094485

GEOLOGICAL MAPPING and AIRBORNE GEOPHYSICAL SURVEYING PROGRAM On the ULTRA PROPERTY, HAINES JUNCTION AREA, YUKON TERRITORY

For work done August 26 to September 8, 2004

On Quartz claims

YC18433 - YC18436	ELI 11 - 14
YC19001 - YC19030	ULTRA 1 - 30
YC19067, YC19069, YC19071	GAB 23, 25, 27
YC19073 - YC19077	GAB 29 - 33
YC19079, YC19081	GAB 35, 37
YC19083 - YC19091	GAB 39 - 47
YC19098 - YC19126	ULTRA 37 - 65
YC19128 - YC19133	ULTRA 67 - 72
YC19376	ULT 1
YC19398 - YC19405	ULTRA 73 - 80
YC19406 - YC19409	TELL 1 - 4
YC25938 - YC25943	ULT 2 - 7
YC26106 - YC26115	ULTRA 81 - 90
YC26239 - YC26358	ULT 21 - 140
YC26359 - YC26372	ULT 8 - 21
YC26373 - YC26407	ULT 142 - 176
YC26408 - YC26447	JEN 1 - 40
YC26449, YC26527	JEN 251, 120
YC26543 - YC26574	JEN 136 - 167

By

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For

Klondike Gold Corporation
717 – 675 West Hastings Street, Vancouver, BC, V6B 1N2

Location: 60° 54' N 138° 15' W
NTS: 115 B/16
Mining District: Whitehorse
Date: January 10, 2005

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1.0 SUMMARY

Klondike Gold Corporation contracted Aurora Geosciences Ltd to conduct an exploration program on the Ultra Property located in the Whitehorse Mining District, in the Kluane Mountains, 42 km northwest of Haines Junction, Yukon on NTS map sheet 115 B/16. The program involved geological mapping and rock sampling and an airborne geophysical survey, subcontracted to McPhar Geosurveys Inc.

The mapping program was conducted form August 26 to September 3 and the airborne program form September 7 to 8. The airborne survey was conducted with the McPhar *HUMMINGBIRD* system, which measured magnetic and electromagnetic responses. The *HUMMINGBIRD* was towed with a Eurocopter AS350BA A-Star helicopter.

The property has a long history of exploration dating back to the early 1900's when placer miners first explored and mined in the Telluride Creek area. The placer miners discovered large (approximately 19 ton) boulders of bedded massive sulphide mineralization in Cub Creek and numerous companies and individuals have conducted exploration programs, including drilling in the search for the source of these boulders. Re-sampling to these boulders by the current property owners in 2002 returned values up to 2.1% Cu, 5.1% Zn and 24.5 g/t Ag.

The property also hosts magmatic nickel-copper-platinum group metals at the Frohberg Showing. Trenching on the showing in 2003 returned values up to 5.54 g/t Pt, 13.46 g/t Pd, 4.07 % Cu and 1.73% Ni.

The focus of the 2004 program was the search for the source of the massive sulphide boulders. The mapping and sampling program identified a number of boulders containing pyrite-chalcopyrite veins in carbonate host in the Bryson Creek area, with one sample returning 1.14% copper. The program also identified a number of locations in the northeastern part of the survey area and in Bryson Creek with intense quartz-pyrite-stockwork alteration of the mafic volcanic rocks. The stockwork contained up to 10% pyrite and is intensely limonite stained.

The airborne survey mapped the magnetic properties and the resistivity of the region. This was helpful to delineate many of the rocks types, especially in areas of limited rock exposure. The airborne survey also identified 54 conductors, which remain to evaluated.

Recommendations for future work on the property are to complete the mapping and prospecting, particularly at the Telluride, Frohberg and Jennifer Showing and in the Bryson Creek area and to follow-up the airborne geophysical anomalies with additional mapping and prospecting. This may require some ground geophysical surveying in areas of overburden cover. Anomalous areas would be test with diamond drilling. The budget for this program is estimated at $420,000.

2.0 INTRODUCTION

Klondike Gold Corporation contracted Aurora Geosciences Ltd to conduct a geological mapping and rock sampling program on the Ultra property in the Haines Junction area, Yukon Territory, in late summer of 2004. As well, McPhar Geosurveys Inc, was contracted to conduct an airborne geophysical survey to measure magnetic and electromagnetic responses.

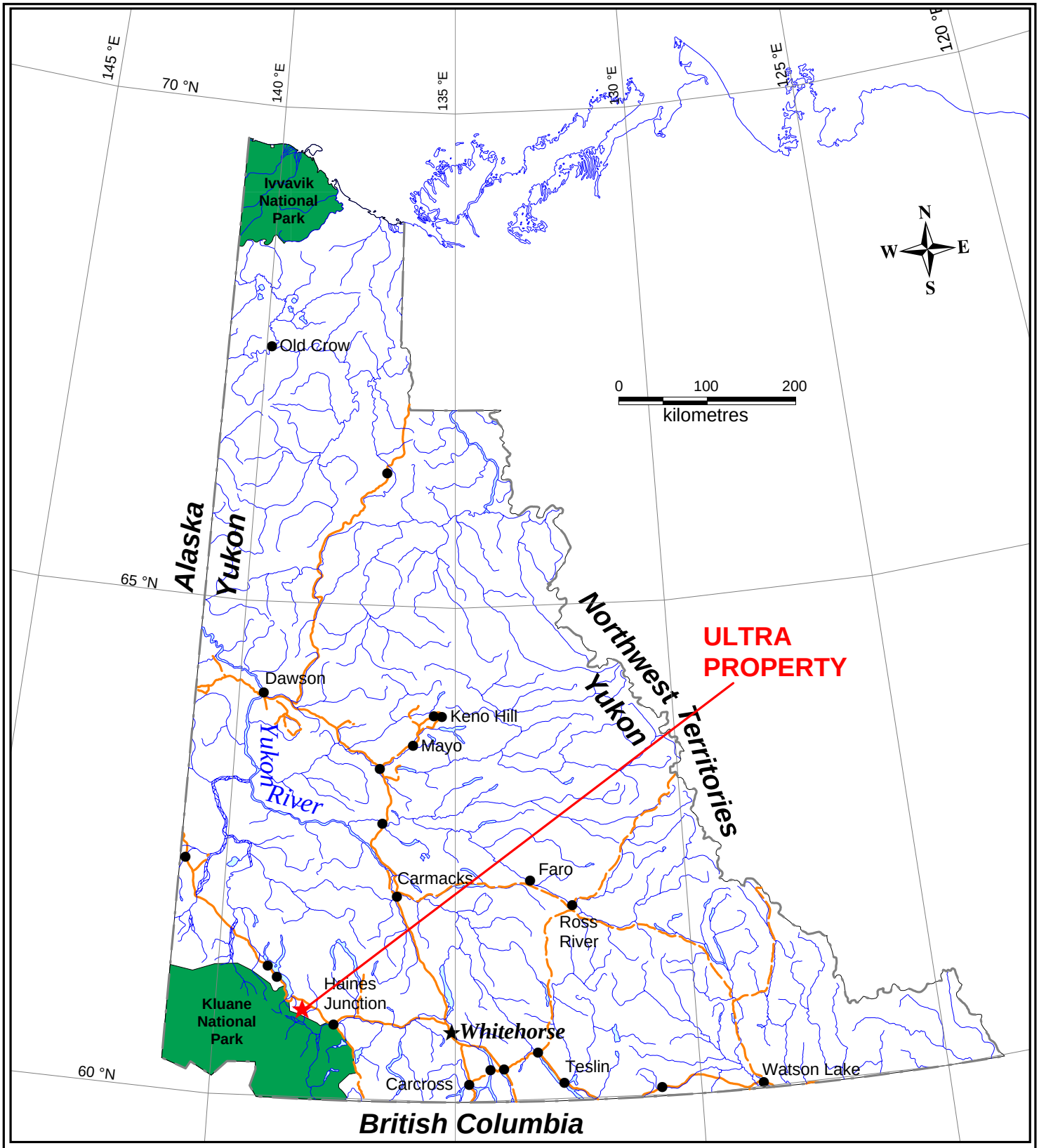
The property measures 24 km northwest-southeast by up to 8 northeast-southwest. The mapping program and airborne program covered approximately 20% of the property, focusing on the eastern part. They program was directed at locating the source of bedded, massive sulphide boulders that were previously discovered in glacial till on Cub Creek. Magmatic nickel-copper-platinum group mineralization associated with ultramafic sills is also present in the western part of the property, however that was not the focus of the 2004 exploration program.

The geological mapping crew consisted of Scott Casselman (project geologist), Andrea Langerud (geological technician) and Steve Berg (field assistant). The crew mobilized to the property from Whitehorse on August 26, 2004. Andrea Langerud left for another project on August 29, and the remaining crew demobilized on September 3. Two camp locations were used for the mapping program due to the size of property. The crew established a camp on Telluride creek to provide access to the central and southern part of the property for the first 6 days and on Boutellier Creek to provide access to the north-central part of the property for the remaining 3 days of the program.

The airborne geophysical crew mobilized to the Haines Junction area on September 6, 2004 and operated form the Bear Creek Motel in Haines Junction. The survey commenced on September 7 and was completed on September 8. The survey was conducted using the McPhar *HUMMINGBIRD* system, which was towed with a Eurocopter AS350BA A-Star helicopter. Survey specifications are included in the McPhar Report in Appendix V. This report documents the geological mapping program, includes the report and maps prepared by McPhar Geosurveys Inc, and summarizes the airborne geophysical results.

3.0 LOCATION AND ACCESS

The Ultra Property is located in the Kluane Mountains near Telluride Creek, 42 km northwest of Haines Junction, on NTS map sheet 115 B/16. It is in the Whitehorse Mining District and is centered at approximately 60° 53' 18" N, 138° 18' 18" W (Figure 1). The property is 10 km west of the Alaska Highway and is accessible by a rough gravel road, which intersects the highway near Boutellier Summit. Access to the northern end of the property is by a gravel road that runs along Boutellier Creek. Access to the central part of the property is by a partially grown-over 4x4 access road



KLONDIKE GOLD CORPORATION
ULTRA PROPERTY
LOCATION MAP

Figure 1 December 20, 2004

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that leads to Telluride Creek. For the 2004 program access was gained by 4x4 truck along these trails and by all terrain vehicle from there.

Access to the far western part of the property, in the steep mountainous terrain, is best gained by helicopter. Helicopter charter services are available from Haines Junction on a year-round basis.

4.0 CLAIM STATUS

The Ultra Property consists of 360 Quartz Claims staked in accordance with the Yukon Quartz Mining Act in the Whitehorse Mining District (Figures 2 and 4). The mineral claim boundaries have not yet been legally surveyed. Claim data is as follows:

Table 1. Claim information

Grant #	Claims
YC18433 - YC18436	ELI 11 - 14
YC19001 - YC19030	ULTRA 1 - 30
YC19067, YC19069, YC19071	GAB 23, 25, 27
YC19073 - YC19077	GAB 29 - 33
YC19079, YC19081	GAB 35, 37
YC19083 - YC19091	GAB 39 - 47
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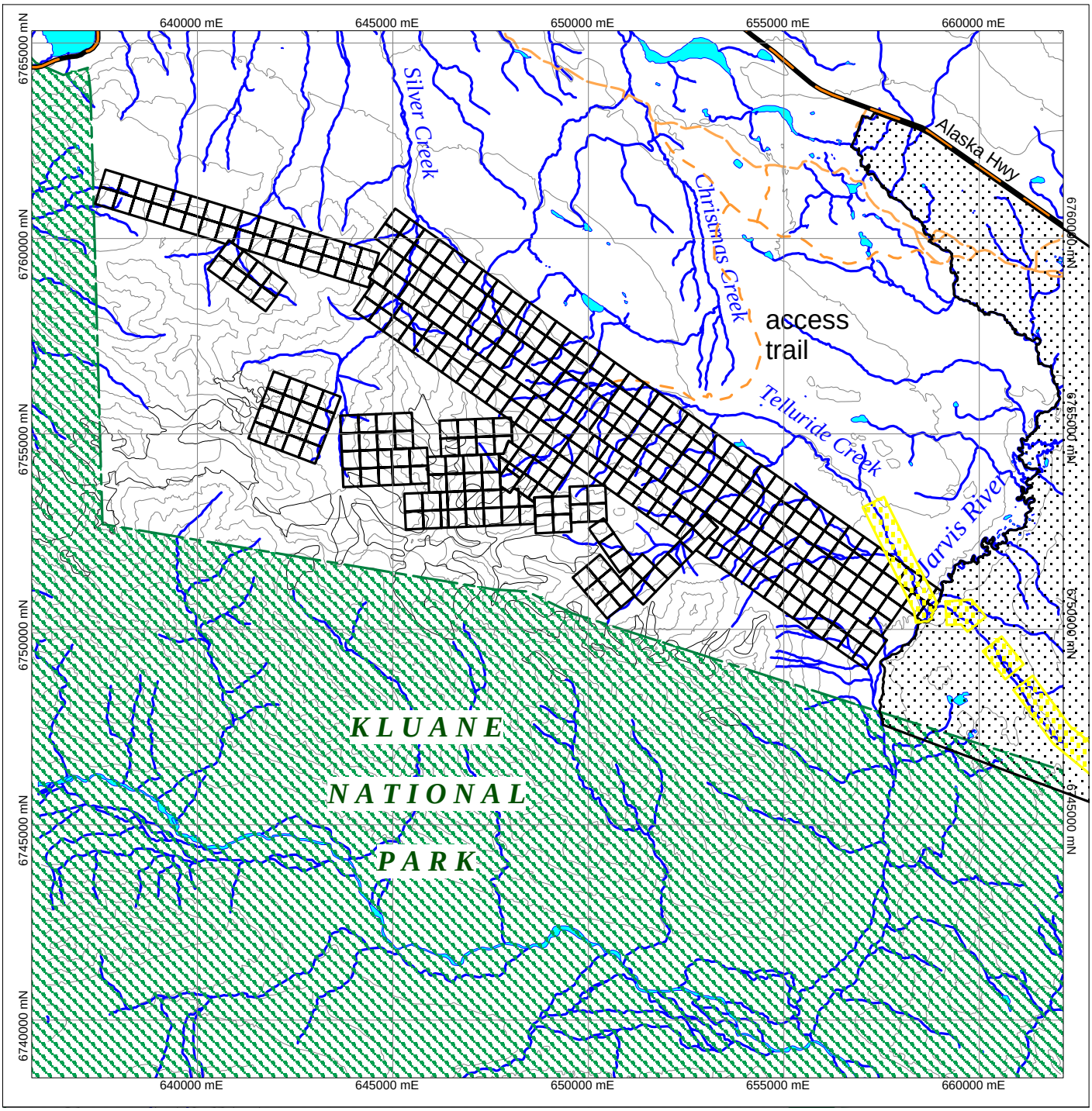
YC26373 - YC26407	ULT 142 - 176
YC26408 - YC26447	JEN 1 - 40
YC26449, YC26527	JEN 251, 120
YC26543 - YC26574	JEN 136 - 167

Title to the claims is held by Tom Morgan and Vern Matkovitch and their company, 19651 Yukon Ltd. Klondike Gold Corporation has an option to earn 100% interest in the property by making staged cash payments to the owners of $265,000 over five years and issuing 300,000 shares of Klondike Gold Corporation stock over the first two years. As well, Klondike must complete $500,000 in exploration expenditures on the property over four years. The vendors will retain a 2% net smelter return (NSR) on any future mineral production from the property. One hundred percent (100%) of the NSR can be purchased by Klondike at any time for $3,500,000.



LEGEND

- Placer Claims
- Ultra Property Mineral Claims
- Champagne/Aishihik First Nation Land Claim
- Kluane National Park
- Glacier

N
W E
S

scale 1:150,000

0 2.5 5 10

kilometres

NAD 83 UTM, zone 7

KLONDIKE GOLD CORPORATION
ULTRA PROPERTY
LAND STATUS MAP

Figure 2 **DECEMBER 22, 2004**
Whitehorse Mining District NTS 115B/16

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5.0 PHYSIOGRAPHY AND CLIMATE

The project area is in the Shakwak Valley and Kluane Mountains. The property covers the gentle, rising slope on the east side of the mountain range and continues westward into the steep, craggy mountain peaks of the front ranges. Elevations on the property range from 1000 m to 2600 m above sea level. At lower elevations are scattered black spruce and alder thickets. The alpine areas are generally devoid of vegetation and dominated by barren talus slopes, rocky cliffs and mountain peaks.

The area is approximately 150 km from the coast and is affected by coastal weather systems. It receives abundant moisture year round, especially in the mountains, where local weather systems often accumulate. Snow generally begins accumulating in the high alpine areas in late August or early September and begins receding in late April to early May. The snow is generally melted back sufficiently by late May to allow for fieldwork at lower elevations. Summer temperatures range up to 30° Celsius and winter temperatures down to -50° Celsius.

6.0 PROPERTY HISTORY

The area was first explored and mined for placer gold on Telluride Creek in 1904. The Placer Miners discovered large (approximately 19 ton) boulders of massive sulphide float in the creek and that eventually led to the first lode staking in 1955 the Gaymont Prospectors Syndicate which included Teck Exploration Company Limited and Iso Uranium. In 1956, they conducted a resistivity survey and drilled 3 shallow holes (total 107.9 m), which failed to reach bedrock. They later allowed the property lapse.

In 1961, the Glacier claims were staked by Canadian Exploration Ltd. They conducted a Turam electromagnetic survey later that year. The survey identified a number of conductors ranging from weak to strong and drilled three rotary holes to test two of the conductors in 1962 (approximately 122 m). The drilling failed to locate the source of the massive sulphide boulders and the property was allowed to lapse.

In 1964, the Meridian Syndicate re-staked the property as the Jasper claims but conducted no work and the claims lapsed a year later.

In 1965, the Cub claims were staked by Coranex Ltd. Coranex conducted a Turam electromagnetic survey, soil sampling and geological mapping in 1965, 1966 and 1967. In 1970, Atlas Exploration Ltd optioned the property and conducted a limited electromagnetic surveying, soil sampling, geological mapping and drilled 216 metres in 3 holes. One of the holes was lost in overburden, while the other two holes intersected sandstone with coal seams of the Amphitheatre Formation. The sandstone contained fairly abundant marcasite, which, along with the coal was believed to be the cause of the Turam EM conductors.

Also in 1965, S. J. Hill staked the Jennifer claims in the headwaters of Silver Creek and conducted geological mapping and prospecting. He discovered copper, gold and silver mineralization in a "spectacular" zone of quartz-stockwork veining in highly altered acidic subvolcanic rocks. Mineralization included chalcocite, chalcopyrite, tetrahedrite, pyrite, galena and sphalerite. Selected samples of the stockwork mineralization reurned up to 1,351 g/t silver, 7.82 g/t gold and 22.5% copper. The property was later allowed to lapse and in 1988 was restaked as the Kincora claims by prospector R Stack. Mr Stack conducted a small trenching and sampling program on the property in 1989 ,which returned values up to 685 g/t silver, and 16% copper on selective grab samples. The property was later allowed to lapse.

Exploration throughout this time in the Cub Creek area focused on determining the source of the volcanogenic massive sulphide mineralization found in the float train. During this search, magmatic nickel-copper-platinum group metals were discovered at the Frohberg showing in the steep mountain at the headwaters of Cub Creek.

In 2000, Tom Morgan and Vern Matkovitch re-staked the Cub Creek showing and the Frohberg showing and have added to the land package in each of 2002, 2003 and 2004. They re-sampled the massive sulphide boulders in 2002 and obtained values up to 2.1% Cu, 5.1% Zn and 24.5 g/t Ag. They have also conducted horizontal loop electromagnetic, VLF-EM and magnetometer surveys in the area of the boulders to search for the source. These surveys identified three conductors and a magnetic low anomaly proximal to the boulder occurrences. In 2003 Tom Morgan conducted a blast trenching program on the Frohberg Showing, which returned 5.54 g/t Pt, 13.46 g/t Pd, 4.07 % Cu and 1.73% Ni.

7.0 REGIONAL GEOLOGY

The Ultra Property occurs in the Insular Super Terrane, which is divided into Alexander Terrane, to the west and Wrangell Terrane to the east (Figure 3). In the region, Alexander Terrane is comprised of Silurian to Devonian Bullion Suite massive, well-bedded, light gray limestone or marble, argillite and phyllite (**SDB**). These are overlain by Devonian to Upper Triassic Icefield Group limestone, argillite, calcareous siltstone-sandstone and creamy-white gypsum and anhydrite (**DTrI**). These rocks are intruded by the Devonian Steel Creek Suite, which is comprised of massive, medium- to coarse-grained, rusty green-green hornblende pyroxene gabbro sills and dykes with rare pods of peridotite (**PSC**) (Gordey, 1999).

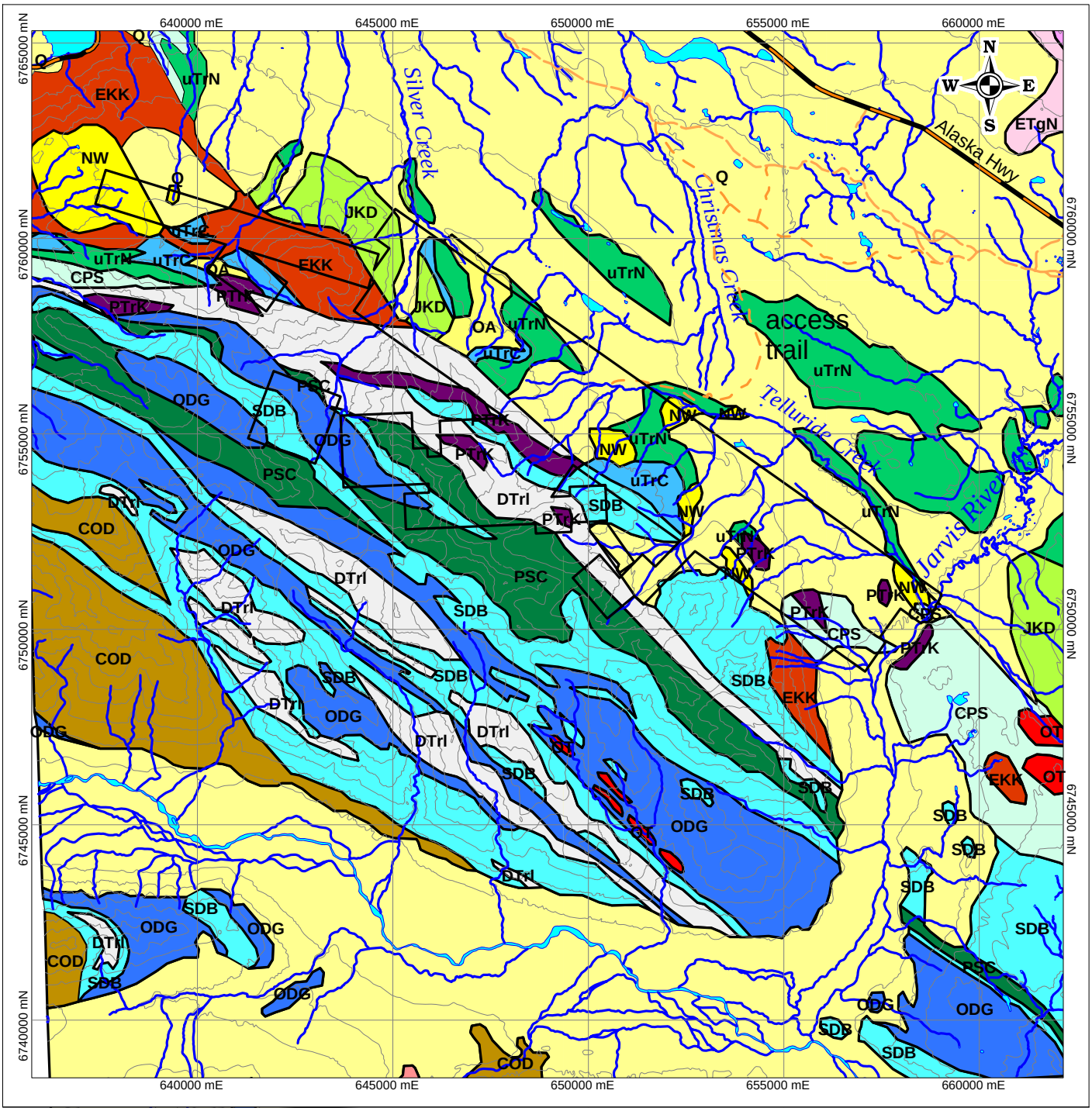
The Wrangell Terrane is comprised of Upper Triassic Chitisone Group thin-bedded, light to dark gray limestone, dark gray argillite and white to creamy-white anhydrite (**uTrC**). These rocks are overlain and in places interbedded with Upper Triassic Nicolai Group amygdaloidal basaltic and andesitic flows with local tuff, breccia, shale and thin-bedded bioclastic limestone (**uTrN**). Both of these units are intruded by late Triassic

Kluane Ultramafic Suite intrusions (**PTrK**). The Kluane Ultramafic Suite is comprised of medium green-green, massive, medium-grained, pyroxene gabbro and dark-green to black peridotite and rare dunite. The Kluane Ultramafic Suite intrusives may be the source for the Nicolai Group volcanic rocks. These rocks are overlain by Upper Jurassic to Lower Cretaceous Dezadeash Group clastic sediments (**JKD**), by Paleocene to Oligocene Amphitheatre Group sediments (**OA**) and intruded and overlain by Miocene to Pliocene Wrangell Lavas (**NW**).

The Dezadeash Group consists of a succession of dark buff-gray lithic greywacke, sandstone, siltstone, shale, argillite, phyllite and conglomerate. The Amphitheatre Group consists of yellow-buff sandstone, pebbly sandstone, polymictic conglomerate, siltstone, mudstone, minor carbonaceous shale and thin lignite coal. The Wrangell Lavas consist of rusty, red-brown basaltic andesite flows, interbedded with felsic tuff. All of these rocks are in turn overlain by Quaternary unconsolidated glacial, glaciofluvial and glaciolacustrine deposits (**Q**).

The major structural features of the area are the Denali Fault and the Duke River Fault. The Denali Fault is a large fault zone that defines the Shakwak Valley and is on the east side of the property. It is a strike-slip fault with a dextral sense of motion. The Duke River Fault occurs west of the property, near the Kluane Park boundary.

The Kluane Ultramafic Suite hosts a number of magmatic nickel-copper-platinum group mineral occurrences in Wrangell Terrane from Northern BC, through Yukon and into Alaska. One of these occurrences, the Wellgreen Deposit, produced 200,000 tonnes of Ni-Cu-PGE ore in 1972 and 1973. Wellgreen hosts reserves of 49.9 million tonnes grading 0.36% Ni, 0.35% Cu, 0.51 g/t Pt and 0.34 g/t Pd. The Kluane Belt magmatic nickel-copper-PGE occurrences are particularly enriched in the rarer platinum group elements osmium, iridium, ruthenium and rhenium (Hulbert, 1997).



Q	Quaternary	uTrC	Chitistone Formation
NW	Wrangell Lavas	PTrK	Kluane Ultramafic Suite
OT	Tkope Suite	CPS	Skolai Group
OA	Amphitheatre Formation	DTrl	Icefield Suite
ETgN	Nisling Range Suite	PSC	Steel Creek Group
EKK	Kluane Ranges Suite	SDB	Bullion Group
JKD	Dezadeash Group	ODG	Goatherd Group
uTrN	Nocolai Group	COD	Donjek Group

scale 1:150,000

0 2.5 5 10

kilometres

NAD 83 UTM, zone 7

KLONDIKE GOLD CORPORATION
ULTRA PROPERTY
REGIONAL GEOLOGY MAP

Figure 3 **DECEMBER 22, 2004**

Whitehorse Mining District NTS 115B/16

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8.0 PROPERTY GEOLOGY

The eastern part of the property is underlain predominantly by submarine volcanic and subvolcanic rocks with interbeded dirty carbonate and sulphate beds and fault slices (Figures 5 and 6). The volcanic rocks consist of basaltic flows, pillowed flows and rare ash tuff. They are occasionally thick bedded and massive. Government mapping indicates there are two ages of volcanic activity in the area: Upper Triassic Nicolai Group mafic volcanics; and Miocene to Pliocene Wrangell Lavas. The Wrangell Lavas vary from acid pyroclastics and intrusions to basaltic and andesitic flows. During the 2004 mapping program it was difficult to distinguish the mafic component of Wrangell Lavas from the Nicolai basalts and no acid volcanic rocks were observed. Samples collected from regions mapped as Wrangell Lavas were sent for whole rock geochemical analysis returned chemistry indistinguishable from Nicolai Group rocks. The chemistry of all samples submitted is tholeiitc basaltic.

The carbonate and sulphate beds belong to the Upper Triassic Chitisone Group. They varied from dirty limestone to bright, white gypsum and anhydrite beds to limey, phyllitic sediments. This unit generally weathers recessively and is susceptible to intense deformation from tectonism. The anhydrite beds in the southern part of the map area exhibit intense contorted folding.

In the far eastern part of the property and generally off the claims are Paleocene to Oligocene moderately consolidated Amphitheatre Group sandstone and conglomerate beds. Much of the eastern area, especially at lower elevations and in the broad creek valleys is overlain by variable, but occasionally quite thick accumulations of unconsolidated Quaternary gravel, sand and conglomeratic units.

The western part of the property is underlain by a thick sequence of Icefield Assemblage pelites, carbonates and minor volcanic rocks. This package is intruded by two stacked sills of Kluane Ultramafic Suite pyroxenite, gabbro and dunite. The lower sill is mapped over a strike length of 6 km and averages 400 m in width. The upper sill is exposed in two locations and offset sulphide mineralization apparently from an unexposed portion of the sill is found between the two outcrops at the Frohberg Showing. The apparent length of the upper sill is approximately 4 km and it is 200 m wide where exposed in outcrop. The geology in this area is quite complex and was not mapped in the 2004 program. Recommendations for future work is to conduct a detailed mapping program to trace the sills and obtain detailed structural information.

STRUCTURAL GEOLOGY

The property area can be divided into two structural domains: the southwestern domain which underwent intense tectonic activity; and the eastern domain, which is characterized by more rolling, foothills-type folding and faulting. The western part of the property underwent significant thrusting and compression and the entire

stratigraphic package dips steeply southwest and strikes northwest along the front of the Kluane Ranges.

The eastern part of the property is much less deformed. Rocks units here also strike northwest-southeast and have variable dips from 86° west to 30° east. They are dissected by large thrust and strike-slip faults that trend northwest-southeast, parallel to the trend of the Shakwak valley. These faults appear to have undergone considerable movement, although it was not measurable at any point on the property. As well, there are numerous strike-slip faults with lesser movement that trend northest-southwest throughout the property that are observed and are the cause of many of the northeast flowing stream valleys draining the east slope.

ALTERATION and MINERALIZATION

Two styles of mineralization have been observed on the property: VMS-style Cu-Zn-Ag-Au and Magmatic Pt-Pd-Au-Ni-Cu. The Ultra Property covers the Telluride Showing (Yukon Minfile 115B-008), the Frohberg Showing and the Jennifer Showing (Yukon Minfile 115B-013).

The Telluride Showing is located near the junction of Cub Creek and Telluride Creek. Numerous VMS-style layered massive sulphide boulders containing up to 2.1% Cu, 5.1% Zn and 24.5 g/t Ag have been found. Some of these boulders are estimated to weigh up to 19 tons. Photo 1 is one of the larger boulders and shows the well-bedded nature of the sulphide mineralization.

