296392	YC94066	ND00017	Active	RDU 257	RDU	257	Radius Gold Inc. - 100%	20090420	20090429	20110429	106.5
25295697	YC94009	4221	Active	RDU 200	RDU	200	Radius Gold Inc. - 100%	20090420	20090429	20110429	209.2
25296565	YD07889	ND00017	Active	RDU 289	RDU	289	Radius Gold Inc. - 100%	20090913	20090918	20120429	209.0
25295716	YD07871	4221	Active	RDU 271	RDU	271	Radius Gold Inc. - 100%	20090913	20090918	20120429	209.2
25295717	YD07891	4221	Active	RDU 291	RDU	291	Radius Gold Inc. - 100%	20090913	20090918	20120429	209.0
25295764	YD07881	ND00017	Active	RDU 281	RDU	281	Radius Gold Inc. - 100%	20090913	20090918	20120429	209.0
25295904	YC93842	ND00017	Active	RDU 33	RDU	33	Radius Gold Inc. - 100%	20090416	20090429	20110429	209.0
25295907	YC93892	ND00017	Active	RDU 83	RDU	83	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0
25295911	YC93835	ND00017	Active	RDU 26	RDU	26	Radius Gold Inc. - 100%	20090416	20090429	20110429	209.0
25295912	YC93993	ND00017	Active	RDU 184	RDU	184	Radius Gold Inc. - 100%	20090419	20090429	20110429	209.0
25297044	YC93815	3223	Active	RDU 6	RDU	6	Radius Gold Inc. - 100%	20090416	20090429	20110429	209.0
25297048	YC93890	3223	Active	RDU 81	RDU	81	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0
25297049	YC93896	3223	Active	RDU 87	RDU	87	Radius Gold Inc. - 100%	20090418	20090429	20110429	202.5
25307775	YD07894	4207	Active	RDU 294	RDU	294	Radius Gold Inc. - 100%	20090913	20090918	20120429	209.0
25307119	YC93825	4207	Active	RDU 16	RDU	16	Radius Gold Inc. - 100%	20090416	20090429	20110429	209.0
25308083	YD07877	4245	Active	RDU 277	RDU	277	Radius Gold Inc. - 100%	20090913	20090918	20120429	210.3
25306487	YC93887	4228	Active	RDU 78	RDU	78	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0
25306491	YC93915	4228	Active	RDU 106	RDU	106	Radius Gold Inc. - 100%	20090419	20090429	20110429	213.0

25306494	YC94007	4228	Active	RDU 198	RDU	198	Radius Gold Inc. - 100%	20090419	20090429	20110429	209.2
25306555	YC94033	4237	Active	RDU 224	RDU	224	Radius Gold Inc. - 100%	20090420	20090429	20110429	208.0
25308307	YC93906	4245	Active	RDU 97	RDU	97	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0
25308378	YC93891	4245	Active	RDU 82	RDU	82	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0
25307605	YC93879	4207	Active	RDU 70	RDU	70	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0
25307609	YC94019	4207	Active	RDU 210	RDU	210	Radius Gold Inc. - 100%	20090420	20090429	20110429	209.0
25307616	YC94031	4207	Active	RDU 222	RDU	222	Radius Gold Inc. - 100%	20090420	20090429	20110429	209.0
25303705	YC93850	4180	Active	RDU 41	RDU	41	Radius Gold Inc. - 100%	20090416	20090429	20110429	209.0
25303706	YC93894	4180	Active	RDU 85	RDU	85	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0
25303755	YC93965	4180	Active	RDU 156	RDU	156	Radius Gold Inc. - 100%	20090419	20090429	20110429	209.0
25302919	YC93821	4219	Active	RDU 12	RDU	12	Radius Gold Inc. - 100%	20090416	20090429	20110429	209.0
25303157	YC93881	4219	Active	RDU 72	RDU	72	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0
25303162	YC93912	4219	Active	RDU 103	RDU	103	Radius Gold Inc. - 100%	20090419	20090429	20110429	209.0
25303163	YC93939	4219	Active	RDU 130	RDU	130	Radius Gold Inc. - 100%	20090418	20090429	20110429	197.2
25302314	YC93989	4185	Active	RDU 180	RDU	180	Radius Gold Inc. - 100%	20090419	20090429	20110429	209.0
25304131	YD07887	4180	Active	RDU 287	RDU	287	Radius Gold Inc. - 100%	20090913	20090918	20120429	209.0
25303263	YD07864	4219	Active	RDU 264	RDU	264	Radius Gold Inc. - 100%	20090913	20090918	20120429	209.0
25303264	YD07870	4219	Active	RDU 270	RDU	270	Radius Gold Inc. - 100%	20090913	20090918	20120429	209.0
25303265	YD07882	4219	Active	RDU 282	RDU	282	Radius Gold Inc. - 100%	20090913	20090918	20120429	209.0
25313151	YD07883	4223	Active	RDU 283	RDU	283	Radius Gold Inc. - 100%	20090913	20090918	20120429	209.0
25313330	YC93964	4223	Active	RDU 155	RDU	155	Radius Gold Inc. - 100%	20090419	20090429	20110429	209.4
25312304	YC93827	4222	Active	RDU 18	RDU	18	Radius Gold Inc. - 100%	20090416	20090429	20110429	209.0
25312307	YC94003	4222	Active	RDU 194	RDU	194	Radius Gold Inc. - 100%	20090419	20090429	20110429	209.1
25310563	YC93918	4209	Active	RDU 109	RDU	109	Radius Gold Inc. - 100%	20090419	20090429	20110429	199.8
25310564	YC93840	4209	Active	RDU 31	RDU	31	Radius Gold Inc. - 100%	20090416	20090429	20110429	209.0
25310565	YC93995	4209	Active	RDU 186	RDU	186	Radius Gold Inc. - 100%	20090419	20090429	20110429	209.0
25310569	YC94038	4209	Active	RDU 229	RDU	229	Radius Gold Inc. - 100%	20090420	20090429	20110429	209.0
25311653	YD07902	4222	Active	RDU 302	RDU	302	Radius Gold Inc. - 100%	20090913	20090918	20120429	209.0
25311797	YC93852	4222	Active	RDU 43	RDU	43	Radius Gold Inc. - 100%	20090416	20090429	20110429	209.0
25310073	YC93911	4209	Active	RDU 102	RDU	102	Radius Gold Inc. - 100%	20090418	20090429	20110429	212.6
25310084	YC93817	4209	Active	RDU 8	RDU	8	Radius Gold Inc. - 100%	20090416	20090429	20110429	209.0
25311073	YC94053	4222	Active	RDU 244	RDU	244	Radius Gold Inc. - 100%	20090419	20090429	20110429	209.0
25311074	YC93824	4222	Active	RDU 15	RDU	15	Radius Gold Inc. - 100%	20090416	20090429	20110429	209.0
25311101	YC93889	4222	Active	RDU 80	RDU	80	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0
25312042	YC94014	4222	Active	RDU 205	RDU	205	Radius Gold Inc. - 100%	20090420	20090429	20110429	209.9
25310261	YC93908	4209	Active	RDU 99	RDU	99	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0
25311140	YC93877	4222	Active	RDU 68	RDU	68	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0
25311142	YC93833	4222	Active	RDU 24	RDU	24	Radius Gold Inc. - 100%	20090416	20090429	20110429	209.0
25311144	YC94000	4222	Active	RDU 191	RDU	191	Radius Gold Inc. - 100%	20090419	20090429	20110429	164.0

25312120	YD07895	4222	Active	RDU 295	RDU	295	Radius Gold Inc. - 100%	20090913	20090918	20120429	215.8
25389230	YC94039	XM00219	Active	RDU 230	RDU	230	Radius Gold Inc. - 100%	20090420	20090429	20110429	209.0
25389231	YC93900	XM00219	Active	RDU 91	RDU	91	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0
25394384	YC94027	4076	Active	RDU 218	RDU	218	Radius Gold Inc. - 100%	20090420	20090429	20110429	209.0
25394414	YC93822	4076	Active	RDU 13	RDU	13	Radius Gold Inc. - 100%	20090416	20090429	20110429	209.0
25394415	YC93862	4076	Active	RDU 53	RDU	53	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0
25394416	YC93849	4076	Active	RDU 40	RDU	40	Radius Gold Inc. - 100%	20090416	20090429	20110429	209.0
25394417	YC93839	4076	Active	RDU 30	RDU	30	Radius Gold Inc. - 100%	20090416	20090429	20110429	209.0
25394485	YD07885	4076	Active	RDU 285	RDU	285	Radius Gold Inc. - 100%	20090913	20090918	20120429	167.4
25392711	YC94020	NM00322	Active	RDU 211	RDU	211	Radius Gold Inc. - 100%	20090420	20090429	20110429	115.2
25392712	YC93901	NM00322	Active	RDU 92	RDU	92	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0
25391274	YC93917	XM00113	Active	RDU 108	RDU	108	Radius Gold Inc. - 100%	20090419	20090429	20110429	217.4
25391383	YC94001	XM00113	Active	RDU 192	RDU	192	Radius Gold Inc. - 100%	20090419	20090429	20110429	209.0
25403080	YC93922	OW00176	Active	RDU 113	RDU	113	Radius Gold Inc. - 100%	20090419	20090429	20110429	189.9
25398963	YC93871	XM00442	Active	RDU 62	RDU	62	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0
25398975	YC93860	XM00442	Active	RDU 51	RDU	51	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0
25397526	YC93878	NM00503	Active	RDU 69	RDU	69	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0
25397543	YC93820	NM00503	Active	RDU 11	RDU	11	Radius Gold Inc. - 100%	20090416	20090429	20110429	209.0
25408168	YC94045	NM00579	Active	RDU 236	RDU	236	Radius Gold Inc. - 100%	20090420	20090429	20110429	209.0
25408169	YC94030	NM00579	Active	RDU 221	RDU	221	Radius Gold Inc. - 100%	20090420	20090429	20110429	209.0
25408170	YC93903	NM00579	Active	RDU 94	RDU	94	Radius Gold Inc. - 100%	20090418	20090429	20110429	210.0
25409875	YC94050	NM00063	Active	RDU 241	RDU	241	Radius Gold Inc. - 100%	20090419	20090429	20110429	209.0
25409877	YC93838	NM00063	Active	RDU 29	RDU	29	Radius Gold Inc. - 100%	20090416	20090429	20110429	209.0
25409894	YC93847	NM00063	Active	RDU 38	RDU	38	Radius Gold Inc. - 100%	20090416	20090429	20110429	209.0
25404759	YC94004	XM00233	Active	RDU 195	RDU	195	Radius Gold Inc. - 100%	20090419	20090429	20110429	209.0
25404775	YC94056	XM00233	Active	RDU 247	RDU	247	Radius Gold Inc. - 100%	20090419	20090429	20110429	209.0
25404776	YC93962	XM00233	Active	RDU 153	RDU	153	Radius Gold Inc. - 100%	20090419	20090429	20110429	209.3
25404822	YD07886	XM00233	Active	RDU 286	RDU	286	Radius Gold Inc. - 100%	20090913	20090918	20120429	209.0
25414500	YC93884	NM00397	Active	RDU 75	RDU	75	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0
25413007	YC93916	NM00166	Active	RDU 107	RDU	107	Radius Gold Inc. - 100%	20090419	20090429	20110429	209.0
25411390	YC94040	NM00444	Active	RDU 231	RDU	231	Radius Gold Inc. - 100%	20090420	20090429	20110429	209.0
25411391	YC93910	NM00444	Active	RDU 101	RDU	101	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0
25413100	YD07861	NM00166	Active	RDU 261	RDU	261	Radius Gold Inc. - 100%	20090913	20090918	20120429	209.0
25411403	YC93940	NM00444	Active	RDU 131	RDU	131	Radius Gold Inc. - 100%	20090418	20090429	20110429	196.6
25423061	YC93996	OW00261	Active	RDU 187	RDU	187	Radius Gold Inc. - 100%	20090419	20090429	20110429	211.4
25420521	YC94046	XM00407	Active	RDU 237	RDU	237	Radius Gold Inc. - 100%	20090420	20090429	20110429	209.0
25420522	YC94034	XM00407	Active	RDU 225	RDU	225	Radius Gold Inc. - 100%	20090420	20090429	20110429	209.0
25420539	YC94049	XM00407	Active	RDU 240	RDU	240	Radius Gold Inc. - 100%	20090419	20090429	20110429	209.0
25420540	YC93991	XM00407	Active	RDU 182	RDU	182	Radius Gold Inc. - 100%	20090419	20090429	20110429	51.8

25420568	YC93880	XM00407	Active	RDU 71	RDU	71	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0
25420569	YC93876	XM00407	Active	RDU 67	RDU	67	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0
25420570	YC93837	XM00407	Active	RDU 28	RDU	28	Radius Gold Inc. - 100%	20090416	20090429	20110429	209.0
25420574	YD07863	XM00407	Active	RDU 263	RDU	263	Radius Gold Inc. - 100%	20090913	20090918	20120429	209.0
25430286	YD07866	4126	Active	RDU 266	RDU	266	Radius Gold Inc. - 100%	20090913	20090918	20120429	209.0
25428825	YD07892	NM00037	Active	RDU 292	RDU	292	Radius Gold Inc. - 100%	20090913	20090918	20120429	209.0
25425670	YC93834	NM00472	Active	RDU 25	RDU	25	Radius Gold Inc. - 100%	20090416	20090429	20110429	209.0
25427115	YC94026	NM00046	Active	RDU 217	RDU	217	Radius Gold Inc. - 100%	20090419	20090429	20110429	81.5
25427133	YC93926	NM00046	Active	RDU 117	RDU	117	Radius Gold Inc. - 100%	20090418	20090429	20110429	163.5
25425652	YC93938	NM00472	Active	RDU 129	RDU	129	Radius Gold Inc. - 100%	20090418	20090429	20110429	208.7
25425653	YC93929	NM00472	Active	RDU 120	RDU	120	Radius Gold Inc. - 100%	20090418	20090429	20110429	188.5
25436113	YC94067	XM00419	Active	RDU 258	RDU	258	Radius Gold Inc. - 100%	20090420	20090429	20110429	147.7
25436127	YC94055	XM00419	Active	RDU 246	RDU	246	Radius Gold Inc. - 100%	20090419	20090429	20110429	209.0
25436128	YC94052	XM00419	Active	RDU 243	RDU	243	Radius Gold Inc. - 100%	20090419	20090429	20110429	209.0
25436155	YC93971	XM00419	Active	RDU 162	RDU	162	Radius Gold Inc. - 100%	20090419	20090429	20110429	191.2
25436156	YC93970	XM00419	Active	RDU 161	RDU	161	Radius Gold Inc. - 100%	20090419	20090429	20110429	174.1
25436157	YC93930	XM00419	Active	RDU 121	RDU	121	Radius Gold Inc. - 100%	20090418	20090429	20110429	142.5
25436158	YC93867	XM00419	Active	RDU 58	RDU	58	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0
25436159	YC93831	XM00419	Active	RDU 22	RDU	22	Radius Gold Inc. - 100%	20090416	20090429	20110429	209.0
25444345	YC93941	3424	Active	RDU 132	RDU	132	Radius Gold Inc. - 100%	20090418	20090429	20110429	174.1
25442791	YD07884	NM00521	Active	RDU 284	RDU	284	Radius Gold Inc. - 100%	20090913	20090918	20120429	209.0
25441106	YC94065	NM00111	Active	RDU 256	RDU	256	Radius Gold Inc. - 100%	20090420	20090429	20110429	110.0
25441121	YC93934	NM00111	Active	RDU 125	RDU	125	Radius Gold Inc. - 100%	20090418	20090429	20110429	140.4
25441122	YC93870	NM00111	Active	RDU 61	RDU	61	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0
25438603	YC93832	OW00047	Active	RDU 23	RDU	23	Radius Gold Inc. - 100%	20090416	20090429	20110429	209.0
25439469	YC94058	NM00323	Active	RDU 249	RDU	249	Radius Gold Inc. - 100%	20090420	20090429	20110429	209.0
25439470	YC94064	NM00323	Active	RDU 255	RDU	255	Radius Gold Inc. - 100%	20090420	20090429	20110429	146.5
25439486	YC93893	NM00323	Active	RDU 84	RDU	84	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0
25451685	YC93861	XM00206	Active	RDU 52	RDU	52	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0
25451700	YD07900	XM00206	Active	RDU 300	RDU	300	Radius Gold Inc. - 100%	20090913	20090918	20120429	209.0
25445746	YC93828	2223	Active	RDU 19	RDU	19	Radius Gold Inc. - 100%	20090416	20090429	20110429	209.0
25445814	YD07880	2223	Active	RDU 280	RDU	280	Radius Gold Inc. - 100%	20090913	20090918	20120429	209.0
25456732	YC93895	NM00509	Active	RDU 86	RDU	86	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0
25453808	YC93886	NM00615	Active	RDU 77	RDU	77	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0
25453881	YC93869	XM00500	Active	RDU 60	RDU	60	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0
25455065	YC93875	OM00027	Active	RDU 66	RDU	66	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0
25455066	YC93864	OM00027	Active	RDU 55	RDU	55	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0
25454133	YC93913	ND00005	Active	RDU 104	RDU	104	Radius Gold Inc. - 100%	20090419	20090429	20110429	213.0
25454158	YC93830	ND00005	Active	RDU 21	RDU	21	Radius Gold Inc. - 100%	20090416	20090429	20110429	209.0

25461271	YC94057	NM00460	Active	RDU 248	RDU	248	Radius Gold Inc. - 100%	20090419	20090429	20110429	209.0
25461281	YC93897	NM00460	Active	RDU 88	RDU	88	Radius Gold Inc. - 100%	20090418	20090429	20110429	201.1
25461297	YC93851	NM00460	Active	RDU 42	RDU	42	Radius Gold Inc. - 100%	20090416	20090429	20110429	209.0
25460645	YC93920	OW00174	Active	RDU 111	RDU	111	Radius Gold Inc. - 100%	20090419	20090429	20110429	189.0
25470419	YD07879	NM00506	Active	RDU 279	RDU	279	Radius Gold Inc. - 100%	20090913	20090918	20120429	209.0
25467012	YC94063	XM00090	Active	RDU 254	RDU	254	Radius Gold Inc. - 100%	20090420	20090429	20110429	148.3
25467013	YC93992	XM00090	Active	RDU 183	RDU	183	Radius Gold Inc. - 100%	20090419	20090429	20110429	209.6
25467014	YC94011	XM00090	Active	RDU 202	RDU	202	Radius Gold Inc. - 100%	20090420	20090429	20110429	209.2
25467057	YC93845	XM00090	Active	RDU 36	RDU	36	Radius Gold Inc. - 100%	20090416	20090429	20110429	209.0
25467058	YC93844	XM00090	Active	RDU 35	RDU	35	Radius Gold Inc. - 100%	20090416	20090429	20110429	209.0
25476544	YC94042	4066	Active	RDU 233	RDU	233	Radius Gold Inc. - 100%	20090420	20090429	20110429	209.0
25476556	YC94021	4066	Active	RDU 212	RDU	212	Radius Gold Inc. - 100%	20090420	20090429	20110429	209.0
25476572	YC93848	4066	Active	RDU 39	RDU	39	Radius Gold Inc. - 100%	20090416	20090429	20110429	209.0
25475190	YD07860	XM00509	Active	RDU 260	RDU	260	Radius Gold Inc. - 100%	20090913	20090918	20120429	209.0
25472044	YC93925	NM00137	Active	RDU 116	RDU	116	Radius Gold Inc. - 100%	20090418	20090429	20110429	163.5
25472108	YD07869	NM00137	Active	RDU 269	RDU	269	Radius Gold Inc. - 100%	20090913	20090918	20120429	209.0
25472109	YD07893	NM00137	Active	RDU 293	RDU	293	Radius Gold Inc. - 100%	20090913	20090918	20120429	217.6
25482265	YC94028	XM00335	Active	RDU 219	RDU	219	Radius Gold Inc. - 100%	20090420	20090429	20110429	207.9
25482274	YC94017	XM00335	Active	RDU 208	RDU	208	Radius Gold Inc. - 100%	20090420	20090429	20110429	209.0
25482275	YC93998	XM00335	Active	RDU 189	RDU	189	Radius Gold Inc. - 100%	20090419	20090429	20110429	162.6
25482276	YC93898	XM00335	Active	RDU 89	RDU	89	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0
25484799	YC93907	OL00055	Active	RDU 98	RDU	98	Radius Gold Inc. - 100%	20090418	20090429	20110429	212.4
25491912	YC94041	NM00590	Active	RDU 232	RDU	232	Radius Gold Inc. - 100%	20090420	20090429	20110429	209.0
25491913	YC94008	NM00590	Active	RDU 199	RDU	199	Radius Gold Inc. - 100%	20090420	20090429	20110429	209.0
25491925	YC94012	NM00590	Active	RDU 203	RDU	203	Radius Gold Inc. - 100%	20090420	20090429	20110429	209.0
25491942	YC93846	NM00590	Active	RDU 37	RDU	37	Radius Gold Inc. - 100%	20090416	20090429	20110429	209.0
25490393	YC94024	4160	Active	RDU 215	RDU	215	Radius Gold Inc. - 100%	20090420	20090429	20110429	115.7
25491997	YD07872	NM00590	Active	RDU 272	RDU	272	Radius Gold Inc. - 100%	20090913	20090918	20120429	209.0
25490485	YD07868	4160	Active	RDU 268	RDU	268	Radius Gold Inc. - 100%	20090913	20090918	20120429	209.0
25490486	YD07874	4160	Active	RDU 274	RDU	274	Radius Gold Inc. - 100%	20090913	20090918	20120429	209.0
25488857	YD07867	NM00587	Active	RDU 267	RDU	267	Radius Gold Inc. - 100%	20090913	20090918	20120429	209.0
25485727	YC94061	NM00201	Active	RDU 252	RDU	252	Radius Gold Inc. - 100%	20090420	20090429	20110429	143.9
25485728	YC94043	NM00201	Active	RDU 234	RDU	234	Radius Gold Inc. - 100%	20090420	20090429	20110429	209.0
25486572	YC93923	NM00201	Active	RDU 114	RDU	114	Radius Gold Inc. - 100%	20090419	20090429	20110429	195.3
25485740	YC93969	NM00201	Active	RDU 160	RDU	160	Radius Gold Inc. - 100%	20090419	20090429	20110429	174.1
25485741	YC93942	NM00201	Active	RDU 133	RDU	133	Radius Gold Inc. - 100%	20090418	20090429	20110429	174.0
25485742	YC93931	NM00201	Active	RDU 122	RDU	122	Radius Gold Inc. - 100%	20090418	20090429	20110429	209.0
25485743	YC93811	NM00201	Active	RDU 2	RDU	2	Radius Gold Inc. - 100%	20090416	20090429	20110429	209.0
25485744	YC93812	NM00201	Active	RDU 3	RDU	3	Radius Gold Inc. - 100%	20090416	20090429	20110429	209.0

25286049	YC07002	3220	Active	Ten 20	Ten	20	Bernard Kreft - 100%	19980405	19980409	20110429	189.0
25287902	YC07026	4218	Active	Ten 44	Ten	44	Bernard Kreft - 100%	19980404	19980409	20110429	192.4
25281821	YC07044	4179	Active	Ten 62	Ten	62	Bernard Kreft - 100%	19980404	19980409	20110429	189.0
25283837	YC07003	4206	Active	Ten 21	Ten	21	Bernard Kreft - 100%	19980405	19980409	20110429	189.0
25283838	YC07045	4206	Active	Ten 63	Ten	63	Bernard Kreft - 100%	19980404	19980409	20110429	189.0
25281350	YC07034	4179	Active	Ten 52	Ten	52	Bernard Kreft - 100%	19980404	19980409	20110429	189.2
25281351	YC07039	4179	Active	Ten 57	Ten	57	Bernard Kreft - 100%	19980404	19980409	20110429	189.0
25294825	YC07047	ND00006	Active	Ten 65	Ten	65	Bernard Kreft - 100%	19980404	19980409	20110429	189.0
25294826	YC07048	ND00006	Active	Ten 66	Ten	66	Bernard Kreft - 100%	19980404	19980409	20110429	189.0
25294870	YC07773	3224	Active	Val 2	Val	2	Bernard Kreft - 100%	19980720	19980804	20110804	185.3
25294871	YC07788	3224	Active	Val 17	Val	17	Bernard Kreft - 100%	19980720	19980804	20110804	221.1
25293502	YC07834	4190	Active	Jual 35	Jual	35	Bernard Kreft - 100%	19980731	19980807	20110807	209.2
25289689	YC07831	4239	Active	Jual 32	Jual	32	Bernard Kreft - 100%	19980731	19980807	20110807	185.3
25288883	YC07033	4184	Active	Ten 51	Ten	51	Bernard Kreft - 100%	19980404	19980409	20110429	189.0
25289026	YC07774	4184	Active	Val 3	Val	3	Bernard Kreft - 100%	19980720	19980804	20110804	209.2
25291049	YC07838	4227	Active	Jual 39	Jual	39	Bernard Kreft - 100%	19980731	19980807	20110807	16.7
25301713	YC07037	4250	Active	Ten 55	Ten	55	Bernard Kreft - 100%	19980404	19980409	20110429	189.1
25301714	YC07043	4250	Active	Ten 61	Ten	61	Bernard Kreft - 100%	19980404	19980409	20110429	189.0
25300012	YC07833	4208	Active	Jual 34	Jual	34	Bernard Kreft - 100%	19980731	19980807	20110807	209.2
25301016	YC07779	4250	Active	Val 8	Val	8	Bernard Kreft - 100%	19980720	19980804	20110804	200.9
25301017	YC07781	4250	Active	Val 10	Val	10	Bernard Kreft - 100%	19980720	19980804	20110804	202.7
25297324	YC07777	3223	Active	Val 6	Val	6	Bernard Kreft - 100%	19980720	19980804	20110804	199.0
25298331	YC07032	ND00008	Active	Ten 50	Ten	50	Bernard Kreft - 100%	19980404	19980409	20110429	189.0
25297110	YC07046	3223	Active	Ten 64	Ten	64	Bernard Kreft - 100%	19980404	19980409	20110429	189.0
25306981	YC07040	4207	Active	Ten 58	Ten	58	Bernard Kreft - 100%	19980404	19980409	20110429	189.0
25307050	YC07024	4207	Active	Ten 42	Ten	42	Bernard Kreft - 100%	19980404	19980409	20110429	198.6
25305431	YC07041	4246	Active	Ten 59	Ten	59	Bernard Kreft - 100%	19980404	19980409	20110429	188.9
25313178	YC07006	4223	Active	Ten 24	Ten	24	Bernard Kreft - 100%	19980405	19980409	20110429	189.0
25387513	YC07052	OL00194	Active	Ten 70	Ten	70	Bernard Kreft - 100%	19980404	19980409	20110429	205.0
25396847	YC07783	OW00136	Active	Val 12	Val	12	Bernard Kreft - 100%	19980720	19980804	20110804	204.6
25396705	YC07035	NM00531	Active	Ten 53	Ten	53	Bernard Kreft - 100%	19980404	19980409	20110429	189.0
25393595	YC07025	NM00322	Active	Ten 43	Ten	43	Bernard Kreft - 100%	19980404	19980409	20110429	189.0
25398370	YC07054	OW00177	Active	Ten 72	Ten	72	Bernard Kreft - 100%	19980404	19980409	20110429	190.3
25410682	YC07049	NM00063	Active	Ten 67	Ten	67	Bernard Kreft - 100%	19980404	19980409	20110429	187.5
25409153	YC07772	OL00014	Active	Val 1	Val	1	Bernard Kreft - 100%	19980720	19980804	20110804	219.2
25409166	YC07029	OL00014	Active	Ten 47	Ten	47	Bernard Kreft - 100%	19980404	19980409	20110429	189.0
25410749	YC07835	OW00038	Active	Jual 36	Jual	36	Bernard Kreft - 100%	19980731	19980807	20110807	209.2
25407538	YC07776	OW00225	Active	Val 5	Val	5	Bernard Kreft - 100%	19980720	19980804	20110804	209.2
25424854	YC07038	NM00011	Active	Ten 56	Ten	56	Bernard Kreft - 100%	19980404	19980409	20110429	189.0

25434450	YC07050	OW00093	Active	Ten 68	Ten	68	Bernard Kreft - 100%	19980404	19980409	20110429	180.4
25434451	YC07042	OW00093	Active	Ten 60	Ten	60	Bernard Kreft - 100%	19980404	19980409	20110429	189.0
25434461	YC07004	OW00093	Active	Ten 22	Ten	22	Bernard Kreft - 100%	19980405	19980409	20110429	189.0
25434468	YC07027	OW00093	Active	Ten 45	Ten	45	Bernard Kreft - 100%	19980404	19980409	20110429	189.0
25441976	YC07790	OL00212	Active	Val 19	Val	19	Bernard Kreft - 100%	19980720	19980804	20110804	219.5
25440486	YC07786	OW00056	Active	Val 15	Val	15	Bernard Kreft - 100%	19980720	19980804	20110804	223.1
25440487	YC07839	OW00056	Active	Jual 40	Jual	40	Bernard Kreft - 100%	19980731	19980807	20110807	170.2
25449964	YC07031	OL00190	Active	Ten 49	Ten	49	Bernard Kreft - 100%	19980404	19980409	20110429	189.9
25445177	YC07832	OL00216	Active	Jual 33	Jual	33	Bernard Kreft - 100%	19980731	19980807	20110807	172.9
25454420	YC07785	OW00221	Active	Val 14	Val	14	Bernard Kreft - 100%	19980720	19980804	20110804	206.4
25471348	YC07775	3456	Active	Val 4	Val	4	Bernard Kreft - 100%	19980720	19980804	20110804	197.2
25471364	YC07830	3456	Active	Jual 31	Jual	31	Bernard Kreft - 100%	19980731	19980807	20110807	18.6
25465309	YC07036	OW00107	Active	Ten 54	Ten	54	Bernard Kreft - 100%	19980404	19980409	20110429	189.6
25480521	YC07001	OW00210	Active	Ten 19	Ten	19	Bernard Kreft - 100%	19980405	19980409	20110429	189.0
25488130	YC07829	OW00041	Active	Jual 30	Jual	30	Bernard Kreft - 100%	19980731	19980807	20110807	207.5

63,605.9

Table 1. Claims

### 1.3. Climate and Physiography

Ten Mile Creek flows northeast into the Sixty Mile River; its drainage encompasses the valley separating the northernmost JV claims group from the southernmost Ten Claim group. Ten Mile Creek was actively placer-mined in the 2011 field season by 3 operators under the auspices of No Name Resources Inc. The area's topography is typical of the Dawson range, with rolling hills incised by steep sloped gullies, which is representative of water run-off being the major contributor to morphology, rather than glaciers. Permafrost typically covers the northern slopes, which are underlain by a thick cover of moss. The south facing slopes are usually covered in alders and black spruce trees. The highest elevations, at ~1,100 metres, are above tree line and covered with a layer of felsenmeer and/or thin layer of soil.