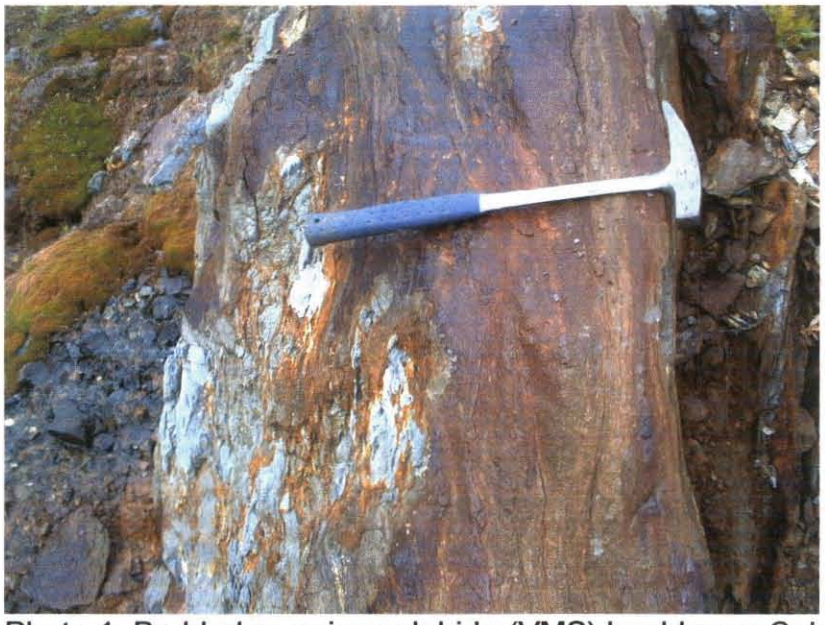


Photo 1. Bedded massive sulphide (VMS) boulder on Cub Creek

The mafic volcanic rocks in the eastern part of the property vary from relatively unaltered to moderately chloritized with spotty epidote alteration and rare calcite-filled

vugs. In a number of locations, generally at the lower outcrop exposures in the easterly draining streams on the northern map sheet and in Boutellier Creek, the basalt was intensely pyrite-stockwork altered (Figure 6, Photo 2 and 3). The stockwork contained up to 10% pyrite and is intensely limonite stained.

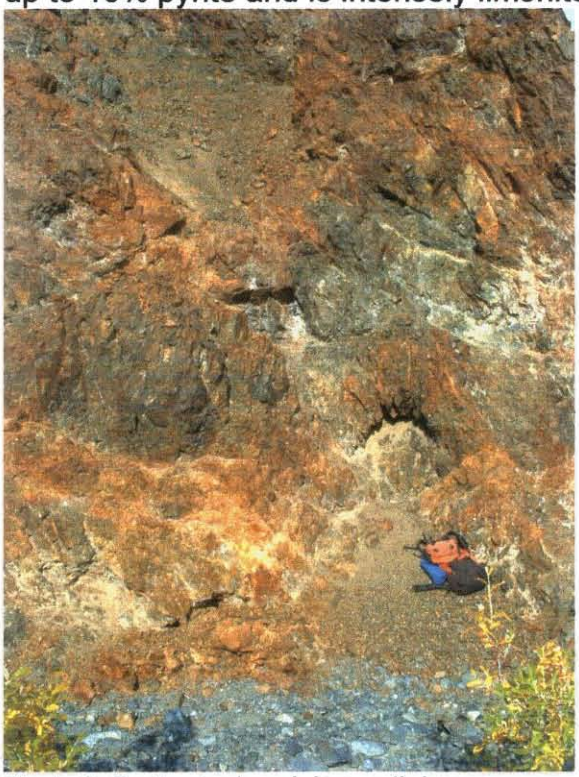


Photo 2. Pyrite stockwork in small draw on northeast side of Property

Photo 3. Pyrite stockwork on Boutellier Creek

Similar pyrite stockwork mineralization was found in boulders in the upper reaches of Bryson Creek. In this area a number of boulders were found on the medial moraine in the center of the valley. Due to time constraints, the bedrock source for these boulders could not be located. Photo 4, below is one of the larger boulders found on the moraine. This style of alteration and mineralization may represent a feeder system to the VMS style mineralization.

Photo 4. Large Quartz-Pyrite stockwork boulder in Bryson Creek headwaters

Ultramafic-hosted Pt-Pd-Au-Ni-Cu mineralization is widespread in the Kluane Range Ultramafic Suite sills. Two sills are present on the Ultra Property, the largest of which is mapped for over a strike length of 6 km. The Frohberg Showing occurs in Klunane Ultramafic Suite sills in the upper reaches of Cub Creek in the western part of the property. It consists of pyrrhotite, pyrite, pentlandite and chalcopyrite in quartz carbonate veinlets and disseminated sulphides within a gossanous gabbro (Photo 5). The mineralized portion of the sill is 2 m wide and is intermittently exposed over a distance of 40 m, disappearing beneath talus to the west. Mineralization is observed near the base of the sill and assays up to 5.54 g/t Pt, 13.46 g/t Pd, 4.07 % Cu and 1.73% Ni. Grab samples from the sill returned assays of 1.2 g/t Pt and 5.1 g/t Pd, 1.4% Cu and 0.35% Ni (Photo 5). Mineralization is similar in setting and style to that found in the Wellgreen Deposit, 90 km to the northwest in the same tectonic assemblage.

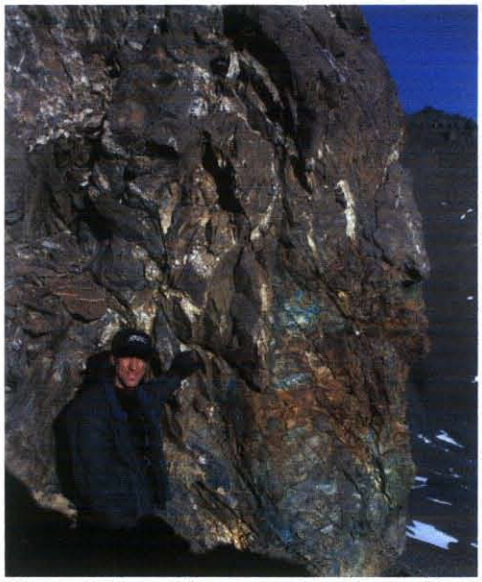


Photo 5. Tom Morgan at Frohberg Showing

Photo 6. Frohberg Showing mineralization

9.0 2004 EXPLORATION PROGRAM

The 2004 exploration program on the Ultra property consisted of mapping, prospecting and an airborne geophysical survey. Both phases of the program were focused on the lower slopes on the eastern side of the property and were directed towards locating the source of the massive sulphide boulders observed near the junction of Cub Creek and Telluride Creek. The mapping and prospecting program was conducted from August 26 to September 3. The crew conducted a number of traverses on all major drainages in the foothills region, mapping the outcrop observed and collecting 22 rock samples for analysis. All rock samples were sent to Chemex Labs in Vancouver for processing.

The airborne geophysical program was conducted on September 7 and 8 and involved approximately 200-line km of surveying. The survey specifications, equipment, instrument checks and calibration, quality control, data processing and deliverable products are included in Appendix V. A cautionary note on the airborne survey maps and data, these are plotted in NAD 83 UTM zone 8 coordinates, were the property is in UTM zone 7. The data is plotted in the correct location, but the coordinates are zone 8.

10.0 GEOCHEMICAL ANALYTICAL PROCEDURE

All samples were sent to ALS Chemex Laboratories in Vancouver for processing. Chemex is an ISO 9001 accredited facility. A total of 22 rock soil samples were collected in the 2004 program. Two of the samples, UL04-10 and UL04-12 were accidentally mixed together during the sample preparation and analyzed as one sample.

The rock samples were prepared by drying the sample then crushing to 70% <2mm. This material was then split into two samples in a riffle splitter. One of these samples was then pulverized to 85% < 75um. All samples were then analyzed by ALS Chemex package ME-ICP41 which involved dissolving some of the pulverized material in of aqua-regia solution and diluting with distilled water. This solution was then analyzed for 41 elements by Inductively Coupled Plasma Emission Spectrometry (ICP-ES). Gold analysis was performed on all samples by the Au-ICP21 process, which involved fire assay of on 30 gm of the pulverized material and an ICP-MS finish. Selective samples were analyzed for Whole Rock geochemistry by the ALS Chemex procedure MW-XRF06. This procedure involved fusing the pulverized sample with lithium borate and analysis by X-ray diffraction. One sample was analyzed for platinum, palladium and gold by process PGM-ICP23, which is a fire assay with ICPAES finish. Finally, one sample return an anomalously high copper value (UL04-20) and the copper content was re-analyzed by process CU-AA46, an ore-grade procedure with aqua-regia digestion and atomic absorption finish. Geochemical Analytical Certificates for the 2004 program are included in Appendix IV.

11.0 RESULTS AND CONCLUSIONS

Mapping and Sampling Results

The mapping and sampling program was limited by outcrop exposure, which was estimated to be < 5% and generally occurred in incised creek beds. The geological observations are included in the Property Geology section. Highlights of the prospecting and sampling program include the identification of numerous quartz-pyrite stockwork mineralized boulders in the headwaters of Bryson Creek. As well, a number of boulders containing pyrite-chalcopyrite veins in carbonate host rock were located in the Bryson Creek. One such boulder, sample UL04-20 returned 1.14% copper (Photo 7). This sample was also anomalous for As (2,910 ppm), Hg (96 ppm), Sb (742 ppm) and Zn (903 ppm).

Photo 7. Samples UL04-19 and 20

The program identified weak to moderate pyrite stockwork mineralization in mafic volcanic rocks in a number of creeks along the north eastern part of the map area. This alteration and the style of mineralization is typical of a volcanogenic massive sulphide feader zone system.

In the northern part of the property, on the upper reaches of Boutellier Creek, a float sample of silicified sediments containing 2 to 3% chalcopyrite in fracture fillings was found (UL04-39). It had the appearance of contact metasomatized sediments proximal to the ultramafic intrusions and contained 4,560 ppm copper, 3,030 ppm nickel, 0.118 g/t platinum and 0.334 g/t palladium. This sample is significantly anomalous in magmatic-style mineralization, yet there is no documented mineral showing above the sample site. This area warrants further follow-up to locate the source of the boulder.

Airborne Geophysical Survey Results

The airborne geophysical survey mapped the total magnetic field response and electromagnetic response with a five frequency electromagnetic system. The total

magnetic field data was used to create five map products, they are: Total Magnetic Intensity (IGRF Removed); Reduction to the Magnetic Pole of the Total Magnetic Intensity (IGRF Removed); Calculated First Vertical Derivative of the Total Magnetic Intensity; Calculated Second Vertical Derivative of the Total Magnetic Intensity; and Analytic Signal of the Total Magnetic Intensity (IGRF Removed). This data was used to delineate the extent of the various units mapped on the property, particularly in areas where there was little outcrop exposure, or significant Quaternary cover.

Other map products produced form the airborne survey are: Flight Path on a Topographic Base; Digital Elevation Model; Offset EM Profiles of the Coaxial 980 Hz and Coplanar 880 Hz; Offset Em Profiles of the Coaxial 7 kHz and Coplanar 6.6 kHz; and Calculated Apparent Resistivity of the 880 Hz Coplanar Coils. A list of conductors identified from the two electromagnetic frequency maps is also included in the McPhar report. A total of 54 anomalies were identified and they are classed as "A", "B" and "C" and marked on the maps accordingly, with "A" being the strongest. None of these conductors have been follow-up in the field as the mapping program was completed prior to the airborne survey commencing. These conductors will require ground truthing to determine what is the cause of the conductivity. A cautionary note on the coordinates, they are listed in NAD 83 UTM zone 8 coordinates.

The massive sulphide boulders found in the Cub Creek/Telluride Creek area were most likely formed in a volcanogenic massive sulphide environment. Two possible settings for that to occur are: Besshi-style VMS setting; or a Kuroko-style VMS setting. Besshi-style VMS deposits are formed in mafic volcanic-dominated environments, while Kuroko-style VMS deposits generally occur in mixed felsic and mafic volcanic environments. To date, only mafic volcanic rocks have been observed in the area near the sulphide boulders, however government mapping indicates that there is a component of felsic (or acid) volcanic rocks associated with the Wrangell Lavas. The Calculated Apparent Resistivity may be useful to identify resistive (ie. siliceous) rocks from more conductive rock types. This map can be useful to identify the locations of the felsic (or acid) volcanic rocks that belong to the Wrangell Lavas and to look for silica alteration zones if they exist on the property.

Age dating of lead minerals from the massive sulphide boulders may help to determine which group of rocks deserves the focus of future exploration for the VMS occurrence. There is a wide age gap between the Miocene to Pliocene Wrangell Lavas and the Triassic Nicolai basalts. Confirming the age of the mineralization would help vector future exploration efforts.

12.0 RECOMMENDATIONS

Recommendations for future work on the property should be conducted in two phases. The first phase would be to complete the mapping and prospecting on the property particularly at the Telluride, Frohberg and Jennifer Showing and in the Bryson Creek area and to follow-up the airborne geophysical anomalies with additional mapping and prospecting.

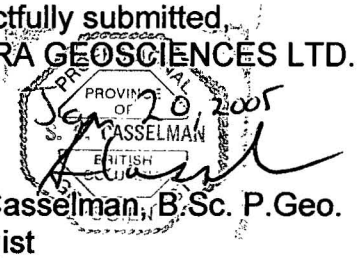
One obvious starting point to look for the source of the massive sulphide mineralization is north of the existing boulders in the area where mapping located abundant of pyrite stockwork mineralization and the airborne geophysics identified this area to have a number of conductors and have an interesting magnetic and resistivity signature. This area, however is suspected to have a substantial accumulation of overburden and may require ground geophysics to determine the cause of the EM anomalies. In many cases, the cause of the airborne conductors may not be readily identifiable due to cover rocks. In such cases, ground geophysics such as horizontal loop electromagnetics (HLEM) and Induced Polarization may help to characterize the anomaly to determine if drill testing is required. As work progresses westward, helicopter access will be required. Age dating of the lead in massive sulphide boulders is also recommended.

The second phase of work would include upgrading of the access roads into the property and diamond drilling to test the targets identified. A recommended budget for the two phases of exploration is:

Phase I	
Mapping and Prospecting	$ 80,000
Ground Geophysics	$ 90,000
Total Phase I	$ 170,000
Phase II	
Road upgrading (by bull dozer)	$ 30,000
Diamond Drilling (estimate 1000 m @ $250)	$ 250,000
Total Phase II	$280,000
Project total	$ 420,000

Much of the work could be carried out simultaneously, which would help save on costs such as camp, expediting and helicopter costs. For the drilling and road upgrading Land Use and Mining Land Use Applications will be required and may take a one to two months to acquire.

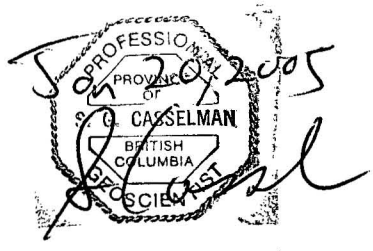
Respectfully submitted,
AURORA GEOSCIENCES LTD.



Scott Casselman, B.Sc. P.Geo.
Geologist

13.0 STATEMENT OF EXPENDITURES

Wages		
Project preparation and Field Work		
Scott Casselman	- 10 days @ $642.00	$ 5,778.00
Steve Berg	- 10 days @ $374.50	3,370.50
Andrea Langerud	- 5 days @ $375.50	1,877.50
Aurora Geosciences Expediting charges		187.25
Sample Analysis	- 22 rock samples	2,156.00
Sample Shipment costs		78.44
Helicopter Charter	- 2 hours @ $1249	2,498.00
Meals	- 21 person days @ $35	735.00
Consumables	- flagging, sample bags, etc	50.00
Camp equipment rental	- 9 days @ $100	900.00
Vehicle Rental	- 9 days @ $125	1,125.00
Mileage charges	- 600 km @ $0.42	252.00
ATV rental	- 9 days @ $100	900.00
Fuel		250.00
Airborne Geophysical Survey Costs		31,890.00
Report Writing		4,815.00
map and report copying and binding charges		160.50
	Total	**57,022.19**



14.0 REFERENCES

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APPENDIX I

STATEMENT OF QUALIFICATIONS

Statement of Qualifications

I, Scott Casselman, P. Geo., certify that:

1) I reside at 33 Firth Road, Whitehorse, Yukon Territory, Y1A 4R5

2) I am a geologist employed by Aurora Geosciences Ltd. of Whitehorse, Yukon Territory.

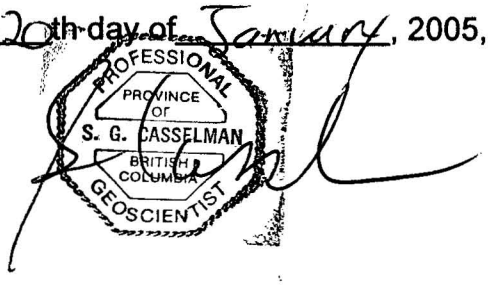
3) I graduated from Carleton University in Ottawa, Ontario with a Bachelor of Science Degree in Geology in 1985 and have worked as a geologist since that time.

4) I am a member of the Association of Professional Engineers and Geoscientists of British Columbia, Registration No. 20032.

5) I supervised the field exploration program on the Ultra Property for Klondike Gold Corporation during the summer of 2004.

6) I am responsible for the preparation of this report entitled "Geological Mapping and Airborne Geophysical Surveying Program on the Ultra Property, Haines Junction Area, Yukon Territory", and dated January 2005.

Dated this 20th day of January, 2005, at Whitehorse, Yukon Territory.



Scott G. Casselman, BSc., P.Geo.

APPENDIX II

CREW LOG

ULTRA PROPERTY – GEOLOGICAL MAPPING PROGRAM, 2004
for KLONDIKE GOLD CORPORATION
KGC-04-004-YT

CREW LOG

Crew: Scott Casselman (geologist)
Steve Berg (field assistant)
Andrea Langerud (geological technician)

Wed, Aug 25 Warren Kapaniuk (expediter) purchases and freezes meat, prepares camp gear and purchases necessary supplies. Scott prepares maps in morning. Scott, Steve and Andrea pack gear in truck in afternoon and purchase dry goods.

Thur, Aug 26 Scott, Steve and Andrea depart Whitehorse for property at 11:00 AM. Arrive at camp site at 3:00 PM. Setup camp and prepare for next day.

Fri, Aug 27 Overcast and slight drizzle in morning. Start mapping and prospecting on Cub creek. Go to VMS boulders at bottom of creek and work up creek towards Froberg Showing. Get into Froberg area cirque, but cirque is foggy and not able to locate showing. Traverse down next creek to south.

Sat, Aug 28 Clear skies and cool all day. Meet up with John Johnson in morning. He and Tom Morgan take ATV and go to Cub Creek. We start on cliffs on Telluride Creek and traverse up main creek to south of Cub creek. Go into alpine then traverse southward to next major creek and take it down back to camp. John and Tom stop at camp in evening to discuss the program.

Sun, Aug 29 Partially overcast in morning with occasional drizzle. Tom stops by camp in morning, He is going back to Dawson. Traverse from camp down along Telluride creek, mapping and sampling gabbro in cliffs. Return to camp at 4:00 PM drive Andrea back to her vehicle at highway, she departs for another job.

Mon, Aug 30	Rained off and on through night, cloudy and drizzle in morning. Scott and Steve take ATV down Telluride Creek to Bryson Creek. Traverse up Bryson Creek into alpine area. No outcrop on Bryson Creek until well into alpine area. Find numerous sulphide-bearing quartz stockwork-veined mafic tuff boulders in upper reaches of Bryson Creek. On walk home come across mother grizzly with 2 cubs.
Tue, Aug 31	Partially cloudy and cold in morning, clears and warms up through morning. Scott and Steve traverse up Telluride Creek to alpine area, then go to creeks northwest of Telluride. No outcrop on Telluride creek. See grizzly bear in afternoon.
Wed, Sept 1	Move camp in morning to Boutelier Creek location. Camp set-up by 1:00 PM. Traverse along eastern ridges sampling basalt along the road and trail, then traverse on lower Boutelier Creek canyon.
Thur, Sept 2	Clear and cold through night, overcast and cool in morning, drizzly and windy in afternoon. Scott and Steve traverse on upper Boutelier Creek, then go southeast and down the next creek.
Fri, Sept 3	Overcast and cool in morning. Pack up camp in morning and drive out to highway and north to Silver Creek. Unload ATV and drive ATV up Silver Creek. Traverse up Silver Creek prospecting boulders and looking for outcrop. Return to truck and drive back to Whitehorse in late afternoon.

APPENDIX III

ROCK SAMPLE DESCRIPTIONS

Rock Sample Descriptions

SAMPLE	NAD 83 UTM E	NAD 83 UTM N	TYPE	BEDDING	FAULT	DESCRIPTION
UL04-01	650123	6755688	Grab			Grab sample from suspected outcrop. Siltstone with a trace of pyrite. May be a large boulder in till. Unit is fairly massive, cannot get a bedding measurement.
UL04-02	651503	6756258	Grab			Intensely chlorite and carbonate altered mafic rock, could be gabbro or basalt. Intensely fractured and rubbly outcrop. Breaks into angular pieces 3x3 cm. 10 to 20% calcite veining on fracture surfaces. Minor FeOx staining, no sulphides evident. Not a great sample for whole rock analysis.
UL04-03	651450	6756144	Grab			Gabbro or basalt. Intensely carbonate and chlorite altered. Not quite as fractured as previous sample, better whole rock sample. Up to 3% disseminated pyrite.
UL04-04	651612	6756065	Grab			Intensely chlorite and carbonate altered mafic rock, could be gabbro or basalt. Intensely fractured and rubbly outcrop. Fairly good whole rock sample.
UL04-05	651348	6755492	Grab			Relatively unaltered pillow basalt. Pillows up to 0.75 m in diameter. Medium green with 20% amphibole phenocrysts. Very minor chlorite alteration. No carbonate veining. Good whole rock sample - unaltered rep sample.
UL04-06	651097	6755026	Grab	270/70 N		Relatively fresh, unaltered basalt flow. Medium grained, dark green. In lower part of flow have clasts, or inclusions of red, hematite-rich material. Minor calcite veining with narrow (<2 mm) epidote margins on veins. No sulphides.
UL04-07	650874	6754876	Grab			Fresh basalt flow. Slightly sheared/fractured with abundant FeOx staining. Sample is good whole rock sample. Trace of disseminated pyrite, very minor calcite veining, no epidote.
UL04-08	651801	6754981	Grab			Fairly massive and homogeneous basalt flow. Np alteration, no sulphides.
UL04-09	652738	6755818	Grab			Intensely chlorite and carbonate altered gabbro. Intensely fractured, no sulphides. Sample is partially weathered to brown-green.
UL04-10	653191	6755658	1.0 m chip		173/71 W	Listhwanite altered peridotite with 10 % white calcite veining and traces of pyrite. Weathers to orange. On fresh surfaces is green with mariposite.
UL04-11	655389	6754958	Grab			Intensely sheared gabbro with 8% carbonate veining. Moderate chlorite alteration.
UL04-12	655027	6755063	Grab			Sample of rusty iron-stained creek gravel in a deep-red mineral seep. Water has a strong iron taste.
UL04-13	653346	6755499	Float			Float boulder in creek bed in area of peridotite intrsion in gabbro. Boulder is fairly round and 20 cm diameter. Brecciated and bleached siltstone. Partially silicified with up to 25% sulphide matrix. Sulphide is mainly pyrite, but may contain chalcopyrite.

SAMPLE	NAD 83 UTM E	NAD 83 UTM N	TYPE	BEDDING	FAULT	DESCRIPTION
UL04-14	654159	6753769	Float			Float boulder in Bryson Creek bed. Rounded and approximately 15 cm diameter. Intense FeOx stained quartz vein material. Quartz varies from milky white to cloudy gray. Contains up to 5% pyrite as disseminations and fracture fillings.
UL04-15	653888	6753443	Float			Float boulder in creek bed, angular, 30x30x30 cm. Intense FeOx staining. Limestone/siltstone with 15% white quartz veins and up to 10% pyrite veins and disseminations. Fairly weathered, no chalcopyrite visible.
UL04-16	652253	6752046	Float			Float boulder in terminal morraine. Large angular boulder with intense FeOx staining. Brecciated basalt tuff with 15% qtz-carbonate veining and 10% pyrite in matrix. Basalt fragments are bleached and clay altered. Numerous large angular boulders of of mafic tuffaceous rock in morraine. Tuff is well laminated/foliated.
UL04-17	651999	6751905	Float			Float boulder approximately 30x35x20 cm. Sheeted quartz and pyrite vein. Could be VMS bedded mineralization. 30% sulphides, 50% quartz and 20% white, clay altered fragments in quartz.
UL04-18	651422	6751034	Float			Float boulder on mediale morraine. Boulder is intensely FeOx stained, angular and 15x15x20 cm. Quart vein with 25% pyrite in veins. Quartz is cloudy white colour.
UL04-19	651433	6751096	Float			Float boulder in mediale morraine. Boulder is subangular, 25x25x30 cm. White to grey quartz with 20% coarse pyrite and chalcopyrite (?) veins and masses. Possible limestone host rock. Sample is from same location as UL04-20.
UL04-20	651433	6751096	Float			Float boulder in mediale morraine. Boulder is rounded, 25x10x15 cm. Milky white to grey quartz vein with 5 cm wide pyrite (cpy?) vein. Sample is from same location as UL04-19.
UL04-21	649940	6756705	Grab			Grab sample from outcrop. Relatively fresh, medium grained gabbro. Up to 3% white qtz-carb veinlets, no sulphides. Outcrop is fairly massive with minor wispy epidote veinlets.
UL04-22	649663	6756641	Grab			Grab sample from outcrop. Relatively fresh, unaltered gabbro, same as sample UL04-21. Medium grained, fairly homogeneous. Minor chlorite, epidote and calcite in veinlets or along shears. No sulphides.
UL04-23	649488	6756394	Float			Float boulder from upper Telluride Creek. Subangular 30x30x20 cm. Intermediate volcanic with 8-10% fracture filling pyrite and possibly chalcopyrite. Intense FeOx staining.
UL04-24	649249	6757001	Grab	325/30 NE		Grab from outcrop. Pillowed basalt. Weakly altered with 10% epidote-calcite veining and weak pervasive chlorite alteration. No sulphides. Pillows up to 1.5 m. Tops measurement is an estimate.
UL04-25	649307	6757121	Grab		020/50 SE, 315/73 N	Grab from outcrop. Pillowed basalt with a number of small gossanous shears that are up to 30 m long and 1 m wide. The shears are stained with orange-red FeOx. Collect sample at one of the shears with very intense staining and shearing. No sulphides evident as they are all weathered out.

SAMPLE	NAD 83 UTM E	NAD 83 UTM N	TYPE	BEDDING	FAULT	DESCRIPTION
UL04-26	649329	6757184	Grab			Grab from outcrop. Plagioclase porphyritic mafic intrusive dyke or plug. Matrix is dark green, fine grained and chloritized. Plagioclase phenocrysts are white, are up to 4 mm and are generally rounded. A number of the gossanous shears occur in this unit along the south slope of the gully. 1 chalcopyrite grain observed in the sample. It is 3 mm.
UL04-27	654348	6757367	Grab			Grab from outcrop. Glacial polished pillowed basalt. Fairly fresh , unaltered, minor chlorite alteration of mafic minerals, 5% white quartz-calcite veining. No sulphides.
UL04-28	649734	6759301	Grab			Grab from outcrop. Relativley fresh pillowed basalt with minor epidote-calcite veining and very weak, pervasive chlorite alteration. Ridge is a drumlin, polished by glacier. Glacial striae at 340 degrees.
UL04-29	651496	6757891	Grab			Grab from outcrop. Relatively fresh Basalt tuff. No sulphides, no calcite veining. Moderately foliated.
UL04-30	650977	6758207	Grab			Grab from outcrop. Fresh Pillowed Basalt. No sulphides, no quartz, no calcite or epidote. Minor chlorite alteration. Weakly foliated.
UL04-31	649963	6759058	Grab			Grab from outcrop. Fresh Basalt tuff. Medium to dark green, weakly altered, minor chlorite. 2% calcite/epidote veinlets. Moderately strong foliation.
UL04-32	648581	6760125	Grab			Grab from outcrop. Basalt flow with amphibole phenocrysts to 2 mm. Weak chlorite alteration and 15% calcite-epidote veinlets. No sulphides.
UL04-33	648086	6759635	Grab			Grab from outcrop. Fractured and friable, intensely chloritized gabbro or basalt. Stong foliation. Fractures into pieces < 10 cm. 1 to 3 % calcite veinlets on fractures. Large limestone boulders 20 m upstream, believed to be subcrop.
UL04-34	647976	6759624	Grab	148/76 SW		Grab from outcrop. Sheared mafic lapilli tuff with scattered small (<1 m) gossanous patches. Lapilli to 8 cm x 5 cm. Shearing occurs along bedding plane. Most of the sulphides are weathered out, but some pyrite remains. Occassional clast in tuff looks like a sulphide clast.
UL04-35	647925	6759623	1.5 m chip	135/36 SW		Intensely sheared and fractured limonite stained zone in mafic lapilli tuff. All sulphide minerals are weathered out, leaving an intensely clay altered boxwork. Outcrop has lapilli tuff 50 m down stream of sample, then brecciated mafic volcanic, then limonite zone and is all overlain by dark gray limestone/muddy limestone.
UL04-36	647780	6759582	Grab			Intensely sheared and fractured basalt or gabbro. 5% quartz-calcite veining, minor FeOx staining. Highly friable, fractured to pieces < 10 cm. Moderate to intense chlorite alteration. No sulphide minierals evident - all weathered out.
UL04-37	647587	6759411	Float			Rounded float boulder, 15 cm diameter. Host rock appears to be medium grained gabbro. 40% pyrrhotite and pyrite and up to 1% chalcopyrite. Rock is fairly weathered and FeOx stained. Looks like it could be from magmatic nickel source.

	NAD 83					
SAMPLE	UTM E	UTM N	TYPE	BEDDING	FAULT	DESCRIPTION
UL04-38	647459	6759217	Grab		330/76 NE	Grab from outcrop. Intensely sheared and altered mafic volcanic. Orange-brown carbonate staining with 1-2% calcite veins and moderate to intense chlorite alteration. No sulphides evident. Fractures into pieces <15 cm. Contact with black, graphitic sediments 20 m upstream. Sediments are intensely sheared.
UL04-39	647423	6758847	Float			Angular float boulder in creek bed. Boulder is 40x30x30 cm. Medium gray, silicified sediments with 2 to 3% chalcopyrite in fracture fillings. Looks like possible contact zone near magmatic NI-Cu.
UL04-40	647920	6757782	Grab			Grab from outcrop. Relatively fresh and unaltered gabbro/mafic volcanic. Hornblende phenocrysts to 2 mm. Weak chlorite alteration. No calcite, no sulphides.
UL04-41	648414	6758136	Grab			Grab from outcrop. Sheared basalt with 3 to 5% pyrite in shear planes. Slightly chlorite altered with 1% calcite veining. FeOx stained over 1 m width.
UL04-42	648570	6758395	Grab			Grab from outcrop. Area of basalt with scattered deep orange-red gossanous patches. Patches are up to 3x3 m and cover an area of approximately 70 m along the outcrop. Becomes burried under till to east. Most sulphides are weathered out leaving a clay boxwork behind.