## 2. Geology

### 2.1. Regional Geology<sup>2</sup>

The area of the Ten mile creek area was regionally mapped by Tempelman-Kluit (1974) on map sheet 115N and Bostock (1942) on map sheet 115O. A multi-disciplinary program, consisting of regional bedrock and surficial geological mapping, and airborne geophysics, was undertaken by the Geological Survey of Canada (GSC) over the Stewart River area, which included Solomon's claim area (2000 to 2003). Debicki (1984) and Mortensen (1996) have mapped the area immediately north and northeast of the project area, while Wheeler et al (1991), while Gordey and Makepeace (2001) have compiled the geology of the territory.

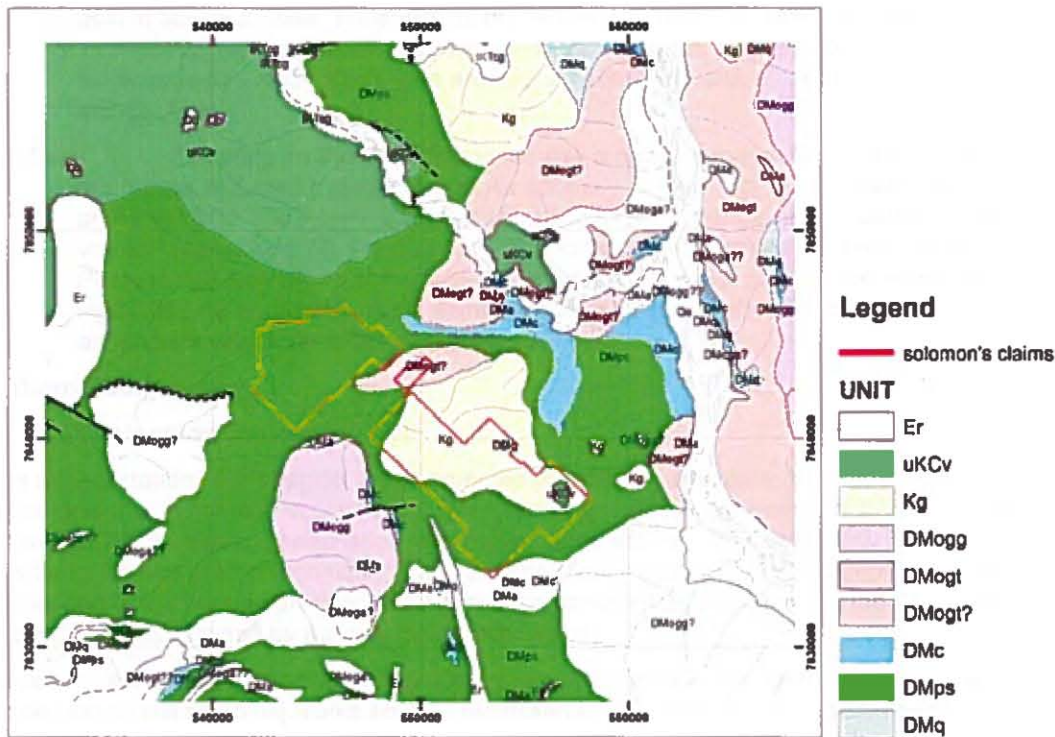


Figure 4. Regional Geology<sup>3</sup>

<sup>2</sup> Potts, S., 2010, 2010 Geology Prospecting Report for the Ten Mile Project, Assessment Report filed on behalf of Solomon Resources Ltd., 16 p.

<sup>3</sup> Gordey, S.P., Williams, S.P., Cocking, R.B, and Ryan, J.J, 2006: Digital geology, Stewart River area, Yukon; Geological Survey of Canada, Open File 5122 (DVD-ROM).

In 2006 a compilation map of the area was put together in conjunction with the Yukon Geological Survey (YGS) (M. Colpron, OF 2006-1)<sup>4</sup>.

## 2.2. Property Mineralization

Known mineral showings either on the property or immediately proximal are limited but are reported as follows by the Yukon Geological Survey; mineralization occurs near the contact of Jurassic-Cretaceous quartz monzonite with Permian silicic orthogneiss and schist units. The entire sequence is intruded by late Cretaceous (?) rhyolite dykes; ground preparation may be affected by extensive faulting and fracturing.

Cardiff: ...sheeted quartz veins with values up to 3.98 g/t Au and quartz stringers carrying 5.36 g/t Au from selected grab samples. This zone may represent an extension of the Ten zone, located 2.5 km further to the northwest.

TR5: ...bedrock source of sphalerite and galena-bearing boulders previously located, exposed gold, arsenic, lead and zinc mineralization associated with skarn alteration in marble that is interbedded with quartz-mica schists. Three or four poorly defined silicified felsic intrusive dykes, 10 cm to 1 m wide, were also exposed in the trench (TR5).

Flume: Extensive quartz vein, stockwork and silicified quartz monzonite float underlie a 1.4 x 0.6 km area of northwest trending, Au in soils anomalies (values to 670 ppb) in the area known as the Jual Vein system. Float samples of vuggy quartz and quartz stockwork with minor galena returned several values in the 8 – 16 g/t Au range. Trenching of lower order gold in soil anomalies, peripheral to the above, returned 1.6 g/t Au over 25 m including 11.1 g/t Au over 3 m and 1.0 g/t over 19 m including 8.5 g/t over 1.5 m. ... monzonite stock underlies most of this area and that it contains quartz +/- arsenopyrite vein and stringer float.

Thirteen: Sampling on the Mojo claims, across a regional magnetic low feature that bisects the claims, returned a single station Au anomaly of 87.1 ppb. This sample also returned an As value of 778.8 ppm. Samples collected over the center of the feature returned As values ranging from 54.1 to 198 ppm. Soil sampling by Teck on the Five claims and by Phelps Dodge on the Flume cl 246-313 returned a number of weak As anomalies, but no significant Au anomalies. Rock samples collected from both claim groups did not contain anomalous values for either Au or As.

## 3. Airborne Geophysics

### 3.1. Exploration Criteria

The mineralization of this region is not expected to provide particularly good geophysical responses due to the relatively thin and discontinuous nature of the vein and stockwork systems as well as the perhaps dissemination of the associated sulphides. Until recently, geochemistry has been the exploration technique of choice, specifically deep auger soil sampling successfully introduced to the area by prospector Shawn Ryan (credited as discoverer of the White Gold deposit, currently owned by Kinross Gold Corporation).

Geophysics is however starting to play a more significant role in the mine-finding process for the same reason soil sampling works so well: bypassed by the glaciers, the region's bedrock has had millions of years to weather undisturbed. Airborne geophysics sees through the resulting overburden to identify underlying structures or geological contacts that control mineralization, and can help the geochemistry teams narrow down sampling locations. High resolution airborne geophysical data over broad areas have been found to optimize exploration for epithermal gold deposits in differing geological environments. Genetic exploration models may be tested in

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<sup>4</sup> Colpron, M. (2006) "Tectonic assemblage of Yukon Tanana and related terranes in Yukon and northern British Columbia" OF 2006-1.

favourable sites by the recognition of geophysical signatures. These signatures reflect structural, lithological and alteration patterns arising from controls on ore deposits and can be applied at regional or detailed scales, using the same data set. At regional scale (e.g., 1:100,000) the magnetic data reflect the regional tectonics and divide the area into domains for the application of appropriate genetic models. At prospect scale (e.g., 1:20,000) the radiometric data allow the extrapolation of poorly outcropping geology to provide a cost-effective mapping technique. The magnetic data can be used to supplement this interpretation or can be used to target deeper sources for direct investigation by drilling.

The magnetic intensity images and derived derivatives serve to delineate the contacts of both magnetic and non-magnetic units. The latter could reflect felsic intrusions or siliceous breccias that might host auriferous mineralization. The combined magnetic and radiometric parameters have outlined a few very interesting magnetic lows and potassium highs that could reflect alteration zones or siliceous caps.

As pointed out by Hodges and Amine<sup>5</sup>, gold mineralization presents a challenge for geophysical surveys. First, because the gold mineralization itself does not provide a contrast with the host geology that is detectable by any of the geophysical parameters, and second, because economic deposits can be quite small, with complex geology and structure. Discovery of gold deposits requires geophysical surveys that can detect subtle structures which might control deposition, and directly detect the weak anomalies created by alteration and deposition processes. Exploration for gold is therefore commonly a mapping exercise. Magnetic and electromagnetic as well as gamma-ray spectrometer surveys can all be valuable mapping tools, depending on the terrain, the regolith and geomorphology, and the target.

Geophysical signatures may include all or some of the following:

- airborne and ground magnetic surveys to detect magnetite-rich zones and as an aid to mapping;
- induced polarization/resistivity surveys to outline disseminated sulphides;
- resistivity surveys to help map alteration zones;
- airborne and ground radiometric surveys to help delineate K-rich alteration zones;
- audio-frequency magnetotelluric surveys to define the limits of the porphyry systems; and
- short-wave infrared spectroscopy for clay alteration identification in the field.

The low mineral concentrations of porphyry-related deposits, and to a lesser extent epithermal veining, generally do not provide direct-targeting for any EM system, unless there is significant supergene enrichment. Exploration for these deposits does benefit from using airborne geophysics, however, including electromagnetic, magnetic and radiometric applications for mapping geology, structure and alteration. Based on these characteristics and through extrapolations to the known and suspected mineralization on the White Gold camp, an airborne geophysical survey of combined gamma-ray spectrometry and magnetics was chosen in 2011 by Solomon Resources as an optimum first pass method of mapping and hopefully delineating controlling structures as well as possible sulphide mineralization.

### **3.2. Operations**

Precision GeoSurveys Inc. was contracted to fly an airborne gamma-ray spectrometer and magnetic survey for Solomon Resources Ltd. over its Ten Mile Creek property; operations were based out of the Black Hills Creek camp, ~60 km east. Data acquisition occurred during a 2-day

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<sup>5</sup> Hodges, G. and Amine, D., 2010. Exploration for Gold Deposits with Airborne Geophysics. KEGS PDAC Symposium 2010

period, 20–21 July 2011. Final survey coverage consisted of 230.075 line-kilometres, including tie lines, on Block A, with a further 65.926 line-kilometres over Block B. Flight lines were flown northeast–southwest (045°–225°) with a line separation of 100 m. Tie lines were flown orthogonal to the traverse lines (135°–315°) at intervals of 1,000 m. Production was hampered by both poor weather conditions and magnetic storms.

The survey employed a Scintrex cesium vapour CS-3 magnetometer housed in a front-mounted “stinger” and a Pico Envirotec GRS-10 Gamma Spectrometer utilizing 16.8 litres of NaI downward looking and 4.2 litres NaI of upward looking crystals. Ancillary equipment consisted of a base station magnetometer, laser altimeter, and an AGIS data acquisition system to facilitate data synchronization / recording and navigation. The instrumentation was installed in an AS350-D single engine light helicopter (Registration C-GOHK) provided by Vertical Air Ltd. The helicopter flew at an average airspeed of 110.9 km/h (30.8 m/s) with a *nominal* sensor height of approximately 35 metres, mean terrain clearance.

In several portions of the survey area, thick forest and rolling topography forced the pilot to exceed normal terrain clearance for reasons of safety; the actual mean bird height is ~40 m as determined by the laser altimeter with a maximum recorded being almost 150 m. It is possible that some valid anomalous features may have escaped detection or be relatively subdued in areas where the helicopter height exceeded 100 m.

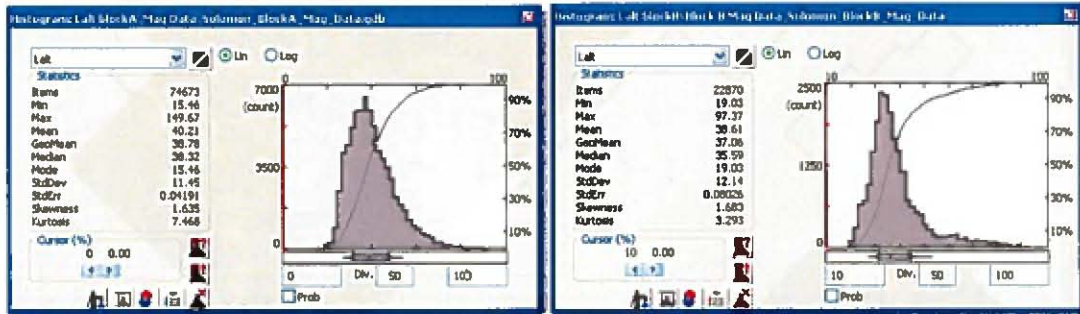


Figure 5. Laser altimeter histograms: Block A (left) and Block B (right)

A complete description of the field program is provided by the contractor's logistical report<sup>6</sup>, attached to this report as Appendix A.

### 3.3. Data Presentation

#### Radiometrics

Radiometric or gamma-ray spectrometer (GRS) surveys detect and map natural radioactive emanations, called gamma rays, from rocks and soils. All detectable gamma radiation from earth materials arise from the natural decay products of only three elements, i.e., uranium, thorium, and potassium. In parallel with the magnetic method which is capable of detecting and mapping only magnetite (and occasionally pyrrhotite) in soils and rocks, so the radiometric method is capable of detecting only the presence of U, Th, and K at the surface of the ground. The use of this latter method for geological mapping is based on the assumption that absolute and relative concentrations of the three primary radioelements vary measurably and significantly with lithology. The method provides estimates (once the full suite of corrections and processing is completed) of apparent surface concentrations of, the most common naturally occurring radioactive elements, potassium (K), equivalent uranium (eU) and equivalent thorium (eTh).

No other geophysical method, however, and probably no other remote sensing method, requires

<sup>6</sup> Poon, J., 2011, Ten Mile Creek Gold Project, Block A and Block B, prepared for Solomon Resources Ltd., Precision GeoSurveys Inc., 49 p.

the consideration of so many variables in order to reduce the observational data to a form that is useful for geological interpretation. For example, in addition to the geometry and physical property contrasts of the radioactive sources, the measured gamma radiation is a function of the size, efficiency and speed of the detector. It is also dependent on environmental and other effects, such as soil moisture, rainfall, vegetation, non-radioactive overburden, and the movement of airborne sources of radiation in the lower atmosphere. Interpretation of gamma-ray spectrometry requires an understanding of the underlying physics of the method, and an insight into the data acquisition, system calibration and data processing and presentation procedures. An excellent and thorough review of AGRS is provided by Minty, 1997<sup>7</sup>.

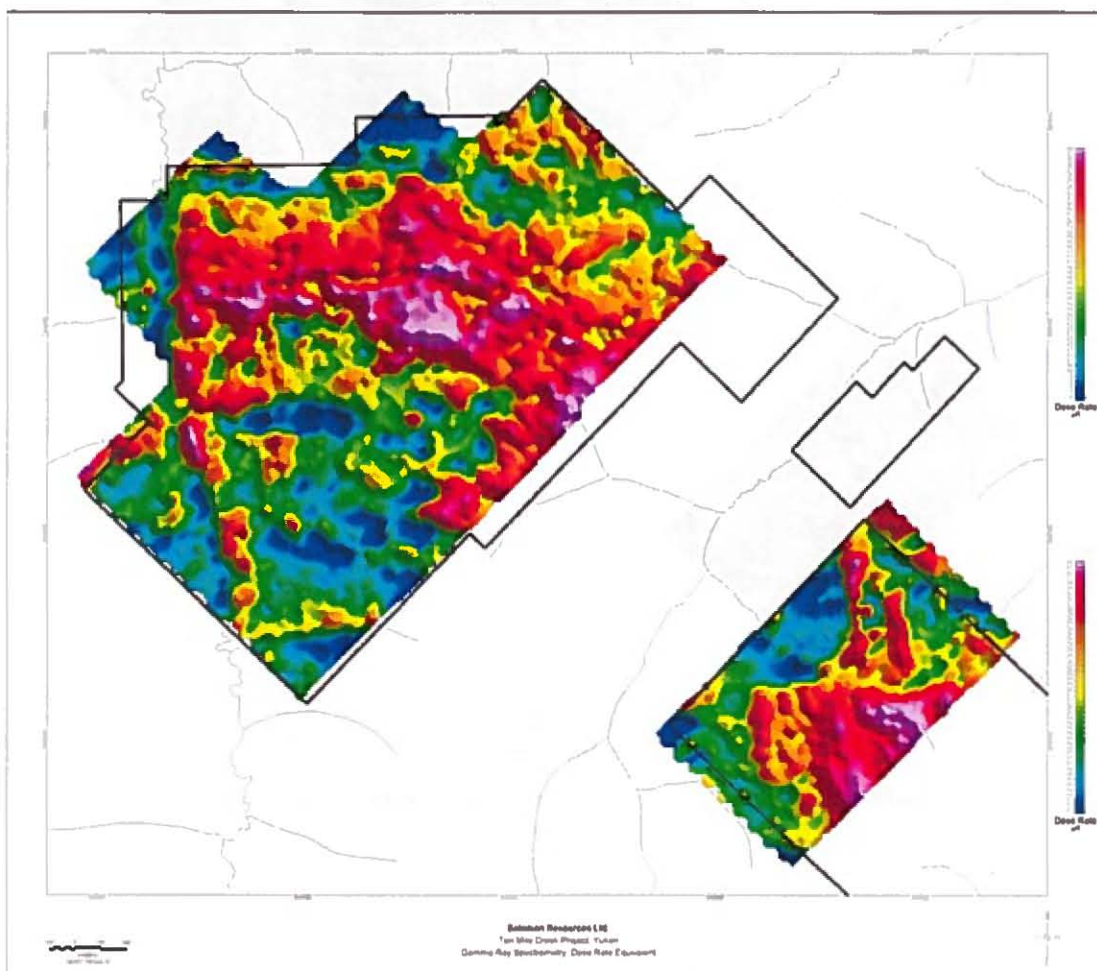


Figure 6. Gamma-ray spectrometry: Dose Rate Equivalent

Although results may be attenuated by overburden cover in the lower elevations along drainages (particularly along the western limits of Block A), there are a few local weak potassium or uranium zones that appear to be mapping distinct rock types or zones of alteration. Several of the higher background counts occur in the higher elevations (more resistive units?), where the (thinner) overburden suppression of radioelement responses is expected to be less.

There is only partial correlation between the radiometric and magnetic trends, due to the very different depths of exploration. A general correlation exists between anomalous radiometric

<sup>7</sup> Minty, B. R. S., 1997, Fundamentals of airborne gamma-ray spectrometry: AGSO Journal of Australian Geology & Geophysics, vol. 17, no. 2, p. 39–50.

responses along the higher ridges and the presumably more resistive rock units.

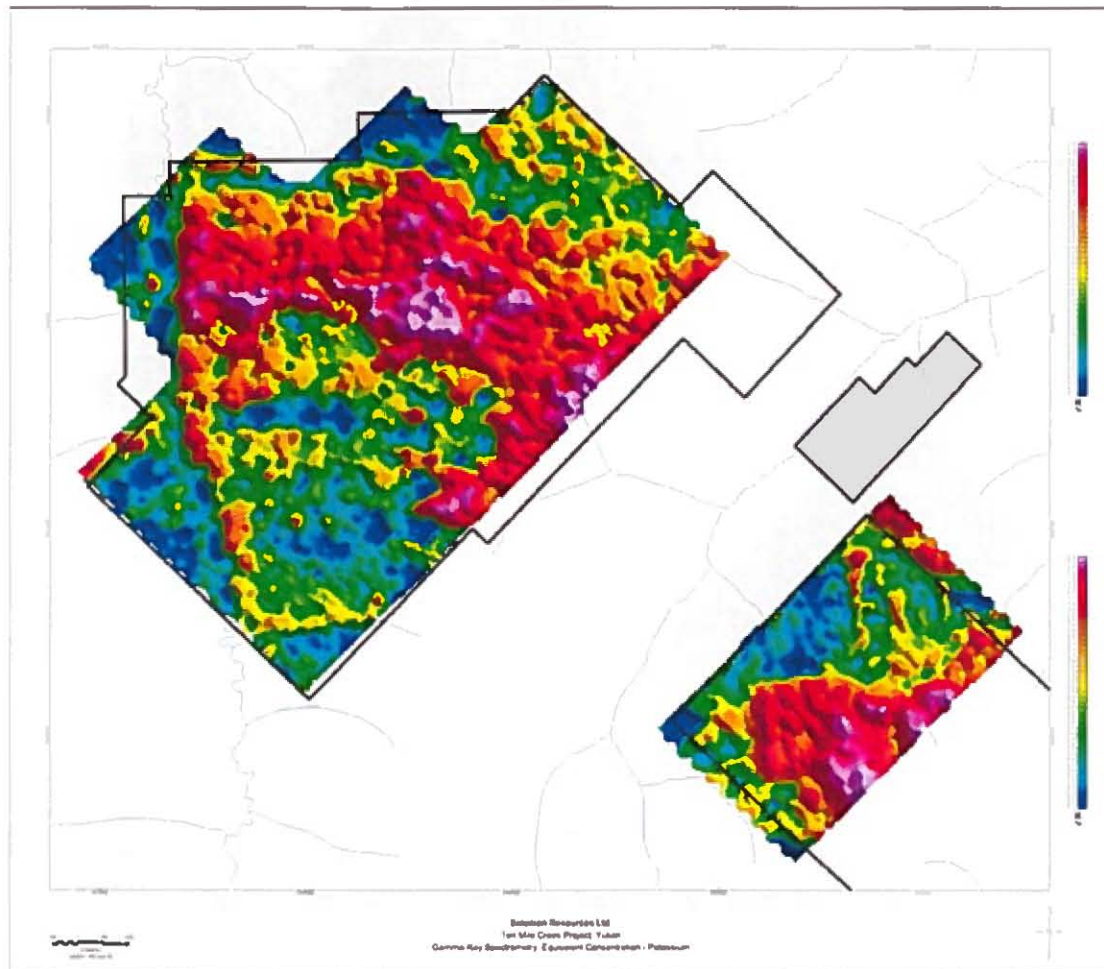


Figure 7. Gamma-ray spectrometry: Equivalent Percentage – Potassium

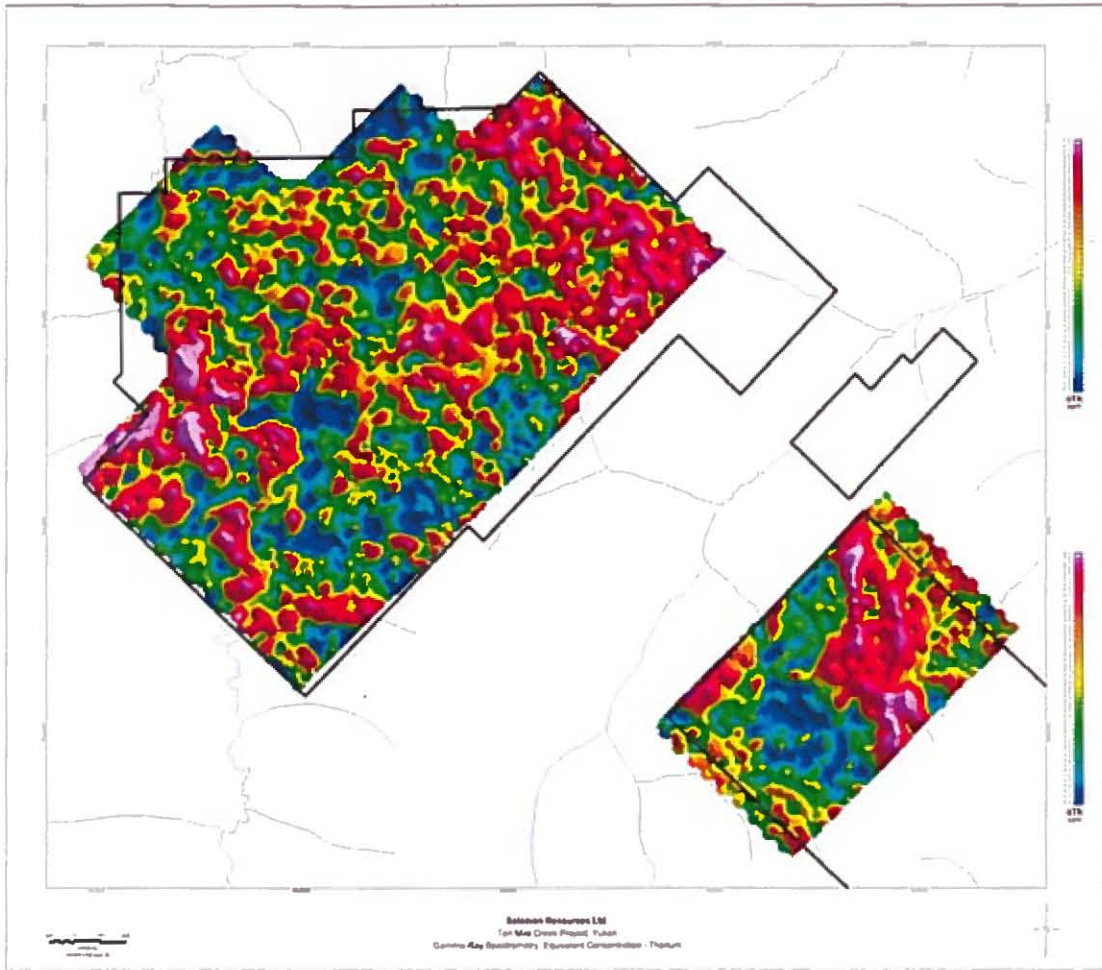


Figure 8. Gamma-ray spectrometry: Equivalent Concentration – Thorium

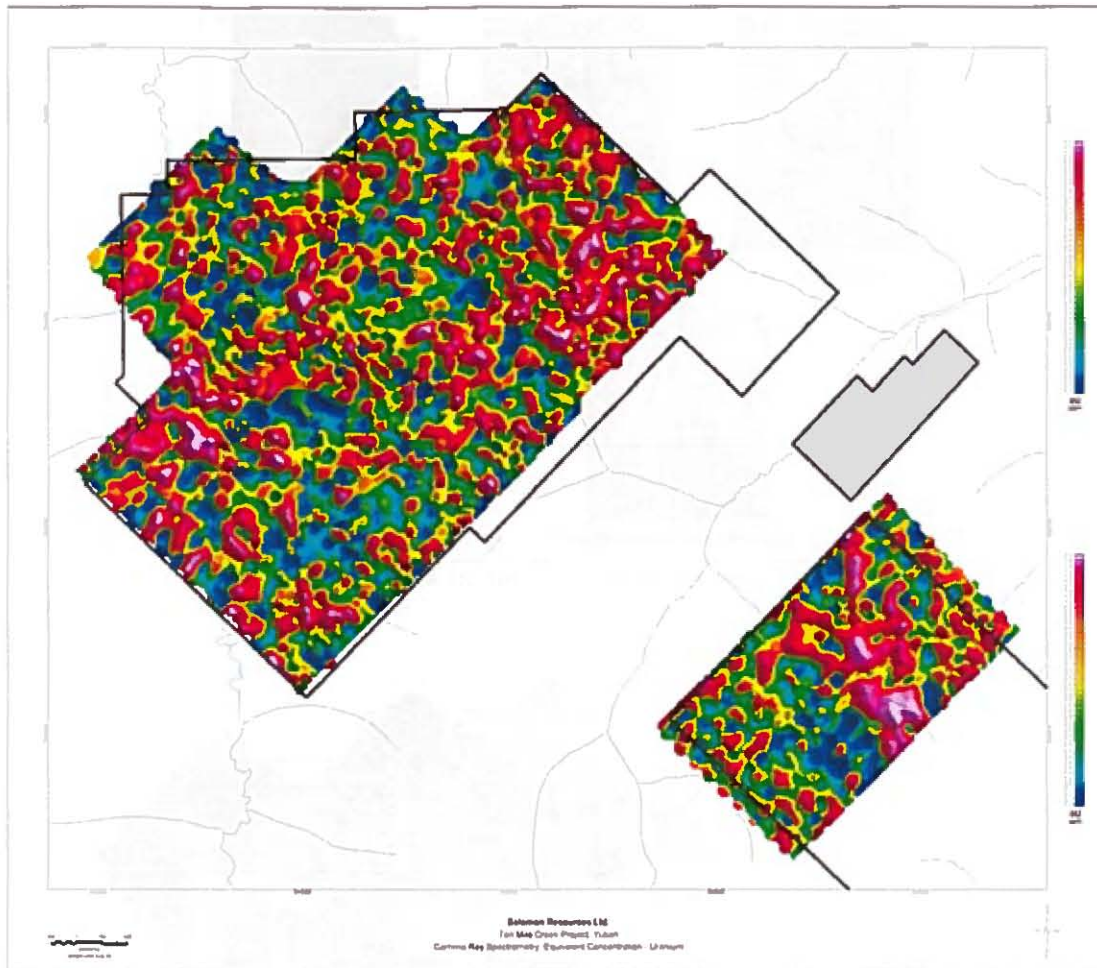


Figure 9. Gamma-ray spectrometry: Equivalent Concentration – Uranium

Another way to display radiometric data is to combine three datasets on the one image using a red-green-blue ternary ratio. Each of the datasets are displayed using a different basic colour, which when combined make a display with each shade representing different relative amounts of potassium, thorium and uranium. Usually the colours are displayed as follows:

Red = potassium  
 Green = thorium  
 Blue = uranium

Using this colour scheme the following can be interpreted from the colours on the map:

Red = high potassium with low uranium and thorium  
 Blue = high uranium with low potassium and thorium  
 Green = high thorium with low potassium and uranium  
 Cyan = high thorium and uranium with low potassium  
 Magenta = high potassium and uranium with low thorium  
 Yellow = high potassium and thorium with low uranium  
 Black = low potassium, thorium and uranium  
 White = high potassium, thorium and uranium.

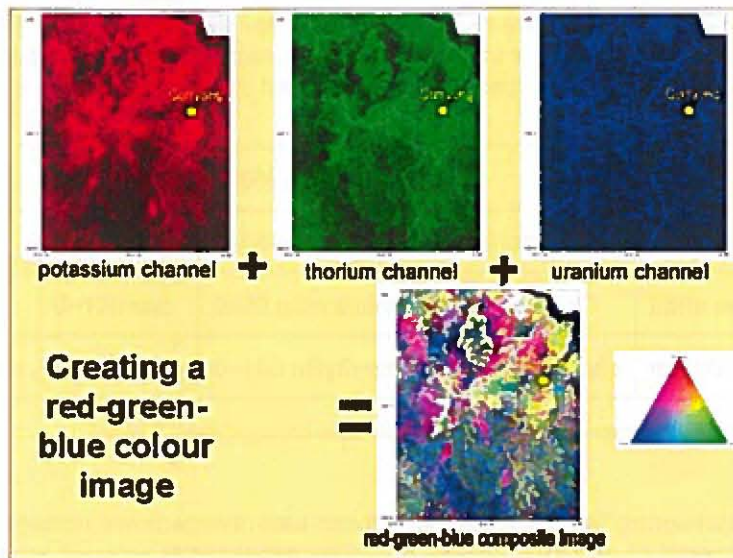


Figure 10. Ternary Image explanation

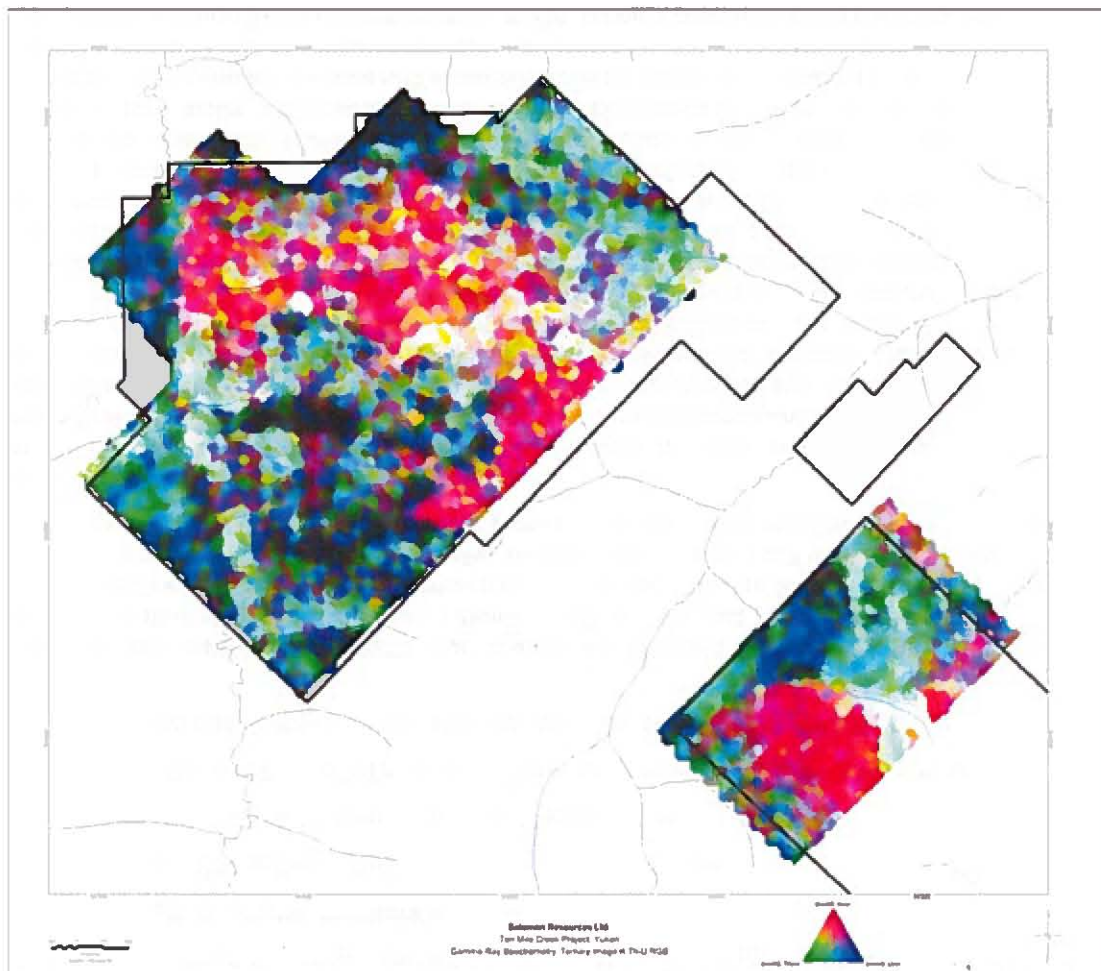


Figure 11. Ternary Image

The units of measurement of a radiometric survey are counts per second. The values can vary

depending on the survey height, type of spectrometer used and background radiation. To ensure that the units have geological significance and that adjacent surveys can be directly compared, the measurement units are (or should be) converted to reflect mean-ground-level abundances of the radioelements.

Potassium	0–450 cps	0–5% potassium	percent
Thorium	0–230 cps	0–58 ppm equivalent thorium	parts per million
Uranium	0–120 cps	0–20 ppm equivalent uranium	parts per million
Total count	0–4600 cps	0–150 nGy/h air absorbed dose rate	nanoGray per hour

Table 2. Mean-ground-level abundances of radioelements

### Magnetics:

Modern high-resolution aeromagnetic data provides a clearer view of completely obscured rocks, allowing much finer divisions of provinces regionally, and units locally. As magnetic field compilations extend to greater scales, they may be used to tie existing isolated interpretations or maps together through continuous data coverage, provide continent-scale perspectives on geologic structure and evolution, and extend geological mapping of exposed (particularly Precambrian basement) regions into sediment-covered areas. A fundamental building block in these interpretations is the geophysical domain, distinguished on the basis of anomaly trend, texture, and amplitude. Where basement is exposed, these domains often coincide with lithotectonic domains, geologic provinces, or cratons, depending on the scale of investigation. Delineating areas of magnetic anomalies having similar characteristics is intended, therefore, to isolate areas of crust having similar lithological, metamorphic, and structural character, and possibly, history. Anomaly trends may indicate the type of deformation undergone: for example, sets of parallel, narrow curvilinear anomalies may attest to penetrative deformation whereas broad ovoid anomalies might suggest relatively undeformed plutons. The average anomaly amplitude within a domain reflects its bulk physical properties. For example, calc-alkaline magmatic arcs generally are marked by belts of high-amplitude positive magnetic anomalies while greenstone terranes commonly are associated with subdued magnetic fields. Additionally, where anomaly trends show abrupt changes in direction at domain boundaries, the relative age of the adjacent domains may also be inferred.

This airborne geophysical interpretation is based on an integrated analysis using a combination of GEOSOFT's integrated editors (spreadsheet and flight path), INTREPID's advanced Fourier filtering and multiscale edge detection, ER MAPPER's image enhancements and MAPINFO's GIS capability. All the final data is also presented as a series of digital maps and images generated at scale of 1:20,000. The airborne geophysical gridded data was analyzed using the following enhanced images:

- Total Magnetic Intensity; pseudocolour and colourdraped images
- Calculated Vertical Derivative; greyscale shaded-relief and colourdraped images
- Total Horizontal Derivative; colourdraped images
- Analytic Signal (total gradient); colourdraped images
- Tilt derivative; colourdraped images
- Total horizontal derivative of the tilt derivative; colourdraped images
- Gamma-Ray spectrometer images of K, Th, U and associated ratios
- Multiplots of magnetics and radiometrics.

**Projection Specifications:**

Map projection	NUTM07
Datum	NAD83
Central meridian	141° West
False Easting	500000 m
False Northing	0 m
Scale Factor	0.9996 m

In addition, the analysis and interpretation included a methodical review of the underlying profile data via both the contractor-supplied multiplots and an interactive review via GEOSOFT's integrated editors; example shown below in Figure 12.

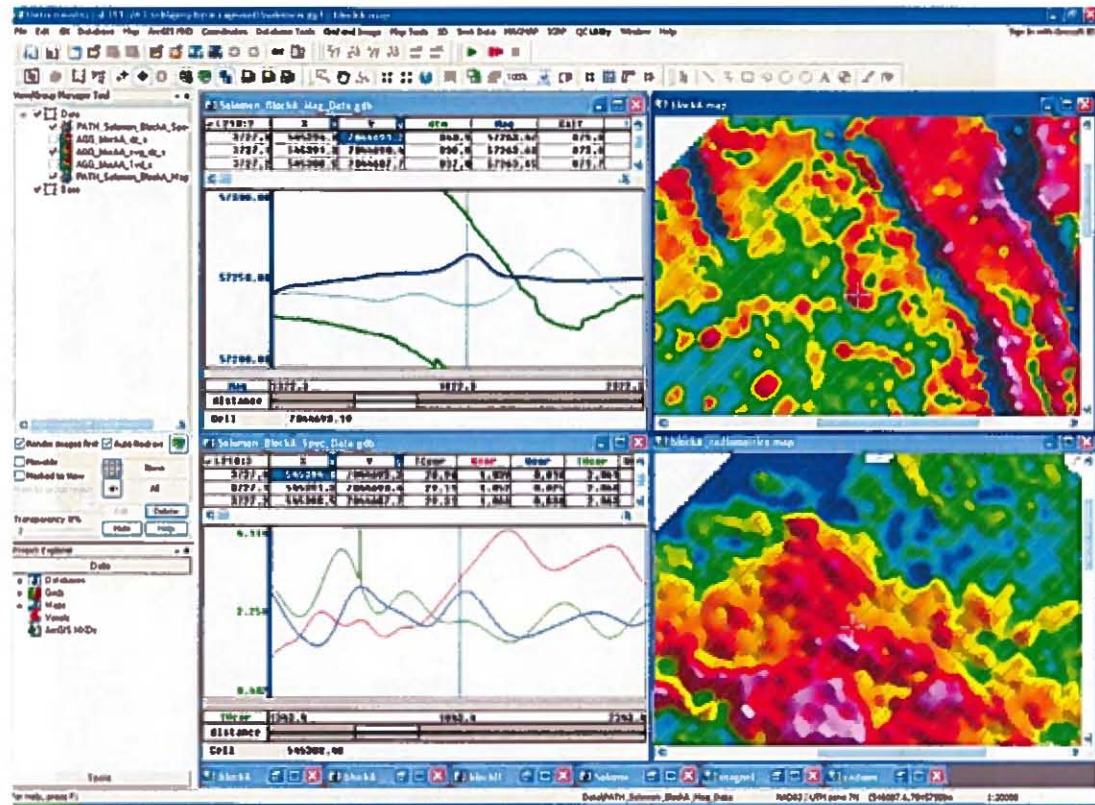


Figure 12. Interactive review of profiles and images

The subsequent analysis depends in part at least on the processing, visualization, mapping, and integration capabilities provided by specialized geophysical software. Discrete features and trends are checked on a profile-by-profile basis, linked to a variety of images and GIS layers, before final decisions as to interpretation and recommendations for ground follow-up are made.

An image of the regional aeromagnetics (below) serves to place the Ten Mile Creek property in some context; this image compares approximately in extent with Figure 4, Regional Geology. A notable magnetic low is observed trending west-northwest under the property; this low corresponds in large part to the similarly trending Yukon- Tanana Terrane (YTT). Strongly magnetized features in the far south of this map are interpreted to reflect Upper Cretaceous basalt/breccia/andesite/porphyry/dacite/trachyte units.

Regional magnetics indicates a very low field of only ~200 nT total range. There appears a reasonable correlation to the similarly regional geology, with biotite granites and marbles corresponding to the magnetic lows in the central areas, and orthogneiss corresponding to the magnetic high in the southwest (and far north?) portion of the image below.

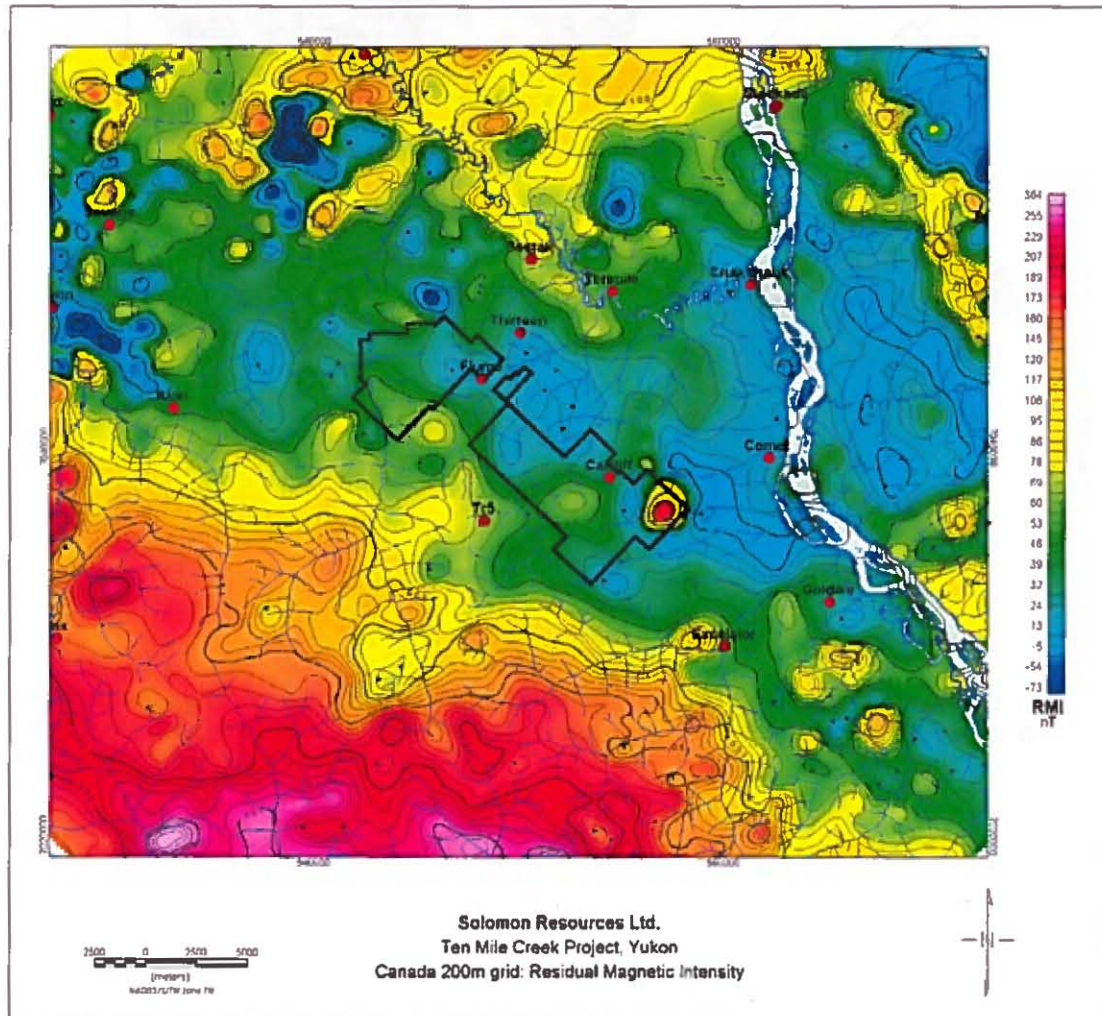


Figure 13. Regional Aeromagnetics (Natural Resources Canada) w/ MINFILE showings

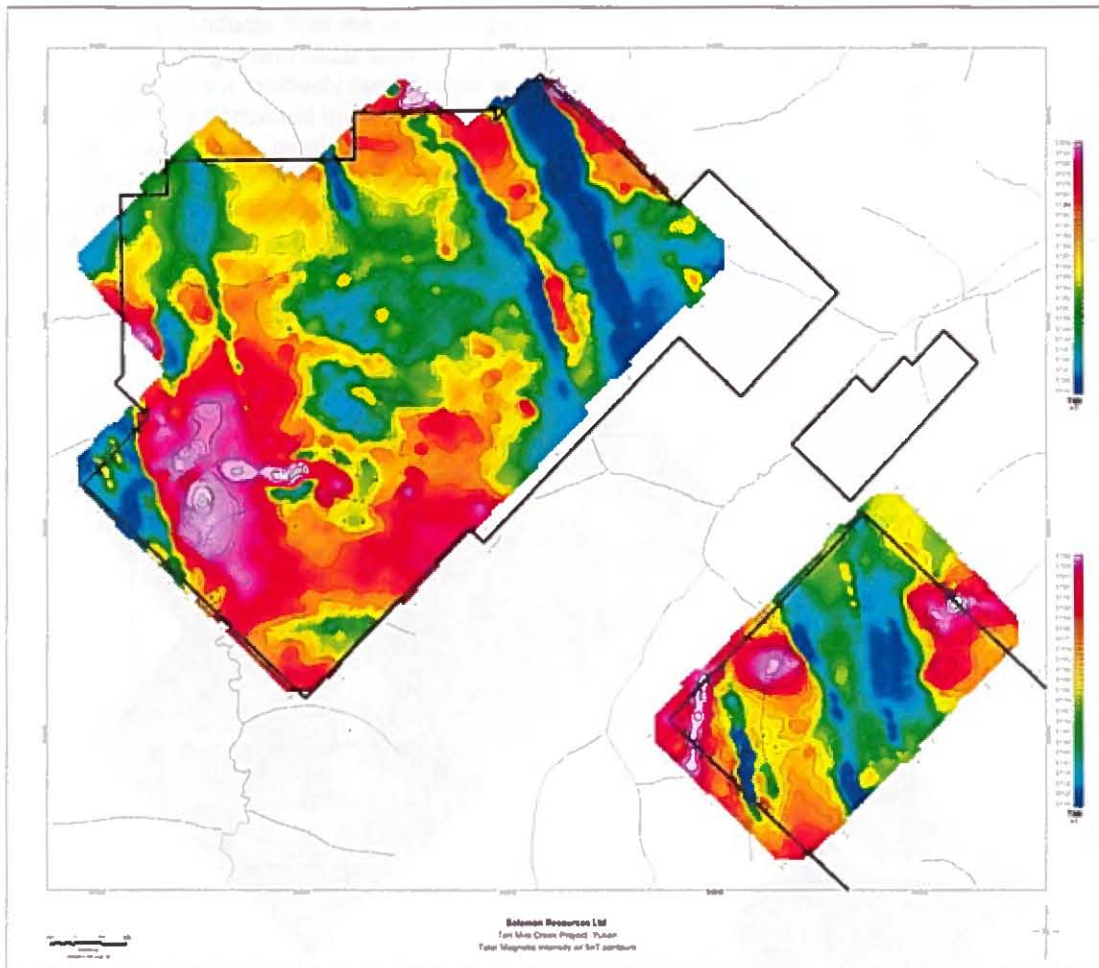


Figure 14. Total Magnetic Intensity

Aeromagnetics (2011) flown at 100m spaced NE-SW traverses reveals much greater detail; a contour interval of 5 nT is used on above image, although the 1:20,000 working maps support a 2 nT interval for interpretation purposes.

One of the by-products from the airborne geophysics program is a digital elevation model, derived from the GPS height and radar altimeter. Although not as accurate as a terrestrial geodetic survey, it remains a relatively inexpensive and accurate model of the topography of the study area. The errors contained in these sorts of DEMs are of the order of approximately 10 metres; the main contributions being from the radar altimeter data (1–2 metres) and the GPS height data (5–10 metres). When height comparisons are made in areas of flat terrain to elevations obtained during the course of third order gravity traverses and/or the elevations of geodetic stations, the errors are on the order of approximately 2 metres.

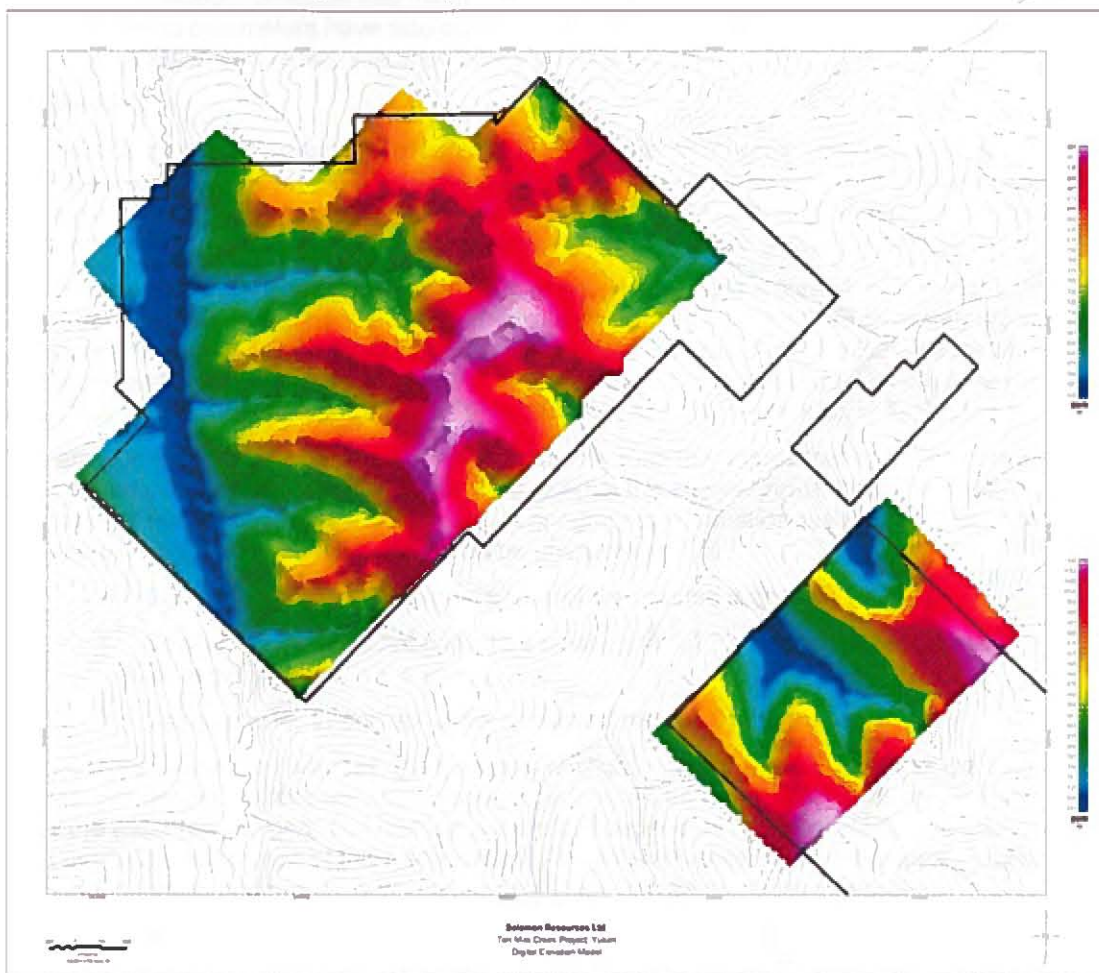


Figure 15. Digital Elevation Model (airborne geophysics)

The image above reflects the moderate topography of the survey block, with ~650 m relief being present across the two survey blocks.

#### 4. Data Interpretation

##### 4.1. Overview — Magnetics/Radiometrics

Normally, a comparison of the airborne geophysical response to the known showings on the property is carried out, and then parallels to these sought and identified throughout the survey as a whole. Given the lack of recorded showings on the Ten Mile Creek property (at least, none which are covered by the current airborne geophysical program), analogies to mineralization surrounding (e.g., Thirteen, Flume) are problematic but were attempted based on the available, regional data; little if any direct correlations could be established. Comparison of the MINFILE

occurrences in the general area reveals a degree of correlation to magnetic highs or magnetic gradients, although no absolute correlation appears evident.

As stated earlier, the mineralization of this region is not expected to provide particularly strong conductive responses due to the relatively thin and discontinuous nature of the vein and stockwork systems as well as the (perhaps) dissemination of the associated sulphides which seem typical of the area. Fortunately, the magnetic intensity images and derived derivatives serve to delineate the contacts of both magnetic and non-magnetic units. The latter could reflect felsic intrusions or siliceous breccias that might host auriferous mineralization. The combined magnetic and radiometric parameters have also outlined 1–2 interesting magnetic lows and radiometric highs that could in turn reflect alteration zones or siliceous caps.

#### 4.2. Magnetics

Overall, the magnetics on both blocks reflect a preferential NNW-grain, with notable east–west disturbances, particularly on Block A where a magnetic low parallels the cross drainage. This striking magnetic low, ovate in shape, is coincident with a marked change in magnetic fabric; significant structural disturbance is inferred although the causative geology is only speculative.

Enhancement filters applied to the magnetic grid have highlighted a number of dominant structural orientations and trends. Interpretation of these data has identified regionally significant structures that define the gross structural architecture of the area. A sophisticated suite of filter enhancements were applied to the gridded magnetic data. From these, the tilt derivative (TILT) and block filters were found to be the most informative, and are referenced further in the report<sup>8</sup>.