Geological Station Data

Station	NAD 83 UTM E	NAD 83 UTM N	BEDDING	CONTACT	FAULT	FOLIATION	DESCRIPTION
stn 1	648207	6754220	118/78 SW				Bedded siltstone/limestone
stn 2	651330	6755409	228/19NW		020/83 SE		Basalt flow. Rock is quite fractured.
stn 3	650792	6754843	280/50 N				Plagioclase phyric mafic flow. No alteration, no sulphides. Overlain by basalt flow.
stn 4	650657	6754610			061/73 SE		Fault zone across width of creek bed. Intensely FeOx stained and intensely fractured and clayey gouge. Zone approximately 15 m wide.
stn 5	650553	6754422	295/22 NE				Mafic flow, fairly homogeneous and unaltered.
stn 6	650439	6753970	138/26 SW				Thin bedded anhydrite in 1-3 mm layers. Unit is up to 30 m thick in phyllite/siltstone/limestone.
stn 7	651522	6754175	280/34 N				Thin bedded anhydrite overlain by phyllite/shale and limestone
stn 8	652446	6755708	144/86 SW				Amphitheatre Formation conglomerate. Clast supported, well rounded clasts. Occassional sand layer.
stn 9	652486	6755714					Contact between Aphitheatre and Gabbro. Intensely chlorite and carbonate altered gabbro, intensely fractured.
stn 10	653148	6755508			180/50 W		Fault zone in intensely sheared and fractured gabbro.
stn 11	653224	6755509		148/76 SW			Narrow peridotite sills in gabbro. Also large have xenolith of altered siltstone.
stn 12	653443	6755449			103/66 SW		Fault zone with intense shearing and abundant clayey gouge in gabbro.
stn 13	655177	6755056				107/70 SW	Listhwanite altereted mafic rock with abundant qtz-carbonate veining. Weathers orange.
stn 14	651713	6751511					20 tonne boulder of mafic tuff with intense qtz-calcite-pyrite stockwork
stn 15	648270	6756838	122/56 SW				Medium to dark gray, muddy limestone. Thin bedded (1-8 mm beds).
stn 16	649384	6757257					Large gossanous outcrop in plagioclase porphyritic unit.
stn 17	648401	6759952	290/45 NE				Sheared mafic tuff interbedded with limestone. Limestone beds to 2 m thick. Tuff is intensely sheared/foliated, chlorite altered and friable. Shearing is bedding parallel.

Station	NAD 83 UTM E	NAD 83 UTM N	BEDDING	CONTACT	FAULT	FOLIATION	DESCRIPTION
stn 18	648638	6760484	120/63 SW				Basalt tuff with strong foliation that is bedding parallel.
stn 19	647676	6758146	330/60 NE				Fault contact between phyllitic sediments below and mafic volcanic above.
stn 20	648137	6758174			205/70 NW		Fault in gabbro/mafic volcanic

APPENDIX IV

GEOCHEMICAL ANALYTICAL CERTIFICATES

ALS Chemex
EXCELLENCE IN ANALYTICAL CHEMISTRY
ALS Canada Ltd.
212 Brooksbank Avenue
North Vancouver BC V7J 2C1 Canada
Phone: 604 984 0221 Fax: 604 984 0218

To: **AURORA GEOSCIENCES LTD.**
108 GOLD ROAD
WHITEHORSE YT Y1A 2W3

Finalized Date: 6-OCT-2004
This copy reported on 12-OCT-2004
Account: AURGEO

CERTIFICATE VA04067931

Project: Ultra

P.O. No.:

This report is for 42 Pulp samples submitted to our lab in Vancouver, BC, Canada on 1-OCT-2004.

The following have access to data associated with this certificate:

SCOTT CASSELMAN

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
FND-02	Find Sample for Addn Analysis

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
Au-ICP21	Au 30g FA ICP-AES Finish	ICP-AES
PGM-ICP23	Pt, Pd, Au 30g FA ICP	ICP-AES

To: **AURORA GEOSCIENCES LTD.**
ATTN: SCOTT CASSELMAN
108 GOLD ROAD
WHITEHORSE YT Y1A 2W3

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature:

ALS Chemex
EXCELLENCE IN ANALYTICAL CHEMISTRY
ALS Canada Ltd.
212 Brooksbank Avenue
North Vancouver BC V7J 2C1 Canada
Phone: 604 984 0221 Fax: 604 984 0218

To: AURORA GEOSCIENCES LTD.
108 GOLD ROAD
WHITEHORSE YT Y1A 2W3

Finalized Date: 6-OCT-2004
Account: AURGEO

Project: Ultra

CERTIFICATE OF ANALYSIS VA04067931

Sample Description	Method Analyte Units LOR	PGM-ICP23 Au ppm 0.001	PGM-ICP23 Pt ppm 0.005	PGM-ICP23 Pd ppm 0.001	Au-ICP21 Au ppm 0.001
UL04-01					0.008
UL04-02					0.016
UL04-03					0.002
UL04-04					0.006
UL04-05					0.003
UL04-06					0.002
UL04-07					0.006
UL04-08					0.001
UL04-09					0.007
UL04-10 and UL04-12					0.002
UL04-11					0.027
UL04-13					0.011
UL04-14					0.008
UL04-15					0.008
UL04-16					0.006
UL04-17					0.015
UL04-18					0.006
UL04-19					0.007
UL04-20					0.007
UL04-21					0.004
UL04-22					0.005
UL04-23					0.009
UL04-24					0.004
UL04-25					0.003
UL04-26					0.008
UL04-27					<0.001
UL04-28					0.001
UL04-29					<0.001
UL04-30					0.002
UL04-31					0.013
UL04-32					0.009
UL04-33					0.003
UL04-34					0.007
UL04-35					0.009
UL04-36					0.003
UL04-37					0.004
UL04-38					<0.001
UL04-39		0.071	0.118	0.334	
UL04-40					0.002
UL04-41					0.021

ALS Chemex
EXCELLENCE IN ANALYTICAL CHEMISTRY
ALS Canada Ltd.
212 Brooksbank Avenue
North Vancouver BC V7J 2C1 Canada
Phone: 604 984 0221 Fax: 604 984 0218

To: AURORA GEOSCIENCES LTD.
108 GOLD ROAD
WHITEHORSE YT Y1A 2W3

Finalized Date: 6-OCT-2004
Account: AURGEO

Project: Ultra

CERTIFICATE OF ANALYSIS VA04067931

Sample Description	Method Analyte Units LOR	PGM-ICP23 Au ppm 0.001	PGM-ICP23 Pt ppm 0.005	PGM-ICP23 Pd ppm 0.001	Au-ICP21 Au ppm 0.001
UL04-42					0.020

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EXCELLENCE IN ANALYTICAL CHEMISTRY
ALS Canada Ltd.
212 Brooksbank Avenue
North Vancouver BC V7J 2C1 Canada
Phone: 604 984 0221 Fax: 604 984 0218

To: AURORA GEOSCIENCES LTD.
108 GOLD ROAD
WHITEHORSE YT Y1A 2W3

Finalized Date: 29-SEP-2004
This copy reported on 1-OCT-2004
Account: AURGEO

CERTIFICATE VA04063084

Project: Ultra

P.O. No.:

This report is for 42 Rock samples submitted to our lab in Vancouver, BC, Canada on 15-SEP-2004.

The following have access to data associated with this certificate:

SCOTT CASSELMAN

SAMPLE PREPARATION

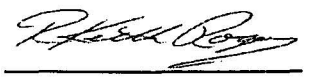
ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LOG-22	Sample login - Rcd w/o BarCode
CRU-31	Fine crushing - 70% <2mm
SPL-21	Split sample - riffle splitter
PUL-31	Pulverize split to 85% <75 um

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
Cu-AA46	Ore grade Cu - aqua regia/AA	AAS
ME-XRF06	Whole Rock Package - XRF	XRF
OA-GRA06	LOI for ME-XRF06	WST-SIM
ME-ICP41	34 Element Aqua Regia ICP-AES	ICP-AES

To: AURORA GEOSCIENCES LTD.
ATTN: SCOTT CASSELMAN
108 GOLD ROAD
WHITEHORSE YT Y1A 2W3

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature: 

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To: AURORA GEOSCIENCES LTD.
108 GOLD ROAD
WHITEHORSE YT Y1A 2W3

Finalized Date: 29-SEP-2004
Account: AURGEO

Project: Ultra

CERTIFICATE OF ANALYSIS VA04063084

Sample Description	Method / Analyte / Units / LOR	WEI-21 Recvd Wt. kg 0.02	ME-ICP41 Ag ppm 0.2	ME-ICP41 Al % 0.01	ME-ICP41 As ppm 2	ME-ICP41 B ppm 10	ME-ICP41 Ba ppm 10	ME-ICP41 Be ppm 0.5	ME-ICP41 Bi ppm 2	ME-ICP41 Ca % 0.01	ME-ICP41 Cd ppm 0.5	ME-ICP41 Co ppm 1	ME-ICP41 Cr ppm 1	ME-ICP41 Cu ppm 1	ME-ICP41 Fe % 0.01	ME-ICP41 Ga ppm 10
UL04-01		1.28	1.2	1.84	6	<10	20	<0.5	<2	1.79	<0.5	25	203	48	4.27	<10
UL04-02		0.92	1.0	1.70	10	<10	40	<0.5	2	5.04	<0.5	8	68	98	2.11	10
UL04-03		1.50	0.2	1.24	15	10	90	<0.5	<2	6.04	<0.5	15	75	13	3.48	<10
UL04-04		0.62	0.2	2.05	6	<10	20	<0.5	2	1.39	<0.5	23	55	74	5.97	10
UL04-05		1.00	0.3	3.54	2	10	20	<0.5	2	2.45	<0.5	28	37	304	6.15	10
UL04-06		0.72	<0.2	2.82	6	<10	10	<0.5	2	1.24	<0.5	36	306	7	4.23	10
UL04-07		1.26	0.2	1.91	4	<10	10	<0.5	3	1.22	<0.5	26	31	69	5.57	10
UL04-08		0.84	<0.2	4.75	2	20	10	<0.5	2	3.93	<0.5	32	59	20	6.99	20
UL04-09		0.52	<0.2	2.60	<2	<10	10	<0.5	2	2.18	<0.5	29	42	71	5.23	10
UL04-10 and UL04-12		0.56	0.2	1.46	11	10	40	<0.5	<2	5.49	<0.5	39	252	64	4.63	<10
UL04-11		0.72	0.2	2.21	2	<10	<10	<0.5	<2	1.21	<0.5	26	61	86	3.37	<10
UL04-12		0.76														
UL04-13		1.06	0.3	0.48	109	<10	30	0.5	2	0.20	<0.5	1	60	6	11.40	<10
UL04-14		1.00	0.3	0.08	27	<10	40	<0.5	<2	1.40	<0.5	4	164	70	1.78	<10
UL04-15		1.06	0.3	0.12	31	<10	40	<0.5	<2	3.59	<0.5	11	104	237	3.65	<10
UL04-16		1.48	0.4	0.09	19	<10	30	<0.5	<2	8.68	<0.5	13	39	101	9.73	<10
UL04-17		4.24	0.7	0.14	107	<10	30	<0.5	<2	3.96	9.8	5	104	1370	10.60	<10
UL04-18		0.92	0.4	0.07	17	<10	30	<0.5	<2	3.01	<0.5	3	108	62	5.83	<10
UL04-19		3.34	0.5	0.08	165	<10	20	<0.5	3	9.07	0.6	2	21	575	24.1	<10
UL04-20		1.16	3.1	0.08	2910	<10	20	<0.5	<2	8.12	6.1	8	24	>10000	24.8	<10
UL04-21		0.94	0.2	1.40	7	<10	20	<0.5	<2	1.34	<0.5	17	56	58	4.52	10
UL04-22		1.06	<0.2	2.67	7	<10	80	<0.5	2	1.27	<0.5	27	62	69	5.35	10
UL04-23		0.74	0.3	0.80	8	<10	10	<0.5	2	1.22	<0.5	44	68	292	6.81	<10
UL04-24		0.70	<0.2	3.65	7	<10	20	<0.5	2	2.03	<0.5	25	63	35	4.18	10
UL04-25		1.24	0.2	2.43	9	<10	60	<0.5	2	1.56	<0.5	26	247	67	5.21	10
UL04-26		0.80	0.2	1.78	5	<10	10	<0.5	<2	0.86	<0.5	21	95	474	5.95	10
UL04-27		1.20	<0.2	2.30	6	<10	30	<0.5	3	1.32	<0.5	26	64	101	5.22	10
UL04-28		1.06	0.2	2.15	6	<10	<10	<0.5	2	1.18	<0.5	26	153	49	4.08	10
UL04-29		1.46	<0.2	1.96	2	<10	<10	<0.5	2	1.17	<0.5	24	120	52	4.14	10
UL04-30		0.80	<0.2	2.36	4	<10	10	<0.5	4	1.24	<0.5	26	110	158	5.16	10
UL04-31		1.48	<0.2	1.16	<2	<10	20	<0.5	<2	1.80	<0.5	9	66	477	1.92	<10
UL04-32		1.70	<0.2	1.44	5	<10	<10	<0.5	<2	1.98	<0.5	16	56	158	2.91	<10
UL04-33		0.92	<0.2	3.53	<2	<10	10	<0.5	<2	1.92	<0.5	34	41	53	5.93	10
UL04-34		0.84	<0.2	1.94	37	<10	10	<0.5	<2	9.98	<0.5	124	9	44	9.87	<10
UL04-35		0.78	<0.2	2.63	10	<10	20	<0.5	<2	9.86	<0.5	45	67	108	4.33	10
UL04-36		1.24	<0.2	1.91	<2	<10	80	<0.5	<2	3.36	<0.5	21	32	86	3.08	<10
UL04-37		0.92	<0.2	1.18	<2	<10	<10	<0.5	<2	8.28	<0.5	42	81	1045	10.40	10
UL04-38		0.90	<0.2	2.42	<2	<10	70	<0.5	<2	1.68	<0.5	21	49	25	3.43	10
UL04-39		1.18	0.8	0.21	4	620	30	<0.5	<2	0.99	<0.5	86	111	4560	2.46	<10
UL04-40		1.22	<0.2	3.33	<2	10	110	<0.5	<2	2.45	<0.5	28	89	69	4.55	10

Comments: Samples UL04-10 and UL04-12 were unfortunately mixed in sample prep.

ALS Chemex
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Phone: 604 984 0221 Fax: 604 984 0218

To: AURORA GEOSCIENCES LTD.
108 GOLD ROAD
WHITEHORSE YT Y1A 2W3

Finalized Date: 29-SEP-2004
Account: AURGEO

Project: Ultra

CERTIFICATE OF ANALYSIS VA04063084

Sample Description	Method	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41
	Analyte	Hg	K	La	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sc	Sr	Ti
	Units	ppm	%	ppm	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	%
	LOR	1	0.01	10	0.01	5	1	0.01	1	10	2	0.01	2	1	1	0.01
UL04-01		1	0.12	<10	1.58	367	2	0.04	86	290	11	1.04	10	4	19	0.26
UL04-02		<1	0.01	<10	0.73	538	1	0.01	24	430	4	0.02	3	6	88	0.47
UL04-03		<1	0.12	<10	0.61	973	2	0.08	36	630	<2	0.19	2	15	38	0.17
UL04-04		1	0.14	<10	1.98	693	<1	0.08	37	740	<2	0.01	<2	3	30	0.63
UL04-05		<1	0.01	10	2.33	778	<1	0.04	39	840	<2	0.01	<2	8	46	0.62
UL04-06		1	0.02	<10	4.61	620	<1	0.07	176	350	2	<0.01	<2	2	51	0.16
UL04-07		1	0.02	10	1.88	694	<1	0.06	45	950	2	0.01	<2	3	19	0.53
UL04-08		1	0.01	<10	2.70	854	<1	0.04	55	680	2	0.01	<2	16	13	0.61
UL04-09		1	0.10	<10	1.94	581	<1	0.06	45	630	2	0.01	<2	8	61	0.48
UL04-10 and UL04-12		<1	0.07	<10	6.35	827	1	0.04	384	380	4	0.05	<2	6	131	0.15
UL04-11		<1	<0.01	<10	1.96	522	<1	0.03	55	200	<2	0.10	<2	4	7	0.15
UL04-12																
UL04-13		<1	0.33	10	0.31	164	4	0.06	6	30	35	>10.0	4	<1	6	0.01
UL04-14		1	0.01	<10	0.14	91	10	0.05	33	460	16	1.53	14	1	58	<0.01
UL04-15		1	0.02	<10	1.78	417	6	0.07	38	600	21	3.66	13	8	61	<0.01
UL04-16		1	0.02	<10	4.11	957	1	0.06	51	230	13	>10.0	6	9	234	<0.01
UL04-17		3	0.01	<10	0.48	240	4	0.05	32	570	21	>10.0	11	3	130	<0.01
UL04-18		<1	0.02	<10	1.34	402	3	0.04	32	470	6	5.44	4	5	43	<0.01
UL04-19		5	<0.01	<10	0.13	486	2	0.03	14	380	19	>10.0	34	2	245	<0.01
UL04-20		96	<0.01	<10	0.67	542	12	0.02	37	60	29	>10.0	742	5	274	<0.01
UL04-21		<1	0.10	<10	0.76	278	1	0.13	30	650	<2	0.13	<2	4	63	0.23
UL04-22		<1	0.70	<10	2.68	573	<1	0.10	52	630	<2	0.03	<2	4	27	0.59
UL04-23		<1	0.07	<10	0.23	164	1	0.08	65	540	2	4.32	<2	5	69	0.31
UL04-24		1	0.09	<10	1.99	377	<1	0.30	68	510	<2	0.01	<2	4	83	0.42
UL04-25		<1	0.09	<10	1.96	352	<1	0.15	76	410	2	1.07	<2	11	274	0.32
UL04-26		<1	0.05	<10	1.78	556	<1	0.14	45	540	2	0.09	<2	7	14	0.37
UL04-27		<1	0.02	<10	1.52	877	<1	0.04	38	990	2	0.01	<2	4	19	0.53
UL04-28		<1	0.02	<10	1.84	630	<1	0.05	54	590	<2	0.01	<2	4	11	0.57
UL04-29		<1	0.01	<10	1.74	759	<1	0.07	42	570	2	0.03	<2	3	11	0.56
UL04-30		1	0.05	<10	1.82	808	<1	0.07	50	960	<2	0.01	<2	4	7	0.60
UL04-31		<1	0.14	<10	0.53	274	<1	0.05	20	570	2	0.01	<2	4	30	0.54
UL04-32		<1	0.03	<10	1.01	384	<1	0.08	36	570	<2	0.03	<2	5	23	0.46
UL04-33		<1	0.10	<10	4.00	765	<1	0.12	61	510	5	0.01	3	5	54	0.42
UL04-34		<1	0.13	<10	2.56	1120	4	0.01	102	980	15	>10.0	<2	5	140	0.01
UL04-35		<1	0.28	10	3.27	956	1	<0.01	65	670	5	4.03	2	12	63	0.01
UL04-36		<1	0.10	10	1.92	489	<1	0.07	46	1600	2	0.03	2	9	114	0.17
UL04-37		1	0.01	<10	0.40	1480	<1	<0.01	146	1300	6	5.67	3	5	47	0.19
UL04-38		<1	0.18	<10	2.20	560	<1	0.07	51	420	2	0.03	<2	6	41	0.16
UL04-39		<1	0.01	10	0.14	140	1	0.04	3030	460	3	1.64	2	1	18	0.12
UL04-40		1	0.03	<10	2.54	556	<1	0.11	71	520	6	0.02	<2	11	65	0.49

Comments: Samples UL04-10 and UL04-12 were unfortunately mixed in sample prep.

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To: AURORA GEOSCIENCES LTD.
108 GOLD ROAD
WHITEHORSE YT Y1A 2W3

Finalized Date: 29-SEP-2004
Account: AURGEO

Project: Ultra

CERTIFICATE OF ANALYSIS VA04063084

Sample Description	Method	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	Cu-AA46	ME-XRF06	ME-XRF06	ME-XRF06	ME-XRF06	ME-XRF06	ME-XRF06	ME-XRF06	ME-XRF06	ME-XRF06
	Analyte	Tl	U	V	W	Zn	Cu	SiO2	Al2O3	Fe2O3	CaO	MgO	Na2O	K2O	Cr2O3	TiO2
	Units	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%	%	%	%
	LOR	10	10	1	10	2	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
UL04-01		<10	<10	82	<10	71										
UL04-02		<10	<10	99	<10	22		45.65	14.08	10.21	18.82	2.29	<0.01	0.03	0.03	1.35
UL04-03		<10	<10	120	<10	68		44.74	13.88	9.36	17.99	2.10	2.53	0.80	0.03	0.69
UL04-04		<10	<10	178	<10	66		47.67	15.38	12.78	6.84	5.92	3.87	0.86	0.02	2.05
UL04-05		<10	<10	213	<10	87		46.57	14.36	12.79	9.20	6.39	2.60	0.25	0.02	2.16
UL04-06		<10	<10	75	<10	48		45.73	12.84	10.72	8.29	11.78	2.68	0.34	0.11	0.87
UL04-07		<10	<10	182	<10	78		48.04	13.61	13.11	8.83	6.34	3.96	0.30	0.03	2.37
UL04-08		<10	<10	260	<10	96		46.60	14.21	13.00	9.11	6.71	2.68	0.05	0.03	2.03
UL04-09		<10	<10	204	<10	83		46.14	14.34	13.01	10.30	6.10	2.59	0.57	0.03	1.87
UL04-10 and UL04-12		<10	<10	62	<10	47		38.93	7.23	9.03	10.21	11.63	1.34	0.38	0.20	0.64
UL04-11		<10	<10	61	<10	62		47.61	13.94	11.17	11.85	8.69	1.36	0.03	0.01	0.49
UL04-12																
UL04-13		<10	<10	1	<10	136										
UL04-14		<10	<10	17	<10	77										
UL04-15		<10	<10	40	<10	25										
UL04-16		<10	<10	50	<10	88										
UL04-17		<10	<10	14	<10	1375										
UL04-18		<10	<10	54	<10	10										
UL04-19		<10	<10	23	<10	536										
UL04-20		<10	<10	25	<10	903	1.14									
UL04-21		<10	<10	208	<10	42		47.24	15.69	12.24	9.45	5.79	3.20	0.77	0.02	1.86
UL04-22		<10	<10	182	<10	66		48.22	16.32	11.11	7.04	6.50	4.00	1.06	0.02	1.74
UL04-23		<10	<10	69	<10	9										
UL04-24		<10	<10	135	<10	58		46.77	14.48	11.44	11.18	7.44	1.98	0.47	0.04	1.51
UL04-25		<10	<10	116	<10	26										
UL04-26		<10	<10	184	<10	52		52.15	16.01	11.00	4.02	5.44	6.29	0.33	0.03	1.58
UL04-27		<10	<10	108	<10	70										
UL04-28		<10	<10	97	<10	57										
UL04-29		<10	<10	109	<10	61										
UL04-30		<10	<10	116	<10	78										
UL04-31		<10	<10	82	<10	22										
UL04-32		<10	<10	76	<10	31										
UL04-33		<10	<10	162	<10	68		46.27	14.68	11.61	8.23	8.55	2.11	0.56	0.02	1.60
UL04-34		<10	<10	34	10	31										
UL04-35		<10	<10	76	<10	29										
UL04-36		<10	<10	65	<10	45		45.45	14.80	9.02	10.65	6.13	3.24	0.52	0.01	0.98
UL04-37		<10	<10	53	10	7										
UL04-38		<10	<10	92	<10	45		46.46	15.13	10.01	8.63	7.75	2.70	0.75	0.03	1.18
UL04-39		<10	<10	16	<10	56										
UL04-40		<10	<10	150	10	61		48.00	14.81	10.79	9.64	6.53	2.20	0.24	0.02	1.44

Comments: Samples UL04-10 and UL04-12 were unfortunately mixed in sample prep.

ALS Chemex
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To: AURORA GEOSCIENCES LTD.
108 GOLD ROAD
WHITEHORSE YT Y1A 2W3

Finalized Date: 29-SEP-2004
Account: AURGEO

Project: Ultra

CERTIFICATE OF ANALYSIS VA04063084

Sample Description	Method / Analyte / Units / LOR	ME-XRF06 MnO % 0.01	ME-XRF06 P2O5 % 0.01	ME-XRF06 SrO % 0.01	ME-XRF06 BaO % 0.01	ME-XRF06 LOI % 0.01	ME-XRF06 Total % 0.01
UL04-01							
UL04-02		0.18	0.12	0.04	<0.01	5.87	98.65
UL04-03		0.24	0.15	0.02	0.06	5.64	98.23
UL04-04		0.22	0.17	0.02	<0.01	2.68	98.46
UL04-05		0.18	0.21	0.06	<0.01	3.75	98.53
UL04-06		0.19	0.08	0.02	<0.01	4.63	98.29
UL04-07		0.24	0.24	0.01	<0.01	2.51	99.58
UL04-08		0.18	0.16	<0.01	<0.01	4.75	99.50
UL04-09		0.18	0.15	0.03	<0.01	3.79	99.11
UL04-10 and UL04-12		0.15	0.09	0.02	0.01	18.50	98.36
UL04-11		0.19	0.05	0.01	<0.01	3.27	98.64
UL04-12							
UL04-13							
UL04-14							
UL04-15							
UL04-16							
UL04-17							
UL04-18							
UL04-19							
UL04-20							
UL04-21		0.20	0.15	0.03	<0.01	1.74	98.38
UL04-22		0.16	0.15	0.04	0.01	2.52	98.88
UL04-23							
UL04-24		0.16	0.12	0.02	<0.01	2.79	98.39
UL04-25							
UL04-26		0.16	0.13	0.01	<0.01	2.16	99.28
UL04-27							
UL04-28							
UL04-29							
UL04-30							
UL04-31							
UL04-32							
UL04-33		0.15	0.14	0.02	<0.01	4.67	98.60
UL04-34							
UL04-35							
UL04-36		0.13	0.35	0.08	0.06	7.03	98.43
UL04-37							
UL04-38		0.17	0.09	0.02	0.01	5.65	98.59
UL04-39							
UL04-40		0.13	0.11	0.03	0.01	4.43	98.37

Comments: Samples UL04-10 and UL04-12 were unfortunately mixed in sample prep.

ALS Chemex
EXCELLENCE IN ANALYTICAL CHEMISTRY
ALS Canada Ltd.
212 Brooksbank Avenue
North Vancouver BC V7J 2C1 Canada
Phone: 604 984 0221 Fax: 604 984 0218

To: AURORA GEOSCIENCES LTD.
108 GOLD ROAD
WHITEHORSE YT Y1A 2W3

Finalized Date: 29-SEP-2004
Account: AURGEO

Project: Ultra

CERTIFICATE OF ANALYSIS VA04063084

Sample Description	Method / Analyte / Units / LOR	WEI-21 Recvd Wt. kg 0.02	ME-ICP41 Ag ppm 0.2	ME-ICP41 Al % 0.01	ME-ICP41 As ppm 2	ME-ICP41 B ppm 10	ME-ICP41 Ba ppm 10	ME-ICP41 Be ppm 0.5	ME-ICP41 Bi ppm 2	ME-ICP41 Ca % 0.01	ME-ICP41 Cd ppm 0.5	ME-ICP41 Co ppm 1	ME-ICP41 Cr ppm 1	ME-ICP41 Cu ppm 1	ME-ICP41 Fe % 0.01	ME-ICP41 Ga ppm 10
UL04-41		1.12	<0.2	2.32	4	10	30	<0.5	<2	1.14	<0.5	57	52	203	7.42	<10
UL04-42		1.10	<0.2	0.46	2	<10	<10	<0.5	<2	0.04	<0.5	5	13	1310	44.7	10

Comments: Samples UL04-10 and UL04-12 were unfortunately mixed in sample prep.

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Finalized Date: 29-SEP-2004
Account: AURGEO

Project: Ultra

CERTIFICATE OF ANALYSIS VA04063084

Sample Description	Method / Analyte / Units / LOR	ME-ICP41 Hg ppm 1	ME-ICP41 K % 0.01	ME-ICP41 La ppm 10	ME-ICP41 Mg % 0.01	ME-ICP41 Mn ppm 5	ME-ICP41 Mo ppm 1	ME-ICP41 Na % 0.01	ME-ICP41 Ni ppm 1	ME-ICP41 P ppm 10	ME-ICP41 Pb ppm 2	ME-ICP41 S % 0.01	ME-ICP41 Sb ppm 2	ME-ICP41 Sc ppm 1	ME-ICP41 Sr ppm 1	ME-ICP41 Ti % 0.01
UL04-41		1	0.23	<10	1.50	269	<1	0.10	53	400	4	3.54	4	5	70	0.32
UL04-42		<1	0.04	<10	0.06	264	<1	<0.01	15	180	23	0.86	<2	2	5	0.13

Comments: Samples UL04-10 and UL04-12 were unfortunately mixed in sample prep.

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To: AURORA GEOSCIENCES LTD.
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WHITEHORSE YT Y1A 2W3

Finalized Date: 29-SEP-2004
Account: AURGEO

Project: Ultra

CERTIFICATE OF ANALYSIS VA04063084

Sample Description	Method	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	Cu-AA46	ME-XRF06	ME-XRF06	ME-XRF06	ME-XRF06	ME-XRF06	ME-XRF06	ME-XRF06	ME-XRF06	ME-XRF06
	Analyte	Tl	U	V	W	Zn	Cu	SiO2	Al2O3	Fe2O3	CaO	MgO	Na2O	K2O	Cr2O3	TiO2
	Units	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%	%	%	%
	LOR	10	10	1	10	2	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
UL04-41		<10	<10	107	<10	32		43.23	12.95	16.36	8.11	7.63	1.28	1.12	0.02	1.61
UL04-42		<10	<10	101	10	7										

Comments: Samples UL04-10 and UL04-12 were unfortunately mixed in sample prep.

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To: AURORA GEOSCIENCES LTD.
108 GOLD ROAD
WHITEHORSE YT Y1A 2W3

Finalized Date: 29-SEP-2004
Account: AURGEO

Project: Ultra

CERTIFICATE OF ANALYSIS VA04063084

Sample Description	Method Analyte Units LOR	ME-XRF06 MnO % 0.01	ME-XRF06 P2O5 % 0.01	ME-XRF06 SrO % 0.01	ME-XRF06 BaO % 0.01	ME-XRF06 LOI % 0.01	ME-XRF06 Total % 0.01
UL04-41		0.17	0.10	0.02	<0.01	5.63	98.23
UL04-42							

Comments: Samples UL04-10 and UL04-12 were unfortunately mixed in sample prep.

APPENDIX V

AIRBORNE GEOPHYSICAL SURVEY REPORT

Final Report on a Helicopter-borne Geophysical Survey Ultra Property Southwestern Yukon Territory

For

Klondike Gold Corporation
Suite 711 – 675 West Hastings Street
Vancouver, British Columbia
Canada, V6B 1N2

By

McPhar Geosurveys Ltd.
1256B Kerrisdale Blvd.
Newmarket, Ontario
Canada, L3Y 8Z9

December 20, 2004

McPHAR

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SUMMARY

An airborne geophysical survey program was completed on the Ultra Property situated approximately 20 km west of Haines Junction, YT in the St. Elias Mountains bordering Kluane National Park., under contract to Klondike Gold Corporation, signed August 2004. The program consisted of a high-resolution helicopter magnetic and electromagnetic (HEM) survey.

First tests and calibration flights were completed on September 7, 2004 with data acquisition initiated on the same day. The final survey flight was completed on September 8, 2004. A total of 200 line-kilometres of data was acquired, covering an area of approximately 25 square kilometres.

1. INTRODUCTION

A detailed high-resolution helicopter-borne magnetic and electromagnetic survey was carried out during the period of September 7, 2004 to September 8, 2004 on behalf of Klondike Gold Corporation, hereinafter referred to as "KGC", by McPhar Geosurveys Ltd, hereinafter referred to as "McPhar", over the survey area approximately 20 kilometres south of Destruction Bay, Yukon Territory.

The purpose of the survey was to acquire high-resolution geophysical data to map the geophysical characteristics of the geology and structure in an effort to provide an insight into geologic and geophysical settings conducive to economic (Au) mineralisation.

Table 1: Klondike Gold Corporation, Ultra Property Survey Area Description

AREA NAME	APPROX AREA KM²	LINE /T.L. SPACING	FLIGHT LINE-KM	TIE-LINE KM	TOTAL LINE-KM	PRIMARY FLIGHT DIRECTION
Ultra Property	25	100 m x 1,500 m	180	20	200	035° / 125°
Totals	**25**		**180**	**20**	**200**	

The data acquisition involved the use of precision differential GPS positioning, a high sensitivity magnetometer system incorporated into the *HUMMINGBIRD*™ five (5) frequency helicopter electromagnetic (HEM) system towed beneath a helicopter.

Mobilization of the helicopter, equipment and personnel was originally completed to the Bear Creek Lodge, Yukon Territory on September 7, 2004. Production flights commenced on September 7, 2004. The final survey flight was completed on September 8, 2004.