The analytic signal phase data can be used to directly map the approximate position of the anomaly source bodies. Miller and Singh<sup>9</sup> showed that the analytic signal phase is positive over source bodies and negative otherwise. A geographic information system (GIS) layer of the approximate source body positions can be produced by:

- Calculating the analytic signal phase of the gridded potential field
- Converting the resultant grid into a binary grid: +1 for positive phase values and -1 for negative phase values
- Using a raster-to-polygon utility to convert the positive areas to polygons

Where there are shallow sources, the polygons will tightly map the lateral extent of the source bodies. For deeper sources the source body polygons will be wider, and the deeper the source body the wider the polygon. The method is therefore dependent on the quality of the gridded data used. The advantage of this method is that it objectively determines the source positions from the magnetic anomaly data with more detail than can be manually interpreted.

A combination of the total horizontal and tilt derivative are highly suitable for mapping shallow basement structure and mineral exploration targets; they have distinct advantages over many conventional derivatives. The total horizontal derivative provides an effective alternative to the vertical derivative to map continuity of structures and enhance magnetic fabric. The advantages of the tilt derivative are its abilities to normalize a magnetic field image and to discriminate between signal and noise.

Note that the tilt derivative varies markedly with inclination within an amplitude range of  $\pm\pi/2$ . For inclinations of 0 and 90°, the zero crossing is close to the edges of the model structures; as the Earth's inclination at Ten Mile Creek is  $\sim 77.5^\circ$ , we approximate the 90° case. The following image

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<sup>8</sup> Verduzco, B., Fairhead, J. D., and MacKenzie, C., 2004, New insights into magnetic derivatives for structural mapping, *The Leading Edge*, February 2004, pp. 116–119.

<sup>9</sup> Miller, H.G. and Singh V., 1994. Potential field tilt - a new concept for the location of potential field sources. *Journal of Applied Geophysics* 32.

depicts the tilt derivative with all values less than 0.0 blanked or 'nulled'; this shows the approximate width and distribution of features with positive susceptibility.

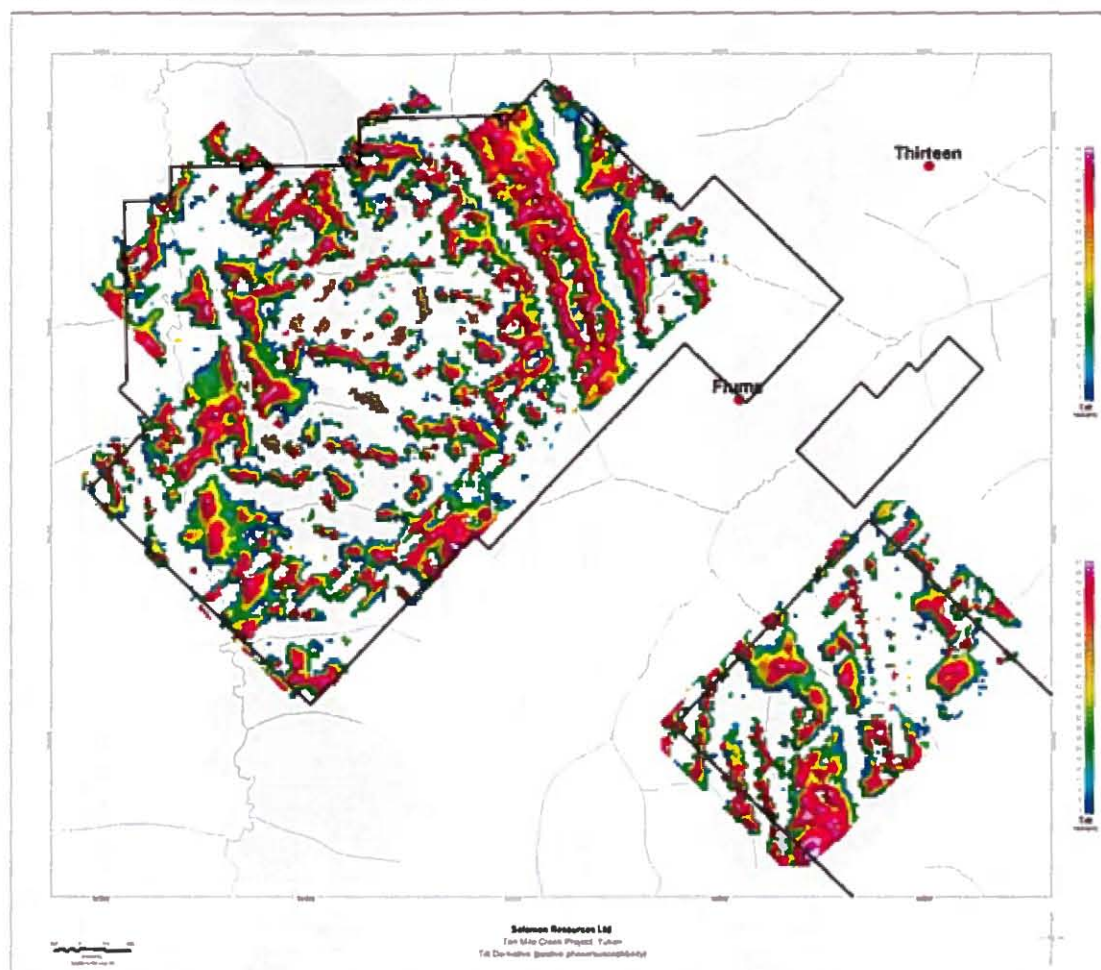


Figure 16. Tilt derivative clipped to positive phase only

Additionally, a suite of filters known as the 'ZS' filters<sup>10</sup> (after Zhiqun Shi, the primary author of this development) were employed and are depicted in summary form on Figure 17–18 below. 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 magnetized 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.

<sup>10</sup> Shi, Z. and Butt, G., 2004, New enhancement filters for geological mapping, Extended Abstracts, ASEG 17<sup>th</sup> Geophysical Conference and Exhibition, Sydney 2004.

Figures 17–18 below illustrate several advantages of the ZS filters; the 1vd, tilt and analytic signal derivatives will typically not provide easily interpreted edges when the sources are weakly magnetized or deeply buried, whereas the Edge and EdgeZone filter are designed to overcome that limitation.

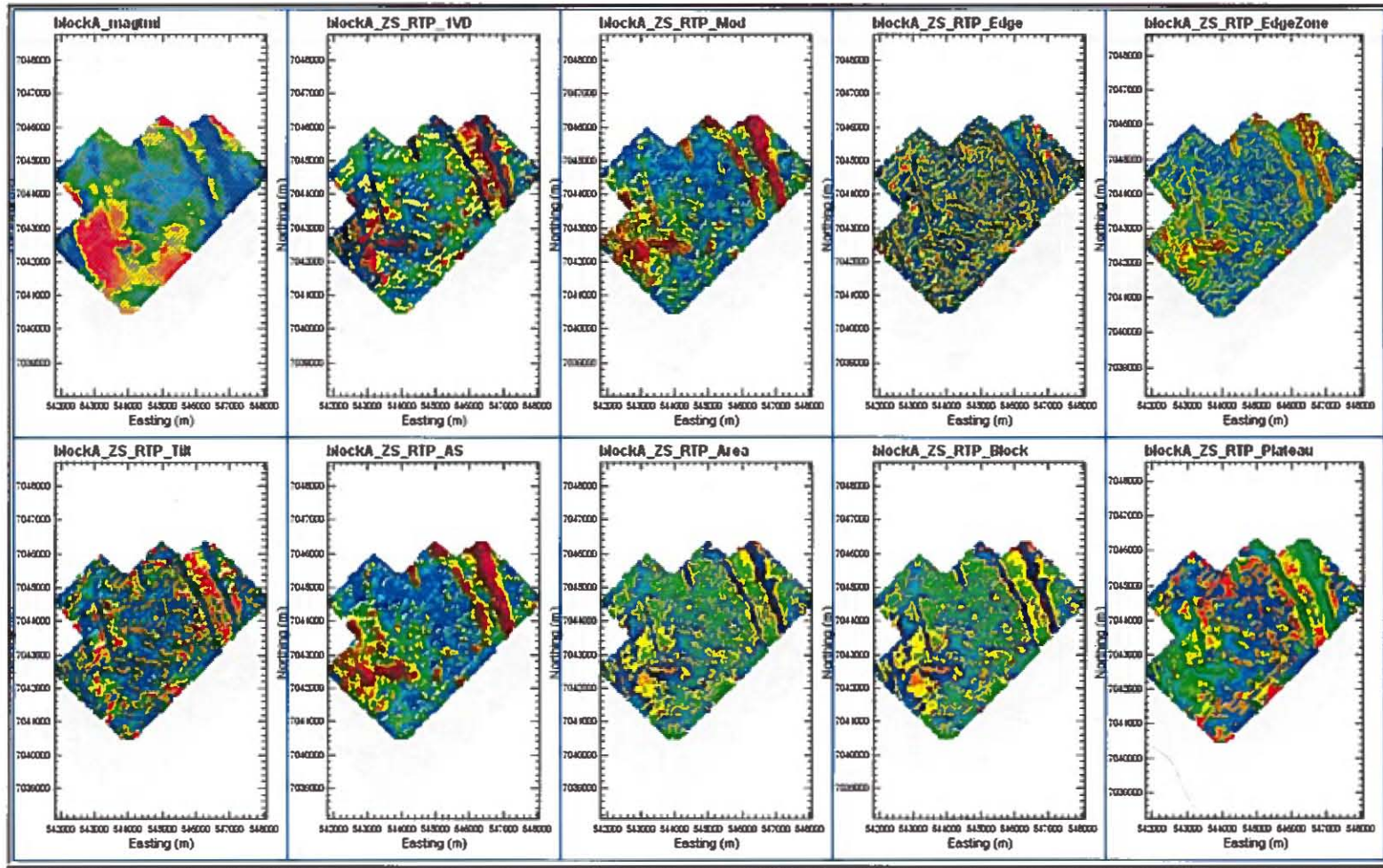


Figure 17. ZS Enhancement Filters – Reduced-to-Pole Magnetics: Block A

The two edge filters appear to provide a very sharp delineation of geologic units and at the same time, provide a relatively clear indication of structural breaks, such as at the central magnetic low in Block A flanked by pronounced magnetic elements trending generally NNW–SSE. The block filters (Area, Block and Plateau) appear to map the relatively non-magnetic core very well; similarly, the magnetic high in the northeastern portion of Block A is well defined, as are the strong N-trending magnetic elements present in Block B.

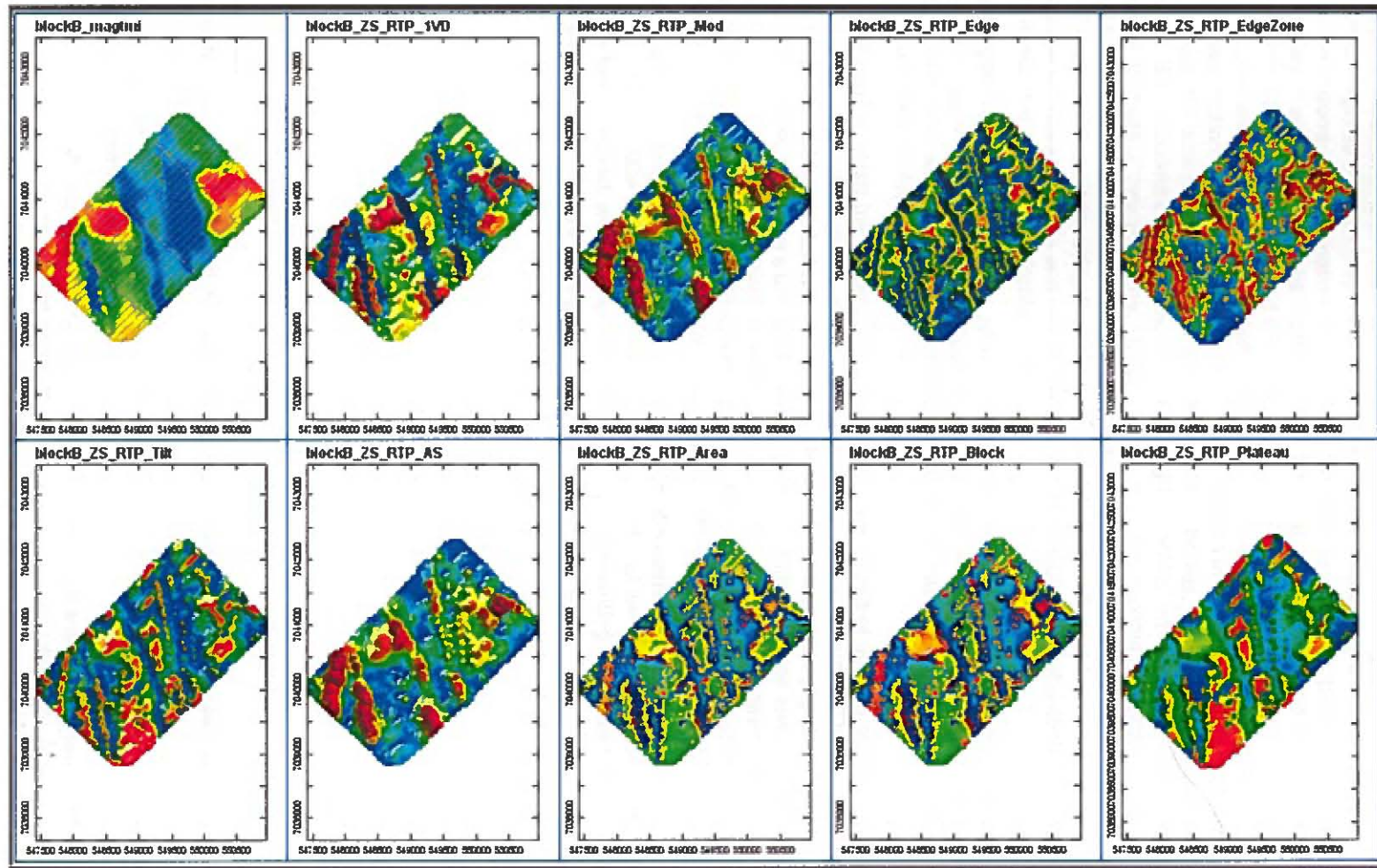


Figure 18. ZS Enhancement Filters – Reduced-to-Pole Magnetics: Block B

#### 4.2.1. Multiscale edge analysis

The analysis of lineaments is of fundamental importance to understanding geological structures and the stress regimes in which they are produced. Automatic analysis of lineaments has previously been done with information mapped from remotely sensed data, using either satellite-based imagery or aerial photographs. Potential field data may also be analyzed in terms of their lineament content. Edge detection and automatic trend analysis using gradients in such data are methods for producing unbiased estimates of sharp lateral changes in physical properties of rocks. The assumption is made that the position of the maxima in the horizontal gradient of gravity or magnetic data represents the edges of the source bodies, although this should be used with caution. Such maxima can be detected and mapped as points, providing the interpreter with an unbiased estimate of their positions. The process of mapping maxima as points can be extended to many different levels of upward continuation, thus providing sets of points that can be displayed in three dimensions, using the height of upward continuation as the z-dimension. There have been recent developments and use of this method for interpretation of potential field data (e.g. Archibald *et al*, 1999<sup>11</sup> and Hornby *et al*, 1999<sup>12</sup>).

Archibald (1999) refers to this process as 'multiscale edge analysis.' Milligan<sup>13</sup> more recently discusses the spatial and directional analysis of potential field gradients and in particular, new methods to help solve and display three-dimensional crustal architecture using a proprietary system of Euler deconvolution 'worms.'

In multiscale edge analysis the assumption is made that lower levels of upward continuation map near-surface sources while higher levels of continuation map deeper sources. This assumption is generally true but must be treated with caution, due to the non-uniqueness of potential field solutions. The INTREPID software's unique implementation of multiscale edge analysis includes the use of Euler 'worms' which provide a view of structural geology obtained directly from potential field geophysical data. The method is based on Fourier techniques for continuation, reduction to pole and total horizontal derivatives coupled with automatic edge detection.

This 'fabric analysis' determines the preferred orientation of basement or at least, magnetic linears within the Ten Mile Creek Property. A number of statistical analytical methods of analyzing fabrics have been devised, with perhaps the simplest way of presenting and analyzing the data being diagrammatically via a rose diagram, shown on a following figure.

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<sup>11</sup> Archibald, N., Gow, P. and Boschetti, F., 1999, Multiscale edge analysis of potential field data: Exploration Geophysics, 30, 38-44.

<sup>12</sup> Hornby, P., Boschetti, F. and Horowitz, F.G., 1999, Analysis of potential field data in the wavelet domain: Geophysical Journal International, 137, 175-196.

<sup>13</sup> Milligan, P. R., Lyons, P. and Direen, N. G., 2003, Spatial and directional analysis of potential field gradients—new methods to help solve and display three-dimensional crustal architecture: Australian Society of Exploration Geophysicists' 16th Geophysical Conference and Exhibition, February 2003, Adelaide, Extended Abstracts.

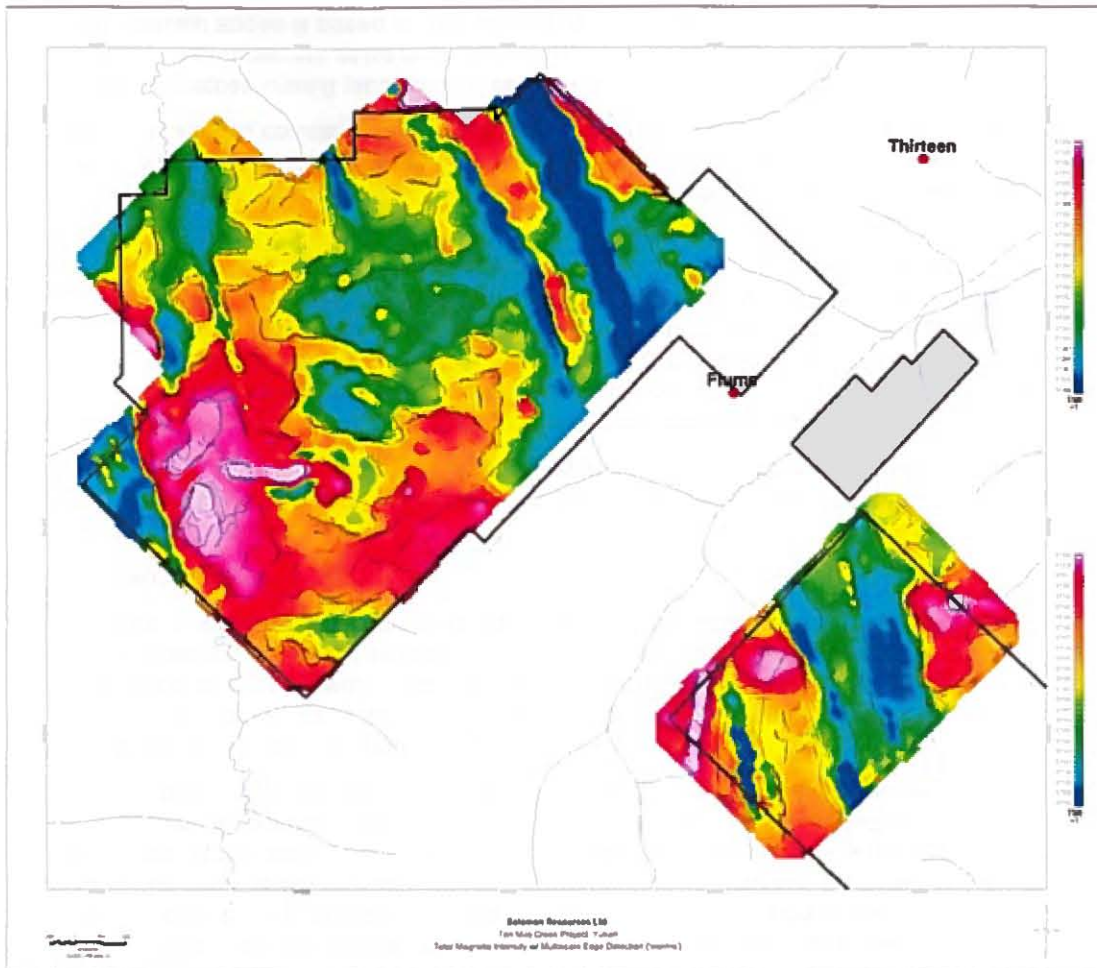


Figure 19. Residual Magnetic Intensity with Multiscale Edge Detections ('worms')

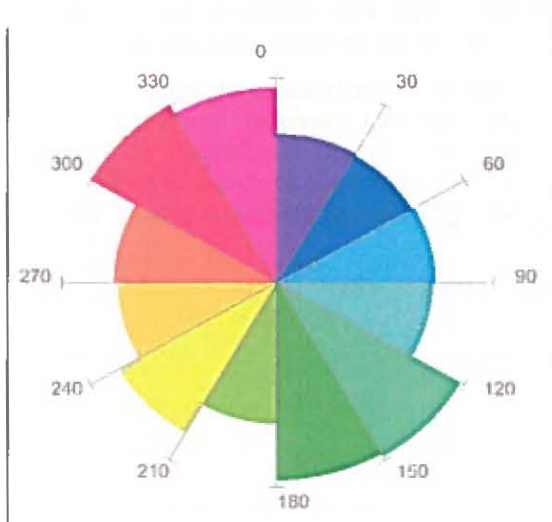


Figure 20a. Rose diagram Strikes – Block A

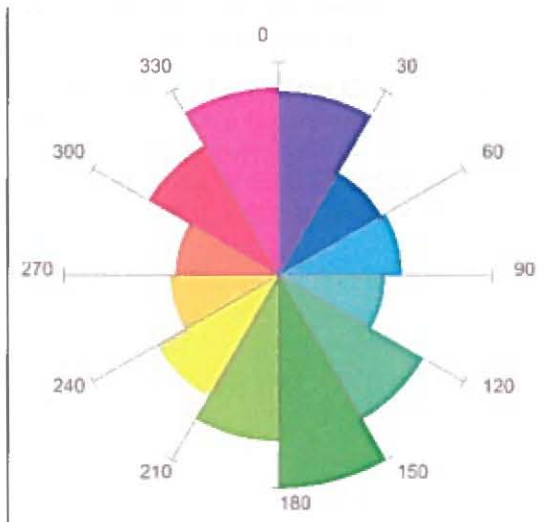


Figure 20b. Rose diagram Strikes – Block B

The rose diagram above is based on the computed strikes obtained through the multiscale edge detection. A preferential NW strike is evident on Block A phasing through to a N strike on Block B; a significant NE cross-cutting fabric is also present on both blocks.

A further analysis and correlation to geology and the possible impact on economic mineralization is currently underway in conjunction with staff of Solomon Resources Ltd. Nonetheless, a number of dominant structural orientations and key features in the data have been identified on the basis of the magnetic data. These include:

- The central survey area Block A is dominated by a E–W system, observed in both datasets, magnetics and radiometrics, flanked on both sides by strong NNW-trending magnetic elements. The strong lineation shown on the eastern side of Block A corresponds to the noted Jual vein system (flat to moderately dipping quartz veins, stockworks and faults in the Mesozoic intrusion). Significant structural disturbance is felt reasonable and indeed is observed in the magnetic derivatives.
- Block B is dominated by a NNW-trending fabric with two notable magnetic highs interpreted as local-scale intrusions; structural disturbances are evident about these inferred intrusions.

#### 4.3. Radiometrics

Radiometrics or gamma-ray spectrometry provides a valuable map of the surface geology as defined by potassium, uranium and thorium concentrations. In addition, potassium, and to a lesser degree uranium are often good indicators of alteration. Structural information can be derived from the boundaries of the interpreted geologic units. A radiometric data set adds valuable layers to the interpretation.

The ternary image presented earlier indicates a strong potassium-rich zone on each of Block A and B; the former in fact may have two such zones, as one is partially developed along its southern limits. The ternary image or map emphasizes subtle distinctions in the relative concentrations of the radioelements, thereby 'fingerprinting' formations, either individually or collectively. Several of the geologic units which underlay the study area appear to possess distinctive radioelement signatures, as shown by the colour contrasts of the ternary map.

Mineralized zones are often associated with potassic alteration which can be distinguished from normal lithologic potassium variation by characteristic eTh/K ratio lows; this applies throughout Canada and has been documented as applying to different styles of mineralization.<sup>14</sup>

The strong magnetic lineation which corresponds with the eastern flank of the identified eTh/K low on Block A and the known Jual vein system suggests this to be a priority area for further investigation. Similarly, although it is believed little work has so far been done on Block B, the eTh/K low indicated there does have correlation to strong magnetic lineation, suggesting good potential for structural offset and faulting; this too suggests itself as a priority area for follow-up.

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<sup>14</sup> Shives, R. B. K., Charbonneau, B. W. and Ford, K. L., 1997, The detection of potassic alteration by gamma-ray spectrometry—recognition of alteration related to mineralization in A.G. Gubins, ed., Proceedings of Exploration 97, Fourth Decennial International Conference on Mineral Exploration: Geophysics and Geochemistry at the Millennium, p. 741–752.

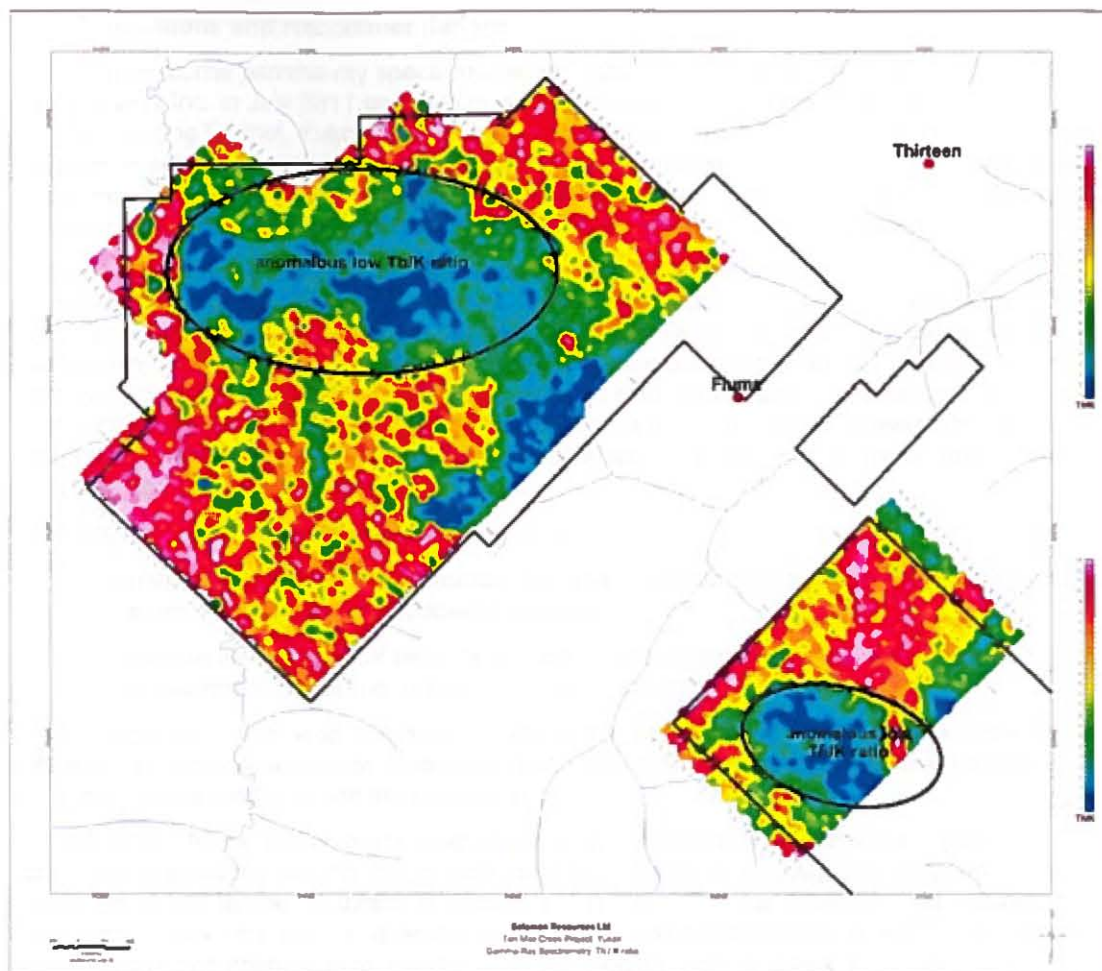


Figure 21. Th/K ratio

**Block A:**

An anomalously low Th/K ratio is noted coincident with an east–west cross-fabric as revealed by the magnetics; this area corresponds to mapped (regional geology) biotite granites. Areas for follow-up include the boundaries or margins of the area of interest or ‘AOI’ above, where intersections of the prevailing NW–SE fabric by the east–west cross linears suggests some structural offset.