2. SURVEY AREA

The survey consisted of one block identified by KGC as the Ultra Property Survey Block, located south of the Alaska Highway in the vicinity of Kluane National Park, Yukon Territory. The Ultra Property Survey Block was located to the south of the Alaska Highway approximately 20 kilometres west of Haines Junction, in the front ranges of the St. Elias Mountains. The primary objective of the survey was to acquire geophysical data in support of mineral exploration.

The Ultra Survey Block is situated in the St. Elias Mountains drainage basin of creeks feeding Kluane Lake. The survey covered all or part of a block of 138 claims located in the Shakwak Trench of the Yukon Plateau and St. Elias Mountains immediately to the south of Kluane Lake and including the headwaters of Silver, Bootlegger, Telluride and Bryson Creeks. The topography of the survey area was variable, predominately lower mountain slopes and incised creek valleys. The elevation ranged from approximately 1200 metres to 2000 metres above sea level.

Figure 1: Location of the Ultra Property Survey Area indicating the area flown (red).

The survey block corner coordinates were decided upon in the filed in conjunction with by KGC in WGS84/NAD83, Zone 8N UTM easting and northing. Final maps were required in NAD83, Zone 8N UTM easting and northing. The following tables contain the survey block corner coordinates in NAD83 (main survey area and extension).

Table 2: Klondike Gold Corporation Ultra Property Survey Area Description

Ultra Property Survey Area		
Corner	**UTM Easting (NAD83, 7N)**	**UTM Northing (NAD83, 7N)**
1	327000	6753136
2	319245	6759622
3	320713	6761432
4	323785	6758897
5	325316	6760583
6	325606	6760315
7	325451	6760170
8	325689	6759994
9	325813	6760139
10	326009	6759984
11	326340	6760190
12	326775	6759746
13	326102	6759053
14	326154	6758732
15	325192	6757615
16	328523	6754781
17	327000	6753136

The high-resolution magnetic survey lines were flown Northeast – Southwest direction at a nominal flight-line spacing of 100 metres with tie lines flown perpendicular to the main survey lines at line spacing of 1,500 metres.

The Ultra Survey Area covered a total of approximately 25 km^2.

The Ultra Survey Area was to include all or part of the following 138 claims:

ULT08 to ULT19 (YC26359 to YC26370)
ULT21 to ULT36 (YC26239 to YC26254)
ULT39 to ULT60 (YC26257 to YC26278)
ULT65 to ULT78 (YC26283 to YC26296)
ULT105 to ULT118 (YC26323 to YC26336)
ULT142 to ULT152 (YC26373 to YC26383)
ULTRA37 to ULTRA65 (YC19098 to 19126)
ULTRA73 to ULTRA80 (YC19398 to YC19405)

ULTRA81 to ULTRA90 (YC26106 to YC26115)
GAB23 and GAB25 (YC19067 and YC19069)

Previous geophysical airborne surveying in the area has included magnetic surveys completed by the Geological Survey of Canada.

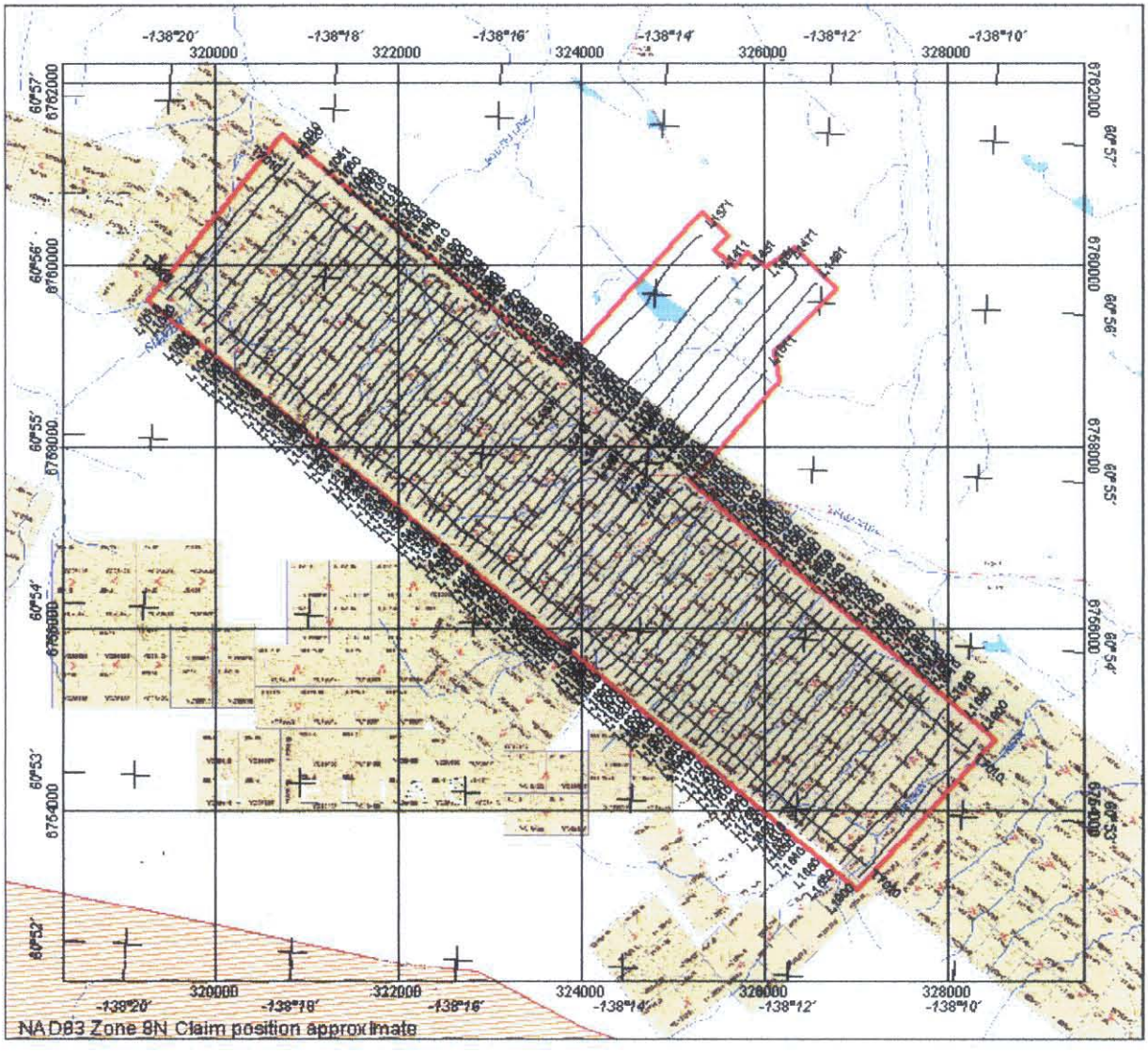

Figure 2: Flight Plan Map of the Ultra Property Survey Area

3. SURVEY OPERATIONS

3.1 Operations Base

Survey operations were based out of the Bear Creek Lodge, Yukon Territory, located on the Alaska Highway, approximately 20 kilometres by road northwest of Haines Junction. Permission was obtained to operate the helicopter and to park it overnight at the accommodation, and to locate and operate the magnetometer base station and the GPS base station at the same location.

Quality Control and preliminary data processing was undertaken by the crew at the Bear Creek Lodge Base Camp.

3.2 Survey Conditions

Weather conditions during the survey were good. Generally the temperatures were in the low 10's Celsuis.

Sunspot activity, and hence diurnal geomagnetic activity, was quiet during the entire data acquisition period. No data were lost due to the geomagnetic activity being out of contract specification.

3.3 Navigation

The nominal data acquisition speed was approximately 110 kilometres per hour. Scan rates for magnetic and electromagnetic data acquisition was 0.1 second, 1.0 second for the spectrometer, radar and barometric altimeters, and 1.0 second for the GPS navigation/positioning system. Therefore, a magnetic/electromagnetic value was recorded approximately every 3.0 meters and a position fix each 30 meters along the flight track.

Navigation was assisted by a GPS receiver system that reports GPS co-ordinates as WGS-84 latitude and longitude and directs the pilot over the pre-programmed two-dimensional (2-D) survey grid. The x-y position of the aircraft as reported by the GPS system is recorded together with the terrain clearance as reported by the radar altimeter.

Vertical navigation along flight lines was established using the radar altimeter. The optimum terrain clearance during normal survey flying was 60 m for the helicopter, 30m for the towed-bird magnetometer. However, due to rugged terrain in some areas, and the pilot's judgment of safe flying conditions in these areas, these terrain clearances were not possible 100% of the time.

The final vertical and horizontal survey positions were differentially corrected post flight, computed using the data from the onboard GPS receiver and the GPS base station receiver, to a precision of approximately +/- 1.5m.

3.4 Field Processing & Quality Control

The survey data was transferred to portable magnetic media on a flight-by-flight basis, and then copied to the field data processing workstation. In-field data processing included reduction of the data to GEOSOFT GDB database format and inspection of the magnetometer data for adherence to contract specifications. Survey lines that exhibited excessive deviation after differential correction, or that were considered to be of inferior quality, were marked to be reflown.

3.5 Survey Statistics and Project Diary

The survey entailed a total of 5 flights; all of which were production flights. The first production flight was Flt#01 on September 7, 2004, with the last production flight, Flt#03 on September 8, 2004. These flights also included ferry, test and/or calibration segments.

Table 3: Project Diary

Date	Flt #	Hours Flown	Line-Km Accepted	Comments
07 Sept.	0	1:25	0	Ferry flight from Spirit Lake to Bear Creek Lodge
07 Sept.	1	2:48	113.9	Production flight 52 lines plus 1 tie-line
08 Sept	2	1:25	86.1	Production Flight
08 Sept	3	2:48	N/A	Reflights, L1800, 1760, 1720,1640, 1620, 1600
08 Sept.	4	2:16	N/A	Lag, heading and EM Calibration tests
Totals		**10:42**	**200**	

The following personnel were the onsite crew on the project in Johnson's Crossing, Yukon Territory:

Table 4: Field Personnel

Title	Name	Days Onsite
Data Processor/QC Geophysicist	Dr. Andy Anderson	2
Technician/Operator	Daniel McKinnon	2
Helicopter Pilot	Ken Wright	2
Aircraft Mechanical Engineer	Trevor Moore	2

McPhar Geosurveys Ltd. of Newmarket, Ontario, Canada, was responsible for the field operations, all geophysical matters and the overall coordination and management of the survey.

.

4. HELICOPTER AND EQUIPMENT

4.1 The Helicopter

The survey was flown using a Eurocopter AS350BA A-Star helicopter, with Canadian registration C-GPWK provided by Pacific Western Helicopters of Dease Lake, British Columbia. This helicopter featured up to 1.5 hours flight duration with the geophysical system and a crew of 2 persons onboard.

The installation of the geophysical and ancillary equipment was carried out by McPhar personnel at the Johnson's Crossing Base Camp, with final adjustments, calibration and testing completed prior to production survey flights.

Aircraft Registration:	-	Canadian, C-GPWK
Engine:	-	Turbomeca Arriel 1B
Empty weight:	-	2,550 lbs
Gross weight:	-	4,630 lbs
Max cruise:	-	123 knots
HIGE:	-	8,500 ft
HOGE:	-	6,000 ft
Service ceiling:	-	15,000 ft
Standard fuel:	-	143 gal
Survey duration:	-	4.55 hours

4.2 The Survey Instrumentation

4.2.1 Survey System Overview

The instrumentation installed in the helicopter included:

- A Geometrics G822A high-sensitivity Cesium magnetometer mounted in the HUMMINGBIRD™ towed-bird airfoil, 0.001 nT / 20 Hz resolution
- A Geotech HUMMINGBIRD™ five (5) frequency electromagnetic system in a towed-bird airfoil.
- A DGPS Navigation System, comprising a CSIRadio DGPSMAX 12-channel GPS system, and a GEONAV GPS computer and pilot steering indicator (PSI)
- A Geotech Data Acquisition System
- A Terra TRA-3000/TRI-300 Radar Altimeter
- A DevTech Geo-iMAGe-Lite Colour Digital Imaging System for capturing images of the flight path during the survey.

The processing and base stations comprised:

- A Field Workstation, comprising a Pentium PC, printer and full data processing software
- A Magnetometer / GPS Base Station, comprising a Gem Systems GSM-19 Overhauser base station magnetometer and NovAtel 3751R GPS system.

A complement of spare parts and test equipment were maintained at the survey site.

4.2.2 The Helicopter-borne *HUMMINGBIRD™* Digital Electromagnetic System

The Geotech *HUMMINGBIRD™* sensor is a multi-frequency, multi-coil electromagnetic system, which measures the in-phase and quadrature responses from a number of coil-pairs installed in a tubular bird, towed beneath a helicopter. The *HUMMINGBIRD™* features horizontal coplanar coil sets operating at frequencies of 880 Hz, 6.6 kHz, and 34 kHz and vertical coaxial coil sets operating at frequencies of 7 kHz and 34 kHz. In-phase and quadrature signals were measured simultaneously for the five (5) frequencies with a time constant of 0.1 seconds. The HEM bird is towed 30 m below the helicopter.

The system noise of the EM sensor is less than 2 ppm of the transmitted field, under ideal conditions. A total of ten (10) EM channels of information are sampled at 0.025-second intervals (40 Hz) or approximately every 0.75 metres along the survey line (at survey airspeed of approximately 110 kph), with a time constant of 0.1 second.

The EM system was calibrated with an external coil at the start and end of each survey and with an internal coil approximately three times per hour during survey flights. The phasing of the EM system was checked with an external ferrite rod before each survey flight.

Sferic activity can be reduced by post-survey processing to less than 2.0 ppm.

The electromagnetic system and ancillary equipment were operated for a sufficient time period prior to survey flying to allow for warm-up and thermal stabilization of the equipment. Nulling, ferrite and external Q-coil calibration for the EM system were performed after the system had stabilized following the-warm-up period. All of these ground calibrations were completed before commencement of each flight. Internal calibrations were performed frequently throughout the survey flight.

The table below lists the arrangement of the coils inside the bird:

Table 4: HUMMINGBIRD™ Coil Configuration

COIL FREQUENCY	COIL ORIENTATION	COIL SEPARATION	CHANNELS (I In-Phase, Q Quadrature)
880 Hz	Coplanar	6.025 meters (20 ft)	I, Q
980 Hz	Coaxial	6.025 meters (20 ft)	I, Q
6630 Hz	Coplanar	6.300 meters (21 ft)	I, Q
7001 Hz	Coaxial	6.300 meters (21 ft)	I, Q
34133 Hz	Coplanar	4.875 meters (16 ft)	I, Q

4.2.3 Airborne Magnetometer

A Geometrics G822A cesium split-beam total-field magnetometer was employed, installed in the *HUMMINGBIRD*™ airfoil. Sampling rate was ten times per second with an in-flight sensitivity of 0.01 nT. Aerodynamic magnetometer noise was 0.25 nT or less. The sensitivity of the magnetometer is documented at 0.001 nT when operated at a sampling rate of 0.1-second.

The Geometrics G822A magnetometer is described in Appendix 3.

4.2.4 The Towed-Bird Airfoil and Tow-Cable

The Towed-Bird Airfoil is basically a hollow Kevlar tube, 6.6 meters long, with a bulbous nose into which the electromagnetic system components and electronics are installed along with the magnetometer Cesium sensor mounted in a 3D hand-aligned gimbal. A skirt is used at the tail of the airfoil to stabilize the bird in flight.

The Tow Cable is constructed of coaxial cables complete with a strain member. The length of this tow cable is nominally 30 metres. The tow cable is attached to the helicopter by means of a weak link assembly. The on-board section of the tow cable consists of coaxial cable, the length customized to suit the helicopter.

4.2.5 The Base Station Magnetometer

The magnetometer base station used was comprised of a GEM Systems GSM-19 Overhauser magnetometer to monitor and record diurnal variations of the Earth's magnetic field. The base station magnetometer was set up at Johnson's Crossing in an open field. Every effort was made to ensure that the magnetometer sensor was placed in a location with a low magnetic gradient and sited away from electric transmission lines, and moving ferrous objects, such as motor vehicles and aircraft, without compromising safety and airport operations.

The base-station magnetometer, with digital recording, was operated continuously throughout the airborne data acquisition work with a sensitivity of 0.01 nT. The ground and airborne system clocks were synchronised using GPS time, to an accuracy of 1 second or better. The sample rate was once per second. A continuously updated profile plot of the base station values was presented on the base station screen. At the end of the day, the digital data was transferred from the base station's data-logger to the fieldwork station.

Specifications are included in Appendix 3.

4.2.6 Altimeter

A Terra TRA-3000/TRI-30 radar altimeter was used to record terrain clearance to an accuracy of about 1 ft (30 cm), over a range of 12 metres to 762 metres. The antenna was mounted beneath the bubble of the helicopter cockpit. The recorded value of terrain clearance was adjusted to give bird height above ground. This was possible given the fixed tow cable length of 30 metres.

A Setra Model 276 Barometric Pressure altimeter measured the elevation above sea level, and is

calibrated in units of height (metres). This altimeter has a published accuracy of ± 0.02% and a resolution of 0.5 metres.

The altimeters are interfaced to the data acquisition system with an output repetition rate of 0.1 second, and are digitally recorded.

The altimeters are further described in Appendix 3.

4.2.7 The GPS Satellite Navigation System

A CSIRadio DGPS-Max real-time OmniSTAR GPS navigation system with navigation computer and pilot steering indicator (PSI) provided in-flight navigation control. This navigation system operated on 12-channels. A pilot steering indicator (PSI) installed on top of the cockpit dashboard, in front of the pilot provided steering and cross-track guidance to the pilot. The pilot was therefore provided with GPS, and altimeter data to aid in the flying of the helicopter.

This navigation system yields a real-time positional accuracy of better than ± 2 m.

Survey co-ordinates are set-up prior to survey and the information is fed into the airborne navigation system. The co-ordinate system employed in the survey design and digital recording is WGS-84 latitude and longitude. The GPS positional data is recorded at one-second intervals and used with the base station data to calculate differentially corrected locations.

The GPS receiver is fully described in Appendix 3.

4.2.8 Data Acquisition/Recording System

A Geotech *HUMMINGBIRD*^{TM} data acquisition system recorded the digital survey data on an internal hard disk drive. Data is displayed on an LCD screen as traces to allow the operator to monitor the integrity of the system. Sampling rates are as indicated in Table 3.

Table 6: Sampling Rates of Digital data

SYSTEM and No. of CHANNELS	SAMPLING RATE (second)
Total Field Magnetometer (1 channel)	0.1
E.M. - 880 Hz (2 channels) Coplanar	0.1
E.M. – 980 Hz (2 channels) Coaxial	0.1
E.M. – 6.6 kHz (2 channels) Coplanar	0.1
E.M. – 7 kHz (2 channels) Coaxial	0.1
E.M. – 34 kHz (2 channels) Coplanar	0.1
Radar Altimeter (1 channel)	1.0
DGPS Navigation	1.0

All data collection routines, checking, buffering, recording and verification are software controlled for maximum flexibility. The recorded data is monitored on a colour LCD display as pseudo-analog traces to verify quality and functionality of the system.

4.2.9 Colour Digital Video Imaging System

A record of the flight path was acquired using a DevTech Geo-iMAGe-Lite Colour Digital Imaging System, comprised of the following:

- Stand alone rack mountable mini-computer system, Pentium III 1.0 GHz clock speed c/w 256 MB RAM memory, 20 GB HDD, LCD TFT screen, keyboard and mouse.
- Windows 2000 Professional Operating System software.
- Custom software to enable acquisition of .JPG video frames at a resolution of up to 800 x 600 pixel x 256 colours.
- Frame acquisition rate controlled by 1 PPS signal from GPS receiver - 1 frame per second.
- User-selectable video formats including NTSC.
- Sony digital colour video camera with 1/3 inch CCD video element.
- 2.8- to 4-mm focal length auto-iris lens for low-level video acquisition (47° to 96° viewing angle).

A set of digital images of the ground was taken. The video frames are stored on a large capacity hard disk. A naming convention for each frame has been developed utilizing GPS time as the reference. The frames are numbered in the format SSSSSSS.DDD where SSSSSSS represents the GPS seconds of the day past midnight and DDD represents the Julian day of the year. In the interests of maximum compatibility with other computer processing systems the frame naming system has been kept within the "DOS" naming convention. The system includes a CD-RW writer and appropriate software to allow storage of the imagery on CD-ROM media for long-term archival purposes.

4.2.10 Field Computer Workstations

A Data Processing Field Workstation (FWS) comprised of a dedicated PC- based notebook computer for use at the technical base in the field, was used on this project. The FWS is designed for use with Geosoft OASIS/Montaj Data Processing Software. The FWS has a data replot capability, and may be used to produce pseudo-analogue charts from the recorded digital data within less than 12 hours after the completion of a survey flight, if this is necessary. It is also capable of processing and imaging all the geophysical and navigation data acquired during the survey, producing semi-final, preliminary-levelled maps.

The FWS was used to accomplish the following:

- **Quality Control/Digital Data Verification** - flight data quality and completeness were assured by both statistical and graphical means on a daily basis
- **Flight Path Plots** - flight path plots were generated from the GPS satellite data to verify the completeness and accuracy of each day's flying
- **Preliminary Maps** - the Geosoft software system permitted preliminary maps to be quickly and efficiently created for noise and coherency checks.

The FWS is fully described in Appendix 3.

The Montaj software is designed for airborne data editing, compilation, processing and plotting. The software reads the portable data media from the airborne system, checks them for gaps, spikes or other defects and permits the data to be edited where necessary. The base station GPS/magnetometer data is checked, edited, processed and then merged with the airborne data. GPS flight path plots are created and plotted for both flight planning and flight path verification.

4.2.11 Spares

A normal compliment of spare parts, tools, back-up software, and necessary test instrumentation was available in the office at the airport.

5. INSTRUMENT CHECKS AND CALIBRATIONS

5.1 Airborne Magnetic System Tests and Calibrations

5.1.1 Magnetic Heading Effect

The magnetic heading effect was determined by flying a cloverleaf pattern oriented in the same direction as the survey lines and tie lines. Two passes in each direction were flown over a recognizable feature on the ground in order to obtain sufficient statistical information to estimate the heading error. The heading error was determined from a test completed on a subsequent survey completed in September in the same area of the Yukon Territory.

5.1.2 Lag Tests

A Lag Test was performed on a subsequent survey in September to ascertain the time difference between the magnetometer readings and the operation of the GPS System. The lag test is included in Appendix 2.

5.2 Airborne Electromagnetic System Tests and Calibrations

The *HUMMINGBIRD*^{TM} EM system was:

- calibrated at the start of the survey day, on the ground, using a ferrite rod and calibration coil;
- at the beginning of each flight internal Q-coil calibrations were performed by the onboard technician;
- at the beginning of each flight, the helicopter climbed to 500 m (1500 ft) AGL to allow the onboard technician to perform background and drift checks.

5.3 Altimeter Calibration Checks

Checks of the radar altimeter calibration were undertaken during a subsequent survey in September. Calibrations were determined by comparing the radar altitude with a suitable reading from the GPS system during a radar "stack" over a suitable feature.

5.4 GPS Static Test

In addition to carefully selecting a magnetically suitable area for the positioning of the magnetometer base station, care was taken to ensure that the exact position of the base station is known. The GPS system itself was used, over a period of time, to calculate the coordinates of the base station. Care was taken to ensure that the base station GPS had a maximum field-of-view to the NAVSTAR satellites.

6. QC AND DATA PROCESSING

Daily quality control, initial processing and archiving of the data were completed on-site at the base of operations at the Johnson's Crossing Base Camp using Geosoft MONTAJ software and a notebook PC computer. All data were verified upon receipt, and checked against the operator's flight logs.

The pre-processing or infield processing sequence included the following quality control measures:

a) Examination and checking of all incoming data to ensure completeness of data sets.
b) The production of preliminary flight path maps, speed checks, terrain clearance checks.
c) Full profile quality control of all acquired traces for noise levels, data completeness, spike editing, and adherence to contract specifications.

The final data processing, map generation and report was completed by McPhar at the Newmarket, Ontario office.

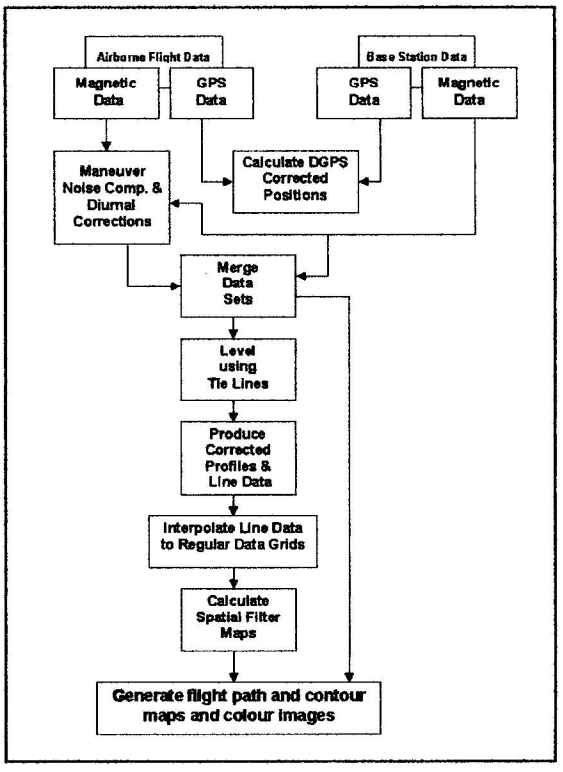

Figure 3: Data Processing Flow Chart

6.1 Flight Path Compilation

The flight path was derived from differentially corrected GPS positions using the real-time airborne GPS data. A position was calculated each 1.0 second (approx. each 30 meters along the flight path) to an accuracy of better than +/- 1.5 meter. These position data were merged into magnetic and ancillary data in the Geosoft GDB database.

6.2 Base Station Magnetic Data

The base station magnetometer data was edited, plotted and merged into the GDB database on a daily basis.

6.3 Corrections to the Magnetic Data

The processing of the data involved the application of the following corrections:

- Correction for diurnal variation using the digitally recorded ground base station magnetic values
- Adjustment of the data for the time lag between the GPS position and the position of the magnetic sensor
- Correction for the heading effect and

- Network adjustment using the flight line and tie line information to level the survey data set.

The corrected data was then used to generate the Total Magnetic Intensity grid.

6.3.1 Additional Corrections Applied to Profile Data

After applying the above corrections to the profile data residual line-direction-related noise was removed through application of microlevelling. The microlevelling technique consists of applying directional and high pass filters to produce a grid containing noise-only in the line direction. In order to differentiate between the two of them, the grid is extracted to the profile database, and an amplitude limit and a filter length are determined, so that the final error channel reflects only noise present on the grid without removing or changing geological signal. This error channel is then subtracted from the initial data channel in order to obtain the final microlevelled channel. The resulting grid is free of line direction noise.

6.3.2 Gridding

The corrected magnetic line data was interpolated between survey lines using a random point minimum curvature gridding algorithm to yield x-y grid values for a standard grid cell size of $1/5^{th}$ of the line spacing.

6.3.3 Filter Derivatives

The Total Magnetic Intensity (TMI) data were subjected to:

- IGRF removal
- Reduction-to-the-pole
- Calculation of the First Vertical Derivative (1VD)
- Calculation of the Second Vertical Derivative (2VD)
- Calculation of the Analytic Signal

Colour/contour images were produced for all the above listed magnetic products.

All of these spatial filtering techniques were completed using the Oasis Montaj Magmap and IGRF modules for filtering in the 2D FFT domain.

6.3.3.1 IGRF Removal

The International Geomagnetic Reference Field (IGRF) is a long-wavelength regional magnetic field calculated from permanent magnetic observatory data collected around the world. The IGRF is updated and determined by an international committee of geophysicists every 5 years. Secular variations in the Earth's magnetic field are incorporated into the determination of the IGRF.

Through the removal of the IGRF from the observed Total Magnetic Intensity (TMI), the resulting residual magnetic intensity allows for more valid modelling of individual near surface anomalies. Additionally, the data can be more easily incorporated into databases of magnetic data acquired in the

past or to be acquired in the future.

6.3.3.2 Reduction-to-the-Pole

To compensate for the shift of the true anomaly position over the causative source, due to the magnetic inclination and declination, the magnetic data was recomputed so that magnetic anomalies will appear as they would if located at the north magnetic pole. The result of this operation is that in theory, the magnetic anomaly is located directly overtop of the causative source. The computation is referred to as "reduction-to-the-pole" (RTP). The reduction-to-the-pole is computed using a FFT (Fast Fourier Transform) operator.

The RTP not only shifts the anomalies to their correct position with respect to the causative magnetic bodies, but assists in the direct correlation and comparison of magnetic anomalies, trends, structural axis, and discontinuities with mapped geologic surface expression.

The RTP was calculated using the following parameters for the survey area:

Geomagnetic Inclination:	79.94° N
Geomagnetic Declination:	24.61° E

6.3.3.3 Calculation of the First Vertical Derivative (1VD)

Vertical derivatives compute the rate of change of the field as it drops off when measured vertically over the same point (upward continuation). Potential field data obeys Laplace's equation, which allows for the computation, through the FFT package, to take advantage of this symmetry and solve for the vertical or "z" component of the field. The First Vertical Derivative (1VD) has the effect of sharpening anomalies, which allows for better spatial location of source axes and boundaries

6.3.3.4 Calculation of the Second Vertical Derivative (2VD)

To enhance local anomalies and to outline the edges of anomalous bodies within the data, a Second Vertical Derivative (2VD) is computed. The 2VD is a powerful interpretive tool and that is used to assist in the delineation of causative bodies and to accurately locate changes in the magnetic field gradients. Better definition of discontinuities and their relationship to geology can be gained from the use of this tool. A 2VD will show steep gradients over faults and positive closures over the "up thrown" blocks.

6.3.3.5 Calculation of the Analytic Signal

The analytic signal is the square root of the sum of the squares of the derivatives in the x, y, and z directions:

$$asig = sqrt\ (\ dx*dx + dy*dy + dz*dz\ )$$

where: asig is the Analytic Signal
sqrt is the square root of
dx is the horizontal gradient in the x direction

dy is the horizontal gradient in the y direction
dz is the vertical gradient in the z direction

The analytic signal is useful in locating the edges of magnetic source bodies, particularly where remanence and/or low magnetic latitude complicates interpretation.

6.4 Corrections to Electromagnetic Data

A two stage digital filtering process was used to reject major sferic events and to reduce system noise.

Local sferic activity can produce sharp, large amplitude events that cannot be removed by conventional filtering procedures. Smoothing or stacking will reduce their amplitude but leave a broader residual response that can be confused with geological phenomena. To avoid this possibility, a computer algorithm searches out and rejects the major sferic events. The filter used was a non-linear filter. The signal-to-noise ratio was further improved by the application of a low-pass linear digital filter. This filter has zero phase shift that prevents any lag or peak displacement from occurring, and it suppresses only variations with a wavelength less than about 0.3 seconds or approximately 30 metres.

EM channels were filtered with the following specification:

Table 8: EM Filtering Specifications

EM CHANNEL	APPLIED FILTERS
Ip1, Q1 (7 kHz coaxial)	Non-linear 0.3 s Low-pass 4.0 s
Ip2, Q2 (6 kHz coplanar)	Non-linear 0.3 s Low-pass 4.0 s
Ip3, Q3 (980 Hz coaxial)	Non-Linear 0.3 s Low-pass 4.0 s
Ip4, Q4 (880 Hz coplanar)	Non-Linear 0.3 s Low-pass 4.0 s
Ip5, Q5 (34 kHz coaxial)	Non-Linear 0.3 s Low-pass 4.0 s

Following the filtering process, a base level correction was made using EM zero levels determined during the high altitude calibration sequences. The correction applied is a linear function of time that ensures the corrected amplitude of the various in-phase and quadrature components is zero when no conductive or permeable source is present. The filtered and leveled data were used in the determination of apparent resistivity and anomaly picking. Manually picked zero-levels were used during the intervening period between high-level calibrations.

6.4.1 Apparent Conductivity

The apparent conductivity is calculated by assuming a uniform resistive half-space model. The computer program determines the conductivity that would be consistent with the recorded in-phase and quadrature response amplitudes at the selected frequency. The conductivity channel values were calculated in Log (base10).

6.4.2 EM Anomaly Selection and Analysis

The main purpose of EM anomaly selection is to identify possible near-vertical or dipping thin sheet bedrock conductors. If the source conductance is not large, such anomalies may not register on the apparent resistivity maps as a distinctive resistivity low.

The response type expected from a vertical thin sheet conductor is a positive anomaly in the coaxial EM channels with a coincident low in the coplanar channels.

In some cases a negative in-phase anomaly will be accompanied by a positive quadrature response that suggests a source that is both conductive and magnetic (or conductors and magnetic sources which are in close proximity to each other). In rare instances, the coaxial in-phase trace will exhibit a small positive peak superimposed on a larger negative response in both coaxial and coplanar channels. Such anomalies are often of special exploration interest.

EM anomalies were automatically picked from the offset profiles using Geosoft HEM software. Most anomalies have a response in the 980 Hz coaxial channel. The coaxial channels are more sensitive to vertical thin conductors typified by sulphide mineralisation.

6.4.3 Line Profiles

After leveling the EM channels, they were profiled with the following specifications:

- For 880 Hz coplanar in-phase and quadrature profiles utilized a vertical scale of 5.0 ppm/mm;
- 980 Hz coaxial frequencies the in-phase and quadrature profiles utilized a vertical scale of 1.0 ppm/mm;
- For 6600 Hz frequency the in-phase and quadrature profiles utilized a vertical scale of 10 ppm/mm;
- For 7000 Hz frequency the in-phase and quadrature profiles utilized a vertical scale of 5.0 ppm/mm;.

6.4.4 Gridding

The corrected conductivity line data was interpolated between survey lines using a random point minimum curvature gridding algorithm to yield x-y grid values for a standard grid cell size of $1/5^{th}$ of the line spacing.

7. DELIVERABLE PRODUCTS

The survey data are presented as colour/contour maps on paper, produced at a scale of 1:20,000. A set of report-sized colour/contour images, on paper, is included as Appendix 5. The basic co-ordinate system used is Universal Transverse Mercator, referenced to the longitude & latitude (NAD83). All digital data are also presented on CD-ROM in ASCII format.

The deliverable items of this survey are:

7.1 Maps

The following maps, at a scale of 1:20,000, are delivered in two (2) paper copies.

- Flight Path (on a topographic and claim base)
- Digital Terrain Model (DTM) Calculated from Altimeter Data
- Total Magnetic Intensity (IGRF removed)
- Reduction to the Magnetic Pole (RTP) of the Total Magnetic Intensity
- Calculated First Vertical Derivative (1VD) of the Total Magnetic Intensity
- Calculated Second Vertical Derivative (2VD) of the Total Magnetic Intensity
- Analytic Signal of the Total Magnetic Intensity
- Calculated Apparent Resistivity of Horizontal Coplanar 880 Hz Coil
- Offset Profiles of Horizontal Coplanar 880 Hz Coil and Vertical Coaxial 980 Hz Coil
- Offset Profiles of Horizontal Coplanar 6600 Hz Coil and Vertical Coaxial 7000 Hz Coil

7.2 Digital Data

The edited field and processed digital data are delivered in three (3) copies, in ASCII code, on CD-ROM. The final processed line and grid data, in GEOSOFT format, are also delivered in three (3) copies on CD-ROM. Full descriptions of the digital data formats are included in this final report (see below) and as text files on each CD-ROM. Each CD-ROM has a README.TXT file describing the contents and the file formats.

7.3 Report

Five (5) copies of a survey report was delivered, complete with final prints of report size maps. This report provides information about the acquisition, processing and presentation of the survey data.

Respectfully submitted,
McPhar Geosurveys Ltd.

Robert Hearst, M.Sc., P.Geoph. (NAPEG)
Consulting Geophysicist

APPENDICES

APPENDIX 1 **Statement of Qualifications**

APPENDIX 2 **Lag Test, Heading Table, Flight Logs, Daily Reports**

APPENDIX 3 **Equipment Documentation**

- Hummingbird HEM System Specifications
- Geometrics G-822A Cesium Magnetometer
- DGPS Max
- Terra TRA-3000 / TRI-30 Radar Altimeter
- Tetra Model 276 Pressure Transducer
- Geo-iMAGe Lite CDIS
- GSM-19 Overhauser Magnetometer
- NovAtel GPSCards
- Field Data Processing Workstations

APPENDIX 4 **Personnel Resumes**

- Tim Bodger
- Robert Hearst
- Henrik T. Anderson
- Daniel McKinnon
- Tonia Bojkova
- Asif Mirza

APPENDIX 5 **Digital Data Specifications**

- Klondike_Final.XYZ database listing
- Klondike_Extended Lines.XYZ database listing
- EM Anomaly Classification Listing

APPENDIX 6 **Page Size Maps**

- Flight Path (on a topographic and claim base)
- Digital Terrain Model (DTM) Calculated from Altimeter Data
- Total Magnetic Intensity (IGRF removed)
- Reduction to the Magnetic Pole (RTP) of the Total Magnetic Intensity
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- Offset Profiles of Horizontal Coplanar 6600 Hz Coil and Vertical Coaxial 7000 Hz Coil

APPENDIX 1

Statement of Qualifications

Robert Bruce Hearst
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Toronto, ON, Canada, M2H 1W1
Telephone: 416-492-2271
Facsimile: 416-492-7132
E-mail: geofiz@sympatico.ca

Statement of Qualifications

I, Robert Bruce Hearst, P.Geoph. do hereby certify that:

1. I am currently employed as a Consulting Geophysicist by:

   McPhar Geosurveys Ltd.
   1256B Kerrisdale Blvd.
   Newmarket, Ontario
   Canada, L3Y 8Z9

2. I graduated with a degree in H.BSc. Geophysics, Geology and Geophysics option from the University of Western Ontario in 1983. In addition, I have obtained an M.Sc. Geology and Geophysics from McMaster University in 1996.

3. I am a member of the CIM (National and Toronto Branches), KEGS (Canadian Exploration Geophysical Society, Past President), SEG (Society of Exploration Geophysicists), EEGS (Environmental and Engineering Geophysicists Society), PDAC (Prospectors and Developers Association of Canada) and a Licensee of NAPEGG (Association of Professional Engineers, Geologists and Geophysicists of Nunavut and the Northwest Territories).

4. I have worked as a geophysicist for a total of 21 years since my graduation from the University of Western Ontario.

5. I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined by NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.

6. I am responsible for the preparation of the *Final Report on a Helicopter-borne Geophysical Survey, Ultra Property, Southwestern Yukon Territory.* Dated December, 2004 (the "Technical Report") relating to the Ultra Claims of Klondike Gold Corporation. I have not visited the property.

7. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.

8. I am independent of the issuer applying all of the tests in section 1.5 of National Instrument 43-101.

9. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.

10. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Dated this 20th Day of December, 2004

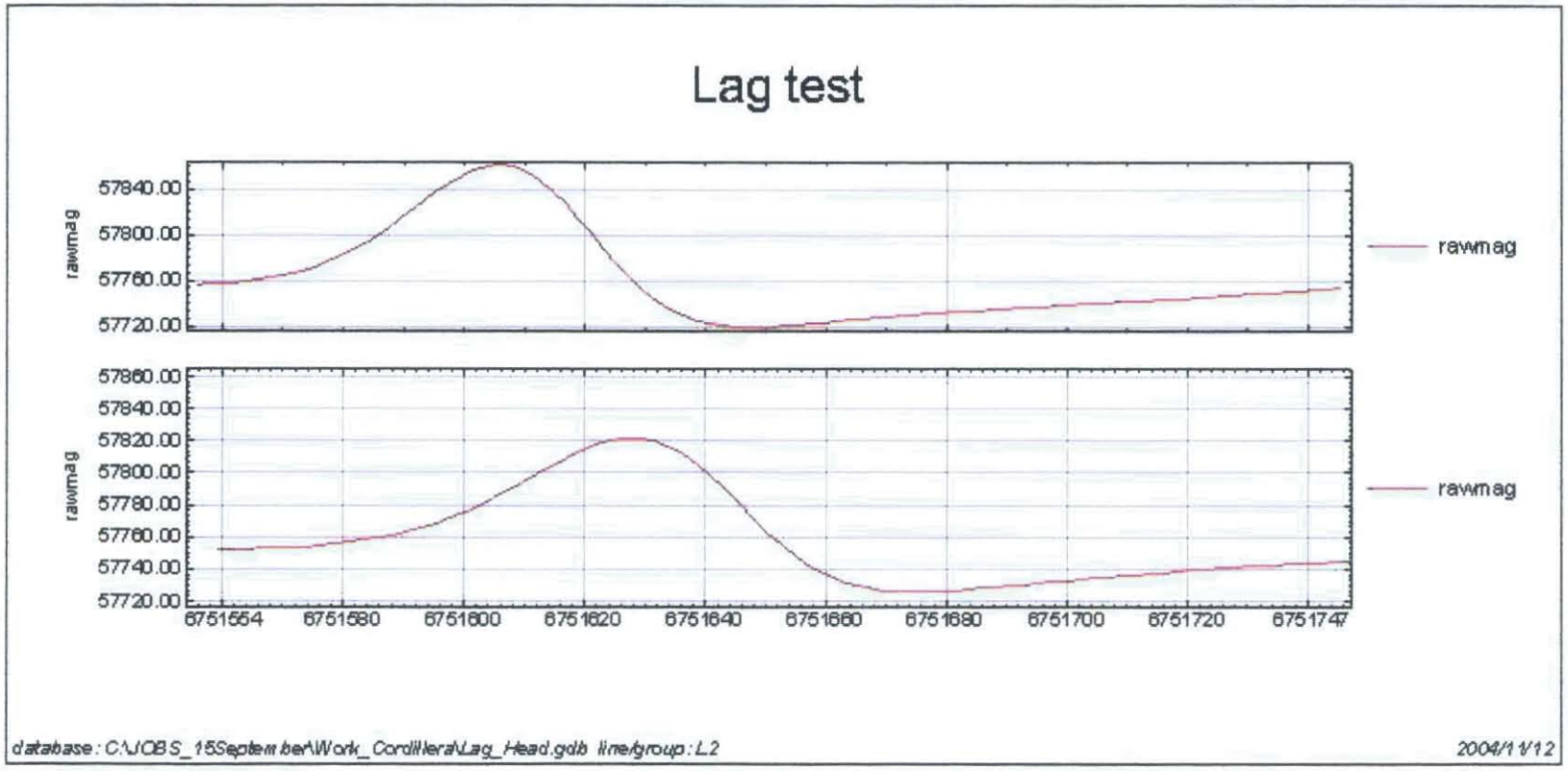
Signature of Qualified Person

Robert Bruce Hearst

Print name of Qualified Person

APPENDIX 2

Lag Test
Heading Table
Flight Logs
Daily Reports


Lag test
rawmag
57840.00
57800.00
57760.00
57720.00
rawmag
57860.00
57840.00
57820.00
57800.00
57780.00
57760.00
57740.00
57720.00
6751554
6751580
6751600
6751620
6751640
6751660
6751680
6751700
6751720
6751747
rawmag
rawmag
database : C:\JOBS_15September\Work_Cordillera\Lag_Head.gdb line/group : L2
2004/11/12

McPHAR

Geosoft Magnetic Heading Correction Table

Direction (real, °)	Correction (real, nT)
0°	-3.47
90°	-0.78
180°	+4.11
270°	+0.58
0°	-3.45

McPHAR

AIRBORNE GEOPHYSICAL FLIGHT LOG

CLIENT: Klondike	BLOCK # : MBL	JOB: 0422	PAGE 1 OF 2

FLT #: 1 DATE: 07/09/04 OPERATOR: D. McKinnon

PILOT: Ken Knight O.A.T.: / A/C REG: C.GPWK

DEPART TIME: 20:15 RETURN TIME: 0:25 TOTAL FLT TIME: 4:10

SURVEY HEIGHT: 200 ft

LINE #	FIDUCAL START	FIDUCAL END	BINARY FILE NAME	COMMENTS
				I CAL 350 375 445 465
				Null All 475
				I CAL 540 560 630 650
1900	1035	1107		
1880	1162	1232		
1860	1288	1364		
1840	1430	1496		
1820	1553	1637		
1800	1695	1763		
1780	1819	1907		
1760	1963	2035		
1740	2092	2183		
1720	2227	2278		
1700	2326	2411		
1680	2451	2524		
1660	2590	2675		
1640	?	?		TX-A shut off unexpectedly. Rest Old, but IP 1
1640-1	340	399		seems flipped, out of phase
1620	450	505		
1600	562	631		I CAL All New file. 09072055.hum
1580	672	728		50 70 120 140
1560	790	850		
1540	890	942		Will have some lines before & after re-flown
1520	1000	1062		

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

AIRBORNE GEOPHYSICAL FLIGHT LOG

CLIENT: Klondike	BLOCK # : MBL	JOB: 0422	PAGE 2 OF 2

FLT #: 1 DATE: 07/09/04 OPERATOR: D. McKinnon

PILOT: Ken Knight O.A.T.: / A/C REG: C.GPWK

DEPART TIME: RETURN TIME: TOTAL FLT TIME:

SURVEY HEIGHT: 200 ft

LINE #	FIDUCAL		BINARY FILE NAME	COMMENTS				
	START	END						
1500	1107	1166						
1480	1217	1293						
1460	1330	1386						
1440	1454	1545						
1420	1594	1658						
1400	1725	1802						
1380	1855	1931						
1360	2000	2092						
1340	2127	2205						
1320	2280	2369						
1300	2427	2497						
				I CAL	2340	2360	2630	2650
				Null	2660		2714	
				I CAL	2730		3069	

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

McPHAR

AIRBORNE GEOPHYSICAL FLIGHT LOG

CLIENT: Klondike	BLOCK # : MBL	JOB: 0422	PAGE 1 OF 2

FLT #: 2 DATE: 08/09/04 OPERATOR: D. McKinnon

PILOT: Ken Knight O.A.T.: / A/C REG: C.GPWK

DEPART TIME: 19:47 RETURN TIME: 23:00 TOTAL FLT TIME: 3:13

SURVEY HEIGHT: 200 ft

LINE #	FIDUCAL		BINARY FILE NAME	COMMENTS
	START	END		
				All Times in Sync
9022	3000	3250		I CALAll 3000 3025 3090 3110
				Null All 3115 3170
T 7020	3607	3965		GPS Time Start 21:01:00
1090	4195	4312		
1110		4500		
1130	4790			Not feeling too well
1150				
1170				
1190		5222		Landed for sickness
1210				
1230		6132		
1250	6180	6302		
1270	6315	6597		
1290				
1310	6682	6762		
1330	6810	6892		
1350	6930	7045		
1370	7080	7220 ext		Out fastant of extensions 7220 turn block
1390	7315	7403 ext		
1410	7463	7618 ext		
1430	7660	7838 ext		

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

McPHAR

AIRBORNE GEOPHYSICAL FLIGHT LOG

CLIENT: Klondike	BLOCK # : MBL	JOB: 0422	PAGE 2 OF 2

FLT #: 2 DATE: 08/09/04 OPERATOR: D. McKinnon

PILOT: Ken Knight O.A.T.: / A/C REG: C.GPWK

DEPART TIME: RETURN TIME: TOTAL FLT TIME:

SURVEY HEIGHT: 200 ft

LINE #	FIDUCAL		BINARY FILE NAME	COMMENTS
	START	END		
1450	7874	8007 ext		
1470	8015	8150		
1490	8255	8380		
				I CALAll 8400 8425 8490 8510
9024	8400	8660		Null All 8510 8570
				I CALAll 8570 8640 8660
1510	8800	8925 ext		Last extension
1530	8967	9038		
1550	9085	9167		
1570	9230	9290		
1590	9340	9428		
1610	9490	9534		
1630	9592	9678		
1650	9723	9801		
1670	9845	9943		9845 start is for anomily before start of block
1690	9992	10050		
1710	10114	10235		
1730	10280	10365		
1750	10407	10504		
1770	10550	10630		
1790	10680	10760		
1810	10840	10907		
1830	10970	11030		
				I CALL 11190 11230 11300 11320
9026	11190	11320		

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

AIRBORNE GEOPHYSICAL FLIGHT LOG

CLIENT: Klondike	BLOCK # : MBL	JOB: 0422	PAGE 1 OF 1

FLT #: 3 DATE: 09/09/04 OPERATOR: D. McKinnon

PILOT: Ken Knight O.A.T.: / A/C REG: C.GPWK

DEPART TIME: RETURN TIME: TOTAL FLT TIME:

SURVEY HEIGHT: 200 ft

LINE #	FIDUCAL		BINARY FILE NAME	COMMENTS			
	START	END					
				Reflight			
1800	1000	1100					
1801							
1760	1163	1230					
1761							
1720	1288	1400					
1721							
1640	1487	1563					
1641	1585	1660					
1620	1672	1823					
1621							
1600	1855	1920					
1601	1997	2100		I CAL ALL	380	470	490
				Null ALL	495	535	590
				I CAL ALL	595	662	682
9032	380	682					
9034	2150	2265		I CAL 2150	2175	2240	2265

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

McPHAR

AIRBORNE GEOPHYSICAL FLIGHT LOG

CLIENT: Klondike	BLOCK # : MBL	JOB: 0422	PAGE 1 OF 1

FLT #: 4 DATE: 09/09/04 OPERATOR: D. McKinnon

PILOT: Ken Knight O.A.T.: / 3° A/C REG: C.GPWK

DEPART TIME: 19:29 RETURN TIME: 21:45 TOTAL FLT TIME: 2:16

SURVEY HEIGHT: 200 ft

LINE #	FIDUCAL		BINARY FILE NAME	COMMENTS
	START	END		
200 ft	5165	5255		
300 ft	5318	5378		Runway 30° , 210 °
400 ft	5445	5517		Alt @ 2150
500 ft	5585	5643		
1000 ft	5730	5780		System shut down ??
				Too full of data
Landing	0	226		Delete old data start new file
Take off	226			
				Lag test
200 ft	2350	2394	2462	215° over 10 ft culvert
200 ft	2500	2590	2710	35°
			Lake	Heading Test
				35 2860 2952 3100 35
			at 2000 ft	215 3138 3283 3410 215
				125 3670 3900 3150 125
				305 3985 4148 4300 305
				Position of lake 60°48:04
				Position of culvert 136°25:24

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

Project #: Ultra Property		Daily Field Production Report							
Report Date:	07-Sep-04	Aircraft:	A-Star AS-350BA	C-GPWK			SURVEY PERSONNEL		
Report Number:	1	Ops Base:	Bear Creek Lodge, SW Yukon Territory.				Pilot	Ken Knight	
Client:	Klondike Gold Corp	Country:	Canada YT				AME:	Trevor Moore	
Survey Type:		Helicopter EM & Magnetic Survey							
Survey Areas:		Ultra Blk				Totals	Operator	Daniel McKinnon	
Project Km:		200.0				200.0	Systems Engineer:		
Km flown today:		113.9				113.9	Field Data QC:	Andy Andersen	
Accumulated km:		113.9				113.9			
Percent Completed:		57.0%				57.0%	Client QC (Aurora Geosciences)	Scott Casselman	
Lines flown:		52 flt-lines plus 1 tie-line							

Flight #		Take off Time	First line start		Last line end	Land Time		Hours Flown
ferry	Flt-00	20:15		ferry Spirit Lake to Bear Creek		21:40		1:25
survey	Flt-01	23:00		flew every alternate flt-ln + NE tie-ln		1:48		2:48
Weather: clear, cold, mild wind						Hours Flown Today:		4:13
Accum. Standby:		Accumulated Survey Days:		1		Accumulated Project Hours:		

COMMENTS

CONTROL	Flight # :		Flight date:	
POST FLIGHT	Accepted km	Rejected km	Reasons for Rejection	

REFLIGHTS		Observations	Lines Reflown
Rejected km			
Kms today			
Accumulated km			
Percent Completed			

Operations Personnel			
General Manager:	Phil Hembruff	(905)830-6880	phembruff@mgssurveys.com
Project Manager:	H.T.(Andy)Andersen	(867)821-4337	htandersen@compuserve.com
Systems Engineer			
HSE Manager	Victor Oetke	(905)830-6880	vho@mgssurveys.com
Lodging	Bear Creek Lodge	no phone	

McPhar Geosurveys Ltd.
1256B Kerrisdale Boulevard, Newmarket, Ontario, Canada L3Y 7V1
Tel: (905) 830-6880, Fax: (905) 898-0336, E-mail: info@mgssurveys.com

*Please note that kilometres flown are estimates.
*Exact kilometres will be calculated upon completion of survey, and will be based on GPS measurements & contractual boundaries

Project #: Ultra Property		Daily Field Production Report							
Report Date:	08-Sep-04	Aircraft:	A-Star AS-350BA	C-GPWK			SURVEY PERSONNEL		
Report Number:	2	Ops Base:	Bear Creek Lodge, SW Yukon Territory.				Pilot	Ken Knight	
Client:	Klondike Gold Corp	Country:	Canada YT				AME:	Trevor Moore	
Survey Type:		Helicopter EM & Magnetic Survey							
Survey Areas:		Ultra Blk				Totals	Operator	Daniel McKinnon	
Project Km:		200.0				200.0	Systems Engineer:		
Km flown today:		86.1				86.1	Field Data QC:	Andy Andersen	
Accumulated km:		200.0				200.0			
Percent Completed:		100.0%				100.0%	Client QC (Aurora Geosciences)	Scott Casselman	
Lines flown:		52 flt-lines plus 1 tie-line							

Flight #		Take off Time	First line start		Last line end	Land Time		Hours Flown
survey	Flt-02	20:15	flew remainder infill, tie-ln & ext to NE at centre of blk			21:40		1:25
survey	Flt-03	23:00	reflts;- 1800, 1760, 1720, 1640, 1620, 1600.			1:48		2:48
Weather: clear, cold, mild wind						Hours Flown Today:		4:13
Accum. Standby:		Accumulated Survey Days:	1			Accumulated Project Hours:		

COMMENTS

At Scott Casselman's recommendation, a block 2kms wide, centred on the NE edge, was ext 1km to the NE. The kms used were taken from fill-in lines not flown at either end of the main block.
*** this is the last daily production report for the project ***

CONTROL	Flight # : 1		Flight date: 07-Sep-04	
POST FLIGHT	Accepted km	Rejected km	Reasons for Rejection	
07-Sep-04	101.9	12.0	EM chan out of calibration	

REFLIGHTS		Observations	Lines Reflown
Rejected km			
Kms today	12.0	reflwn both as a check & refit	1800, 1760, 1720, 1640, 1620 & 1600.
Accumulated km			
Percent Completed			

Operations Personnel

General Manager:	Phil Hembruff	(905)830-6880	phembruff@mgssurveys.com
Project Manager:	H.T.(Andy)Andersen	(867)821-4337	htandersen@compuserve.com
Systems Engineer			
HSE Manager	Victor Oetke	(905)830-6880	vho@mgssurveys.com
Lodging	Bear Creek Lodge	no phone	

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*Please note that kilometres flown are estimates.
*Exact kilometres will be calculated upon completion of survey, and will be based on GPS measurements & contractual boundaries

APPENDIX 3

Equipment Documentation

- Hummingbird HEM System Specifications
- Geometrics G-822A Cesium Magnetometer
- DGPS Max
- Terra TRA-3000 / TRI-30 Radar Altimeter
- Tetra Model 276 Pressure Transducer
- Geo-iMAGe Lite CDIS
- GSM-19 Overhauser Magnetometer
- NovAtel GPSCards
- Field Data Processing Workstations

DATA PROCESSING

McPhar is dedicated to processing geophysical data in the field.

For this purpose all our airborne systems are sent to the field with a geophysicist and a PC-based data processing system to support them. The Field Data Verification Workstation (FWS), as this system is known, can process airborne magnetic, radiometric and EM data, and produce plots and maps in full-color of the survey data, often within hours of the survey flight ending.

The FWS software, which is the core of this system, permits our field geophysicists to differentially correct the GPS navigation data; carry out flight path recovery; perform magnetic compensation and leveling; undertake radiometric corrections and preliminary processing; electromagnetic processing; and generally to perform filtering, gridding and contouring of data, imaging of selected data and plotting to any map scale and layout.

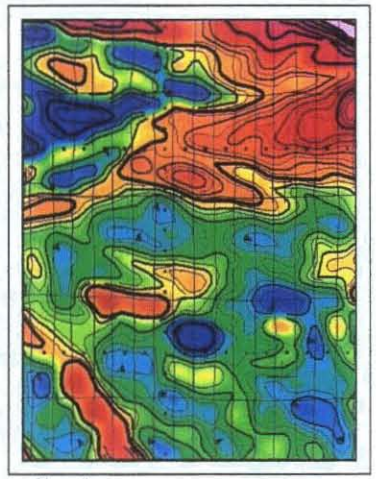
INTERPRETATION

The interpretation of geophysical results into meaningful geological parameters is the prime function of any of our interpreters.

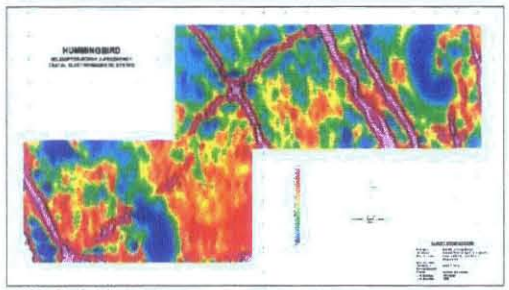
The many highly qualified geophysicists and technicians on our staff share a strong geological back-ground. The manipulation of geophysical data is only a means to an end, and the final product of the interpretation is the compilation of a series of maps showing interpreted geological parameters. The data processing routines and mathematical operators applied to the data are not the end product of the interpretation; they help delineate geologic and economic targets to be discussed in the final report.

We bring many techniques to bear on an interpretation project in order to determine depths to causative sources, to delineate discontinuities and boundaries, and to draw conclusions regarding geological structure beneath the survey.

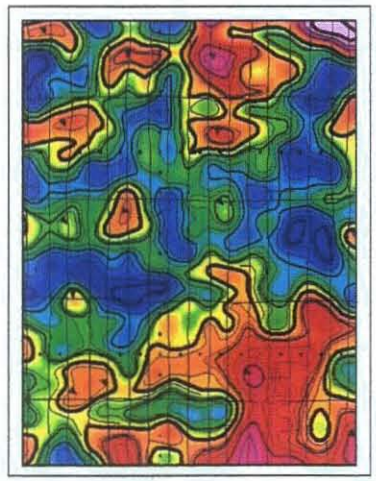
A wide variety of contour and interpretation maps, profiles, cross-sections and models, and a written report are the result of the interpretation.



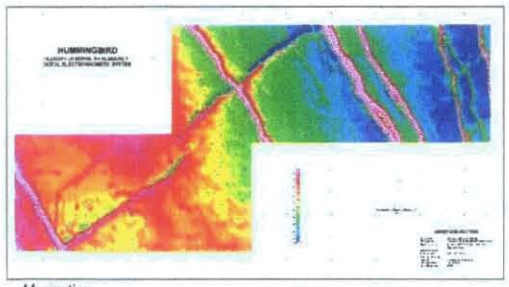
Magnetics



EM - Resistivity



EM – Resistivity3



Magnetics

HUMMINGBIRD

Helicopter-borne Digital Electromagnetic System

Undoubtedly, helicopter-borne electromagnetics (EM), combined with total field magnetics and often gamma-ray spectrometry, have been one of the most productive and useful of airborne system developments to date, and have accounted for the discovery of billions of dollars worth of mineral resources, tapped into numerous ground water reservoirs and provided immense volumes of data for environmental site evaluations. These systems are ideally suited for working in rugged, mountainous terrain, or over small claim block-sized properties.

Currently, electromagnetics (EM) combined with a high-sensitivity magnetometer are the techniques of choice for most mining companies worldwide, to locate and define diamondiferous kimberlite pipes and base and precious metal deposits.

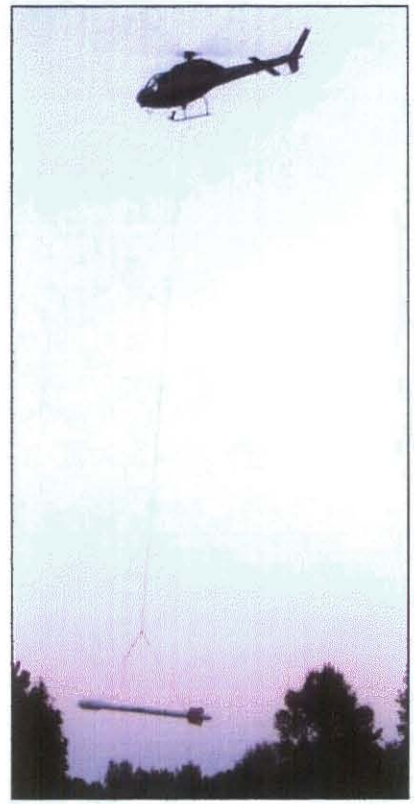
McPhar's electromagnetic survey systems are integrated around the HUMMINGBIRD EM sensor, which are available in either 4- or 5-frequency configurations.

The HUMMINGBIRD EM sensor, which is the heart of this system, can be simply described as a multi-frequency, multi-coil electromagnetic system, which measures the inphase and quadrature responses from a number of coil-pairs installed in a tubular bird, towed beneath a helicopter.

All components of the HEM instrumentation are digitally controlled. The HUMMINGBIRD is currently the only operating HEM system that is 100% digital from front to back. All digital samples generated by the instrumentation are supplied as inphase and quadrature measurements.

Data is telemetered on a lightweight serial cable to the data acquisition console onboard the helicopter, where it is displayed on a LCD colour screen and recorded on a removable PCMCIA hard disk.

Pilot guidance and DGPS navigation systems are integrated into the package together with a gammaray spectrometer (optional). Other flight control instruments include radar or laser altimeters and a barometric altimeter and a digital colour video imaging system.



McPHAR

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The depth in the earth to which a single frequency can penetrate is a function of the frequency and the conductivity of the earth. [Skin Depth » 503 / (frequency x conductivity)$^{1/2}$] Lower frequencies penetrate deeper into the earth than higher frequencies. The higher frequencies are more sensitive to weakly conductive geology, and to subtle changes in the conductivity of the ground.

A HUMMINGBIRD system measures the in-phase "I" and quadrature "Q" (sometimes called out-of-phase) components of the total EM field. The amplitude of these components are always given as a value that is relative to the transmitted primary. The ratio of in-phase to quadrature (I/Q) depends mostly on the conductivity of the geology and the operating frequency; the amplitude depends mostly on the depth of the conductor below the sensor. (While this description of the relationship is only an approximation, it is a good start from which to understand changes in I and Q measurements.)