**Block B:**

An anomalously low eTh/K ratio is noted; this again corresponds to mapped (regional geology) biotite granites. However, an east–west cross-cutting fabric is noted at least on the northwest flank of the low eTh/K zone. Areas for follow-up therefore include the boundaries or margins of this AOI above, where intersections of the prevailing NW–SE fabric by the east–west cross linears suggests some structural offset.

## 5. Conclusions and Recommendations

A helicopter-borne gamma-ray spectrometer and magnetic survey was flown by Precision GeoSurveys Inc. in July 2011 over two close-by blocks on the Ten Mile Creek Property in the Dawson Mining District, Yukon; the survey is comprised of ~296 line-kilometres of data. Survey lines were acquired on a grid pattern of 100 m spaced traverses oriented northeast-southwest, controlled by 1,000 m spaced tie lines oriented perpendicular. The survey was completed without incident from a base of operations at Black Hills Creek camp, ~60 kilometres east.

Enhanced derivative grids of the magnetics were generated and imaged as part of this interpretation; a texture and phase analysis of the magnetics was also undertaken in order to identify and map possible zones of structural complexity which may in turn indicate zones of favourable mineralization. The gamma-ray spectrometer data was imaged, both directly and through utilization of radioelement ratios, in order to help identify possible alteration zones and distinct changes attributable to lithologic boundaries. A profile by profile review of the data was carried out preparatory to identifying high-priority areas of interest and zones for further investigation and ground follow-up.

The original objectives of this survey were two-fold:

- provide high resolution electromagnetic and magnetic data for the indirect detection and delineation of sulphide-associated gold occurrences
- facilitate the mapping of bedrock lithologies and structure which in turn influence the emplacement or hosting of economic mineralization.

These objectives have been or are being met via this interpretation; the data has enabled both the mapping and delineation of controlling structures, and identification of anomalous potassic alteration suggesting sulphide mineralization.

Enhancement filters applied to the magnetic grid have highlighted a number of dominant structural orientations and trends. Definite 'breaks' in the predominately NW-NNW magnetic fabric are shown by the magnetics (particularly via multiscale edge detection analysis) An anomalously low Th/K ratio is noted on Block A as being coincident with an east-west cross-fabric; this area corresponds to mapped (regional geology) biotite granites. Areas for follow-up include the boundaries or margins of the area of interest or 'AOI' above, where intersections of the prevailing NW-SE fabric by the east-west cross linears suggests some structural offset.

An anomalously low eTh/K ratio is similarly noted on Block B; this again corresponds to mapped (regional geology) biotite granites. However, an east-west cross-cutting fabric is noted at least on the northwest flank of the low eTh/K zone. Areas for follow-up therefore include the boundaries or margins of this AOI above, where intersections of the prevailing NW-SE fabric by the east-west cross linears suggests some structural offset.

A program of geological prospecting, geochemical soils augering, sampling and ground geophysics consisting of magnetics and 3D induced polarization / resistivity is recommended to further delineate the conductive zones and possible identify disseminated sulphides which in turn could indicate anomalous Au mineralization.

All targets and zones or areas of interest are supplied separately to Solomon Resources Ltd. as Mapinfo \*.tab files with accompanying annotation and geo-referencing.

## 6. Certificate of Professional Qualifications

I, Christopher J. Campbell, with business address of 4505 Cove Cliff Road, North Vancouver British Columbia V7G 1H7, hereby certify that:

- ◆ I am a graduate (1972) of the University of British Columbia, with a Bachelor of Science degree in Geophysics.
- ◆ I am a graduate (1986) of the University of Denver, with a Masters of Business Administration.
- ◆ I am a registered member in good standing of the Association of Professional Engineers and Geoscientists of British Columbia.
- ◆ I have practiced my profession for approximately thirty-nine years in Canada (British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, Quebec, Newfoundland/Labrador, Yukon and Northwest Territories / Nunavut), United States of America, Australia, Russia, and Africa.
- ◆ I have no interest, direct or indirect, in the properties or securities of Solomon Resources Ltd., or in any of their related companies or joint venture partners anywhere in Canada.

Dated this day January 21, 2011 in North Vancouver, British Columbia.



Christopher J. Campbell, P. Geo.

**Appendix A.**

**Precision GeoSurveys Inc.**

**Airborne Gamma-Ray Spectrometer and Magnetic Survey**

**for**

**Solomon Resources Limited**

**Ten Mile Creek Project, Yukon**

**September, 2011**



Precision  
GeoSurveys Inc.

**Ten Mile Creek  
Gold Project  
Block A and Block B**

Prepared for:  
Solomon Resources Ltd.

September 2011  
Jenny Poon, B.Sc., GIT

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## Introduction:

This report outlines the survey operations and data processing actions taken during the airborne geophysical survey flown at Ten Mile Creek (Figure 1). The airborne geophysical survey was flown by Precision GeoSurveys Inc. for Solomon Resources Ltd. The geophysical survey, carried out July 20, 2011 and July 21, 2011, saw the acquisition of high resolution magnetic and radiometric data.



Figure 1: Ten Mile Block A and Block B area location relative to Black Hills Creek and Stewart River, YT.

The Ten Mile Gold Project is composed of two blocks; Block A and Block B which are located approximately 68 kilometers south west of Dawson city and north east of the Stewart River meeting the Yukon River. Both blocks are found in the White Gold district. The survey area of Block A is approximately 4 km by 6 km and Block B is approximately 3 km by 2 km (Figure 2 to Figure 5). A total of 9,401 line kilometers of magnetic data were flown for this survey; this total includes tie lines and survey lines for both North and South blocks. The survey lines were flown at 100 meter spacings at a 090°/270° heading; the tie lines were flown at 1 km spacings at a heading of 000°/180° (Figures 6 & 7).



Figure 2: Block A with survey and tie lines outlined in yellow and the boundary in red in plane view.

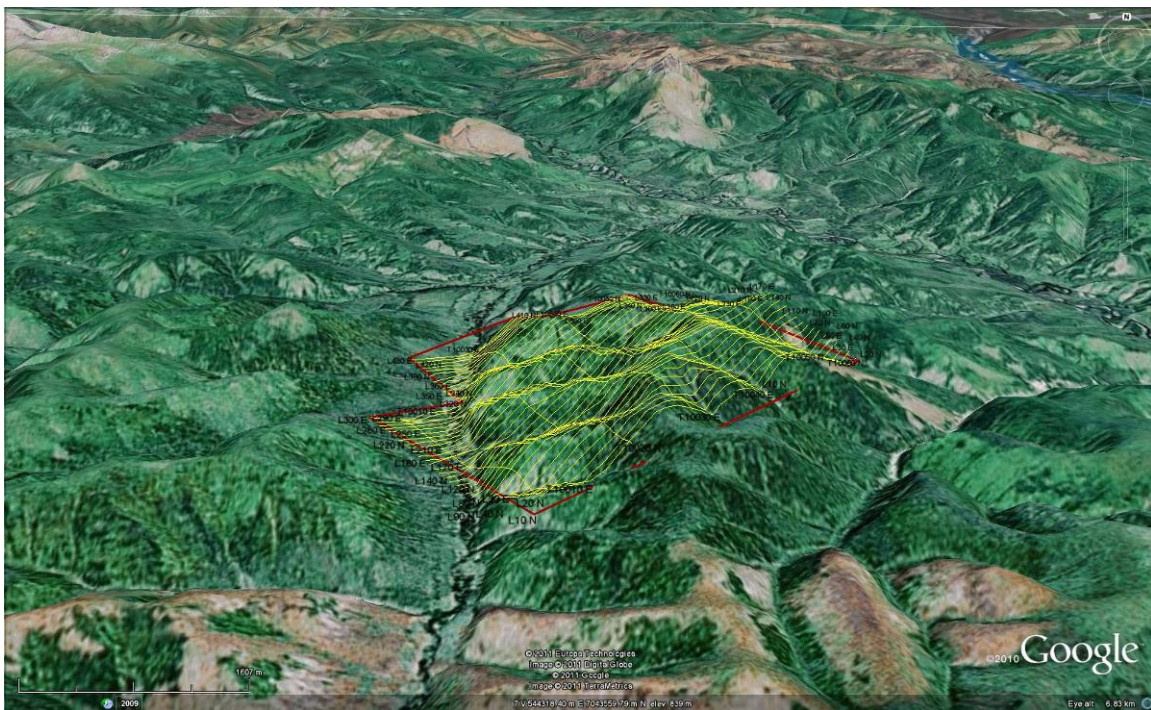


Figure 3: Block A with survey and tie lines outlined in yellow and the boundary in red in terrain view.



Figure 4: Block B with survey and tie lines outlined in yellow and the boundary in red in plane view.

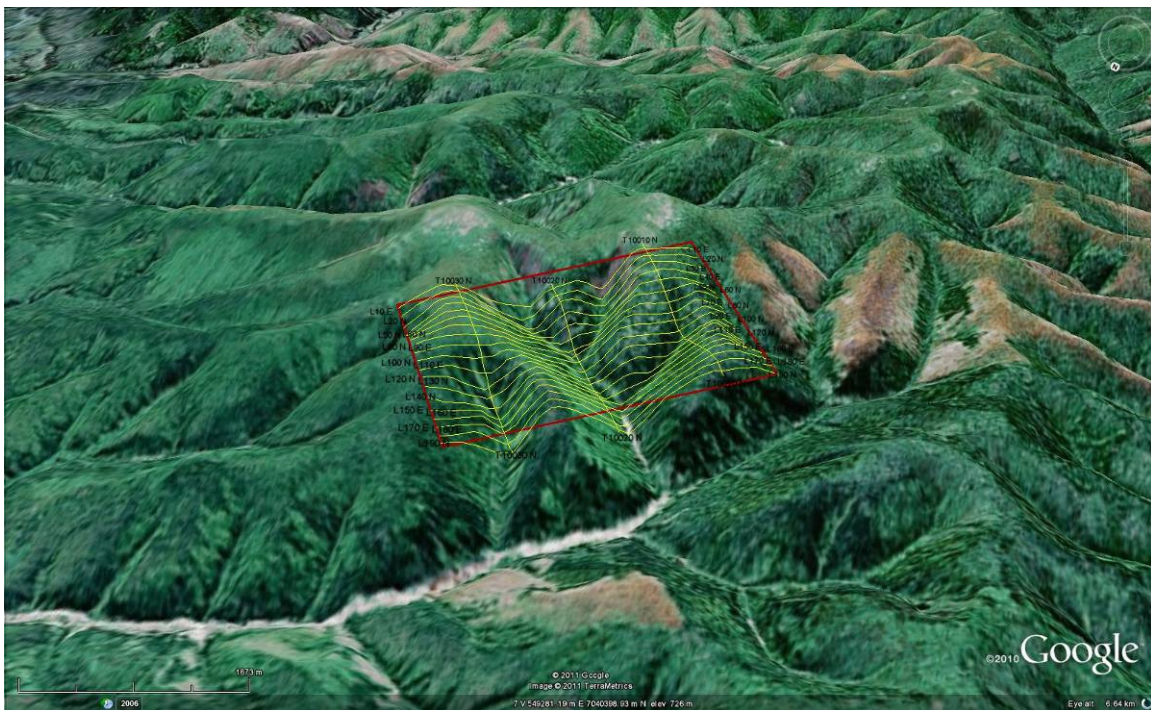


Figure 5: Block B with survey and tie lines outlined in yellow and the boundary in red in terrain view.

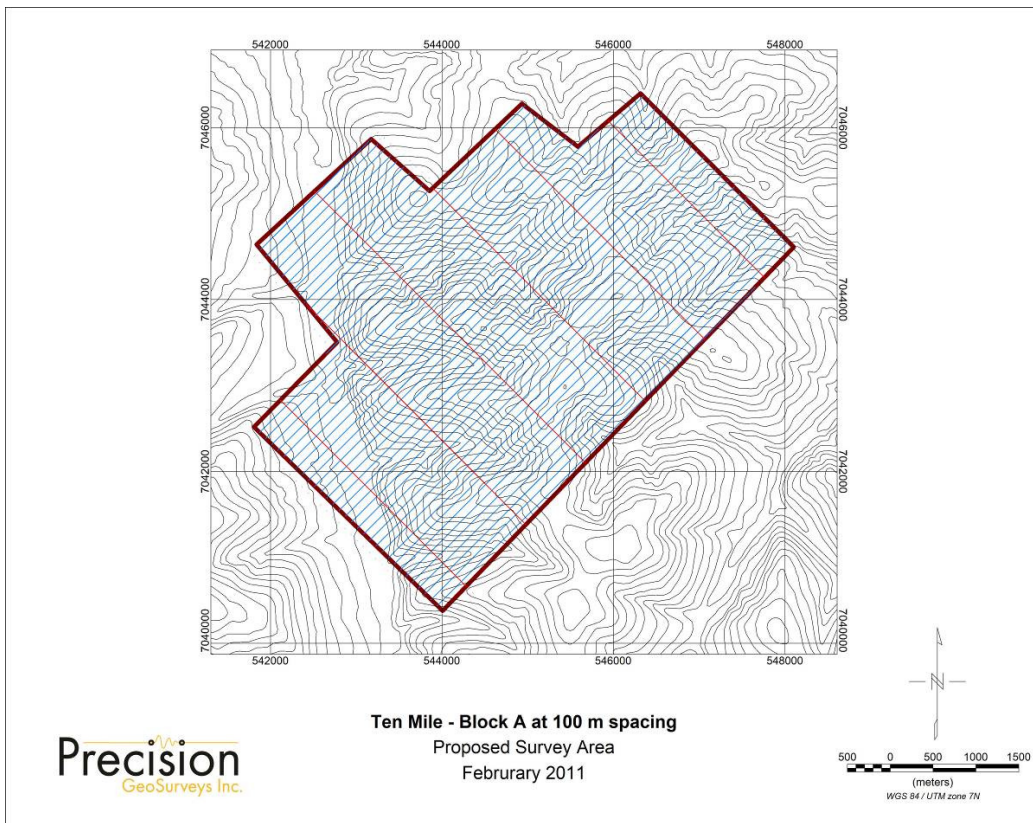


Figure 6: Proposed survey basemap of Block A showing survey and tie lines and the boundary in red.

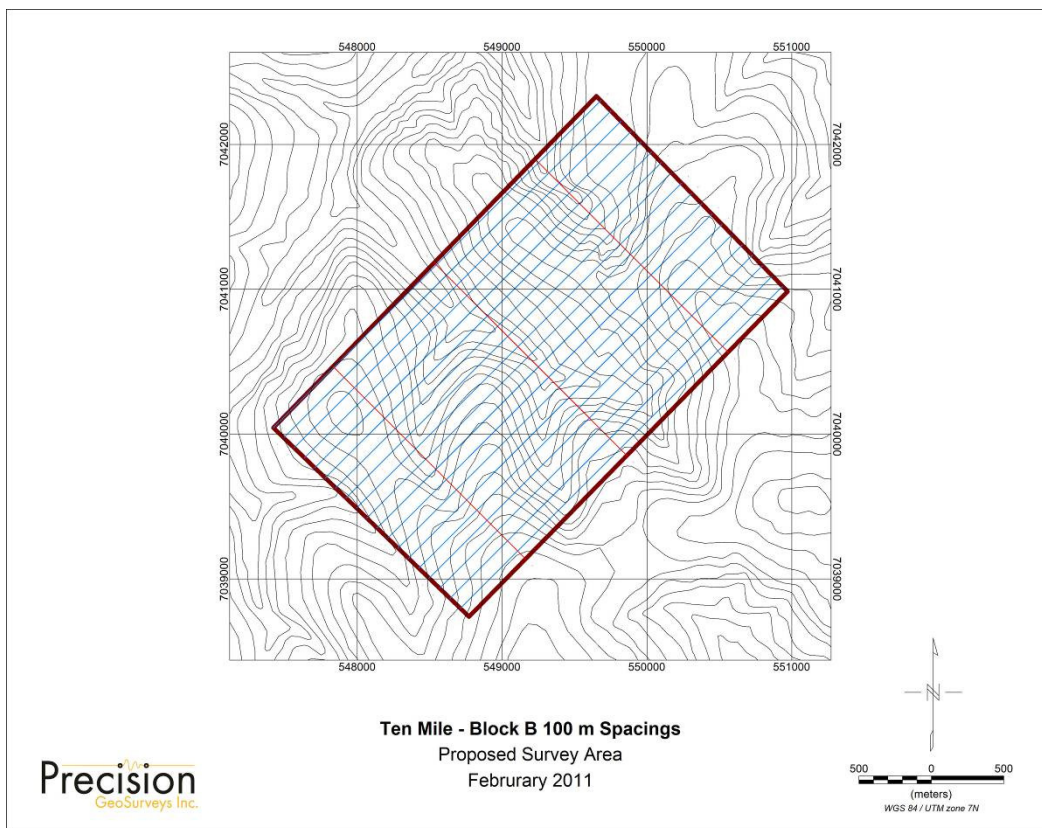


Figure 7: Proposed survey basemap of Block B showing survey and tie lines and the boundary in red.

**Survey Specifications:**

The geodetic system used for this survey is WGS 84 and the area is contained in zone 7N. The survey data acquisition specifications and coordinates for Block A and Block B survey are specified as followed (Table 1 and Table 2).

Survey Block	Line Spacing m	Survey Line km	Tie Line km	Total Line km	Survey Line Orientation	Nominal Survey Height m
Block A	100	209	21	230	045 ° -225°	35
Block B	100	60	6	66	045 ° -225°	35
Total				296		

Table 1: Ten Mile Gold Project – Block A and Block B survey acquisition specifications.

Longitude	Latitude	Easting	Northing
140.1316133	63.53837882	543173	7045869
140.1587868	63.52751924	541838	7044641
140.1401765	63.51719503	542779	7043503
140.1599503	63.50846272	541808	7042517
140.1163650	63.48900245	544007	7040378
140.0328495	63.52644683	548103	7044610
140.0683092	63.54274746	546313	7046400
140.0831316	63.53726034	545585	7045778
140.0961012	63.54183927	544933	7046279
140.1180453	63.53285703	543856	7045263

Table 2: Block A survey polygon coordinates using WGS 84 in zone 7N.

Longitude	Latitude	Easting	Northing
140.0479245	63.48556610	547421	7040044
140.0212256	63.47367316	548771	7038739
139.9763821	63.49351862	550970	7040985
140.0024440	63.50581936	549651	7042335

Table 3: Block B survey polygon coordinates using WGS 84 in zone 7N.

## 2.0 Geophysical Data:

Geophysical data are collected in a variety of ways and are used to aid in the exploration and determination of geology, mineral deposits, oil and gas deposits, contaminated land sites and UXO detection.

For the purposes of this survey, airborne magnetic data were collected to serve in the exploration of Block A and Block B which contains rocks that are prospective for copper and gold mineralization.

### 2.1 Magnetic Data:

Magnetic surveying is probably the most common airborne survey type to be conducted for both mineral and hydrocarbon exploration. The type of survey specifications, instrumentation, and interpretation procedures, depend on the objectives of the survey. Typically magnetic surveys are performed for:

1. Geological Mapping to aid in mapping lithology, structure and alteration in both hard rock environments and for mapping basement lithology, structure and alteration in sedimentary basins or for regional tectonic studies.
2. Depth to Basement mapping for exploration in sedimentary basins or mineralization associated with the basement surface.

### 2.2 Radiometric Data:

Radiometric surveys detect and map natural radioactive emanations, called gamma rays, from rocks and soils. All detectable gamma radiation from earth materials come from the natural decay products of three primary elements; uranium, thorium, and potassium. The purpose of radiometric surveys is to determine either the absolute or relative amounts of U, Th, and K in surface rocks and soils.

## 3.0 Survey Operations:

Precision GeoSurveys flew the Ten Mile Gold Project blocks using a Eurocopter AS350 helicopters (Figure 8). The survey lines were flown at a nominal line spacing of one hundred (100) meters and the tie lines were flown at 1 km spacing for the magnetometer. The average survey elevation was 40 meters vertically above ground for Block A and 38 meters for Block B. The experience of the pilot helped to ensure that the data quality objectives were met and that the safety of the flight crew was never compromised given the potential risks involved in airborne surveying.



Figure 8: Eurocopter AS350 equipped with mag stinger for magnetic data acquisition.

The base of operations for this survey was in Schaft Creek, BC. The Precision crew consisted of three members:

Don Plattel - Pilot  
Mark Halls - Operator  
Jenny Poon - On-site Geophysicist

The survey was started on July 20, 2011 and completed on July 21, 2011. The survey encountered several delays due to poor weather conditions and magnetic storms.

#### 4.0 Equipment:

For this survey, a magnetometer, base station, laser altimeter, and a data acquisition system were required to carry out the survey and collect quality, high resolution data. The survey magnetometer is carried in an approved “stinger” configuration to enhance flight safety and improve data quality in this mountainous terrain.

#### 4.1 AGIS:

The Airborne Geophysical Information System, AGIS, (Figure 9), is the main computer used in data recording, data synchronizing, displaying real-time QC data for the geophysical operator, and generation of navigation information for the pilot display system.

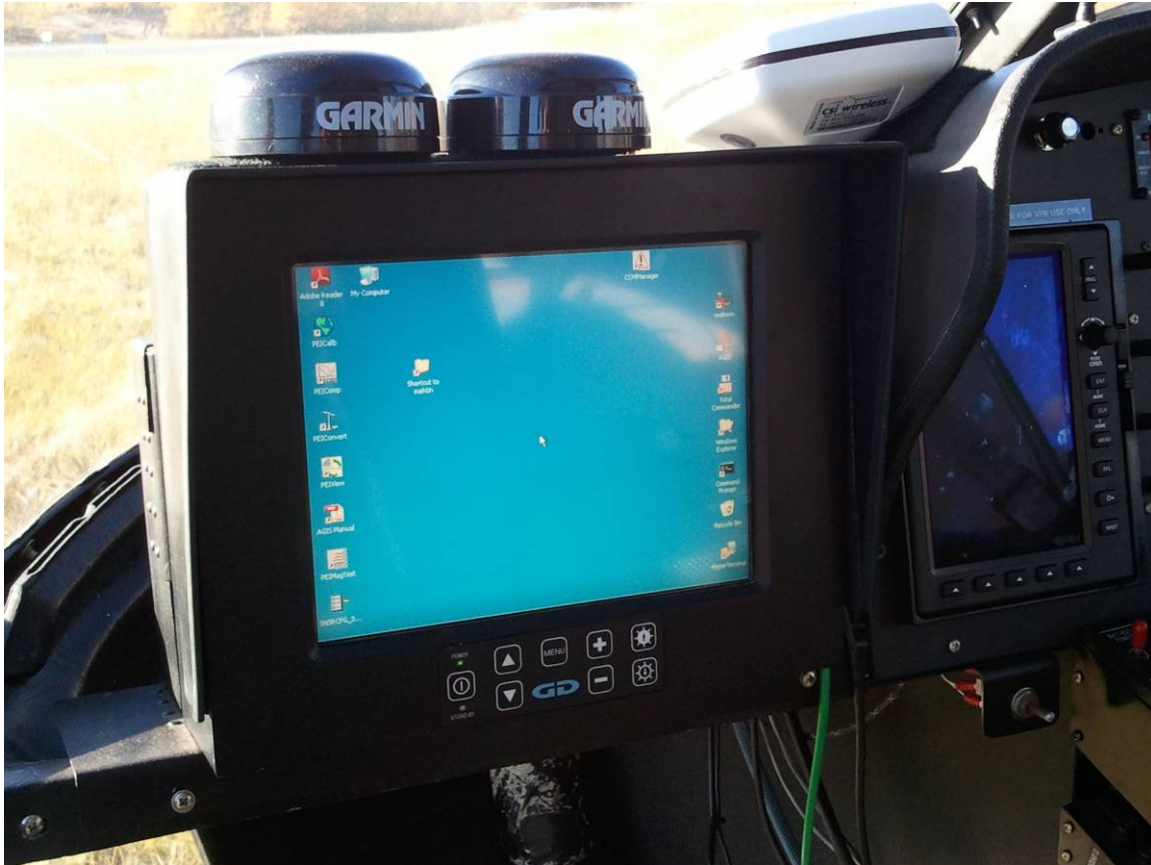


Figure 9: AGIS installed in the Eurocopter AS350 .

The AGIS was manufactured by Pico Envirotec; therefore the system uses standardized Pico software and external sensors are connected to the system via RS-232 serial communication cables. The AGIS data format is easily converted into Geosoft or ASCII file formats by a supplied conversion program called PEIView. Additional Pico software allows for post real time magnetic compensation and survey quality control procedures.

## 4.2 Spectrometer:

The IRIS, or Integrated Radiometric Information System is a fully integrated, gamma radiation detection system containing 16.8 litres of NaI (Tl) downward looking crystals and 4.2 litres NaI (Tl) upward looking crystals (Figure 10). The IRIS is equipped with upward-shielding high density RayShield® gamma-attenuating material to minimize cosmic and solar gamma noise. Real time data acquisition, navigation and communication tasks are integrated into a single unit that is installed in the rear of the aircraft as indicated below. Information such as total count, counts of various radioelements (K, U, Th, etc.), temperature, cosmic radiation, barometric pressure, atmospheric humidity and survey altitude can all be monitored on the AGIS screen for immediate QC. All the radiometric data are recorded at 1 Hz.

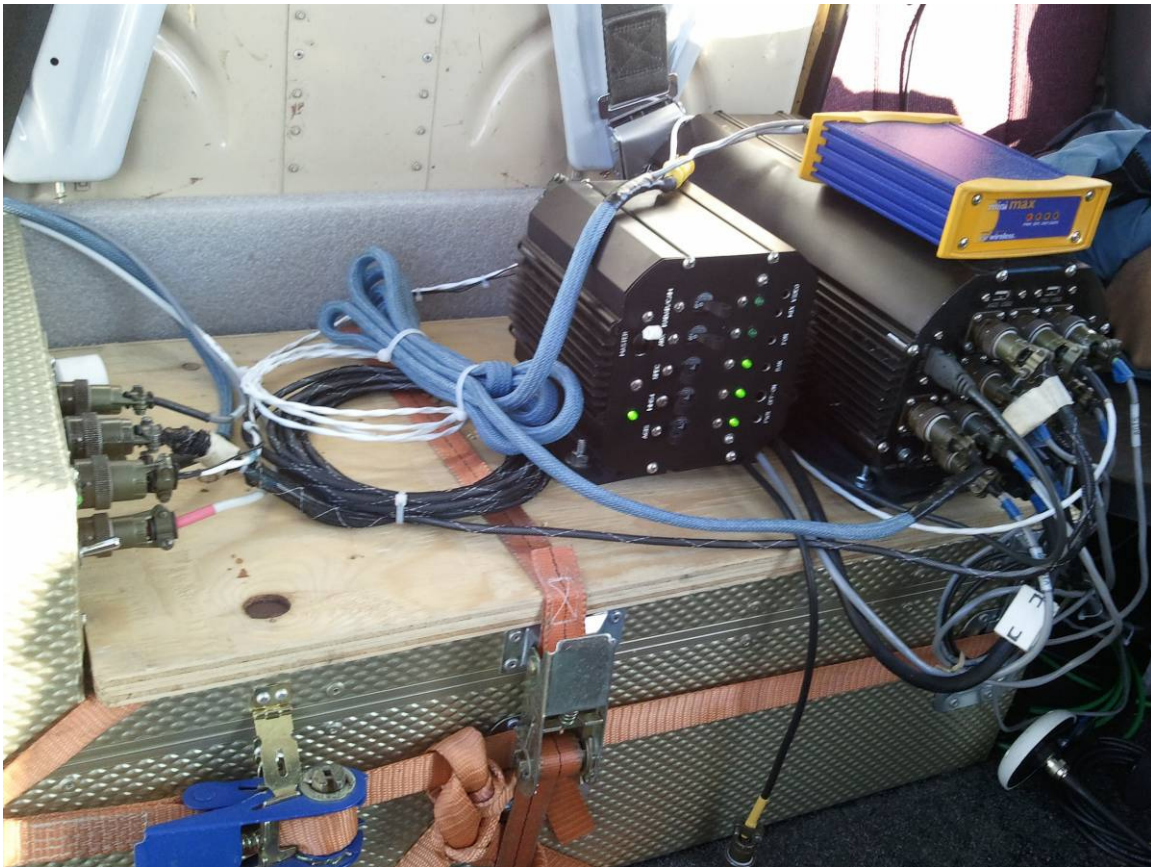


Figure 10: One of the IRIS strapped in the back seat of the Eurocopter AS350.