Two 5-frequency and a 4-frequency (in yellow) HUMMINGBIRD sensors undergoing preparations for the field at McPhar's offices in Newmarket, Ontario

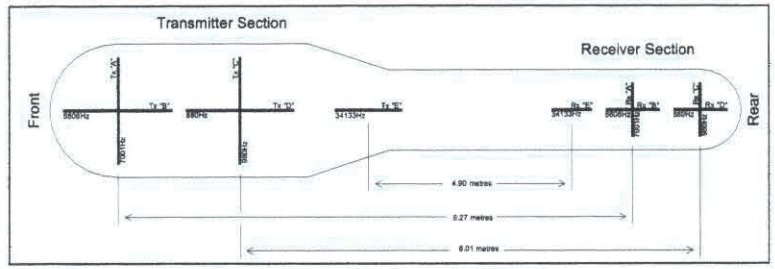
Operator's screen/keyboard assembly – HUMMINGBIRD system

Typical system configuration is:

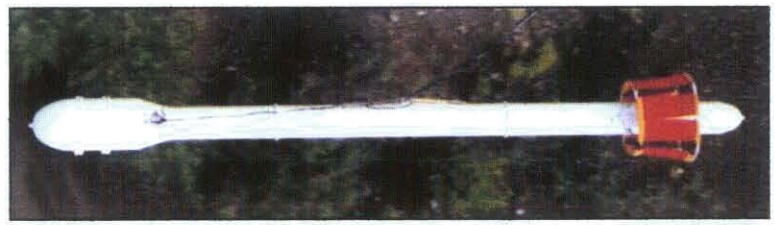
- 5-frequency HUMMINGBIRD EM sensor, 880 Hz, 980 Hz, 6.6 kHz, 7 kHz and 34 kHz frequencies
- high-sensitivity cesium magnetometer, 0.001 nT/10 Hz resolution
- 12-channel real-time differential GPS navigation system
- PC-based data acquisition system
- radar (*optional* laser) & barometric altimeters
- colour digital video imaging system
- *optional* gammaray spectrometer and 16.8/4.2 litres sensor

Cockpit displays for the pilot – HUMMINGBIRD system

COIL FREQUENCY	COIL ORIENTATION	COIL SEPARATION	CHANNELS
880 Hz	Coplanar	6.0 meters (19.5ft)	I, Q
980 Hz	Coaxial	6.0 meters (19.5ft)	I, Q
6.6 kHz	Coplanar	6.3 meters (20.5ft)	I, Q
7 kHz	Coaxial	6.3 meters (20.5ft)	I, Q
34 kHz	Coplanar	4.9 meters (16ft)	I, Q



Layout and dimensions of the transmitter and receiver coils in the HUMMINGBIRD



Vertical view of the 5-frequency HUMMINGBIRD sensor

SPECIFICATIONS

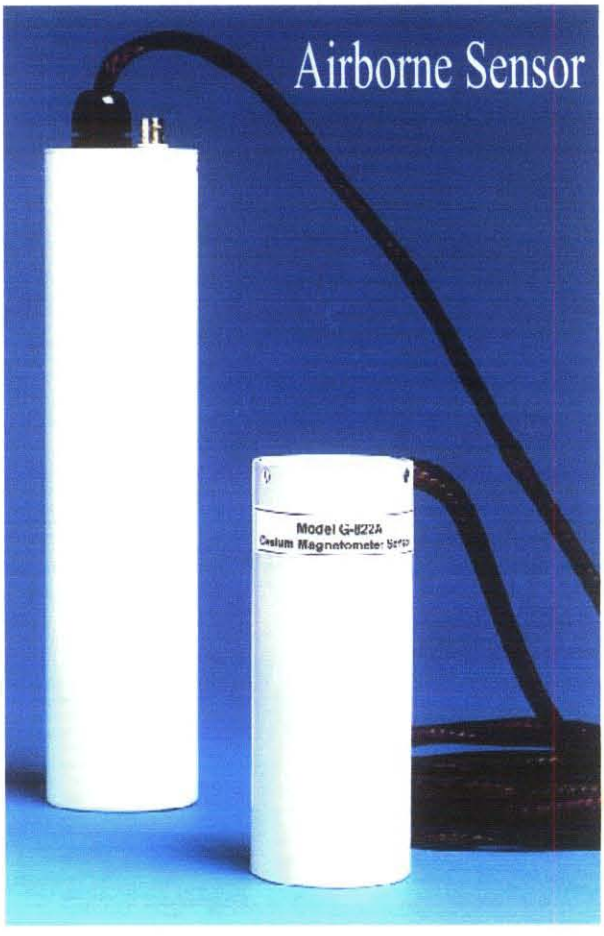
Frequency Range:	5 frequencies, 880 Hz, 980 Hz, 6.6 kHz, 7 kHz, 35 kHz
Coil Orientations:	Horizontal coplanar and vertical coaxial coil-sets
Output:	Inphase and Quadrature samples (ppm)
Sampling Rate:	10 Hz
Noise Levels:	2 –4 ppm under ideal conditions
Time Constant:	0.1 second
Filters:	50/60 Hz power line, spheric rejection, 4th order digital, 15Hz 2nd order analog and 5Hz Low Pass 6th order digital
Data Recording:	On removable PCMCIA hard disk or flash card
Data Acquisition:	Pentium-PC based
Display:	Sunlight visible colour TFT back-lit LCD
Power Requirements:	12-36 VDC, maximum 30 Amps
Temperature Range:	-40°C to +40°C
Bird/Cable Weight:	Approx. 180 kg (400 lb) including tow-cable
Bird Length:	7.5 meters (3 joined sections each of approx. 2.5 m)

Specifications may be subject to change without notice

GEOMETRICS

G-822A CESIUM MAGNETOMETER

- ***Airborne and Vehicle Applications with Multi-Sensor Array Capability***
- ***Automatic Hemisphere Switching***
- ***Highest Sensitivity – 0.0005 nT/√Hz RMS with the G-822A Super-Counter***
- ***Highest Versatility – Full Aircraft Compensation with RMS AADCII or Button-on Towed Bird system with CM-201 Internal Mini-Counter, with 6 Channel 12 bit A to D converters***
- ***Very low heading error – ±0.15nT over entire 360° Equatorial and Polar spins***
- ***Gradiometer arrays offering simultaneous operation of up to four separate sensors with the RMS Instruments AADCII , Geometrics' G-822A Super-Counter or CM-201 Internal Mini-counter (See 823A Data Sheet)***
- ***Geometrics offers complete turnkey systems including Birds, Stingers, Wingtip installation accessories as well as Digital Data Acquisition Systems, Flight Path Recovery, GPS Navigation, Gamma Ray Spectrometers, VLF EM , Post Acquisition Data Processing Software and Training***



The G-822A is designed for all airborne or mobile applications where the unique combination of high sensitivity and very rapid sampling of the earth's magnetic field are required. Applications include mapping geologic structure for mining, oil and gas exploration, and the detection and delineation of target bodies in environmental or military type surveys. The unit consists of a high performance low heading error cesium vapor sensor with its associated cables and driver electronics package.

The G-822A sensor uses a precise well-proven design, carefully selected and tested components to insure the very best specifications in sensitivity, noise, heading error and absolute accuracy. A proven record of stable and reliable operation over long periods is the hallmark of the industry standard G-822A. A single coaxial cable of up to 50 meters length supplies both 28 VDC power and Larmor signal transmission from the sensor driver electronics to the 822A Super-Counter or the RMS Instruments' AADCII Automatic Aeromagnetic Digital Compensator. Internal or external signal/power filter-decoupler assemblies are available to provide extremely low noise operation.

The interconnect cable from the driver/electronics to the sensor may be supplied in lengths of 82 and 136 inches. Tuning throughout the earth's field range is fully automatic, and includes automatic hemisphere switching for equatorial surveys.

The sensor/electronics package is watertight, temperature controlled, and delivers full performance under extreme operating conditions. Accessories include special mounting clamps and orientation platforms for installation into a variety of vehicle or aircraft mounting configurations, as well as Birds, Stingers and Wing Tip fairings.

MODEL G-822A AIRBORNE CESIUM MAGNETOMETER SENSOR SPECIFICATIONS

OPERATING PRINCIPLE:	Self-oscillating split-beam Cesium Vapor (non-radioactive)
OPERATING RANGE:	20,000 to 100,000 nT
OPERATING ZONES:	The earth's field vector should be at an angle greater than 6 from the sensor's equator and greater than 6° away from the sensor's long axis. Automatic hemisphere switching.
SENSITIVITY:	<0.0005 nT/√Hz rms. Typically 0.003 nT P-P at a 0.1 second sample rate using 822A Supercounter, 0.02nT P-P for CM-201
HEADING ERROR:	±0.15 nT (over entire 360° polar and equatorial spin)
ABSOLUTE ACCURACY:	<3 nT throughout range
OUTPUT:	Cycle of Larmor frequency = 3.498572 Hz/nT, 2V P-P coupled through the sensor power input
MECHANICAL:	
Sensor:	2.375" (60.32 mm) dia., 6.25" (158.75 mm) long, 12 oz (339 g) - any orientation in 7" dia. stinger
Sensor Electronics:	2.5" (63.5 mm) dia., 11" (279.4 mm) long, 22 oz (623 g)
Cables:	
Sensor to electronics:	70" (1.78 m) or additional 40" (1.1 m) increments with quick disconnect on electronic end. Longer lengths available - Up to 19.5 ft (6.1m)
Sensor Electronics to Counter:	Up to 220 ft (70 m)
OPERATING TEMPERATURE:	-30°F to +122°F (-35°C to +50°C)
STORAGE TEMPERATURE:	-48°F to +158°F (-45°C to +70°C)
ALTITUDE:	Up to 30,000 ft (9,000 m)
WATER TIGHT:	Sealed for up to 2 ft (0.9 m) depth
POWER:	24 to 32 VDC, 0.75 amp at turn-on and 0.5 amp thereafter
ACCESSORIES:	
Standard:	Power/Larmor coaxial cable (electronics to counter), lengths to be specified, spare O rings, operation manual and carrying case
Optional:	
Signal/Power Decoupler:	Separates the Larmor signal from the power (28 V) to enable connection to RMS Instruments' AADCII Automatic Aeromagnetic Compensator or Customer supplied counter
Internal Decoupler:	P/N 27504 - up to two sensor installation
External Decoupler:	P/N 27560 - three and four sensor installation
Internal CM-201 Counter	See G-823 A Data Sheet
Stinger, Wingtip, Bird	Contact Factory for complete system integration information
Base Station Accessories	Non-magnetic Tripod, clamps cables

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE **2/04**

GEOMETRICS, INC. 2190 Fortune Drive, San Jose, California 95131
408-954-0522 • Fax 408-954-0902 • Internet: sales@mail.geomtrics.com

GEOMETRICS Europe Manor Farm Cottage, Galley Lane, Great Brickhill, Bucks,
England MK179AB • 44-1525-261874 • Fax 44-1525-261867

GEOMETRICS China Laurel Industrial Co. Inc. - Beijing Office, Room 2509-2511, Full Link Plaza
#18 Chaoyangmenwai Dajie, Chaoyang District, Beijing, China 100020
10-6588-1126 (1127..1130), 10-6588-1132 • Fax 010-6588-1162

GEOMETRICS

DGPS MAX

Feature-packed sub-meter GPS positioning

GPS Sensor Specifications

Receiver Type:	L1, C/A code, with carrier phase smoothing
Channels:	12-channel, parallel tracking (10-channel when tracking WAAS)
WAAS Tracking:	2-channel, parallel tracking
Update Rate:	1 Hz default, 5 Hz max
Horizontal Accuracy:	<1 m 95% confidence (DGPS*) <5 m 95% confidence** (autonomous, no SA)
Cold Start:	1 min typical
Antenna Input Impedance:	50 Ω

L-band Sensor Specifications

Frequency Range:	1525 to 1559 MHz
Sensitivity:	-120 dBm for $<10^{-3}$ BER
Tuning Mode:	Manual or automatic
Adjacent Channel Rejection:	50 kHz spacing >25 dB, 1 MHz spacing >60 dB

Beacon Sensor Specifications

Channels:	2-channel, parallel tracking
Frequency Range:	283.5 to 325 kHz
Channel Spacing:	500 Hz
MSK Bit Rates:	50, 100, and 200 bps
Operating Modes:	Manual, automatic, semi-automatic
Cold Start Time:	< 1 minute typical
Reacquisition Time:	< 2 seconds typical
Demodulation:	Minimum shift keying (MSK)
Sensitivity:	2.5 µV/m for 6 dB SNR @ 200 bps
Dynamic Range:	100 dB
Frequency Offset:	± 8 Hz (~ 27 ppm)
Adjacent Channel Rejection:	61 dB ± 1 dB @ f_o ± 400 Hz

Communications

Serial ports:	1 full duplex, 1 RTCM input
Interface Level:	RS-232C
Baud Rates:	4800, 9600, 19200
CAN Bus:	CAN 2.0B
Correction Input / Output Protocol:	RTCM SC-104
Data Input / Output Protocol:	NMEA 0183
Raw Measurement Data:	Proprietary binary (RINEX utility available)
Timing Output:	1 PPS (HCMOS, active high, rising edge sync, 10 kΩ, 10 pF load)
Event Marker Input:	HCMOS, active low, falling edge sync, 10 kΩ, 10 pF load

Environmental

Operating Temperature:	-32°C to +74°C
Storage Temperature:	-40°C to +85°C
Humidity:	95% non-condensing
EMC:	FCC Part 15, Subpart B, Class B CISPR 22

Power

Input Voltage Range:	9.2 to 48 VDC
Reverse Polarity Protection:	Yes
Power Consumption:	< 4.8 W
Current Consumption:	< 400 mA @ 12 VDC
Load Dump Protection:	Up to 86 VDC
Antenna Voltage Output:	5 VDC
Antenna Short Circuit Protection:	Yes

Mechanical

Enclosure:	Powder-coated aluminum
Dimensions:	203 mm L x 125 mm W x 51 mm H (8.0" L x 4.9" W x 2.0" H)
Weight:	0.80 kg (1.76 lb)
Display:	2-line x 16-character LCD
Keypad:	3-button
Power Switch:	Push-button
Power Connector:	2-pin miniature
Data Connector:	DB9-socket
Antenna Connector:	TNC-socket

Pin-out

Main Port

Pin 2	Transmit data (TXD)
Pin 3	Receive data (RXD)
Pin 5	Signal ground

RTCM Input Port

Pin 2	Transmit data (TXD)
Pin 3	Receive data (RXD)
Pin 5	Signal ground
Pin 6	Event marker input
Pin 9	1 PPS

CDA-3 Antenna

GPS Freq. Range:	L1 (1575 MHz ± 20 MHz)
GPS LNA Gain:	27 dB
L-band Freq. Range:	1525 to 1585 MHz
L-band LNA Gain:	28 dB
Beacon Freq. Range:	283.5 to 325 kHz
Beacon LNA Gain:	34 dB
Dimensions:	141 mm dia x 127 mm H (5.57" dia 5.00" H)
Weight:	0.478 kg (1.1 lb)
Antenna Connector:	TNC-socket
Enclosure:	polycarbonate
Mounting Thread:	1-14-UNS-2B
Input Voltage:	5.0 to 15.0 VDC
Input Current:	50 to 60 mA
Operating Temp.:	-40°C to +85°C
Storage Temp.:	-40°C to +85°C
Relative Humidity:	100% condensing

* SVs > 5, HDOP < 2, RTCM SC-104 correction data from a dual frequency reference station, short baseline, and low multipath environment.

** Dependent upon ionospheric activity and multipath

Warranty: Each CSI Wireless product is covered by a limited one-year warranty on parts and labor.

CSI Wireless Dealer

Avery label #05260 (laser print)

Printed in Canada.

csi wireless™

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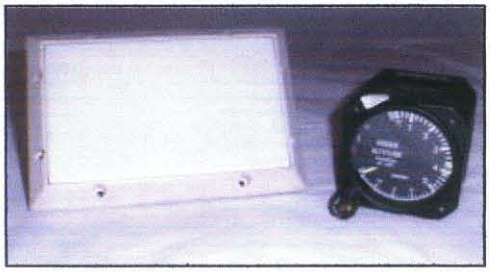
E-Mail: info@mgssurveys.com
WebSite: www.mgssurveys.com

TERRA TRA-3000 / TRI-30 Radar Altimeter

The Terra TRA-3000 Radar Altimeter unit provides AGL (Above Ground Level) altitude information from 40 feet (12.3 m) up to 2,500 feet (769 m). The system consists of a single TRA-3000 receiver/transmitter/antenna unit and a TRI-30 indicator.



SPECIFICATIONS

TRA-3000 Unit

Type:	Single antenna, FMCW
Altitude Range:	40 to 2,500 ft
System Accuracy:	
• **40 to 100 ft**	+/- 5 ft
• **100 to 500 ft**	+/- 5%
• **500 to 2,500 ft**	+/- 7%
Frequency Range:	100 MHz sweep within 4,200 to 4,400 GHz range
Input Voltage:	Approx. 20 VDC from indicator
Input Current:	600 ma
Altitude Output:	Digital
Self-Test:	Ground or flight, initiated at indicator
Transmitter/Receiver/Antenna:	All solid-state, microstrip antenna,
Physical:	Size - 1" H x 5" W x 7.625" L, Weight - 1.5 lb.
Environment:	-40° C to + 70° C
Unlock display:	Altitude – 45,000 ft

TRI-30 Indicator

Power Supply:	Input voltage – 27.5 VDC +/- 20%
Environment:	Power – 16 watts nominal (includes power to T/R/A unit
Physical:	Size – 3.25" H x 3.25" W x 4" L, Weight – 1 lb.
Mounting:	Front panel mounting; requires a 3" ATI mounting space
Altitude range:	40 ft. to 2,500 ft (linear); 40 – 500 ft (enlarged linear)
Analog display:	Servo; pointer and dial type Needle will go off scale on the high-end
Decision height:	Bug, continuous setting from 40 to 2,500 ft.
Display update rate:	continuous
Analog output:	2.5 mv/ft., 100 mv = 40 ft.
Display disable:	One strut switch input, ground to enable
Altitude accuracy:	
• **40 to 100 ft**	+/- 5 ft
• **100 to 500 ft**	+/- 5%
• **500 to 2,500 ft**	+/- 7%
Aural Decision Height alert:	1 KHz tone for 2 sec. (500 ohms) adjustable audio level
Self-test:	Indicates 40 ft., DH operates normally
Visual alert:	Amber lamp with automatic adjustable intensity; internal LED standard; external lamp operation available.

McPhar Geosurveys Ltd.
1256B Kerrisdale Blvd., Newmarket
Ontario, Canada L3Y 7V1
Tel: (905) 830-6880, Fax: (905) 898-0336
E-Mail: info@mgssurveys.com
WebSite: www.mgssurveys.com

Setra Model 276
Pressure Transducer

Specifications:

Pressure Media: Clean dry non-conductive, non-corrosive gas

Accuracy:

accuracy[1]	+/- 0.02% full scale at 70°F (21°C)
nonlinearity	+/- 0.012% full scale (end point)
hysteresis	0.010% full scale
non-repeatability	+/- 0.010% full scale
thermal zero shift[2]	+/- 0.002% FS/ °F (+/- 0.004% FS/ °C)
thermal span shift[2]	+/- 0.001% FS/ °F (+/- 0.002% FS/ °C)
altitude resolution	1 ft (30.5cm) - 4 ft (1.23 m) for 100 psi range
stability, 24 hours	+/- 0.005% full scale
stability, 30 days	+/- 0.02% full scale
stability, 1 year	+/- 0.05% full scale

Output: Bidirectional RS-232 interface

Physical:

pressure fitting	1/8th barbed male fitting
pressure port	10-32 internal thread
height	4 in (10 cm)
width	3.5 in (8.9 cm)
depth	5.25 in (13.3 cm)
weight	2.4 lb (1.09 kg)

Power: 5 VDC +/1%, 70 mA; 17 mA w/200
Microampere sleep mode option

Notes:

1. Accuracy as RSS of non-Linearity, hysteresis and non-repeatability.
2. Unit calibrated at 70 °F. Maximum thermal error is computed from this datum.
3. Specifications are subject to change without notice.

DEV-TECH

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160 Denise Circle, Newmarket
Ontario, Canada, L3X 2J9
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E-mail: Khall@devtec.ca
Web Site: www.devtec.ca

Geo-iMAGe Lite Colour Digital Imaging System

The airborne geophysical survey industry has traditionally acquired flight path imagery to document the position of the aircraft and sensor array with respect to the ground. The technology has progressed from 35 mm continuous-strip or frame film camera to videotape and VCR's, usually in the VHS - NTSC format. Current technology overlays the acquired video imagery with GPS position data as well as information from the geophysical data acquisition system, permitting correlation of the video imagery to the ground surface.

This technology has not progressed much since the early 1970's, and although digital camera systems have been available for some time, the industry has not utilized them for many reasons, mainly the inability to store the large volumes of video data in real time. Due to advances in the computer technology industry, this limitation has been overcome. Now that more versatile computer systems are available for use in the aircraft and the capacity to store large volumes of data quickly has become readily and affordably available, digital video has taken on a far more attractive role in airborne geophysics.

The older videotape systems generated imagery that was usually of poor quality, and there was no way to quickly find any given ground location on the tape without playing the entire tape. The video data was good for little more than proving that the aircraft had passed over a given point on a flight line. Certainly it was not of any use in creating any kind of map or photo-mosaic.

Today, however, we can acquire and record high-resolution video images in a format that can be read on any standard PC type computer. These images, combined with suitable information (GPS position, time, height above ground, height above sea level, pitch and roll axis tilt) will now permit the generation of digital 3D terrain models that can be integrated into the geophysical data set.

Most of the areas currently being explored for minerals or hydrocarbons have, at best, very poor topographical information. In many areas no useable information is available at all. Satellite imagery while available, is very costly and usually takes many months to acquire and process, and yields imagery with typically ten meters (or worse) pixel resolution.

Our goal is to provide simultaneously, with the acquisition of the geophysical data, medium to high resolution digital video frames (sub 3-meter pixels) with sufficient horizontal and vertical overlap to allow generation of video stereo pairs, and with the addition of the GPS and altimeter information to create a 3D terrain model.

Figure 1: Sony Digital Colour Camera

The basic Geo-iMAGe Lite module comprises a stand-alone rack-mountable console that contains a powerful micro-computer, hard disk drive

comprises the following:

- Stand alone, 1 "U" high, rack mountable computer system, c/w Pentium III 1.0 GHz clock speed (or faster) processor,256 MB RAM memory, 20 GB HDD, 2 RS-232 serial ports, 2 IEEE 1394 firewire ports, 2 LAN ports, and CD-RW drive
- Windows 2000 Professional Operating System software
- Proprietary video image and GPS data acquisition software to enable acquisition of JPEG, TIF, BMP or PNG format video frames with a resolutionof 640 x 480, 320 x 240 or 160 x 120 pixel resolutions, user selectable.
- User selectable video frame and GPS data acquisition rate - from 1 frame per second to 1 frame every 10 seconds – synchronized with GPS time
- Sony digital video camera with 1/3 inch CCD video element
- 5.64 to 64.8 mm focal length lens with wide angle adapter (0.6 X increase in view angle)

Optional modules for use with Geo-iMAGe Lite include:

Geo-iMAGe GPS module

- Comprises a NovAtel OEM-4 GPSCard receiver, 12-channel, L1 code, imbedded in the Geo-iMAGe console.
- Novatel 511 aircraft certified active GPS antenna or Novatel 521 land vehicle active antenna, and cabling

Geo-iMAGe Screen/Keyboard module

Comprises a 19", 1 "U" high, rack-mount drawer containing a folding 15" LCD TFT (1024 x 768 pixel resolution) screen, keyboard and touchpad "mouse" p ointing device. Permits as up to 5 different PC devices to be attached to the screen and keyboard, eliminating the need for multiple screens and keyboards in the system.

Figures 2 & 3: Geo-iMAGe Screen/Keyboard module comprising a 19", 1 "U" high, rack-mount drawer containing a folding 15" LCD TFT (1024 x 768 pixel resolution) screen, keyboard and touchpad "mouse" pointing device.

BASIC SYSTEM OVERVIEW

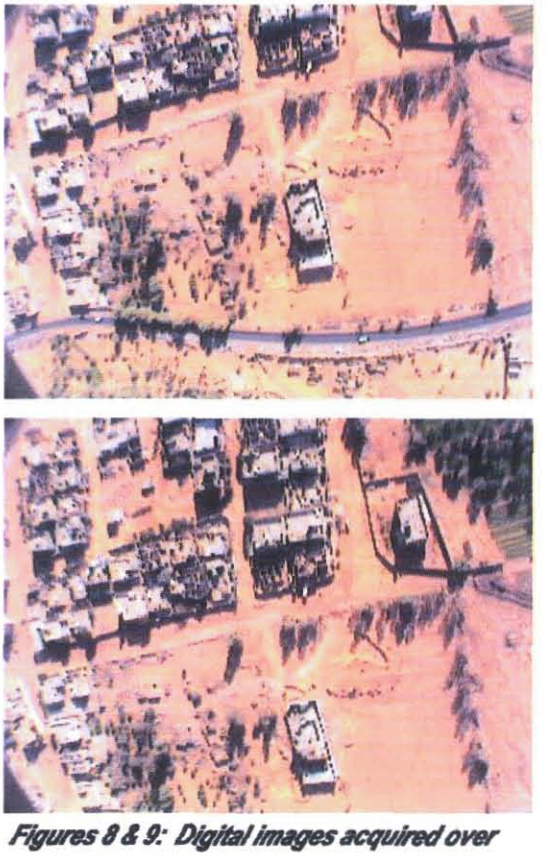
Typical video frame acquisition rate is in the order of 1 frame per second but may be user selected from a range of 1 frame/second to 1 frame every 10 seconds, in increments of 1.0 second. This will allow for variations in flight height above ground, aircraft ground speed and the viewing angle of the camera. Cameras typically used have 47° to 96° angle-of-view.

The system will import a serial data string from a GPS receiver (NEMA format GPGGA string). Rather than overlay the data string on the border of each image frame, a separate GPS data file is created with the same file name as the video frame but with the file extension GEO. The GPS data is available at rates of up to 10 HZ. The GPS receiver has several RS-232 serial ports available to transmit data strings to other equipment should the user so desire.

The video frames are stored on a large capacity hard disk. A naming convention for each frame has been developed utilizing GPS time as the reference. The frames are numbered in the format YYYYMMDDHHMMSSS.XXX where YYYY represents the year, MM the month, DD the day, HH the hour, MM, the minutes, SSS the seconds and decimal seconds of GPS time when the frame was captured. The system includes a CD-RW writer and appropriate software to allow storage of the imagery on CD media for long-term archival purposes.

The primary focus of this product is to replace the traditional "VCR" with a digital picture recording mechanism. Any standard image display software may be used to view the frame or frames of choice on a computer.

Figures 6 & 7: Digital images acquired over farmland in South America



Figures 8 & 9: Digital images acquired over desert village in North Africa

System Specifications:

OPERATING SYSTEM & DEDICATED SOFTWARE

Operating System:	Microsoft Windows 2000 PRO or ME
Video Acquisition Software:	GEOIMAGE LITE

POWER REQUIREMENTS:

24 –32 Volts DC at 50 watts power consumption
12 VDC or 115 / 230 VAC optionally available

GEO-iMAGe LITE:

Frame capture rate:	frame / second to 1 frame every 60 seconds, software selectable
Video format:	JPG, TIF, BMP, PNG, user selectable (JPG recommended)
GPS data:	internal dedicated GPS receiver, Novatel OEM-4, 12 channel L1 - NMEA 0183 GPGGA data string GPS data collected at same rate as video frame data User selectable baud rate for GPS data
File naming:	
Video file:	YYYYMMDDHHMMSSS.XXX, where: YYYY= Year MM= Month DD= Day HH= Hour MM= Minute SSS= seconds,tenths of seconds XXX= video extension, JPG, BMP, PNG etc (automatic)
GPS data:	same as above except file extension automatically selected as GEO

Digital Camera:

Model:	Sony DFW-V500 or equivalent
Interface Format:	IEEE 1394
Data format:	640x480 YUV (4.2.2) 640x480 YUV(4.1.1) 320x240 YUV(4.2.2) 160x120 YUV(4.4.4) all formats user selectable
Image Device:	CCD
White Balance:	Automatic or Manual
Hue:	variable
Saturation:	variable
Lens focal length:	5.64 to 64.8 mm, F:1.18
Wide angle adapter:	VCL-0637H (0.6 X increase in view angle)
Zoom:	12X range, manual, user selectable
Focus:	manual, user selectable
CCD Iris:	ON/OFF selectable
Shutter Speed:	1/30 to 1/100000 sec
Gain:	Automatic or manual
Power:	8-30 VDC (supplied through 1394 cable)
Power Consumption:	4 watts
Operating Temp:	-20 to +50 DEG C
Dimensions:	60 x 61 x 118 mm (w/h/d)
Mass:	335 grams

LCD display and keyboard

Full keyboard function
SynapticsTouchpad
Microsoft Mouse compatible with PS/2 mouse interface
15.1" high brightness TFT LCD display

Resolution :	1024 x 768 (36-bit colors)
Brightness :	200 cd/m2
LCD MTBF :	50,000 hrs
On Screen Display:	built-in OSD for user adjustment, including H/V position, Color, size, etc.
Power Supply :	Built-in universal AC input adapter (LKM-926x / 9265x) -48VDC (LKM-926xT / 9265xT)
Operating Temp:	0° ~ 50°C

Up to five VGA / Keyboard / Mouse / Audio inputs (5 PCs)
Built-in Manual or Auto Scan function

CPU Processor and Peripherals:

CPU :	Socket-370 base support CeleronTM / Pentium® III up to 1.33GHz FSB
System Memory :	One 168-pin DIMM socket up to 512MB SDRAM / VCM
System Chipset :	SiS 630
Video Controller :	up to 1600 x 1200, 16 bits colors, resolution 1394: Fully supports provisions of IEEE 1394-1995 standard for high performance serial bus and the P1394a supplement. Two P1394a fully compliant cable ports at 100/200/400 Mbps
Super I/O :	3 x RS-232 and one RS-232/422/485 (auto-direction RS-485) One parallel port Floppy Disk Controller
USB Ports :	Two ports meets USB ver.1 standard by pin header
Digital I/O :	4 DI and 4 DO
Ethernet :	Dual 10/100Mbps LANS with one integrated in Support ATX function PC/104 expansion by LPC to ISA controller Support one PCI slot
SSD :	Support CompactFlash Type II socket
IDE :	ATA66 interface by one 40-pin connector
Power:	6.5A/5V, 170mA/12V (PIII-933MHz and 256MB SDRAM)
Operating temp:	0 ~ 60°C (CPU needs cooler)

CD-WRITER:	HP 8200 CD-RW
MEDIA:	20 GB, 2.5 INCH DRIVE Optional 250 MB IOMEGA ZIP DRIVE

NovAtel OEM-4 GPSCard:

position accuracy - single point	
SA off:	11 m CEP 3
SA on:	48 m CEP 4
DGPS:	(L1, C/A)5 0.45 m CEP
measurement precision	
L1 C/A code:	6 cm RMS
L1 carrier phase:	0.75 mm RMS (differential channel)
data rates	
measurements:	10 Hz
position:	10 Hz
time to first fix - cold start:	60 seconds (typical)
signal re-acquisition:	0.5 s (typical)
time accuracy:	
SA off:	102 ns RMS 3
SA on:	173 ns RMS
Size:	85 mm x 125 mm x 16 mm
Weight:	120 g
Input Voltage:	6.0 -18.0 VDC
Power Consumption:	2.7 W typical, 3.2 W max

GSM-19 Overhauser Magnetometer

Features of the magnetometer

- **Sensitivity = 0.02 nT**
- **Absolute Accuracy = 0.2 nT**
- **Sample Rates up to 5 Hz**
- **Low Power Consumption**

General

"Overhauser" Once you experience it, you'll never go back to proton. Overhauser technology brings you sensitivities one to two orders of magnitude better than proton, yet in a light weight package. This is because the overhauser magnetometer consumes an order of magnitude less power than proton magnetometer, allowing a lighter weight for batteries.

What is the Overhauser technique? The Overhauser sensor contains the electrons' fluid that has been added to a hydrogen rich in the form of "free radial". The resulting mixture yields a sensor with 5000 times gain in proton polarization. Since the Overhauser polarization effect does not require static magnetic fields, but uses radio frequency fields transparent to protons, measurement can be done concurrently with polarization. The result is a sensor with much greater sensitivity, that can be sampled much more rapidly than the standard proton sensor.

Overhauser magnetometer systems therefore maximize resolution while minimizing power consumption. Even with Walking Gradiometer systems, sampling at rates of once per second or betterare posible; Even in cold temperatures of minus 40 zero degrees Celsius and greater, the internal rechargeable battery can still be relied on for a 10 hour day, or longer.