## 4.3 Magnetometer:

The magnetometer used by Precision GeoSurveys is a Scintrex cesium vapor CS-3 magnetometer. The system was housed in a front mounted “stinger” (Figure 11). The CS-3 is a high sensitivity/low noise magnetometer with automatic hemisphere switching and a wide voltage range, the static noise rating for the unit is +/- 0.01 nT. On the AGIS

screen the operator can view the raw magnetic response, the magnetic fourth difference, aircraft position, and the survey altitude for immediate QC of the magnetic data. The magnetic data are recorded at 10 Hz. A magnetic compensator is also used to remove noise created by the movement of the helicopter as it pitches, rolls and yaws within the Earth's geomagnetic field.



Figure 11: View of the mag stinger.

#### 4.4 Base Station:

For monitoring and recording of the Earth's diurnal magnetic field variation, Precision GeoSurveys uses two base stations: Scintrex proton precession Envi Pro magnetometer and GEM GSM-19T magnetometer. Both base stations are mounted as close to the survey blocks as possible to give accurate magnetic field data. The Envi Pro base station (Figure 12), uses the well proven precession technology to sample at a rate of 0.5 Hz. A GPS is integrated with the system to record real GPS time that is used to correlate with the GPS time collected by the airborne CS-3 magnetometer.



Figure 12: Scintrex Envi Pro proton precession magnetometer.

The GEM GSM-19T magnetometer (Figure 13) also uses the proton precession technology sampling at a rate of 0.5 Hz. The GSM-19T has an accuracy of +/- 0.2 nT at 1 Hz.



Figure 13: GEM GSM-19T proton precession magnetometer.

#### 4.5 Laser Altimeter:

The pilot is provided with terrain guidance and clearance with an Acuity AccuRange AR3000 laser altimeter (Figure 14). This is attached at the aft end of the magnetometer boom. The AR3000 sensor is a time-of-flight sensor that measures distance by a rapidly-modulated and collimated laser beam that creates a dot on the target surface. The maximum range of the laser altimeter is 300 m off of natural surfaces with 90%

reflectance and 3 km off special reflectors. Within the sensor unit, reflected signal light is collected by the lens and focused onto a photodiode. Through serial communications and analog outputs, the distance data are transmitted and collected by the AGIS at 10 Hz.



Figure 14: Acuity AccuRange AR3000 laser altimeter.

## 5.0 Data Processing:

After all the data are collected after a survey flight several procedures are undertaken to ensure that the data meet a high standard of quality. All data were processed using Pico Envirotec software and Geosoft Oasis Montaj geophysical processing software.

### 5.1 Magnetic Processing:

During aeromagnetic surveying noise is introduced to the magnetic data by the aircraft itself. Movement in the aircraft (roll, pitch and yaw) and the permanent magnetization of the aircraft parts (engine and other ferric objects) are large contributing factors to this noise. To remove this noise a process called magnetic compensation is implemented. The magnetic compensation process starts with a test flight at the beginning of the survey where the aircraft flies in the four orthogonal headings required for the survey (040°/230° and 130°/311° in the case of this survey) at an altitude where there is no ground effect in the magnetic data. In each heading, specified 3 roll, 3 pitch, and 3 yaw maneuvers are performed by the pilot; these maneuvers provide the data that are required to calculate the necessary parameters for compensating the magnetic data. A computer program called PEIComp is used to create a model for each survey to remove the noise induced by aircraft movement; this model is applied to each survey flight so the data can be further processed.

Followed by the compensation flight, a lag test is conducted. A lag correction of 1.0 seconds was applied to the total magnetic field data to compensate for the lag in the recording system as the magnetometer sensor flies 5.70 m ahead of the GPS antenna.

A magnetic base station is set up before every flight to ensure that diurnal activity is recorded during the survey flights. In this case, the base station was located in the bushes close to Black Hills Creek. Base station readings were reviewed at regular intervals to ensure that no data were collected during periods with high diurnal activity (greater than 5 nT per minute). The base station was installed within the survey blocks at a magnetically noise-free area, away from metallic items such as steel objects, vehicles, or power lines. The magnetic variations recorded from the stationary base station are removed from the magnetic data recorded in flight to ensure that the anomalies seen are real and not due to solar activity.

Filtering is applied to the laser altimeter data as to remove vegetation clutter and to show the actual ground clearance. To remove vegetation clutter a Rolling Statistic filter was applied to the laser altimeter data and a low pass filter was used to smooth out the laser altimeter profile to remove isolated noise. As a result, filtering the data will yield a more uniform surface in close conformance with the actual terrain.

Some filtering of the magnetic data is also required. A Non Linear filter was used for spike removal. The 1D Non-Linear Filter is ideal for removing very short wavelength, but high amplitude features from data. It is often thought of as a noise spike-rejection filter, but it can also be effective for removing short wavelength geological features, such as signals from surficial features. The 1D Non-Linear Filter is used to locate and remove data that are recognized as noise. The algorithm is 'non-linear' because it looks at each data point and decides if that datum is noise or a valid signal. If the point is noise, it is simply removed and replaced by an estimate based on surrounding data points. Parts of the data that are not considered noise are not modified. The combination of a Non-Linear filter for noise removal and a low pass trend enhancement filter resulted in level data as indicated in the results section of this report. The low pass filters simply smoothes out the magnetic profile to remove isolated noise.

## 5.2 Radiometric Processing:

Calibrating the spectrometer system in the helicopter is the first and vital step before the airborne radiometric data can be processed. Once calibration of the system has been complete, the radiometric data are processed by windowing the full spectrum to create channels for U, K, Th and total count. A 5-point Hanning filter was applied to the Cosmic window before going any further with processing the radiometric data.

Aircraft background and cosmic stripping corrections were applied to all three elements, upward uranium channels, and total count using the following formula:

$$C_{ac} = C_{lt} - (a_c + b_c * \text{Cos}_f)$$

where:  $C_{ac}$  is the background and cosmic corrected channel  
 $C_{lt}$  is the live time corrected channel  
 $a_c$  is the aircraft background for this channel  
 $b_c$  is the cosmic stripping coefficient for this channel  
 $\text{Cos}_f$  is the filtered cosmic channel

The radon backgrounds are first removed followed by compton stripping. Spectral overlap corrections are applied on to potassium, uranium, and thorium as part of the compton stripping process. This is done by using the striping ratios that have been calculated for the spectrometer by prior calibration, this breaks the corrected elemental values down into the apparent radioelement concentrations. Lastly, attenuation corrections are applied to the data which involves nominal survey altitude corrections, in this case 34 metres is applied to total count, potassium, uranium, and thorium data.

With all corrections applied to the radiometric data, the final step is to convert the corrected potassium, uranium, and thorium to apparent radioelement concentrations using the following formula:

$$eE = C_{cor} / s$$

where: eE is the element concentration K(%) and equivalent element concentration of U(ppm) & Th(ppm)  
s is the experimentally determined sensitivity  
C<sub>cor</sub> is the fully corrected channel

Finally, the natural air absorption dose rate is determined using the following formula:

$$E = 13.08 * K + 5.43 * eU + 2.69 * eTh$$

where: E is the absorption dose rate in nG/h  
K is the concentration of potassium (%)  
eU is the equivalent concentration of uranium (ppm)  
eTh is the equivalent concentration of thorium (ppm)

To calculate for radiometric ratios it follows the guidelines in the IAEA report. Due to statistical uncertainties in the individual radioelement measurements, some care was taken in the calculation of the ratio in order to obtain statistically significant values. Following IAEA guidelines, the method of determining ratios of the eU/eTh, eU/K and eTh/K was as follows:

1. Any data points where the potassium concentration was less than 0.25 were neglected.
2. The element with the lowest corrected count rate was determined.
3. The element concentrations of adjacent points on either side of each data point were summed until they exceeded a certain threshold value. This threshold was set to be equivalent to 100 counts of the element with the lowest count rate. Additional minimum thresholds of 1.6% for Potassium, 20 ppm for thorium, and 30 ppm for uranium were set up to insure meaningful ratios.
4. The ratios were calculated using the accumulated sums.

With this method, the errors associated with the calculated ratios will be similar for all data points.

### 5.3 Final Data Format

Abbreviations used in the GDB files are listed in the following table:

Channel	Units	Description
<b>X</b>	m	UTM Easting - WGS84 Zone 7 North
<b>Y</b>	m	UTM Northing - WGS84 Zone 7 North
<b>Galt_m</b>	m	GPS height - WGS84 Zone 7 North
<b>Lalt</b>	m	Laser Altimeter readings
<b>DTM</b>	m	Digital Terrain Model
<b>GPStime</b>	Hours:min:secs	GPStime
<b>basemag</b>	nT	Base station diurnal data
<b>mag</b>	nT	Total Magnetic Intensity
<b>BaltLC</b>	m	Barometric Altitude
<b>Baro_mb</b>	millibar	Atmospheric Pressure
<b>BAROmg_kP</b>	KiloPascal	Atmospheric Pressure
<b>BstpLC</b>	m	Barometric Altitude (Pres and Temp Corrected)
<b>RaltLC</b>	m	Laser altimeter - Aircraft/sensor height
<b>TempLC</b>	Degrees C	Air Temperature
<b>COSFILT</b>	counts/sec	Spectrometer - Filtered Cosmic
<b>TCcor</b>	μR	Dose Rate Equivalent
<b>Kcor</b>	%	Equivalent Concentration - Potassium
<b>Ucor</b>	ppm	Equivalent Concentration - Uranium
<b>THcor</b>	ppm	Equivalent Concentration - Thorium
<b>UpU_cps</b>	counts/sec	Spectrometer RAW Counts - Upward Uranium
<b>UPUTEMP</b>	counts/sec	Spectrometer - Filtered Upward Uranium
<b>THKratio</b>		Spectrometer - eTh/%K ratio
<b>UKratio</b>		Spectrometer - eU/%K ratio
<b>UTHratio</b>		Spectrometer - eU/eTh ratio
<b>Date</b>	yyyy/mm/dd	Local Flight Date

Table 4: Whiskey North and Whiskey South survey channel abbreviations.

The file format will be provided in two (2) formats, the first will be a .GDB file for use in Geosoft Oasis Montaj, the second format will be a .XYZ file, this is text file. A complete file provided in each format will contain both magnetic and radiometric data.

**Appendix A**  
Equipment Specifications

**Scintrex Envi Pro Proton Magnetometer with Integrated GPS (Base Station)**

<b>Total Field Operating Range</b>	23,000 to 100,000 nT (gamma)
<b>Total Field Absolute Accuracy</b>	±1 nT (gamma)
<b>Sensitivity</b>	0.1 nT (gamma) at 2 second sampling rate
<b>Tuning/ Sampling</b>	Fully solid state. Manual or automatic, keyboard selectable Cycling (Reading) Rates 0.5, 1, 2, or 3 seconds
<b>Gradiometer Option</b>	Includes a second sensor, 0.5m (20 inch) staff extender and processor module
<b>Gradient Tolerance</b>	> 7000 nT (gamma)/m
<b>'Walking' Mode</b>	Continuous reading, cycling as fast as 0.5 seconds
<b>Supplied GPS Accuracy</b>	+/- 1m (Autonomous), < 1m WAAS Connects to most external GPS receivers with NMEA & PPS output
<b>Standard Memory</b>	Total Field Measurements: 84,000 readings Gradiometer Measurements: 67,000 readings Base Station Measurements: 500,000 readings
<b>Real-Time Clock</b>	1 second resolution, ± 1 second stability over 24 hours or GPS time
<b>Digital Data Output</b>	RS-232C, USB Adapter
<b>Power Supply</b>	Rechargeable, 2.9 Ah, lead-acid dry cell battery 12 Volts External 12 Volt input for base station operations
<b>Operating Temperature</b>	40°C to +60°C (-40°F to 140°F)
<b>Dimensions and Weight</b>	Console: 250mm x 152mm x 55mm (10" x 6" x 2.25") 2.45 kg (5.4 lbs) with rechargeable battery Magnetic 70mm d x 175mm (2.75"d x 7") Sensor: 1 kg (2.2 lbs) Gradiometer 70mm d x 675mm (2.75"d x 26.5") Sensor: (with staff extender) 1.15 kg (2.5 lbs) Sensor Staff: 25mm d x 2m (1"d x 76") 0.8 kg (1.75 lbs)

**GEM GSM-19T Proton Precession Magnetometer (Base Station)**

<b>Configuration Options</b>	15
<b>Cycle Time</b>	999 to 0.5 sec
<b>Environmental</b>	-40 to 60 ° Celsius
<b>Gradient Tolerance</b>	7,000 nT/m
<b>Magnetic Readings</b>	299,593
<b>Operating Range</b>	10, 000 to 120,000 nT
<b>Power</b>	12 V @ 0.62 A
<b>Sensitivity</b>	0.1 nT @ 1 sec
<b>Weight (Console/ Sensor)</b>	3.2 Kg
<b>Integrated GPS</b>	Yes

**Scintrex CS-3 Survey Magnetometer**

<b>Operating Principal</b>	Self-oscillation split-beam Cesium Vapor (non-radioactive Cs-133)
<b>Operating Range</b>	15,000 to 105,000 nT
<b>Gradient Tolerance</b>	40,000 nT/metre
<b>Operating Zones</b>	10° to 85° and 95° to 170°
<b>Hemisphere Switching</b>	a) Automatic b) Electronic control actuated by the control voltage levels (TTL/CMOS) c) Manual
<b>Sensitivity</b>	0.0006 nT $\sqrt{\text{Hz}}$ rms.
<b>Noise Envelope</b>	Typically 0.002 nT P-P, 0.1 to 1 Hz bandwidth
<b>Heading Error</b>	+/- 0.25 nT (inside the optical axis to the field direction angle range 15° to 75° and 105° to 165°)
<b>Absolute Accuracy</b>	<2.5 nT throughout range
<b>Output</b>	a) continuous signal at the Larmor frequency which is proportional to the magnetic field (proportionality constant 3.49857 Hz/nT) sine wave signal amplitude modulated on the power supply voltage b) square wave signal at the I/O connector, TTL/CMOS compatible
<b>Information Bandwidth</b>	Only limited by the magnetometer processor used
<b>Sensor Head</b>	Diameter: 63 mm (2.5") Length: 160 mm (6.3") Weight: 1.15 kg (2.6 lb)
<b>Sensor Electronics</b>	Diameter: 63 mm (2.5") Length: 350 mm (13.8") Weight: 1.5 kg (3.3 lb)
<b>Cable, Sensor to Sensor Electronics</b>	3m (9' 8"), lengths up to 5m (16' 4") available
<b>Operating Temperature</b>	-40°C to +50°C
<b>Humidity</b>	Up to 100%, splash proof
<b>Supply Power</b>	24 to 35 Volts DC
<b>Supply Current</b>	Approx. 1.5A at start up, decreasing to 0.5A at 20°C
<b>Power Up Time</b>	Less than 15 minutes at -30°C

**Scintrex ENVI PRO Proton Base Station Magnetometer with Integrated GPS**

<b>Total Field Operating Range</b>	23,000 to 100,000 nT (gamma)
<b>Total Field Absolute Accuracy</b>	±1 nT (gamma)
<b>Sensitivity</b>	0.1 nT (gamma) at 2 second sampling rate
<b>Tuning/ Sampling</b>	Fully solid state. Manual or automatic, keyboard selectable Cycling (Reading) Rates 0.5, 1, 2, or 3 seconds
<b>Gradiometer Option</b>	Includes a second sensor, 0.5m (20 inch) staff extender and processor module
<b>Gradient Tolerance</b>	> 7000 nT (gamma)/m
<b>“Walkmag” mode Option</b>	Continuous reading, cycling as fast as 0.5 seconds
<b>Supplied GPS Accuracy</b>	+/- 1m (Autonomous), < 1m WAAS Connects to most external GPS receivers with NMEA & PPS output
<b>Standard Memory</b>	<b>Total Field Measurements:</b> 84,000 readings <b>Gradiometer Measurements:</b> 67,000 readings <b>Base Station Measurements:</b> 500,000 readings
<b>Real-Time Clock</b>	1 second resolution, ± 1 second stability over 24 hours or GPS time
<b>Digital Data Output</b>	RS-232C, USB Adapter
<b>Power Supply</b>	Rechargeable, 2.9 Ah, lead-acid dry cell battery 12 Volts External 12 Volt input for base station operations
<b>Operating Temperature</b>	-40°C to +60°C (-40°F to 140°F)
<b>Dimensions and Weight</b>	<b>Console:</b> 250mm x 152mm x 55mm (10" x 6" x 2.25") 2.45 kg (5.4 lbs) with rechargeable battery <b>Magnetic</b> 70mm d x 175mm (2.75" d x 7") <b>Sensor:</b> 1 kg (2.2 lbs) <b>Gradiometer</b> 70mm d x 675mm (2.75" d x 26.5") <b>Sensor:</b> (with staff extender) 1.15 kg (2.5 lbs) <b>Sensor Staff:</b> 25mm d x 2m (1" d x 76") 0.8 kg (1.75 lbs)
<b>Options</b>	<ul style="list-style-type: none"> <li>• Base Station Accessories Kit</li> <li>• Cold Weather Accessories</li> <li>• Additional Software Packages</li> <li>• Training Programs</li> </ul>

**Geometrics G-856AX Proton Base Station Magnetometer**

<b>Resolution</b>	0.1 nT
<b>Total Field Absolute Accuracy</b>	0.5 nt
<b>Clock</b>	Julian time, accuracy 5 secs per month
<b>Tuning</b>	Auto or manual, range of 20,000 to 90,000 nt
<b>Gradient Tolerance</b>	1000 nT/metre
<b>Cycle Time</b>	3 secs to 999 secs standard, can be manually selected as fast as 1.5 secs cycle time
<b>Memory</b>	5700 field or 12500 base station readings
<b>Display</b>	Six digit display of field/time, three digit auxiliary display of line number, day
<b>Digital Output</b>	RS-232, 9600 baud
<b>Input</b>	Will accept external cycle command
<b>Physical Console</b>	7 x 10.5 x 3.5 inches, (18 x 27 x 9 cm) 6 lbs (2.7 kg)
<b>Sensor</b>	3.5 x 5 inches ( 9 x 13 cm) 4 lbs (1.8 kg)
<b>Environmental</b>	Meets specifications within 0 to 40 °C. Will operate satisfactorily from -20 to 50 °C
<b>Power</b>	Rechargeable, magnetically compensated Gel-Cel batteries

**Pico Envirotec GRS-10 Gamma Spectrometer**

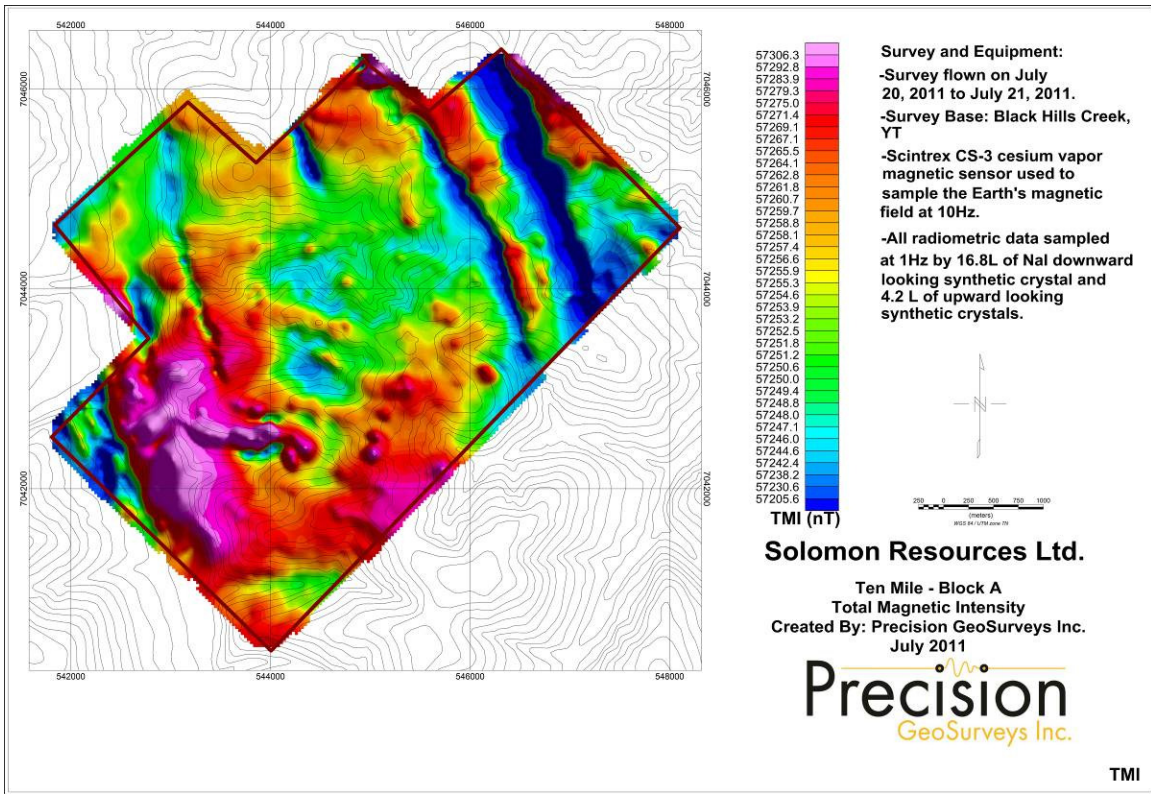
<b>Crystal volume</b>	16.8 liters downward plus 4.2 liters upward
<b>Resolution</b>	256/512 channels
<b>Tuning</b>	Automatic using peak determination algorithm
<b>Detector</b>	Digital Peak
<b>Calibration</b>	Fully automated detector
<b>Real Time</b>	Linearization and gain stabilization
<b>Communication</b>	RS232
<b>Detectors</b>	Expandable to 10 detectors and digital peak
<b>Count Rate</b>	Up to 60,000 cps per detector
<b>Count Capacity per channel</b>	65545
<b>Energy detection range:</b>	36 KeV to 3 MeV
<b>Cosmic channel</b>	Above 3 MeV
<b>Upward Shielding</b>	RayShield® non-radioactive shielding
<b>Spectra</b>	Collected spectra of 256/512 channels, internal spectrum resolution 1024
<b>Software</b>	<b>Calibration:</b> High voltage adjustment, linearity correction coefficients calculation, and communication test support <b>Real Time Data Collection:</b> Automatic Gain real time control on natural isotopes, and PC based test and calibration software suite
<b>Sensor</b>	Each box containing two (2) gamma detection NaI(Tl) crystals – each 4.2 liters. (256 cu in.) (approx. 100 x 100 x 650 mm) Total volume of approx 8.4 litres or 512 cu in with detector electronics
<b>Spectra Stabilization</b>	Real time automatic corrections on radio nuclei: Th, Ur, K. No implanted sources.

**Pico Envirotec AGIS-L data recorder system**

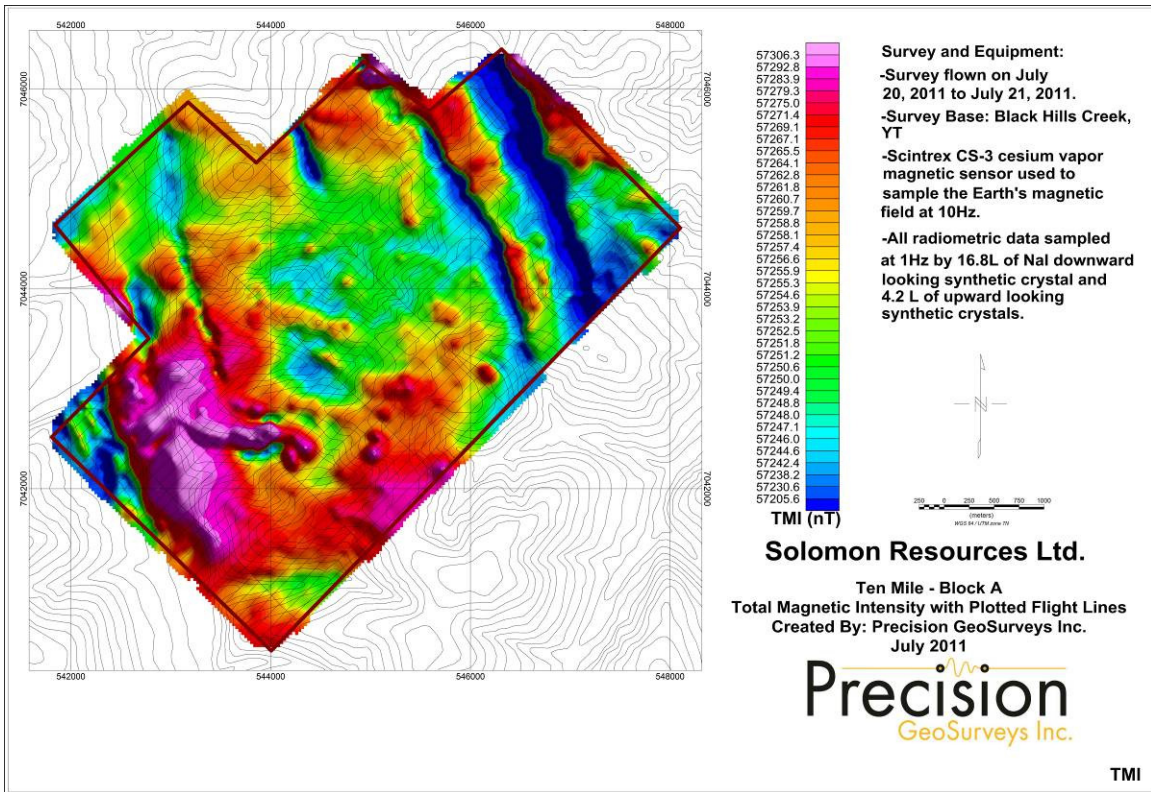
(for Navigation, Gamma spectrometer, VLF-EM and Magnetometer Data Acquisition)

<b>Functions</b>	Airborne Geophysical Information System (AGIS) with integrated Global Positioning System Receiver (GPS) and all necessary navigation guidance software. Inputs for geophysical sensors - portable gamma ray spectrometer GRS-10, MMS4 Magnetometer, Totem 2A EM, A/D converter, temperature probe, humidity probe, barometric pressure probe, and laser altimeter. Output for the 2 line Pilot Indicator
<b>Display</b>	Touch screen with display of 800 x 600 pixels; customized keypad and operator keyboard. Multi-screen options for real-time viewing of all data inputs, fiducial points, flight line tracking, and GPS channels by operator.
<b>GPS Navigation</b>	Garmin 12-channel, WAAS-enabled
<b>Data Sampling</b>	Sensor dependent
<b>Data Synchronization</b>	Synchronized to GPS position
<b>Data File</b>	PEI Binary data format
<b>Storage</b>	80 GB
<b>Supplied Software</b>	<b>PEIView:</b> Allows fast data Quality Control (QC) <b>Data Format:</b> Geosoft GBN and ASCII output <b>PEIConv:</b> For survey preparation and survey plot after data acquisition
<b>Software</b>	<b>Calibration:</b> High voltage adjustment, linearity correction coefficients calculation, and communication test support <b>Real Time Data Collection:</b> Automatic Gain real time control on natural isotopes and PC based test and calibration software suite
<b>Power Requirements</b>	24 to 32 VDC
<b>Temperature</b>	Operating:-10 to +55 deg C; storage:-20 to +70 deg C