The GSM-19 Overhauser magnetometer is thus truly a State-of-the-Art Magnetometer / VLF system. The GSM-19 offers the data quality, reliability, and extensive list of capabilities, and options, that allow it to meet a very wide spectrum of applications.

Standard Features of the magnetometer

The GSM-19 magnetometer console features a real time graphic display of the current profile. In addition digital display of the current reading, current position, and warning messages are provided. The console design, with internal rechargeable battery pack, allows the unit to be completely sealed against the elements. With the built in heater for the display the GSM-19 magnetometer is ready to go wherever your surveys may take you.

Tuning is automatic worldwide, with provision for manual override. In high gradient conditions the GSM-19 magnetometer monitors the signal decay rate and displays a warning message when the gradient becomes too great. Filters for rejection of 50 or 60 Hz noise are provided.

Diurnal corrections may be done in traditional fashion with one magnetometer unit as a base station and a second unit used as the mobile field unit. At the end of the survey the two units are connected and the field unit creates a corrected data file (which still includes the raw data file) based on the temporal drift recorded by the base station.

As a standard feature GSM-19 magnetometer also offer the capability of making tie point measurements for automatic diurnal corrections. To use this feature the operator records a base value and then loops back to this point periodically during the survey to record another measurement, and thus build a file of the drift. In this way a single instrument may be used to make diurnal corrections.

The RS-232 port on the GSM-19 magnetometer will output data as it is collected. This allows interface to GPS loggers that will accept RS232 data. The standard GSM-19 magnetometer may be operated in a remote mode via computer. Memory storage is 512 K in the standard unit, and may be upgraded to 2 MB.

Grid coordinates are stored with either numeric or compass designations. A seven digit number may be used to designate lines and positions. Line and position spacing is entered so that with every reading the position may be automatically updated. An End of Line feature allows the next line to be quickly selected, plus changes the sign on the position spacing. If the previous line had been adding positions as the operator moved, then on the next line, positions will be subtracted as the operator moves. The operator may also easily manually enter his grid position for cases where gaps in the line are necessary.

SPECIFICATIONS

Performance

	Overhauser	Proton
Resolution:	0.01 nT	0.01 nT
Relative Sensitivity:	0.02 nT	0.2 nT
Absolute Accuracy:	0.2 nT	1 nT
Range:	20,000 to 120,000 nT	20,000 to 120,000 nT
Gradient Tolerance:	Over 10,000 nT/m	Over 7,000 nT/m

Storage Capacity (readings)

	Overhauser	Proton
Std. Magnetometer:	32,000 to 131,000	16,000 to 32,000
With 3 VLF stations:	12,000 to 58,000	6,000 to 12,000
Base Station:	170,000 to 700,000	84,000 to 170,000
Gradiometer:	25,000 to 110,000	12,000 to 25,000
With 3 VLF stations:	12,000 to 46,000	6,000 to 12,000

Operating Modes

Manual: Coordinates, time, date and reading stored automatically at a minimum 3 second interval.

Base Station: Time, date and reading stored at 3 to 60 second interval (higher speeds available).

Walking: Time, date and reading stored at coordinates of fiducial with 0.5, 1 or 2 second cycle time.

Hip Chain: Equidistant coordinates, time, date and reading stored automatically. Distance interval of readings is programmable.

Remote Control: Optional remote control using RS-232 interface.

Input/Output: RS-232 or analog (optional) output using 6 pin weatherproof connector.

Operating Parameters

Power Consumption: Only 2 Ws per reading for Overhauser, and 12 Ws per reading for Proton magnetometer. Will operate continuously for 45 hours on standby.

Power Source: 12V 2.6 Ah sealed lead acid battery standard, other batteries available.

Operating Temperature: Overhauser: -50°C to +60°C. Proton: -40°C to +60°C.

Dimensions and Weight

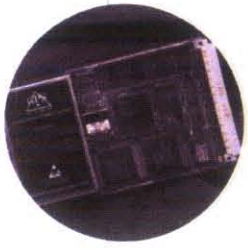
Dimensions:
- Console 223 x 69 x 240 mm.
- Sensor 170 x 71 mm diameter cylinder. Omnidirectional sensor 180 x 80mm.

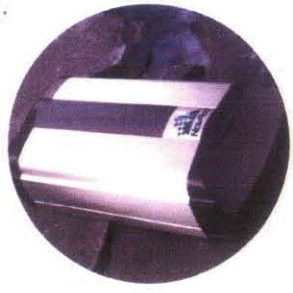
Weight:
- Console 2.1 kg.
- Sensor and staff assembly 2.0 kg.

A Standard package includes a console with batteries, harness, battery charger, case, sensor with 2m cable, and staff.

Look into NovAtel's Performance Series

They're a range of advanced technology, high performance L1 GPSCards featuring NovAtel's patented Narrow Correlator™ technology and providing sub-meter differential accuracy in real-time. High data output rates, fast signal reacquisition, and superior multipath mitigation techniques support even the most demanding GPS applications.





ADVANTAGES

- 12 channel "all in view" parallel tracking
- L1-C/A code and carrier measurements
- Narrow Correlator technology
- Multipath Elimination Technology (MET™)
- Sub-meter real-time DGPS accuracy
- High data output rates
- Low data latency
- High dynamics
- Ease of use
- OEM, PC Card, or standalone configurations
- Flexible integration
- Upgradable

NovAtel

Performance Series

Performance Series

NovAtel's PC Performance 3900 Series features a 2/3 length personal computer card designed for installation in PC compatible computers. This series offers a choice of two full DGPS Card models – the 12 channel 3911R, providing core functionality common to all GPSCard™ models, and the full data model 3951R.

NovAtel's OEM Performance 3100 Series features a Eurocard form-factor designed for standalone and embedded applications. This series offers a selection of GPSCard models ranging from the 12 channel 3111R, providing core functionality, to the advanced full data model 3151R. All OEM Performance Series receivers are DGPS capable and are rated for use at -40°C to +85°C temperatures. Available as a software option is NovAtel's Multipath Elimination Technology (MET) which reduces pseudorange multipath error by a further 25% to 50% over NovAtel's existing multipath resistant Narrow Correlator.

NovAtel's PowerPak™ Performance 3100 Series provides GPS integrators with an effective, self-contained system. Each PowerPak includes an OEM Performance Series GPSCard and a power supply.

NovAtel ProPak® Performance 3100 Series provides a rugged water, shock and vibration resistant housing for outdoor applications which provides all the same functionality of PowerPak.

Features

- 0.75 meter real-time differential accuracy
- L1-C/A code and carrier tracking
- 12 channel "all in view" parallel tracking
- Fast reacquisition
- Patented Narrow Correlator technology
- Optional Multipath Elimination Technology (MET)
- 10 Hz position output rate
- 20 Hz raw data output rate
- 1 PPS output
- Event marker
- RTCM SC104 v 2.1 2.2
- RTCA SC159
- RINEX v 2.0
- NMEA 0183 v 2.0
- GPSolution™ – Windows® compatible graphical user interface

[illegible]

Specifications[1]

• position accuracy	
standalone	
SA off	15 m CEP
SA on	40 m CEP
differential	0.75 m CEP
• post-processed (3151RE/3951R models only)	±5mm +2ppm
	±5mm +1ppm (horizontal)
	±10mm +1ppm (vertical)
• time to first fix	
cold start	70 s (typical)
• reacquisition	
warm start	1 s (typical)
• data rates	
raw measurements	20 Hz
computed position	10 Hz
• time accuracy	
SA off	50 ns RMS
SA on	250 ns RMS
• velocity accuracy	
standalone	0.20 m/s RMS
differential	0.03 m/s RMS
• measurement precision	
C/A code phase	10 cm RMS
carrier phase	
single channel	3 mm RMS
differential channel	0.75 mm RMS
• dynamics (OEM Card Series only)	
acceleration	4 g
velocity	515 m/s

[illegible]

PC Card 3900 Series

• physical	
size	21.6 cm x 10.7 cm x 1.9 cm
weight	220 g
• temperature	
operating	0°C to +70°C
storage	-40°C to +85°C
• interface	
PC ISA bus	8 bit/8 MHz
dual RS232 ports	
connectors	DB-9 male
baud rates	300 to 115,200 bps
TTL Strobes I/O	DB-9 female
RF input	SMA female
• power consumption	6 watts

OEM Card 3100 Series

• physical (Eurocard)	
size	16.7 cm x 10.0 cm x 1.5 cm
weight	175 g
• temperature	
operating	-40°C to +85°C
storage	-40°C to +85°C
• humidity	95% non-condensing
• interface	
types	RS232/RS422/NMEA
baud rates	300 to 115,200 bps
strobe I/O	TTL level
• connector type	
edge	64 pin 0.1" DIN 41612 type B
antenna	SMB male
• input voltage	5 VDC, ±12 VDC
• power consumption	5 watts

PowerPak 3100 Series

• physical	
size	20.8 cm x 11.1 cm x 4.7 cm
weight	1 Kg
• temperature	
operating	-40°C to +65°C
storage	-40°C to +85°C
• humidity	95% non-condensing
• interface	
communications	RS232/RS422/NMEA
baud rate	300 to 115,200 bps
strobe I/O	TTL level
• connector type	
communications	2 x DB9P
strobes I/O	DB9S
antenna	TNC female
power	2.1 mm threaded plug (center +)
• input voltage range	10-36 VDC
• power consumption	8 watts
• accessories include	
RS232 "Y" type null modem cable	
automotive power cable	
• optional accessories	
110/220 Volt AC adaptor	

ProPak 3100 Series

• physical	
size	24.5 cm x 13.0 cm x 6.2 cm
weight	1.2 Kg
• temperature	
operating	-40°C to +65°C
storage	-40°C to +85°C
• humidity	95% non-condensing
• interface	
communications	RS232
baud rates	300 to 115,200 bps
strobes I/O	TTL level
• connector type	
communications	2 x 10 pin LEMO
strobes I/O	8 pin LEMO
antenna	TNC female
power	4 pin LEMO
• input voltage range	10-36 VDC
• power consumption	8 watts
• accessories include	
RS232 null modem and straight cable	
strobe I/O cable	
automotive power cable	
• optional accessories	
110/220 Volt AC adaptor	

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For detailed product technical specifications, please call:

1-800-NovAtel

in U.S. or Canada or +1-403-295-4900
email: sales@novatel.ca
internet: www.novatel.ca

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NovAtel

Now. what's tomorrow's challenge?

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FIELD DATA PROCESSING WORKSTATIONS

Our Field Data Processing Workstations (FWS) are dedicated PC-based microcomputer systems for use at the technical base in the field. The workstations are designed for use with Geosoft OASIS, MPS and MONTAJ, ENCOM, and other data processing software, as well as in-house developed software and utilities.

The FWS has a data replot capability, and may be used to produce pseudo analog charts from the recorded digital data within less than 12 hours after the completion of a survey flight, if this is necessary. It is also capable of processing and imaging all the geophysical and navigation data acquired during the survey, producing semi-final, preliminary-levelled maps in either black-line contours on Mylar or full colour contours on paper.

FWS FEATURES

- **Portability** - the workstations can be packaged and transported to the field with a minimum of effort
- **Digital Data Verification** - flight data quality and completeness can be assured by both statistical and graphical means
- **Flight Path Plots** - flight path plots can be quickly generated from the GPS satellite data to verify the completeness and accuracy of a day's flying
- **Versatility** - the FWS can be used in both the field and the office. Data pre-processed in the field can be up-loaded to the computers at the Data Processing Centre to speed data turnaround.
- **QC and Preliminary Maps** - the software will permit preliminary maps of the magnetic and gamma-ray spectrometer data to be quickly and efficiently created in the field, providing a quick and efficient method to undertake QC Verification of newly acquired data.

THE HARDWARE

The workstations are PC-compatible PENTIUM microcomputers with a 2GHz or faster processor, 512 MB of memory, a large capacity hard disk drive, an extended VGA graphics card with VGA monitor and a colour inkjet plotter for generating maps and/or profiles, and ZIP, JAZZ and writeable CD-ROM drives to backup data.

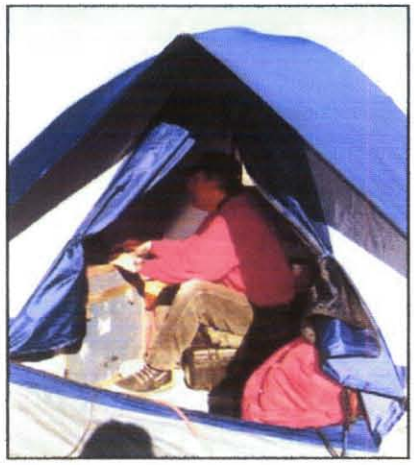
THE SOFTWARE

The FWS software enables the user to read the FLASH cards, ZIP cartridges or PCMCIA removable hard disks from the airborne system, check the data for gaps, spikes or other defects and permits editing where necessary.

The base station GPS/magnetometer data is checked and edited, and where necessary merged with the airborne data. Post-survey differential GPS corrections are made using either C³NAV and/or WAYPOINT software. GPS flight path plots may be created and plotted. Multi-channel stacked profiles of the recorded and edited data may be produced on the dot-matrix printer.

The Software includes:

- Geosoft OASIS/Montaj Airborne Processing Software
- PC-based airborne data compilation and binary database system for in-field processing and compilation of large volumes of time or fiducial based airborne data
- Proprietary data for processing HEM data
- GrafNAV GPS processing/differential GPS correction software
- McPhar's proprietary software and utilities
- General Utility software (WINDOWS 200 PRO, Norton Utilities, Norton Anti-virus, Xtree Gold, LapLink, etc.)



APPENDIX 4

Personnel Resumes

- Tim Bodger
- Robert Hearst
- Henrik T. Anderson
- Daniel McKinnon
- Tonia Bojkova
- Asif Mirza

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WebSite: www.mgssurveys.com

RÉSUMÉ

Name: Timothy R. Bodger

Profession: Manager, Administrator, Sales and Marketing

RELEVANT EMPLOYMENT HISTORY:

2003 – present **McPhar Geosurveys Ltd., Newmarket, Ontario, Canada – General Manager** - responsible for the day-to-day administration, operations and sales and marketing activities of the company.

1998 – 2002 **EDCON Aero Surveys, Inc., Denver, USA - Vice President, Sales & Marketing** - a joint venture company between Aero Surveys Inc. and EDCON Inc., responsible for sales and marketing activities of the company.

1996 – 2002 **Aero Surveys Inc., Uxbridge, Canada - Vice President, Sales & Marketing** - h August 1996, Aero Surveys was acquired by GeoeXperT Geosciences C.A., and at that time, Bodger became the Vice President responsible for sales and marketing activities of the company. In 1997, was instrumental in introducing Aero Surveys to Airborne Gravity surveys, and assisted in the creation of the EDCON Aero Surveys joint venture to undertake Airborne Gravity Surveys.

1995 - 1996 **Aero Surveys Inc., Richmond Hill, Canada - Founder, Director and Vice-President** - Joined the newly formed company as President, responsible for the day-to-day management of the company, determining the company's future business plans, sales and marketing of its services and products, supervising a staff of 12 plus employees, and maintaining budgets and cash-flow.

1994 - 1995: **Scintrex Limited, Toronto, Canada - Promoted to General Manager, Systems & Surveys Division**, a new division of Scintrex created to provide contract airborne and ground geophysical surveys. Responsible for budgets, sales and marketing of the division, project costs and profits, supervising staff of 30 persons, including a Joint Venture Company in Cuba (Scintrex-Caribe).

1992 - 1994: **Scintrex Limited, Toronto, Canada - Promoted to Director of Sales**, responsible for the sales and marketing of all Scintrex Products and Services, including contract airborne and ground geophysical surveys. Supervised a staff of 16 persons, and a network of 74 agents and representatives, worldwide.

1989 - 1991: **Scintrex Limited, Toronto, Canada - Promoted to General Sales Manager, Earth Science Products**, responsible for the sales and marketing of all products and services of the Earth Science Division. Supervised sales and marketing staff of 9 persons.

1985 - 1989:	**Scintrex Limited, Toronto, Canada - Airborne Instrumentation Sales Manager,** responsible for the sales and marketing of Scintrex' airborne geophysical instrumentation and services.
1982 - 1985:	**Questor Surveys Ltd., Mississauga - Projects Manager** of 210,000 km aeromagnetic survey of the Philippines from 1982 to 1984, and various small projects around Canada/USA in 1984/85.
1981 - 1982:	**Geosurvey International, Kenya - Assistant Project Manager,** assisted in managing a large nation-wide regional survey in Guinea, West Africa, responsible for the operations of 3 aircraft and a crew of 25 persons.
1977 - 1980:	**Questor Surveys Ltd., Mississauga, Canada - Data Compilation Manager,** responsible for supervising Datamen in field on INPUT (TDEM) surveys, as well as for the compilation of all INPUT survey data into maps and other products. Worked primarily in Canada, USA and South Africa.
1974 - 1977:	**Northway Survey Ltd., Toronto, Canada - Dataman and Crew Chief** on various airborne projects in Canada, Niger, Nigeria, Venezuela, Dominican Republic, Lesotho, South Africa, Senegal and USA.
1973 - 1974:	**Geometrics Inc., California, USA - Dataman** on various airborne projects in USA, Alaska, Zambia and Australia.
1971 - 1973:	**Aero Service Corporation, Philadelphia, USA - Dataman** on large airborne regional survey of Algeria.

PROFESSIONAL AFFILIATIONS:

- Past President, Currently Member, Canadian Exploration Geophysical Society (KEGS)
- Member, Society of Exploration Geophysicists (SEG)
- Member, Prospectors & Developers Association of Canada (PDAC)

TECHNICAL PAPERS/PUBLICATIONS:

Between 1994 and 1998, has written and/or published eight technical papers on airborne geophysical surveying topics.

LANGUAGES:

English and French

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RÉSUMÉ

NAME: **Robert Hearst**

PROFESSION: Geophysicist

EDUCATION:

1996 M.Sc., Geophysics and Geology, McMaster University
1983 B.Sc. (Honours), Geophysics and Geology, University of Western Ontario

WORK EXPERIENCE:

2004 - present **McPhar Geosurveys Ltd., Senior Geophysicist/Data Processing Manager** – Responsible for supervising McPhar's Data Processing Dept., responsible for processing data acquired by ground and airborne (installed in either rotary- or fixed-wing aircraft) electromagnetic, magnetic, radiometric, or other geophysical survey systems at the company's Data Processing Centre in Newmarket, using OASIS, MONTAJ, INTREPID and other software; quality control (QC) of acquired geophysical data; geophysical interpretations; operational logistics

2002 – 2004 **Consulting Geophysicist, Toronto** - servicing various international and local clients. Quality Control / Quality Assurance for Saudi Aramco on the World's largest multiple gradient airborne magnetic survey (approx. 1.7 million line-kms of data acquisition). Supervision and field quality control of data acquired by multiple aircraft on a daily basis including the acceptability and necessary re-flights / modifications required to meet contract specifications. Evaluation and specification of all final deliverable products including acceptability of final products and processing steps. Design, Quality Control / Quality Assurance and Interpretation of several smaller airborne and ground geophysical surveys completed in Canada and Venezuela for several Junior Mining Companies.

1997 - 2002 **Stratagex Ltd., Geophysical Consulting, Toronto, Senior Geophysicist** - Survey design, management, interpretation and client liaison for numerous mining companies involved in geophysical exploration for diamonds, gold and base metals in Canada, Central America, South America and Africa. Including the selection of contractor(s), writing of survey specifications, review of contracts, quality control (QC)/quality assurance (QA) activities for ground and airborne data sets and interaction with project geologists.

1995 - 1997 **Guaniamo Mining Company Limited, C/O Toco Mining Company Limited, Fort Lauderdale, Florida, USA, Chief Geophysicist and Project Manager** - Design and management of an integrated geological and geophysical grassroots exploration program for hard rock and alluvial gold and diamonds in the Guyana Shield of Venezuela. Responsibilities included the assembly of a balanced geological and geophysical exploration team; selection of contractors and consultants (international and local); planning and execution of ground follow-up areas for geological,

geochemical and geophysical surveying; analysis of results; selection of drill sites, selection of bulk sampling sites; selection of possible alluvial plant sites; preparation of exploration budgets. Selection of appropriate geological and geophysical methodologies for the follow-up of high resolution aeromagnetic and radiometric surveys on the concessions. Analysis of country-wide and concession-scale aeromagnetic, radiometric, and satellite databases with selection of prospective areas for gold and diamond potential.

1983 – 1995 **Paterson, Grant & Watson Limited, Consulting Geophysicists, Toronto - Senior Staff Geophysicist (1987-1995) Staff Geophysicist (1983-1987)** - Development of new client base; responsible for the design, implementation, acquisition, compilation, processing, interpretation and presentation of geophysical and geological exploration and development surveys for precious metals, diamonds, base metals and petroleum. Management of government contracts. Assembly and coordination of field work crews (worldwide) and data processing teams. Geophysical data processing and interpretation; organization, supervision, coordination and participation in geophysical data processing projects conducted by teams of three to four individuals. Responsible for scheduling assigned projects, team selection, quality control of the product and presentation and delivery of final products to the clients.

ACADEMIC AWARDS:

- McMaster University Department of Geology Graduate Scholarship 1991 - 1992, 1992 - 1993.
- Canadian Society of Exploration Geophysicists Trust Fund Scholarship, donated by Chevron Standard Limited, 1982.

PROFESSIONAL AFFILIATIONS:

- Society of Exploration Geophysicists (SEG).
- Past President, Canadian Exploration Geophysicists Society (KEGS).
- Environmental and Engineering Geophysicists Society (EEGS)
- Canadian Institute of Mining and Metallurgy (CIM) (National and Toronto Branch).
- Prospectors and Developers Association of Canada (PDAC).
- Registered Professional Geophysicist, NAPEGG.

PROFESSIONAL EXPERIENCE:

- 22 years of continuous experience in the geophysical survey industry
- Good management skills
- Extensive international experience
- Extensive experience processing and interpreting airborne magnetic and/or magnetics/ radiometric data
- Excellent computer skills, experienced programmer

TECHNICAL PUBLICATIONS:

More than 15 technical publications between 1983 and 2003, list available on request.

LANGUAGES: English, working knowledge of French and Spanish

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RÉSUMÉ

NAME: **HENRIK TOFT ANDERSEN**

PROFESSION: Geophysicist

EDUCATION:

1987	Ph.D. Geophysics, Colorado School of Mines, Golden, Colorado.
1978	M.S. Geophysics, Colorado School of Mines, Golden, Colorado.
1973	B.S.(hons) Geophysics, Bernard Price Inst. for Geoph. Research, University of the Witwatersrand, Johannesburg, South Africa.
1968	B.S. Geology, University of Pretoria, Pretoria, South Africa.

WORK EXPERIENCE:

2003 - **McPhar Geosurveys Ltd., Newmarket, Ontario, Canada - Consulting Chief Geophysicist** - supervising all geophysical activities of the company, including research and development of instrumentation and software; data processing, interpretation and reporting.

1996 - 2002 **Aero Surveys Inc., President and Chief Geophysicist** - responsible for the day-to-day management of the company; determining the company's future business plans; strategic planning; supervising a staff of 12 plus employees; maintaining budgets and cash-flow; supervising all geophysical activities of the company, including data processing, interpretation and reporting.

1998 - 2002 **EDCON Aero Surveys, Inc., Vice President and Chief Geophysicist** – a joint-venture company between Aero Surveys Inc. and EDCON Inc. Responsible for the day-to-day geophysical activities of the company, including data processing, interpretation and reporting.

1993 - 1996 **GeoeXperT C.A. and Digitus International, Ltd., Vice President.** Research Project: Imaging and Pattern recognition in the interpretation of Transient Electromagnetic data for Idaho National Engineering Labs. **Consultant to GeoeXperT, Venezuela**, on mineral exploration in tropical terranes, **Consultant to: (a) TerraSoft**, Sunnyvale, California,

on interpretation of Electromagnetic Offset Logging, (b) **Sandia National Labs.**, Albuquerque, New Mexico, on application of electrical methods to map and characterize the disturbed rock zone around underground excavations and its associated fluid redistribution.

1990 - 1993 **Department of Geophysics, Colorado School of Mines, Assist. Research Professor.** Research Projects: (a) Imaging and Pattern recognition in the interpretation of Transient Electromagnetic data for Idaho National Engineering Labs, (b) Mapping of fluid redistribution in the Disturbed Rock Zone around underground excavations for Sandia National Lab. Vice President and consultant to GeoeXperT, Venezuela, on precious- and base metal exploration in tropical terranes.

1988 - 1990 **Department of Geophysics, Colorado School of Mines, Professional Research Assistant.** Research Projects: (a) Characterization of the Disturbed rock Zone around underground excavations for Sandia National Labs., test of exploration methods for oil and gas beneath the pre-Cambrian overthrust in upstate New York, (c) application of electrical exploration methods for oil and gas exploration in Venezuela. Consultant to MINDECO and The Nuclear Fuels and Reactor Corp. of Japan.

1987 - 1988: **Department of Geophysics, Colorado School of Mines, Post Doctoral Fellow**. Research Projects: (a) Application of Electrical methods to Oil and Gas exploration in Venezuela, (b) Geothermal exploration in Iceland, and (c) Site characterization of the Waste Isolation Pilot Plant in SE New Mexico. Consultant to GeoPacific Resources for MINDECO on geothermal exploration in Japan.

1981- 1987 **Department of Geophysics, Colorado School of Mines, Teaching and Research Assistant.** (a) Teaching assistant for Electrical Exploration Methods during Summer Field Camp, (b) Research assist. on Electromagnetic and Gravity project over pre-Cambrian overthrust in New York, (b) Research assist. on the development of multi-component electromagnetic application and interpretation systems, and (c) Project Manager on Transient Electromagnetic studies of deep structural features below volcanic cover in the states of Washington and Colorado. Consultant to Newmont Overseas Exploration in Spain and Peru.

1970 - 1981 **Tsumeb Corporation Ltd. (Newmont Mining), Senior Exploration Geophysicist** for base metals in Namibia and Namaqualand. Commonly used methods on integrated surveys included ground- and airborne magnetics, radiometrics, IP/resistivity, frequency and transient electromagnetics and gravimetry.

1969 - 1970 **Falconbridge Exploration (South Africa); Field Geologist/**

	Geophysicist on base metal exploration in Namibia and Zimbabwe.
1968 - 1969	**Kennecott Exploration (South Africa); Field Geologist** on base metal exploration in Namibia.
1963 - 1968	**Geological Survey of South Africa; Geophysical Field Technician** on gravity surveying and electrical logging of shallow wells.
1962 - 1963	**Federal Vanadium Corp. (South Africa); Laboratory Technician** in chemical production control laboratory.

PUBLICATIONS:

Authored/co-Authored and published more than 20 technical papers. List available on request.

PROFESSIONAL EXPERIENCE:

- More than thirty years professional experience in the collection, processing and interpretation of ground and airborne geophysical data for a wide range of applications, including: oil and gas exploration; mineral exploration; ground water exploration; and environmental studies.
- Considerable management experience, supervising staff of up to 20 persons, as well as extensive experience as an in-field Project Manager and/or consultant.
- Extensive computer skills, experienced with AutoCAD, GEOSOFT OASIS/MPS/MONTAJ data processing software, and FORTRAN, C, and other programming languages.
- Experienced in the planning and design of geological and geophysical exploration programs for both oil and gas and minerals exploration.
- Extensive experience in teaching and training personnel to do data processing and in the application of geophysical surveying techniques.
- Considerable experience in designing and managing Research and Development programs.

PROFESSIONAL SOCIETIES:

- American Geophysical Union
- Geological Society of America
- Venezuelan Geophysical Society
- Sigma Xi
- Aircraft Owners and Pilots Association

LANGUAGES:

English, Danish, Afrikaans, some Spanish

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RÉSUMÉ

NAME: **Daniel J. Mckinnon**

HIGHLIGHTS

- Acquired extensive knowledge in the Manufacturing Industry
- Experience in mining operations, security, general labour, carpentry, electrical, electronics, plumbing, fabricating, and welding
- Excellent communication skills when dealing with customers, co-workers and managers
- Proven capacity to identify problems and develop effective solutions
- Honest, reliable, and hardworking with strong interpersonal skills
- Committed driven team player, bringing enthusiasm and energy into group efforts
- Bilingual in French and English, both written and verbal

SKILLS AND EXPERIENCE

PRODUCTION SUPERVISOR

- Coordinated with various departments the accounts payable, accounts receivable and data entry
- Continued involvement in Research and Development, designing, manufacturing, prototyping and testing products
- Responsible for the quality control of manufactured parts and final testing of the finished products
- Acquired extensive knowledge in the use of all conventional measurement instruments, and interpreting mechanical drawings
- Solid knowledge of geometric tolerancing and interpretation
- Developed product parts manual including mechanical drawings, exploded views, troubleshooting guide, basic operation, warranties and maintenance requirements
- Develop and maintain improvements toward shop floor quality
- Ensured that all employees' issues and concerns are addressed in a timely manor to maintain a positive working environment
- As Safety Representative, conducted departmental floor meetings covering current product quality and/or safety issues
- Ensured all employee orientation, versatility training requirements within the department are met
- Maintained close communication, correspondence and coordination with other production and non-production departments to assure schedule attainment
- Designed, developed and implemented the inventory control system along with the management team
- Responsible for the maintenance of all inventory count procedures
- Direct contact with clients for the installation, training and foregoing service requirements for all customers throughout North America

GENERAL LABOUR

- Operated heavy equipment such as excavator, front-end loader, dozer and back-hoe
- Acquired basic knowledge and experience in home renovation, drywall, woodworking, trim, doors, mouldings, and preparing cost estimates
- Experienced in basic plumbing including measuring, cutting, joining, and testing pipes, as well as locating and marking positions for pipe connections and passage holes
- Skilled in residential electrical work such as interpreting drawings and code specifications, installation and testing circuit

McPHAR

MINING OPERATIONS

- Operated a variety of underground and surface mining heavy equipment
- Performed various mining production and development duties including blasting, rock bolting, reconditioning, raise bore, long hole drilling, mucking, trucking, tramming, crushing, utility construction work and various other underground duties
- Maintained underground roadways, pumping systems, and monitored water levels

EDUCATION

ATLANTIC TRANSPORT TRAINING ACADEMY, Miramichi, N.B 1999
Heavy Equipment Operator Certificate
Alcohol and Drug Testing: Training and Awareness for Supervisors and Employees Certificate
Highway Signalers Course Certificate

NEW BRUNSWICK COMMUNITY COLLEGE, St. Andrews, N.B 1995
Electrical Appliance and Refrigeration Repair Diploma
Block 1 Apprenticeship - Electrical

JAMES M. HILL MEMORIAL HIGH SCHOOL, Miramichi, N.B 1994
High School Diploma

ADDITIONAL TRAINING

- Lockout (600V, 2300V)
- WHMIS
- Forklift Operation
- Standard First Aid Certificate
- Scaling
- Emergency Preparedness
- Blasting/Explosives
- Oscenco Self Rescuer
- Noranda Environmental Awareness
- Air Quality Testing
- Mining Industry Training and Adjustment Council – Canada (MITAC) Certified in conjunction with New Brunswick Community College – Bathurst. Modules MUH000 – MUH005 and MUH009

EMPLOYMENT HISTORY

McPHAR GEOSURVEYS LTD. 2003-Present
Geophysical Survey Technician

COMPRESSARIO CORPORATION, Newmarket, ON
Production Manager / North American Service Representative 2001-2003
Assembly/Electronics Technician 1999 - 2001

NORANDA – HEATH STEELE MINES, Miramichi, N.B 1996 - 1999

Heavy Equipment Operator – Production/Development Miner

CITY of MIRAMICHI 911, Miramichi, N.B
Addressing Co-coordinator 1994

JEAN COUTU PHARMACY, Miramichi, N.B
Stock Room / Shipping receiving 1993

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RÉSUMÉ

NAME: **Tonia Bojkova**

PROFESSION: Geophysicist

EDUCATION:

2001	Geosoft Data Processing and Analysis Software, Guildford, United Kingdom
1998	GeoPak Data Processing Software, HSG Ltd., Toronto, Canada
1978 – 1980	M.Sc., Applied Mathematics, Technical University, Sofia, Bulgaria
1973 – 1978	M.Sc., Geophysics, University of Mining and Geology, Sofia, Bulgaria

WORK EXPERIENCE:

2004 - **McPhar Geosurveys Ltd., Geophysicist/Data Processor** - responsible for processing of airborne geophysical data; quality control (QC) of acquired geophysical data; geophysical interpretations; operational logistics

2000 – 2002 **Fugro Airborne Survey (FAS), United Kingdom – Office in Sofia, Bulgaria, Geophysicist** - Processed and analyzed radiometric and magnetic data, and produced corresponding maps in Bulgaria and in the UK (Guildford). Prepared final reports.