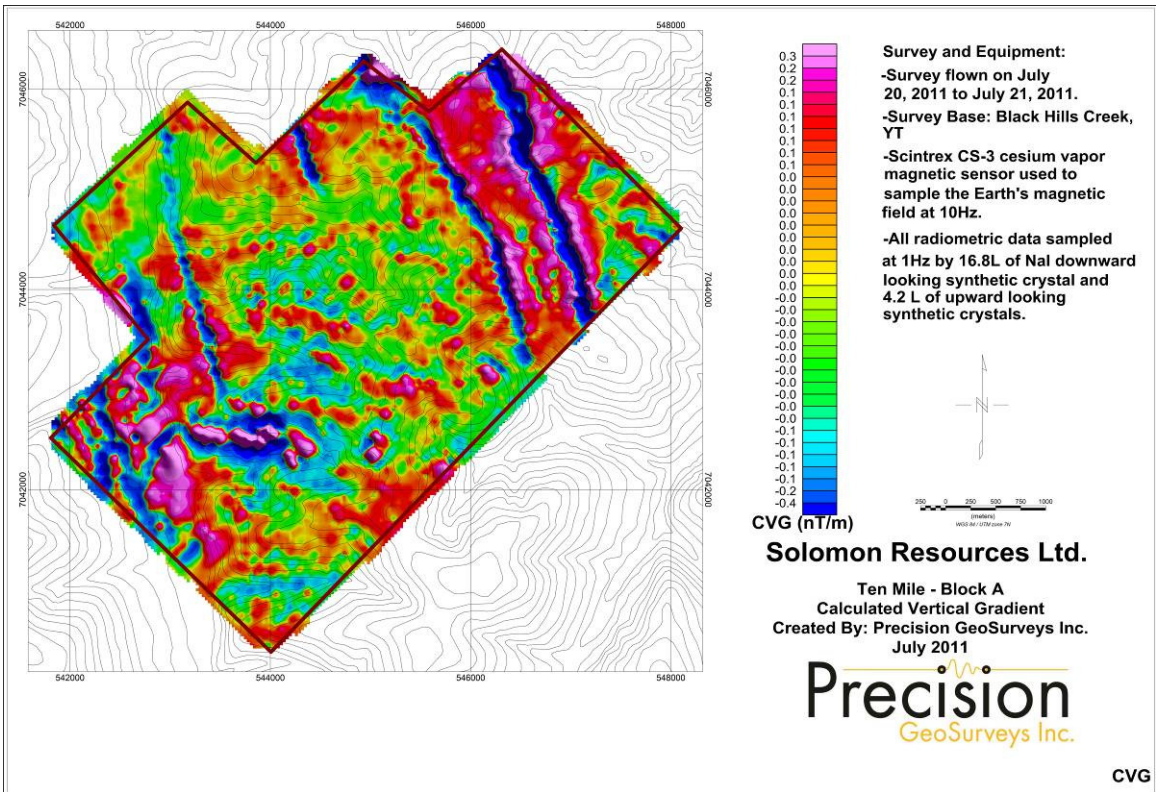
**Appendix B**  
Block A Maps



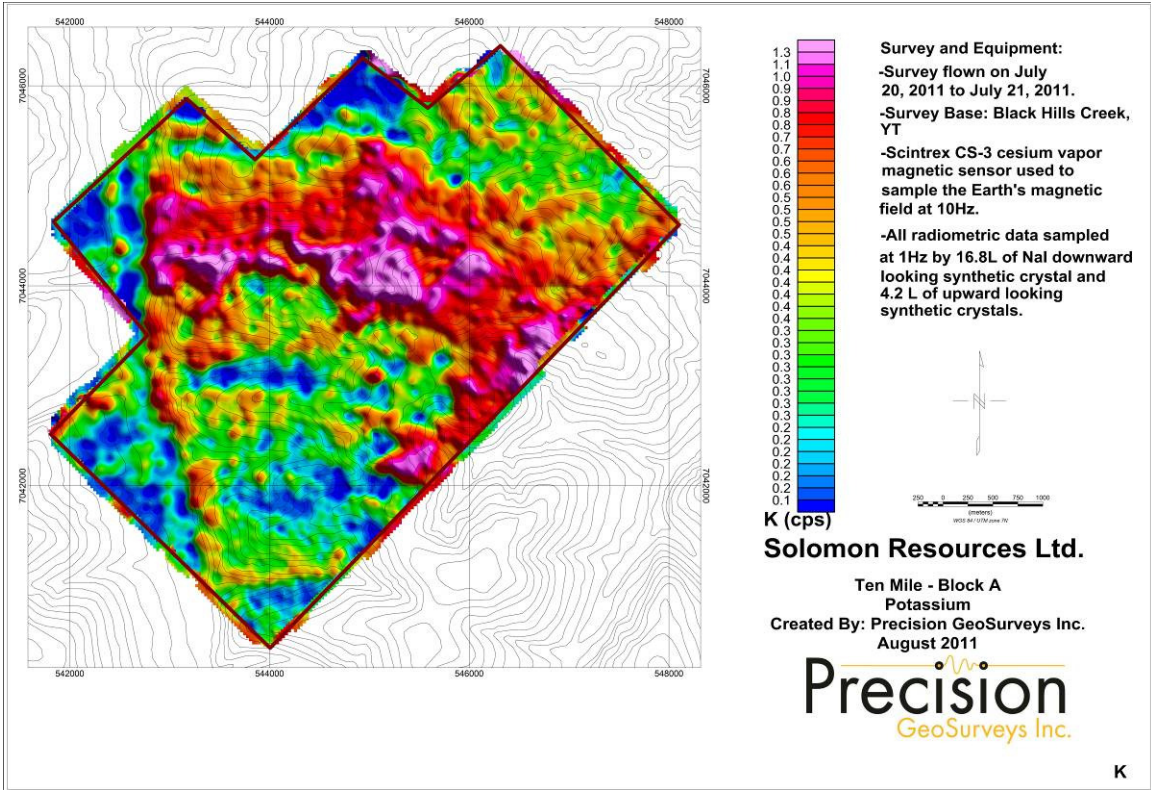
Map 1: Block A total magnetic intensity.



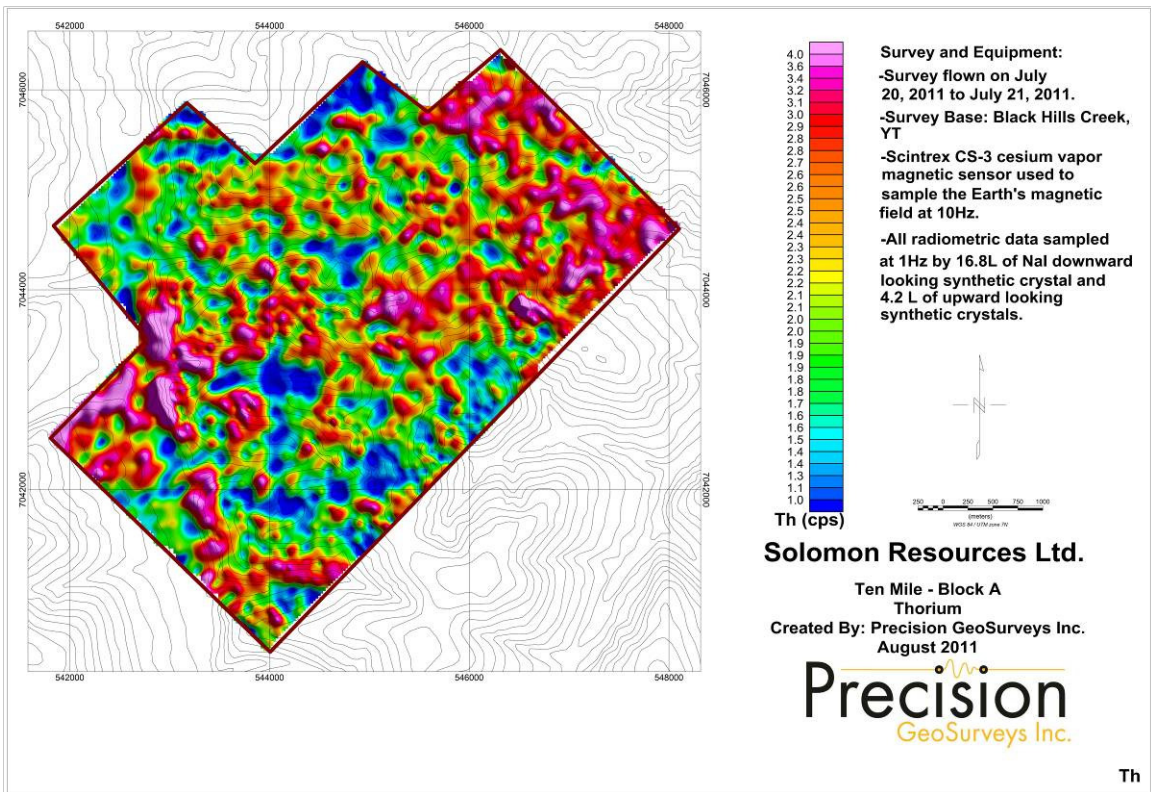
Map 2: Block A total magnetic intensity with plotted flight lines.



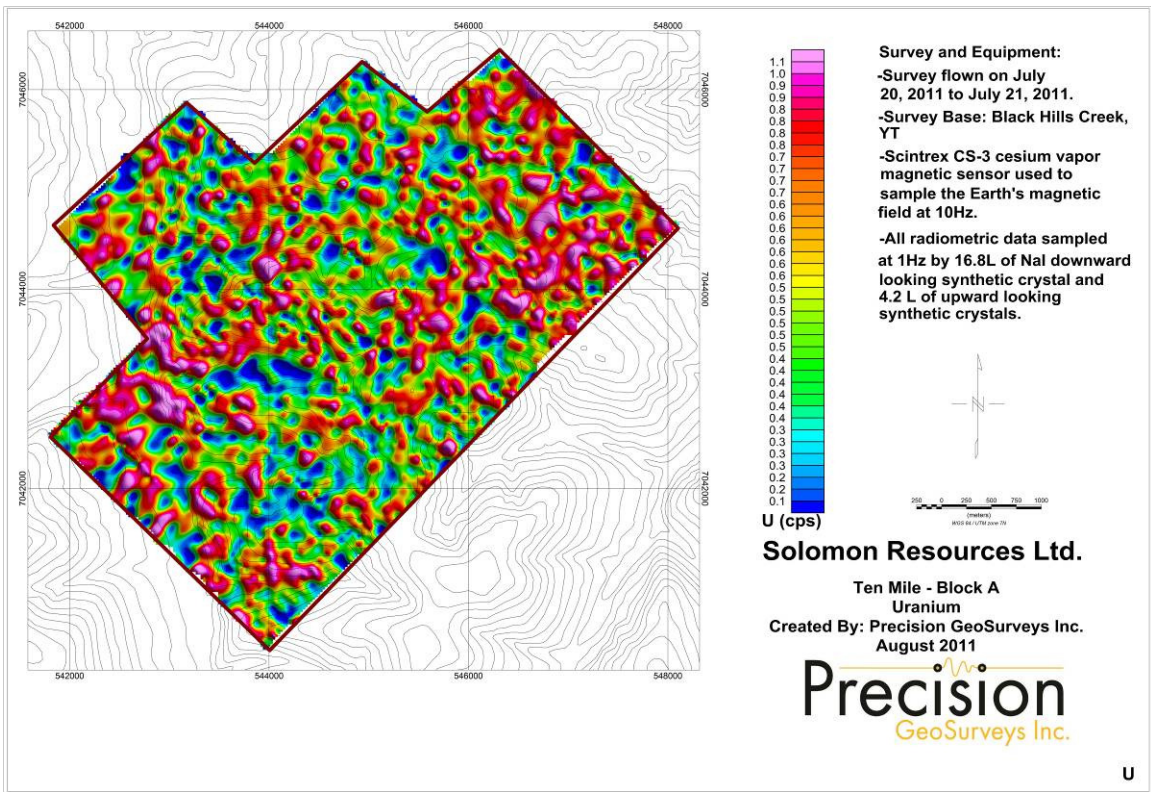
Map 3: Block A calculated vertical gradient.



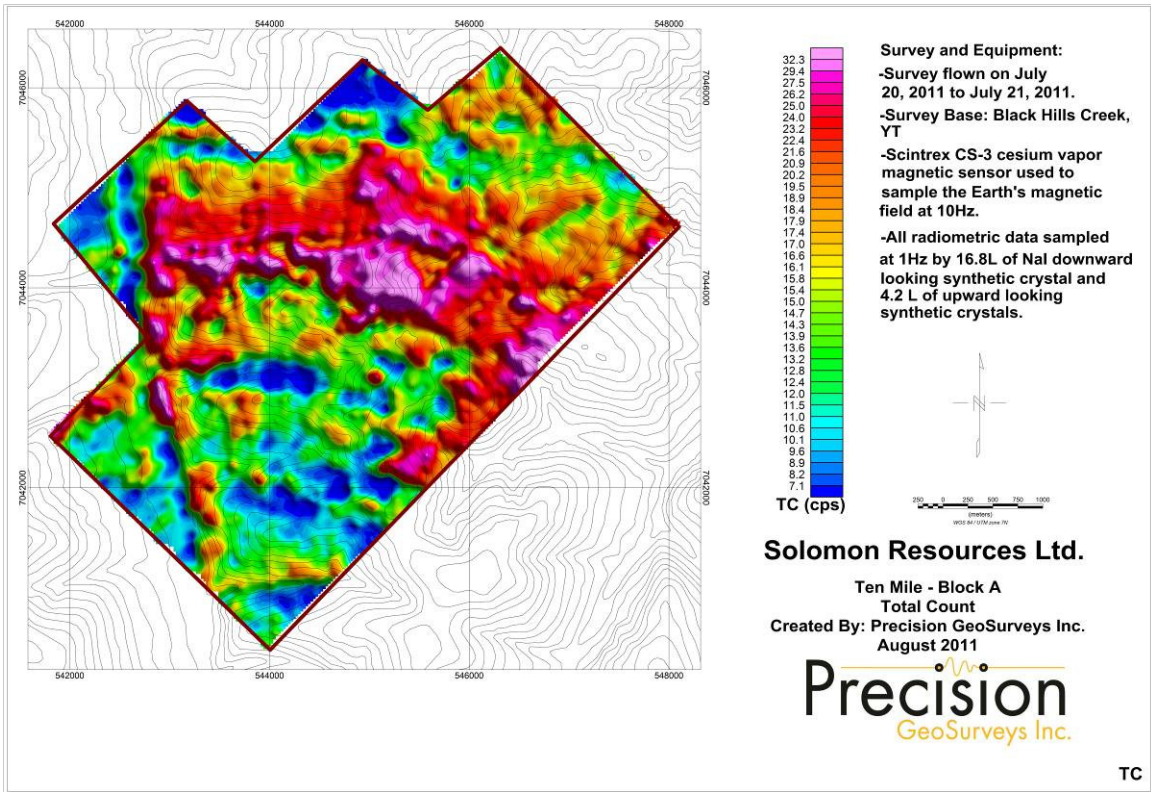
Map 4: Block A potassium.



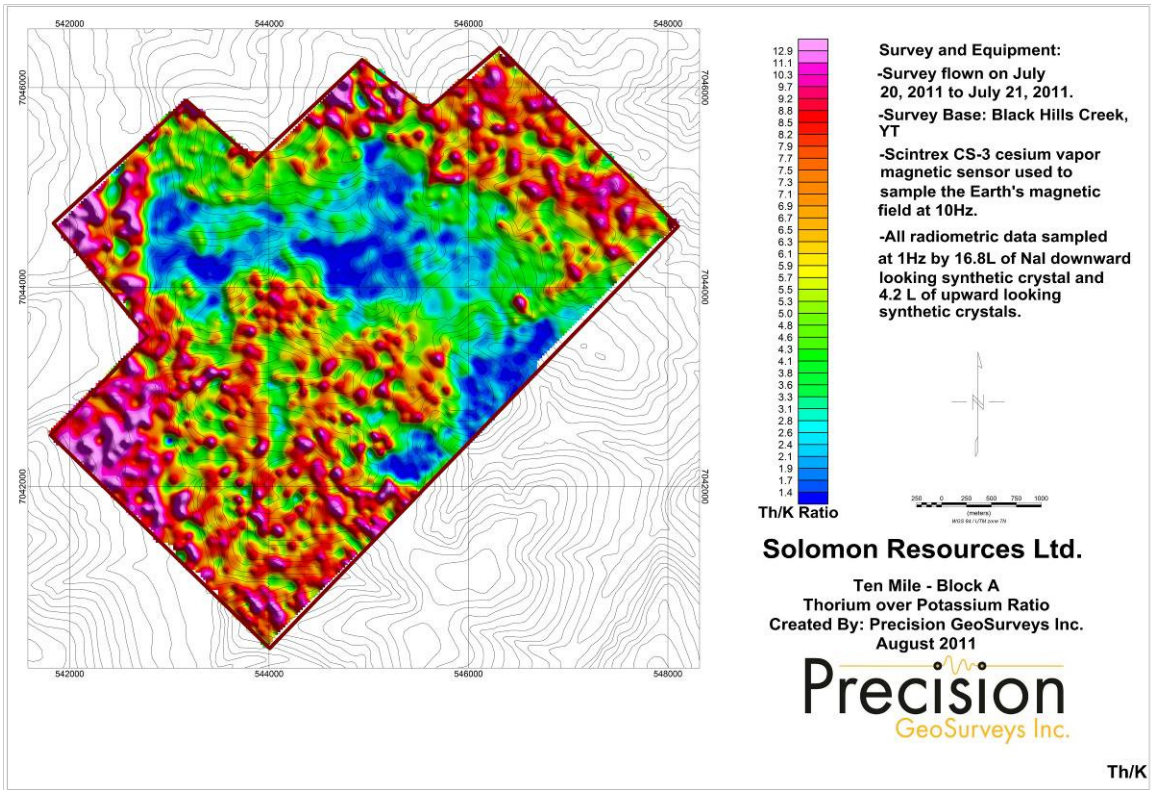
Map 5: Block A thorium.



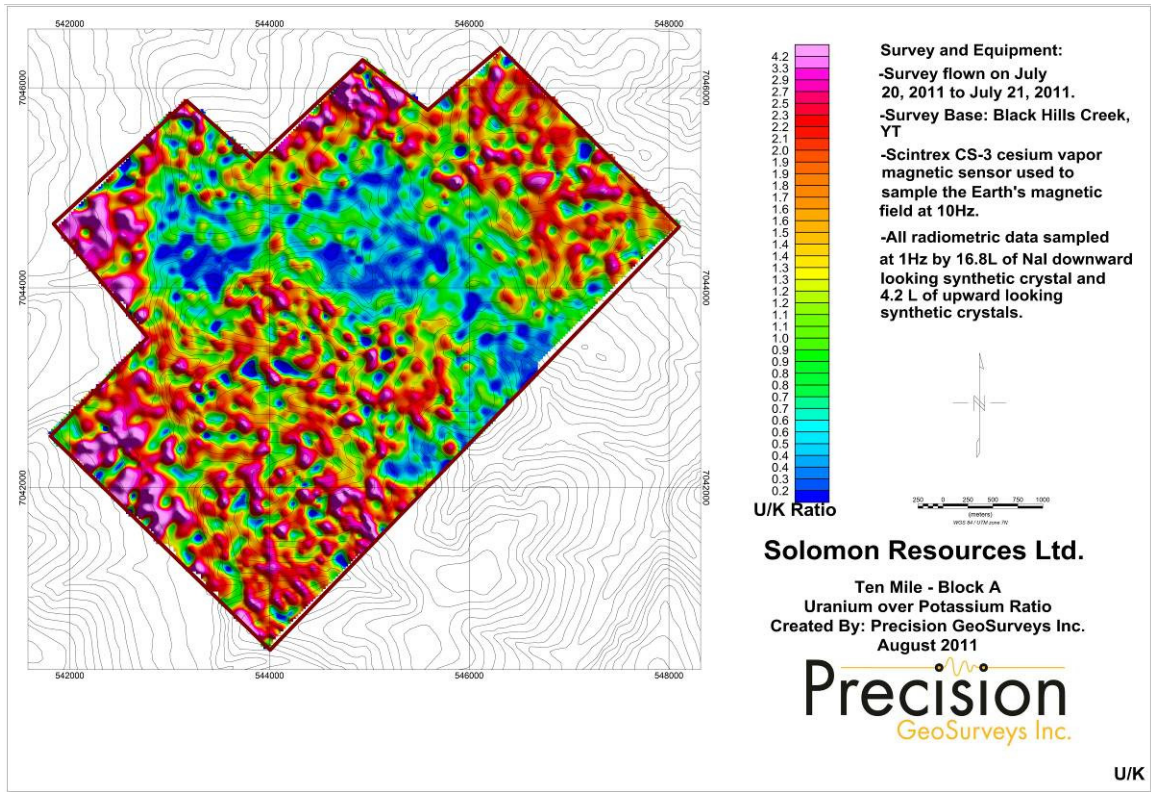
Map 6: Block A uranium.



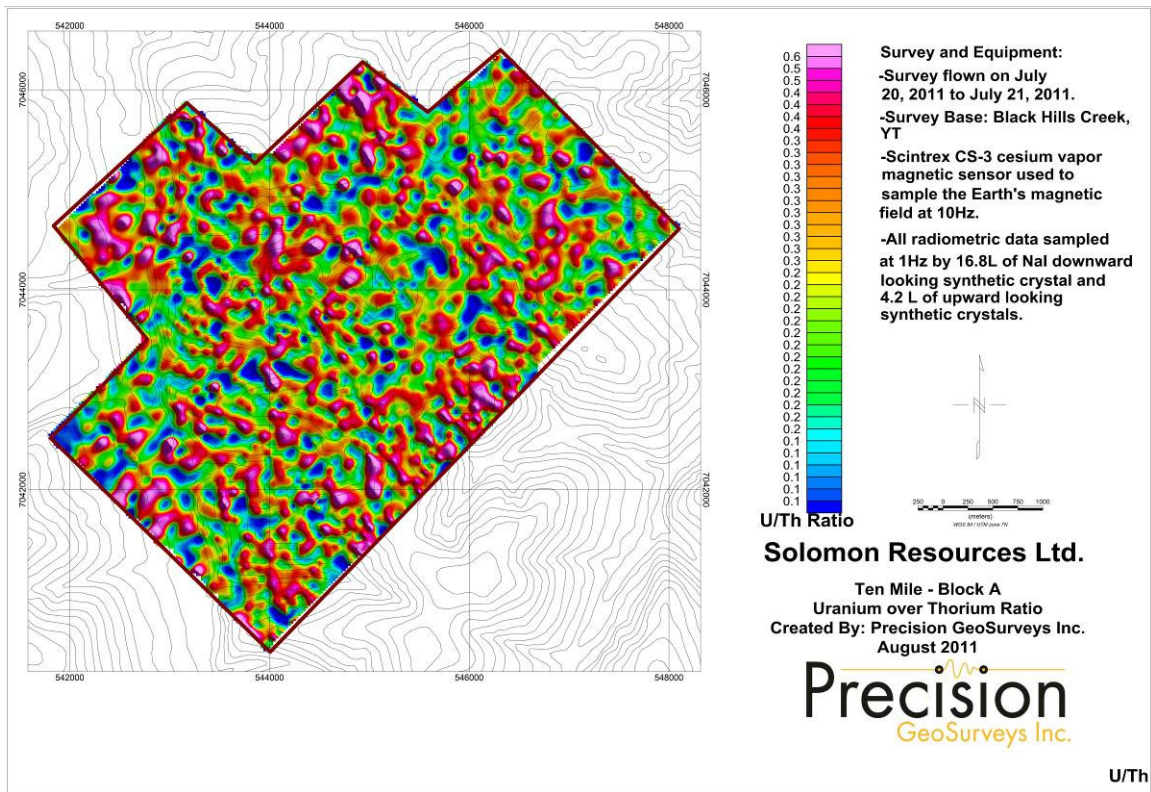
Map 7: Block A total count.



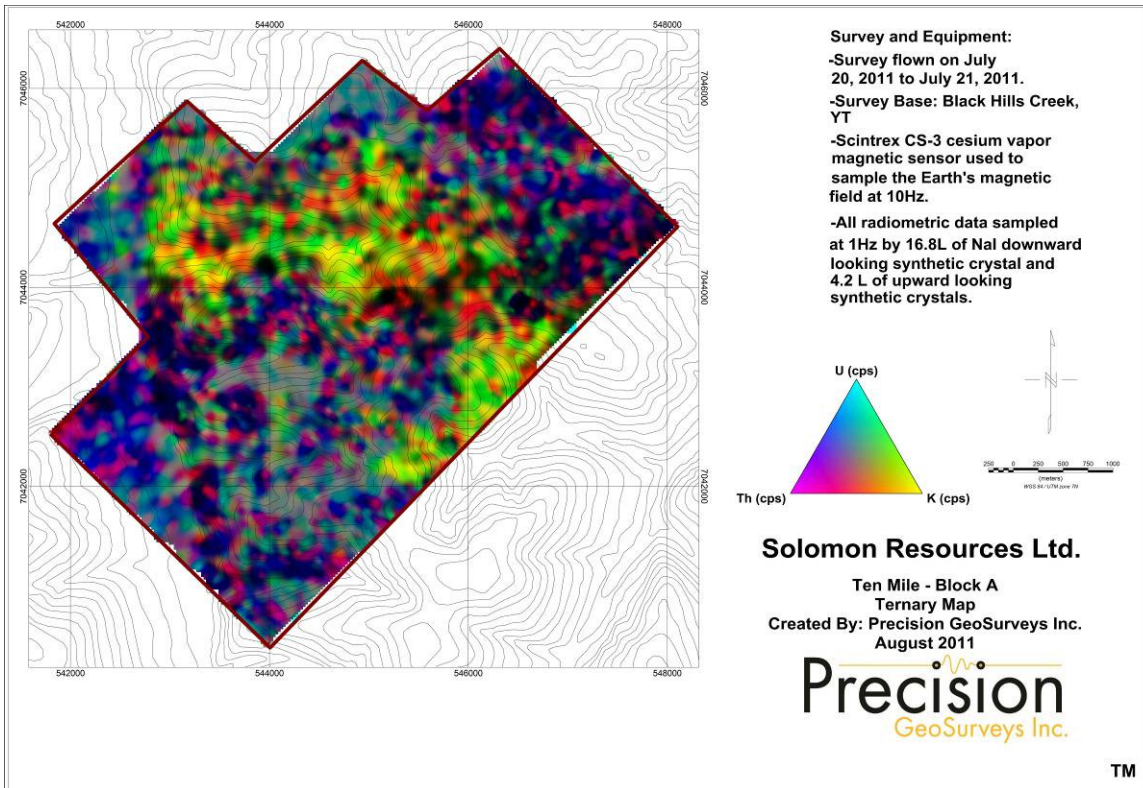
Map 8: Block A thorium over potassium ratio.



Map 9: Block A uranium over potassium ratio.

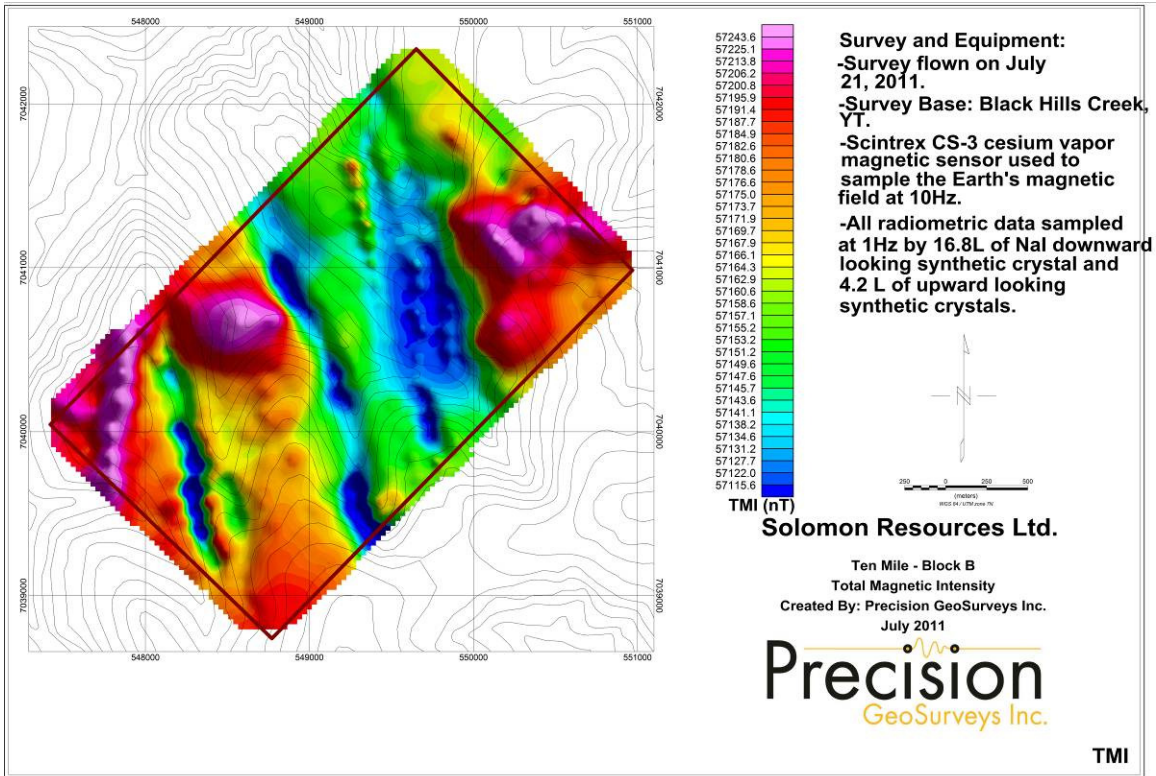


Map 10: Block A uranium over thorium ratio.

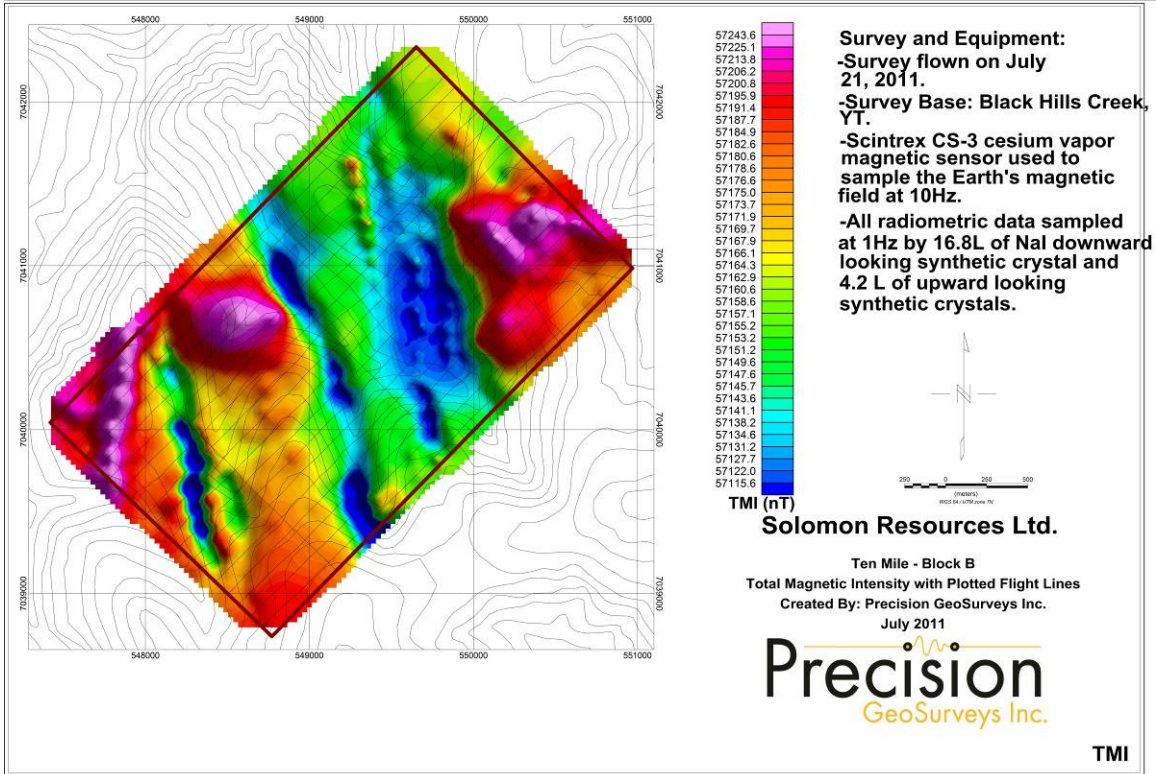


Map 1: Block A ternary map.

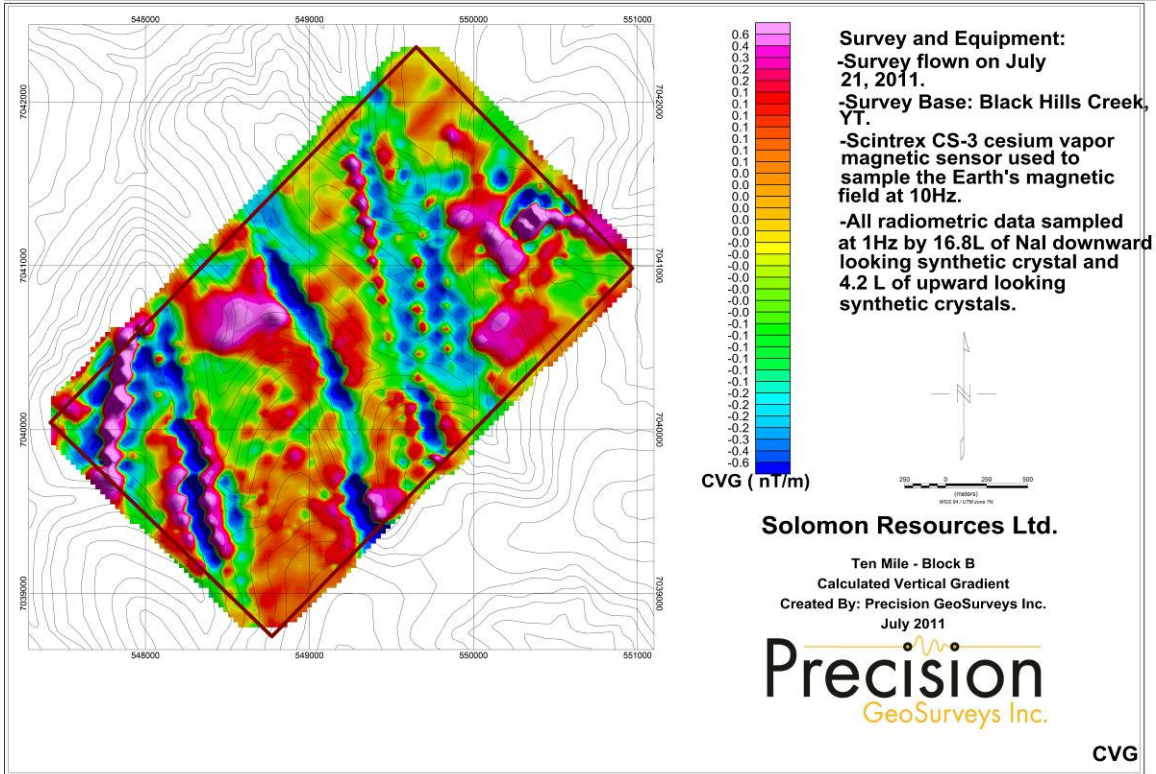
**Appendix C**  
Block B Maps



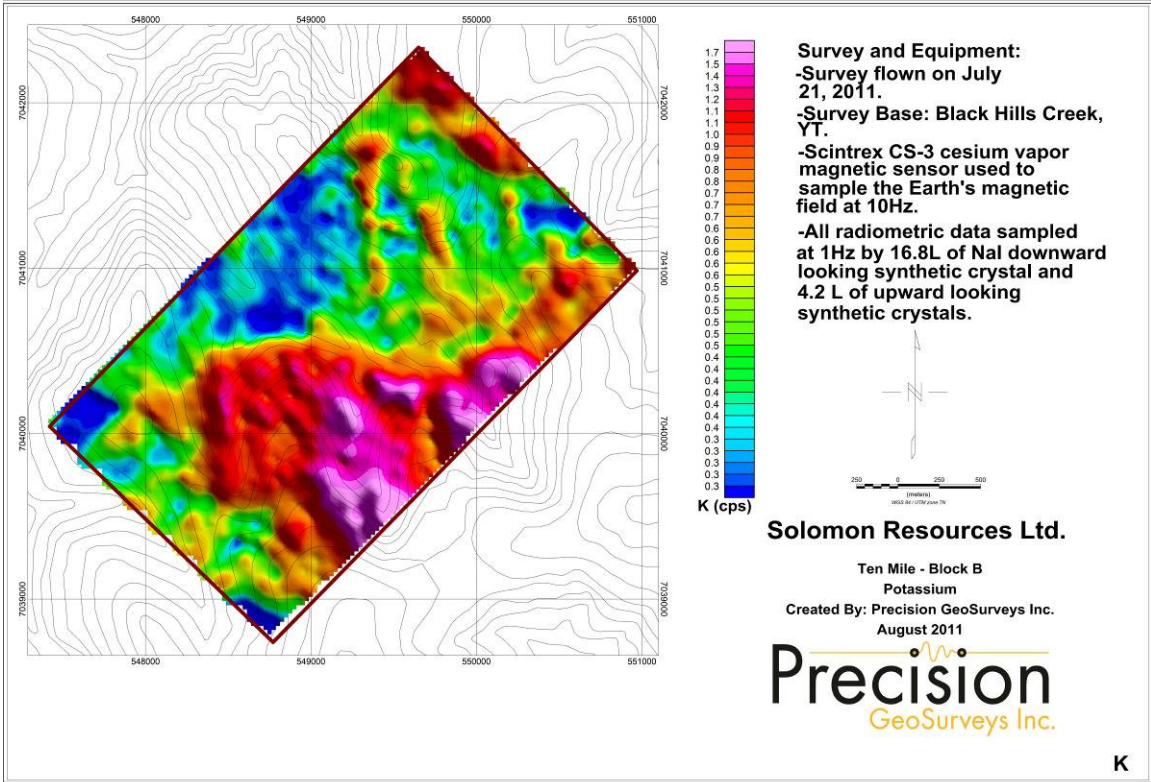
Map 1: Block B total magnetic intensity.



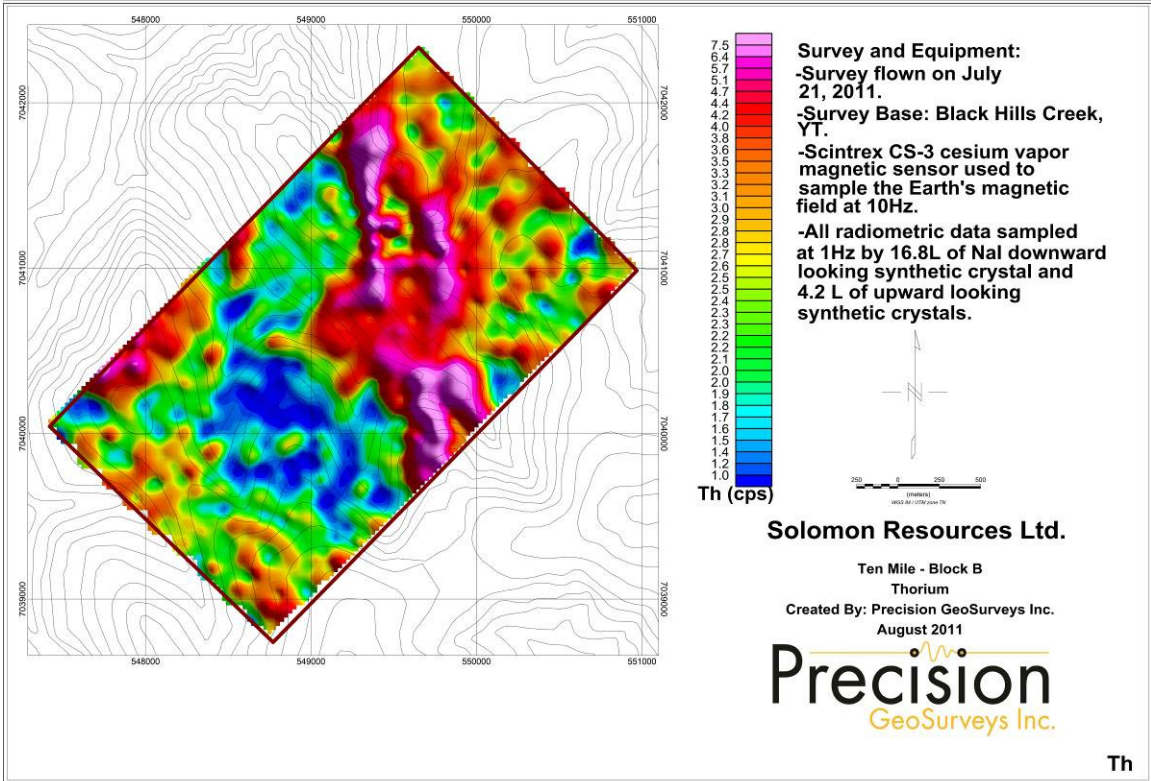
Map 2: Block B total magnetic intensity with plotted flight lines.



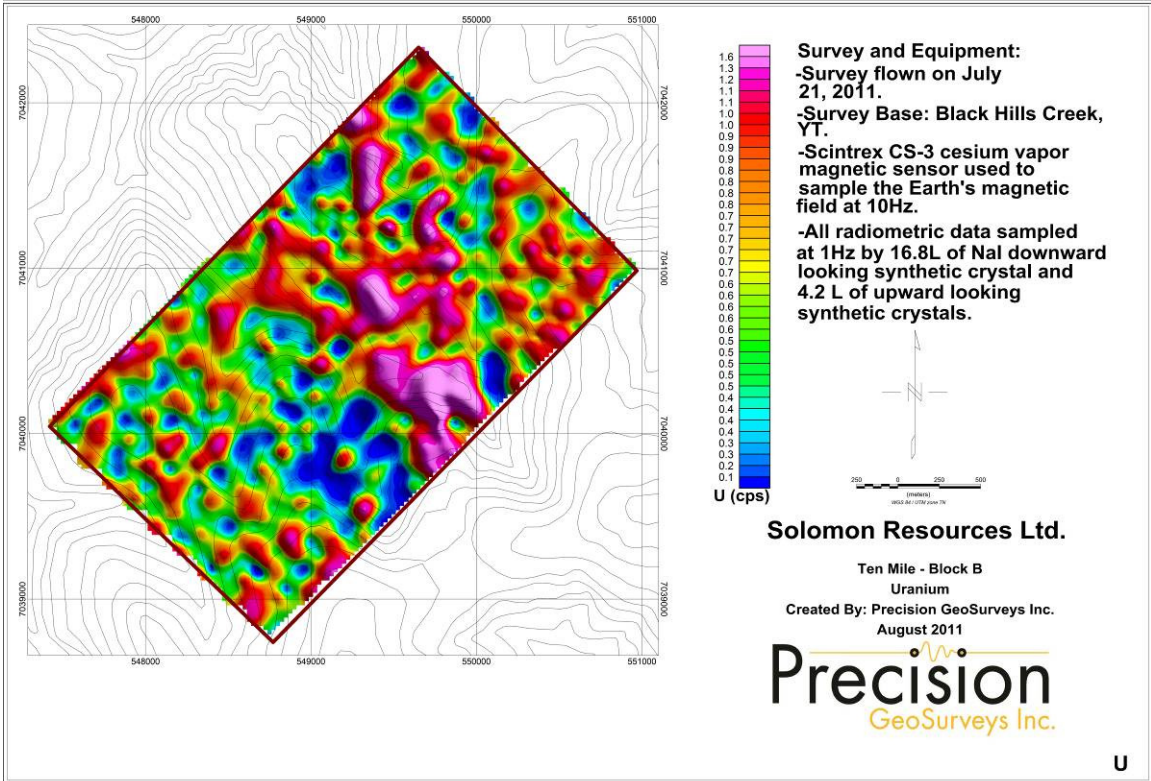
Map 3: Block B calculated vertical gradient.



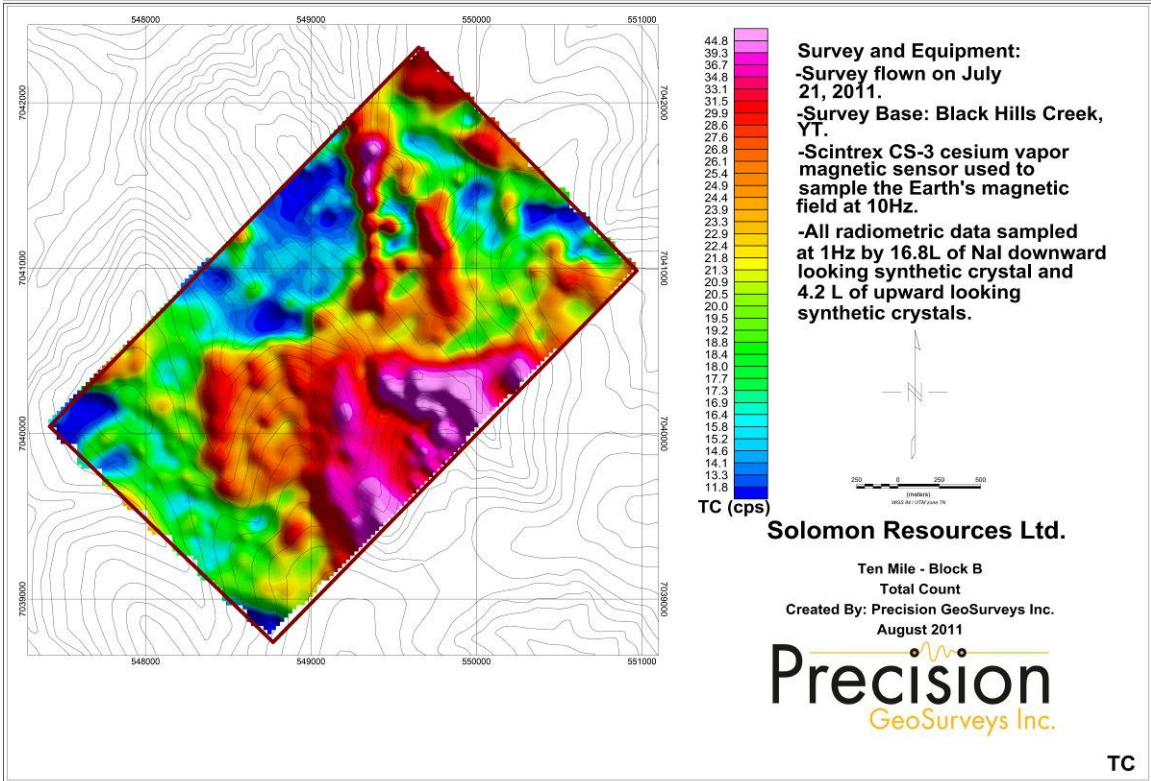
Map 4: Block B potassium.



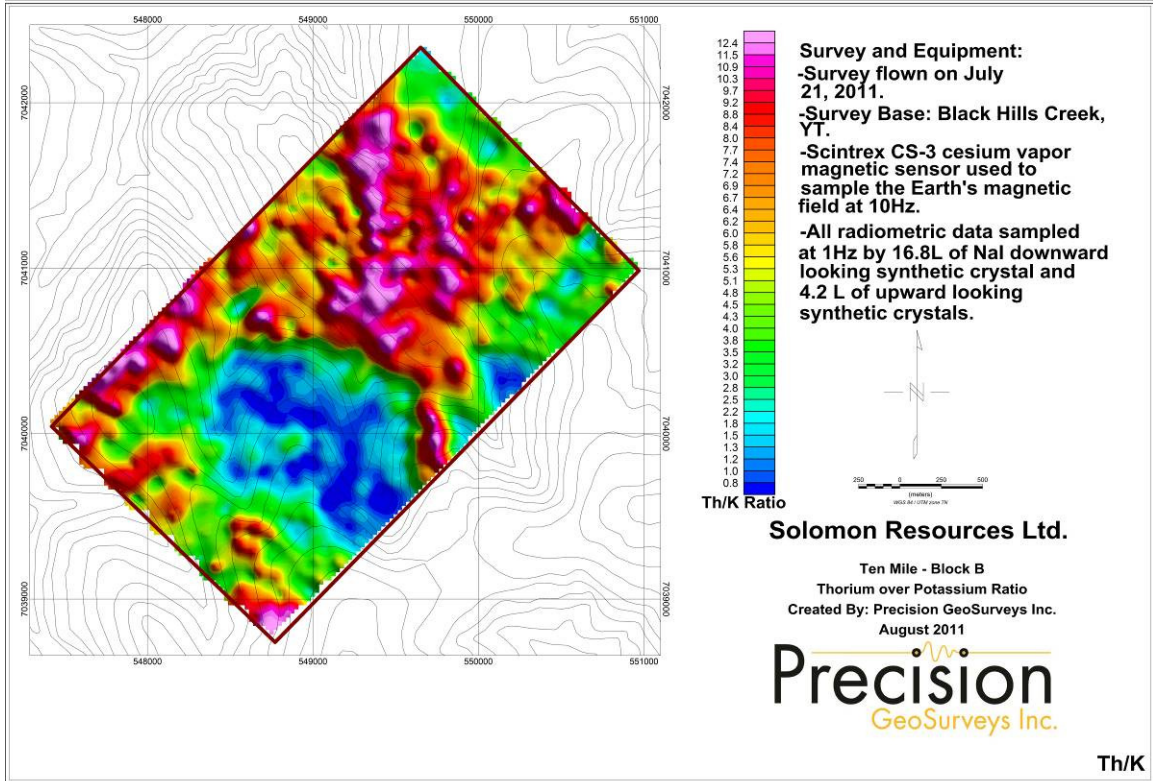
Map 5: Block B thorium.



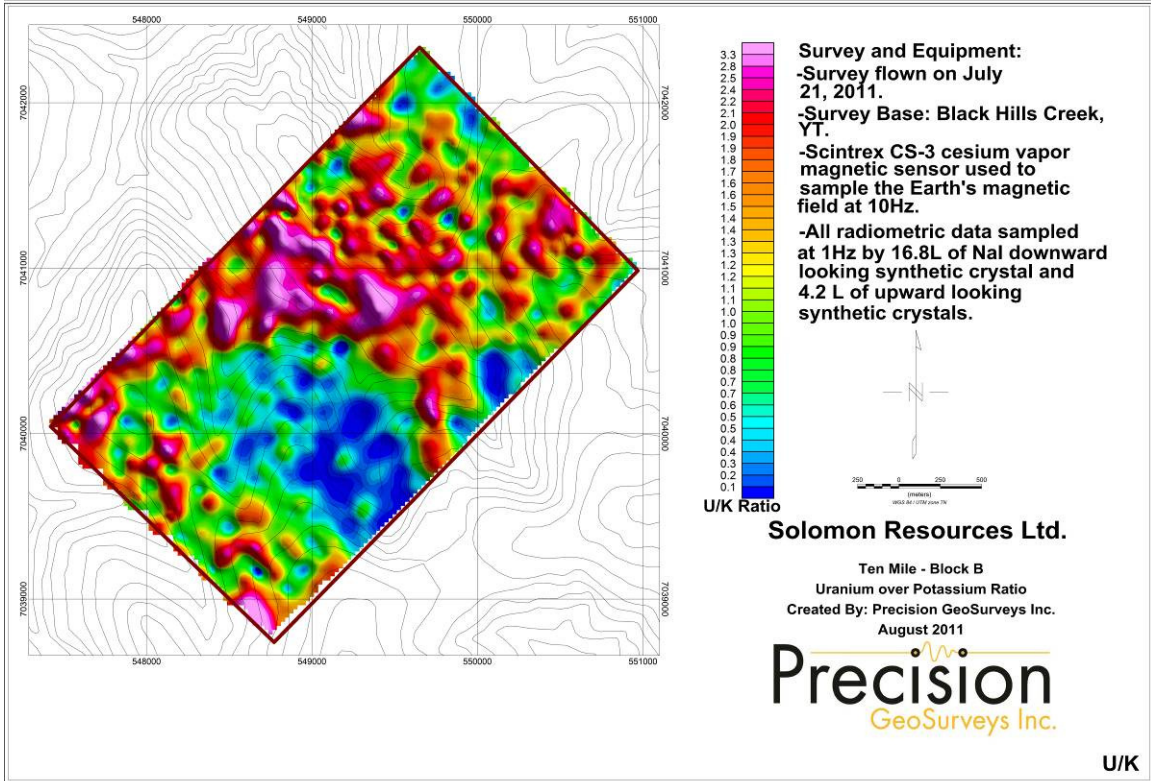
Map 6: Block B uranium.



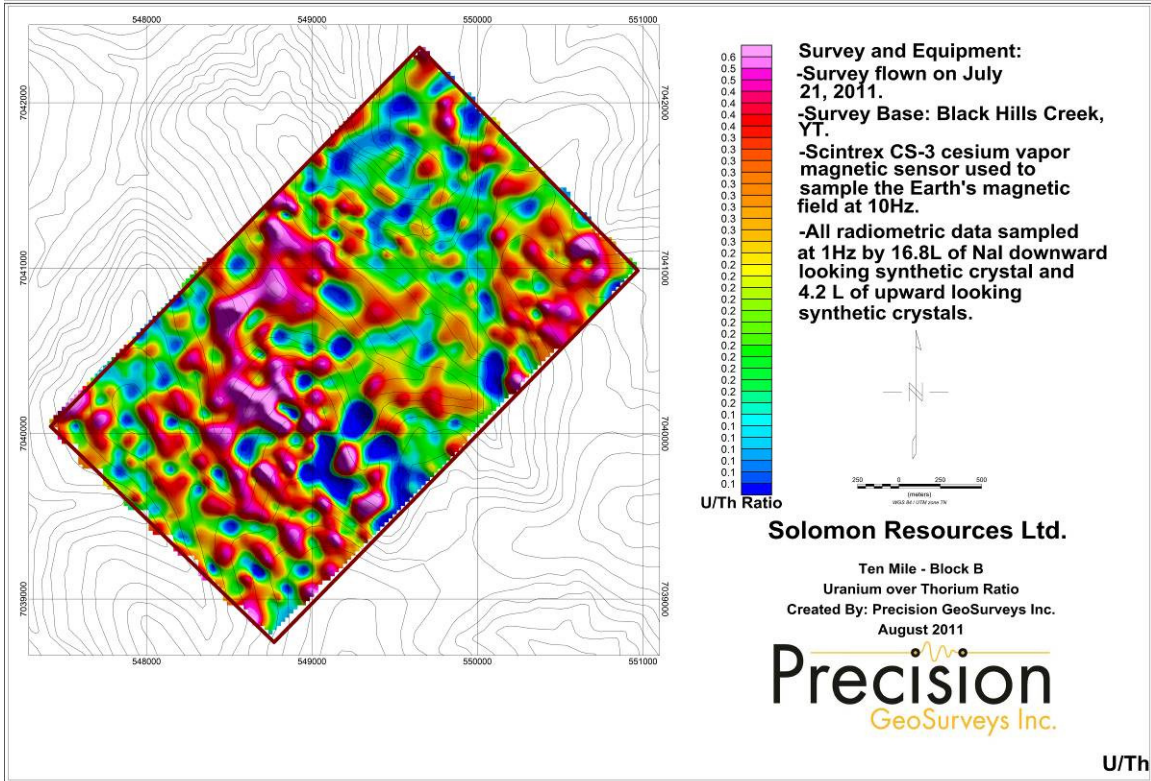
Map 7: Block B total count.



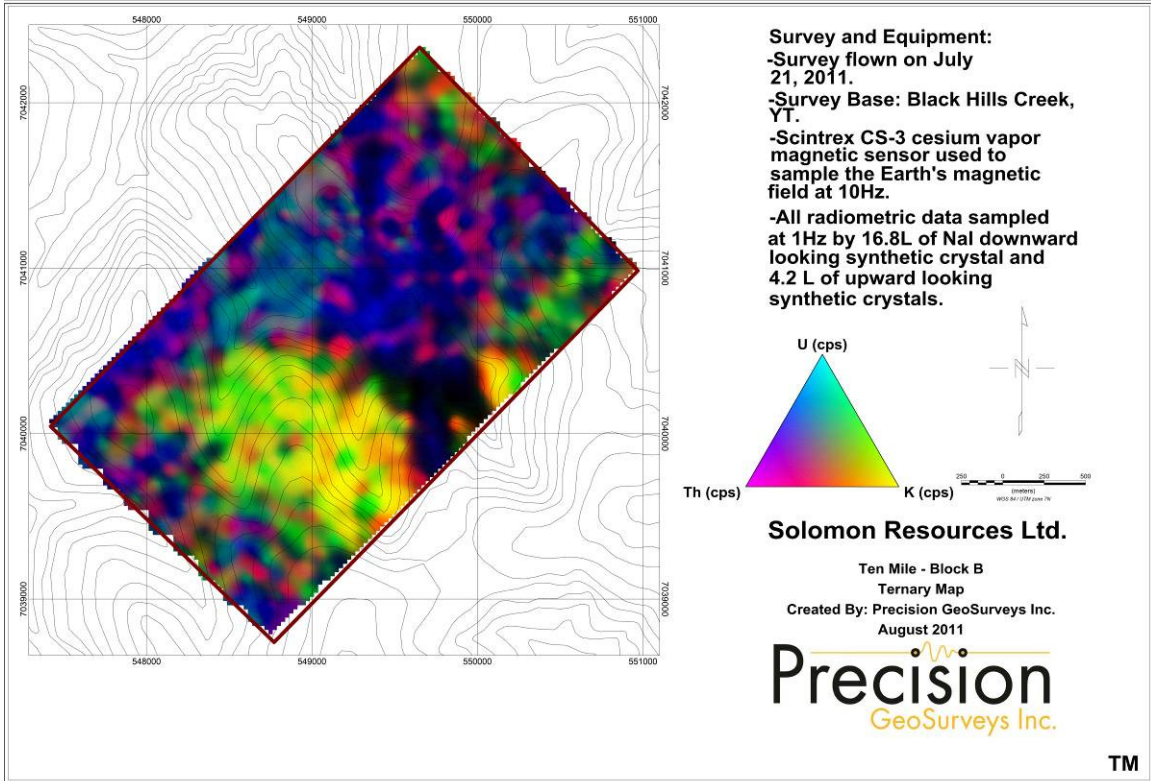
Map 8: Block B thorium over potassium ratio.



Map 9: Block B uranium over potassium ratio.



Map 10: Block B uranium over thorium ratio.



Map 1: Block B ternary map.