1992 - 2000 **Airborne Geophysical Survey (AGS) Ltd., Bulgaria** (a Joint Venture between the Government of Bulgaria and High-Sense Geophysics Ltd., Toronto, Canada), **Geophysicist** - Planned and managed airborne surveys; collected, processed, and analyzed airborne radiometric and magnetic data, produced the corresponding maps and prepared final reports; reprocessed archive data from Namibia, performed environment projects - gamma-ray monitoring of the Bulgarian NPP, Kozloduy using 2048-channel gamma-ray spectrum analyzer

1980 – 1992 **Airborne Geophysical Department of the Enterprise for Geophysical Explorations and Geological Mapping, Sofia, Bulgaria, Geophysicist** - collected, processed, and analyzed airborne radiometric and magnetic data; produced the corresponding maps and prepared final reports; performed gamma-ray monitoring of Bulgaria after Chernobyl NPP fallout

INTERNATIONAL EXPERIENCE:

Canada, Bulgaria, Macedonia, Congo, Zimbabwe, Zambia, Botswana

PROFESSIONAL EXPERIENCE:

- 24 years of continuous experience in the geophysical survey industry
- Extensive international experience
- Extensive experience processing and interpreting airborne magnetic and/or magnetics/ radiometric data
- Excellent computer skills, experienced programmer

LANGUAGES: Bulgarian, English

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WebSite: www.mgssurveys.com

Name: **ASIF M. MIRZA**
Profession: **Geophysicist**

HIGHLIGHTS OF QUALIFICATION

- Experience as a field geophysicist
- Airborne geophysical data management and processing
- Seismic reflection data processing experience in Geophysical Investigations for the demarcation of overburden from the bedrock and concerning oil resources
- Extensive experience in 2-D seismic reflection data interpretation
- Experience in seismic data interpretation with the help of Seismic Straitigraphy, Borehole logging, Gravity and Resistivity methods
- Data acquisition with the help of different environmental instruments
- Research about new environmental issues
- Risk assessments and cost estimates related to environmental clean up
- Evaluation of groundwater potential along sea shoreline, environmental investigations, remedial activities
- Master's in Environmental Science, Master's in Geophysics and Bachelor of Applied Geology
- Knowledge and work experience of the software's, Geosoft Montaj, DOS, Windows XP/NT/2000, M.S.Office, Corel DRAW 9, Arc view GIS
- Well organized, self motivated, honest and goal oriented
- Excellent team player with proven communication and interpersonal skills

PROFESSIONAL EXPERIENCE

Geophysicist
McPhar Geosurveys Ltd, Newmarket, Ont, Canada 2004

- Airborne geophysical field data management and preliminary processing, of different projects, using Geosoft Oasis Montaj
- Quality control decisions of survey data within the specification laid down with clients and McPhar's standards
- Gridding, contouring and leveling of magnetic and electromagnetic geophysical data to produce profiles and contours maps
- Set up and operate ground base station system, comprising magnetometer and GPS system
- Producing of backup CD-ROM's of the processed data for forwarding clients via internet or company network site
- Making final reports of the processed geophysical data for clients

Field Geophysicist 2000-2001
SEFEC (Pvt.) Ltd, Karachi, Pakistan

- Seismic reflection data acquisition with the help of dynamite in Attock Area, Pakistan
- Seismic reflection data recorded in the field using well-defined field parameters, i.e. source and spread configuration
- Seismic spread and geophone arrays designed using walk away test and spectral analysis
- Performed field seismic data processing Attock Area, Pakistan

EDUCATION

- Master's in Applied Environmental Measurement Techniques, Chalmers University of Technology, Sweden
- Master's in Applied Geophysics Dept. of Earth Science, Quaid-I-Azam University, Islamabad, Pakistan
- Bachelor of Applied Geology, Institute of Geology, University of the Punjab, Lahore, Pakistan

GEOLOGICAL & ENVIRONMENTAL FIELD EXCURSIONS

- Fieldwork about the Local Human Stresses on three lakes in Molandal Area, Sweden.
- Field about Soil Farmation Analysing Aten Kapell, Vastergotland, Sweden.
- Field study of the Air Quality at Universeum and Chalmers, Gothenburg, Sweden.
- Geological & Geophysical Field Works in Northern Pakistan.

TRAINING

Internship:

- Seismic Data Processing, OGDCL, Islamabad, Pakistan

Technical Courses:

- Evaluation of Aggregates as constructional material, Course arranged by the Kent State University, Ohio, USA and Institute of Geology, University of the Punjab, Lahore, Pakistan
- Course on Geographical Information System (GIS), Course arranged by the National University of Science and Technology, Islamabad, Pakistan
- Course on Seismic Stratigraphy and Tectonics (Basin Analysis and Computer Modelling), Course arranged by Petroleum Geology Investigators ApS, Copenhagen, Denmark and the Dept. of Earth Sciences, Quaid-i-Azam University, Islamabad, Pakistan
- Well Logging interpretation, Course arranged by Petroleum Geology Investigators ApS, Copenhagen, Denmark and the Dept. of Earth Sciences, Quaid-i-Azam University, Islamabad, Pakistan

SCHOLASTIC ACHIEVEMENTS

- 2nd position in Fieldwork, B.Sc. Geology
- 4th position in B.Sc. Applied Geology

EXTRA CURRICULAR ACTIVITIES

- Member Quaid-I-Azam Blood Donor Society (QBDS)
- Member Dramatic Club QAU
- Member of the University Cricket Team
- Class representative during M.Sc. in University
- Certificate of 2nd position in Cricket, Annual Sports 95
- Certificate of service for National Cadet Corp. (NCC)

LANGUAGES

English, Urdu, Hindi and Punjabi

APPENDIX 5

Digital Data Specifications

- Klondike_Final.XYZ database listing
- Klondike_Extended Lines.XYZ database listing
- EM Anomaly Classification Listing

KLONDIKE 0422
FILE: Klondike_Final.XYZ(gdb)

Name of channel	Explanation
X	X coordinate-UTM zone 8N
Y	Y coordinate-UTM zone 8N
Lat_new	Latitude
Long_new	Longitude
Fid	Fiducial
Galt_m	gps Height in meter
Ral_m	Radar altimeter in meter
Gpstime_sec	GPS Time in second
DTM	Digital Terrain Model in meter
Magedited	Raw edited mag
IGRF	IGRF
Mag_lev	Leveled mag
TMI	Leveled and microleveled IGRF Removed mag
Ip1_F	raw In Phase component 7 kHz
Q1_F	raw Quadrature component 7 kHz
Ip1_F_7kHz	leveled In Phase component 7 kHz
Q1_F_7kHz	leveled Quadrature component 7 kHz
Ip2_F	raw In Phase component 6600Hz
Q2_F	raw Quadrature component 6600 Hz
Ip2_F_6600Hz	leveled In Phase component 6600 Hz
Q2_F_6600Hz	leveled Q uadrature component 6600 Hz
Ip3_F	raw In Phase component 980 Hz
Q3_F	raw Quadrature component 980 Hz
Ip3_F_980Hz	leveled In Phase component 980 Hz
Q3_F_980Hz	leveled Quadrature component 980 Hz
Ip4_F	raw In Phase component 880 Hz
Q4_F	raw Quadrature component 880 Hz
Ip4_F_880Hz	leveled In Phase component 880 Hz
Q4_F_880Hz	leveled Quadrature component 880 Hz
Ip5_F	raw In Phase component 34kHz
Q5_F	raw Quadrature component 34kHz
Ip5_F_34kHz	leveled In Phase component 34kHz
Q5_F_34kHz	leveled Quadrature component 34kHz
Res880	Resistivity 880 Hz

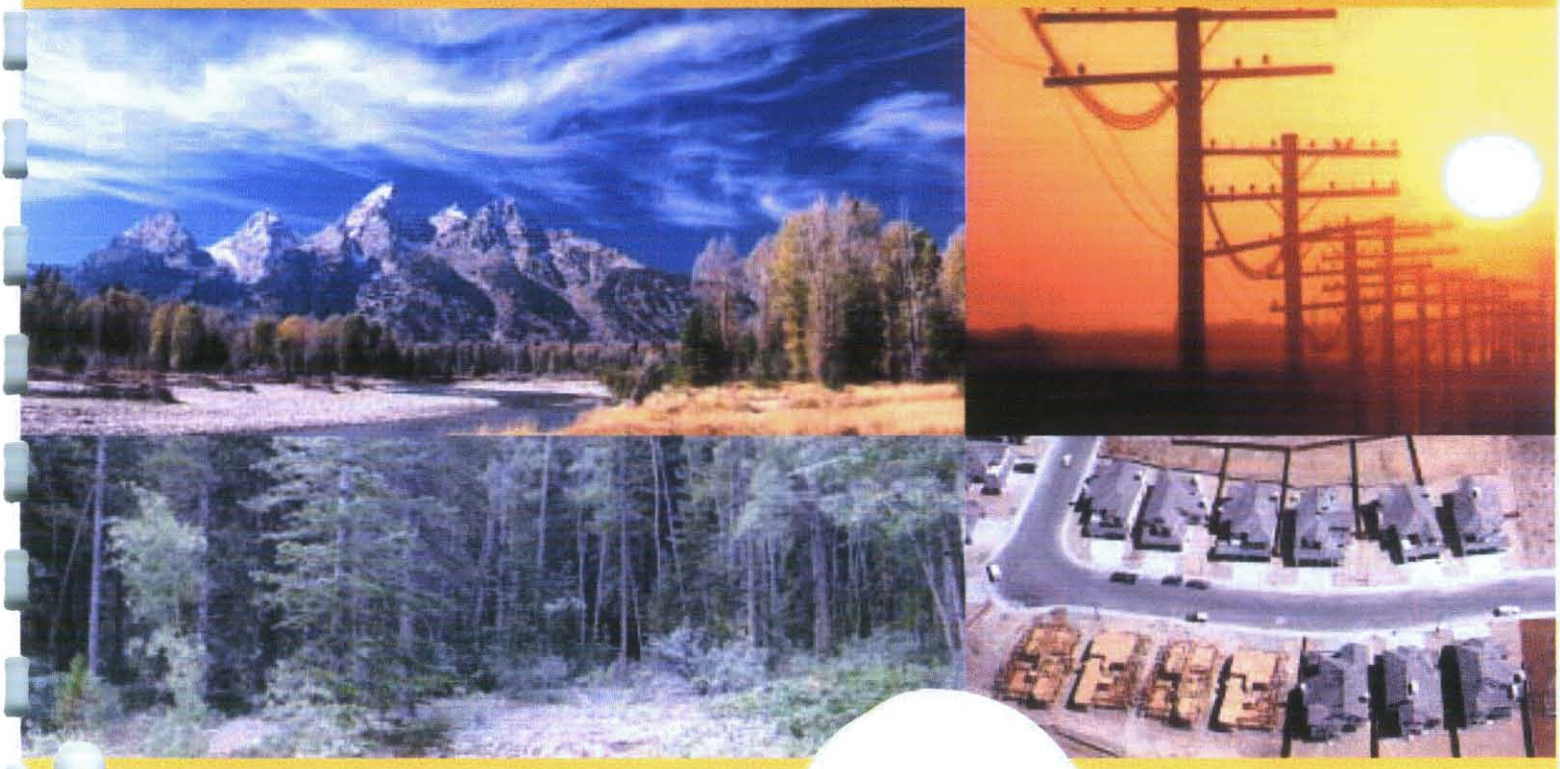
KLONDIKE 0422
FILE: Klondike_extendedLines.XYZ(gdb)

Name of channel	Explanation
X	X coordinate-UTM zone 8N
Y	Y coordinate-UTM zone 8N
Lat_new	Latitude
Long_new	Longitude
Fid	Fiducial
Galt_m	gps Height in meter
Ral_m	Radar altimeter in meter
Gpstime_sec	GPS Time in second
DTM	Digital Terrain Model in meter
Magedited	Raw edited mag
IGRF	IGRF
Mag_lev	Leveled mag
TMI	Leveled and microleveled IGRF Removed mag
Ip1_F	raw In Phase component 7 kHz
Q1_F	raw Quadrature component 7 kHz
Ip1_F_7kHz	leveled In Phase component 7 kHz
Q1_F_7kHz	leveled Quadrature component 7 kHz
Ip2_F	raw In Phase component 6600Hz
Q2_F	raw Quadrature component 6600 Hz
Ip2_F_6600Hz	leveled In Phase component 6600 Hz
Q2_F_6600Hz	leveled Q uadrature component 6600 Hz
Ip3_F	raw In Phase component 980 Hz
Q3_F	raw Quadrature component 980 Hz
Ip3_F_980Hz	leveled In Phase component 980 Hz
Q3_F_980Hz	leveled Quadrature component 980 Hz
Ip4_F	raw In Phase component 880 Hz
Q4_F	raw Quadrature component 880 Hz
Ip4_F_880Hz	leveled In Phase component 880 Hz
Q4_F_880Hz	leveled Quadrature component 880 Hz
Ip5_F	raw In Phase component 34kHz
Q5_F	raw Quadrature component 34kHz
Ip5_F_34kHz	leveled In Phase component 34kHz
Q5_F_34kHz	leveled Quadrature component 34kHz
Res880	Resistivity 880 Hz

X (UTM Easting)	Y (UTM Northing)	Line	gpstime_sec	class7kHz	cond7kHz	label_class7kHz	class980Hz	cond980Hz	label_class980Hz
321754.2176	6758722.321	L1228:12	79041.5				3	1.321202874	A
323986.9755	6757131.093	L1470:13	76605.3				1	0.438041538	A
323985.3494	6757129.03	L1470:13	76605.4	2	0.429507375	A			
324141.0747	6756922.1	L1490:13	76727.8				4	1.510216355	A
324149.1809	6756930.708	L1490:13	76728.1	3	0.773590803	A			
325697.6021	6756352.886	L1630:13	78066.3				2	1.14653492	A
325240.045	6755815.157	L1630:13	78101.8	5	1.202282071	A			
325221.3046	6755790.085	L1630:13	78102.9				3	1.364529252	B
325798.4315	6756284.432	L1640:12	75693				1	0.928427339	A
327461.2832	6755208.948	L1820:1	73878.1	3	0.836293161	A			
327456.8653	6755202.908	L1820:1	73878.4				2	1.170760274	A
326802.3866	6754395.817	L1820:1	73918				1	0.989219189	B
326777.7451	6754364.648	L1820:1	73920.55	3	0.801563442	B			
326210.768	6755763.677	L1700:1	74666.7				6	3.162862778	A
324126.7673	6757087.384	L1480:1	76613.7				1	0.885160208	A
323371.9498	6756876.086	L1440:1	76882.2				1	0.147120997	A
323329.1171	6757530.049	L1400:1	77126.7				1	0.875203252	A
323066.0165	6757579.703	L1380:1	77251.5				1	0.123125061	A
322957.0575	6757764.161	L1360:1	77421.4				3	1.380790591	A
321811.0894	6759157.87	L1200:1	79169.6				3	1.368589044	A
321431.3146	6758733.389	L1200:1	79199				1	0.910874546	B
322033.0955	6759780.873	L1180:1	79410.2				1	0.253712863	A
321223.9836	6759506.606	L1140:1	79672.2				6	2.408863068	A
321634.1815	6760330.732	L1120:1	79767.3				3	1.380773783	A
321228.177	6759871.922	L1120:1	79802.8				5	1.797248006	B
320304.9158	6759970.902	L1051:1	80764.6				5	1.881335974	A
320881.2194	6760619.764	L1051:1	80807.3				1	0.286020905	B
320200.3616	6760544.053	L1010:1	80915.6				1	0.69586581	A
319915.2967	6759998.351	L1020:1	81044.9				5	1.972522736	A
320692.5232	6760935.975	L1020:1	81091.7				6	2.620497465	B
323019.8051	6757658.647	L1370:2	75565.8				1	0.291364074	A
323026.0397	6757666.508	L1370:2	75566.1	3	0.919239461	A			
323432.1592	6758141.567	L1370:2	75584.1	3	0.792143106	B			
323438.9066	6758149.202	L1370:2	75584.4				3	1.292754889	B
		L1370:2	75613.3				1	0.684089184	C
323712.5624	6758130.71	L1390:2	75791.7				5	1.977850556	A
323755.3934	6757849.197	L1410:2	75978.1				1	0.586609542	A
323357.126	6756692.94	L1450:2	76341.1				3	1.303117037	A
324937.1992	6756495.486	L1570:2	77720.5				6	3.824169874	A
324942.972	6756501.351	L1570:2	77720.7	7	1.797356129	A			
325679.781	6756989.114	L1590:2	77799.7				9	14.38849068	A
326682.3677	6755966.284	L1720:3	3291.7				1	0.750066161	A
320839.2179	6759713.974	L1100:1	79995.7				2	1.124614835	A
321156.1944	6759931.477	L1110:2	72887.4				6	2.880065203	A
321004.3301	6759420.963	L1130:2	73053.5				1	0.960476756	A
321142.9478	6759585.79	L1130:2	73069.1	5	1.22465837	A			
321307.346	6759410.279	L1150:2	73288.5	9	4.458781719	A			
321303.0448	6759404.525	L1150:2	73288.8				6	3.295968771	A
322064.2533	6759306.132	L1210:2	73824.9	3	0.555498302	A			
322066.6855	6759308.789	L1210:2	73825				1	0.757473409	A
322147.0207	6758709.785	L1250:2	74694.8				5	1.624664426	A
322464.1199	6758738.112	L1270:2	74850.8	5	1.386497617	A			
322461.9245	6758736.091	L1270:2	74850.9				6	2.731370449	A
323266.3232	6756927.508	L1430:2	76258.3				1	0.032515794	A

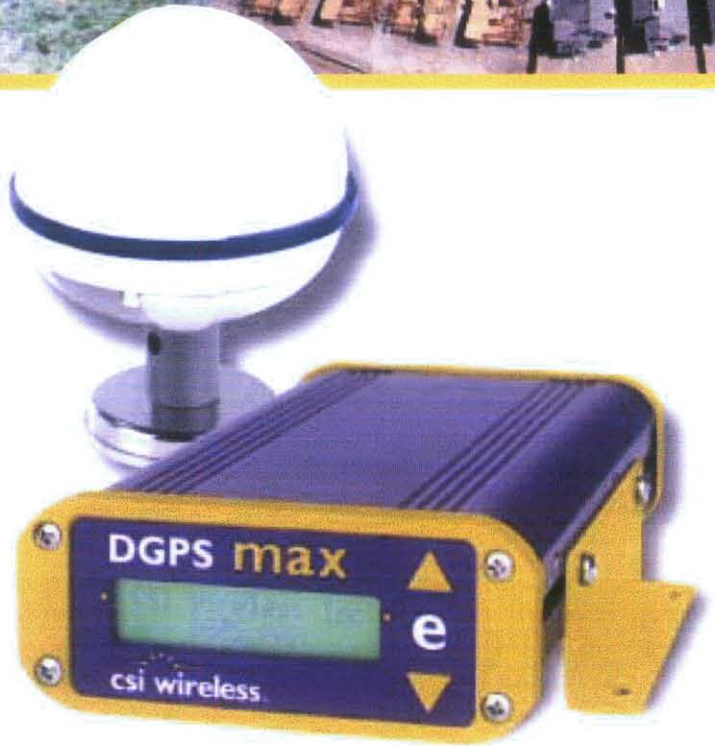
DGPS MAX

Feature-packed sub-meter GPS positioning



DGPS MAX

- Receives GPS, SBAS, OmniSTAR, and beacon signals
- Automatic dual channel SBAS tracking for more reliable reception
- Sub-meter positioning at rates of up to 5 Hz
- Raw measurement data for post-processing applications
- COAST™ technology allows use of corrections for up to 40 minutes without significant performance loss
- Easy configuration using the Setup Wizard
- User-defined profiles save receiver configurations for later use



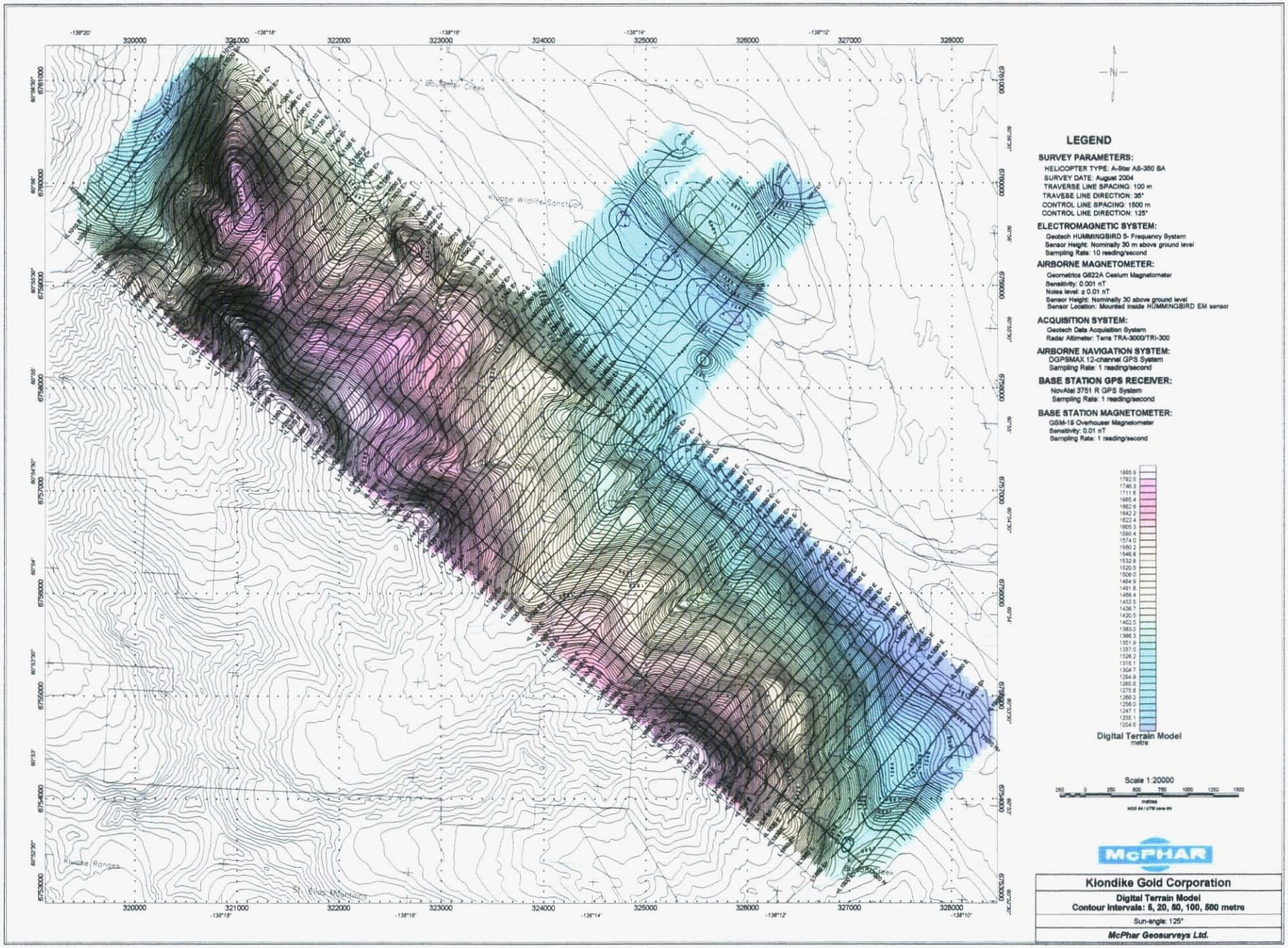
ESRI Technology
AUTHORIZED BUSINESS PARTNER

csi wireless™
www.csi-wireless.com

APPENDIX 6

Page Size Maps

- Flight Path (on a topographic and claim base)
- Digital Terrain Model (DTM) Calculated from Altimeter Data
- Total Magnetic Intensity (IGRF removed)
- Reduction to the Magnetic Pole (RTP) of the Total Magnetic Intensity
- Calculated First Vertical Derivative (1VD) of the Total Magnetic Intensity
- Calculated Second Vertical Derivative (2VD) of the Total Magnetic Intensity
- Analytic Signal of the Total Magnetic Intensity
- Calculated Apparent Resistivity of Horizontal Coplanar 880 Hz Coil
- Offset Profiles of Horizontal Coplanar 880 Hz Coil and Vertical Coaxial 980 Hz Coil
- Offset Profiles of Horizontal Coplanar 6600 Hz Coil and Vertical Coaxial 7000 Hz Coil



LEGEND

SURVEY PARAMETERS:
HELICOPTER TYPE: A-Star AS-350 BA
SURVEY DATE: August 2004
TRAVERSE LINE SPACING: 100 m
TRAVESE LINE DIRECTION: 35°
CONTROL LINE SPACING: 1500 m
CONTROL LINE DIRECTION: 125°

ELECTROMAGNETIC SYSTEM:
Geotech HUMMINGBIRD 5- Frequency System
Sensor Height: Nominally 30 m above ground level
Sampling Rate: 10 reading/second

AIRBORNE MAGNETOMETER:
Geometrics G822A Cesium Magnetometer
Sensitivity: 0.001 nT
Noise level: ± 0.01 nT
Sensor Height: Nominally 30 above ground level
Sensor Location: Mounted inside HUMMINGBIRD EM sensor

ACQUISITION SYSTEM:
Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-300

AIRBORNE NAVIGATION SYSTEM:
DGPSMAX 12-channel GPS System
Sampling Rate: 1 reading/second

BASE STATION GPS RECEIVER:
NovAtel 3751 R GPS System
Sampling Rate: 1 reading/second

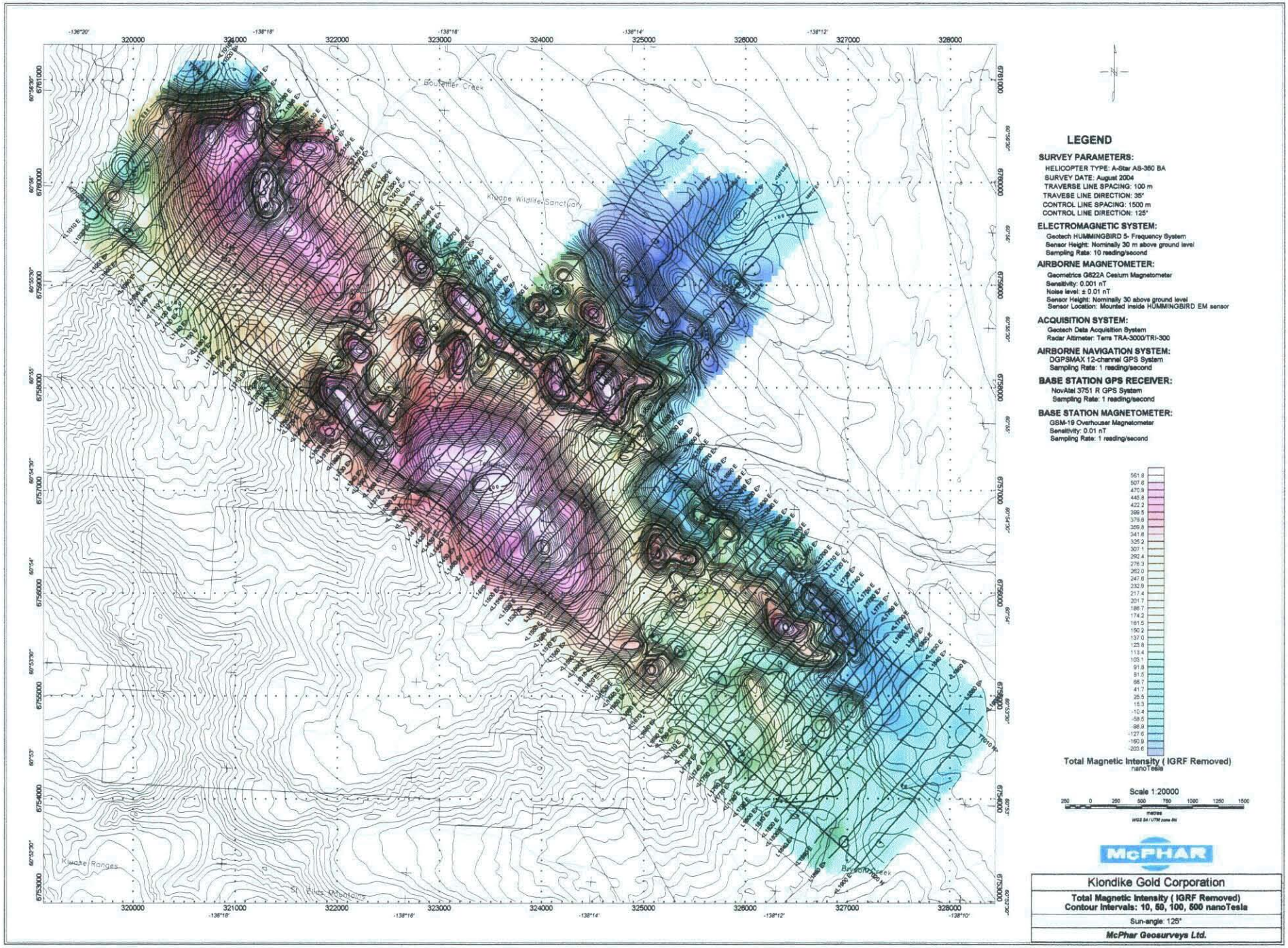
BASE STATION MAGNETOMETER:
GSM-19 Overhouser Magnetometer
Sensitivity: 0.01 nT
Sampling Rate: 1 reading/second

Scale 1:20000

250 0 250 500 750 1000 1250 1500
metres
WGS 84 / UTM zone 8N

McPHAR

Klondike Gold Corporation
Digital Terrain Model **Contour Intervals: 5, 20, 80, 100, 500 metre**
Sun-angle: 125°
McPhar Geosurveys Ltd.



LEGEND

SURVEY PARAMETERS:
HELICOPTER TYPE: A-Star AS-350 BA
SURVEY DATE: August 2004
TRAVERSE LINE SPACING: 100 m
TRAVESE LINE DIRECTION: 35°
CONTROL LINE SPACING: 1500 m
CONTROL LINE DIRECTION: 125°

ELECTROMAGNETIC SYSTEM:
Geotech HUMMINGBIRD 5- Frequency System
Sensor Height: Nominally 30 m above ground level
Sampling Rate: 10 reading/second

AIRBORNE MAGNETOMETER:
Geometrics G822A Cesium Magnetometer
Sensitivity: 0.001 nT
Noise level: ± 0.01 nT
Sensor Height: Nominally 30 above ground level
Sensor Location: Mounted inside HUMMINGBIRD EM sensor

ACQUISITION SYSTEM:
Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-300

AIRBORNE NAVIGATION SYSTEM:
DGPSMAX 12-channel GPS System
Sampling Rate: 1 reading/second

BASE STATION GPS RECEIVER:
NovAtel 3751 R GPS System
Sampling Rate: 1 reading/second

BASE STATION MAGNETOMETER:
GSM-19 Overhouser Magnetometer
Senaitivity: 0.01 nT
Sampling Rate: 1 reading/second

Total Magnetic Intensity (IGRF Removed)
nanoTesla

Scale 1:20000

250 0 250 500 750 1000 1250 1500
metres
WGS 84 / UTM zone 8N

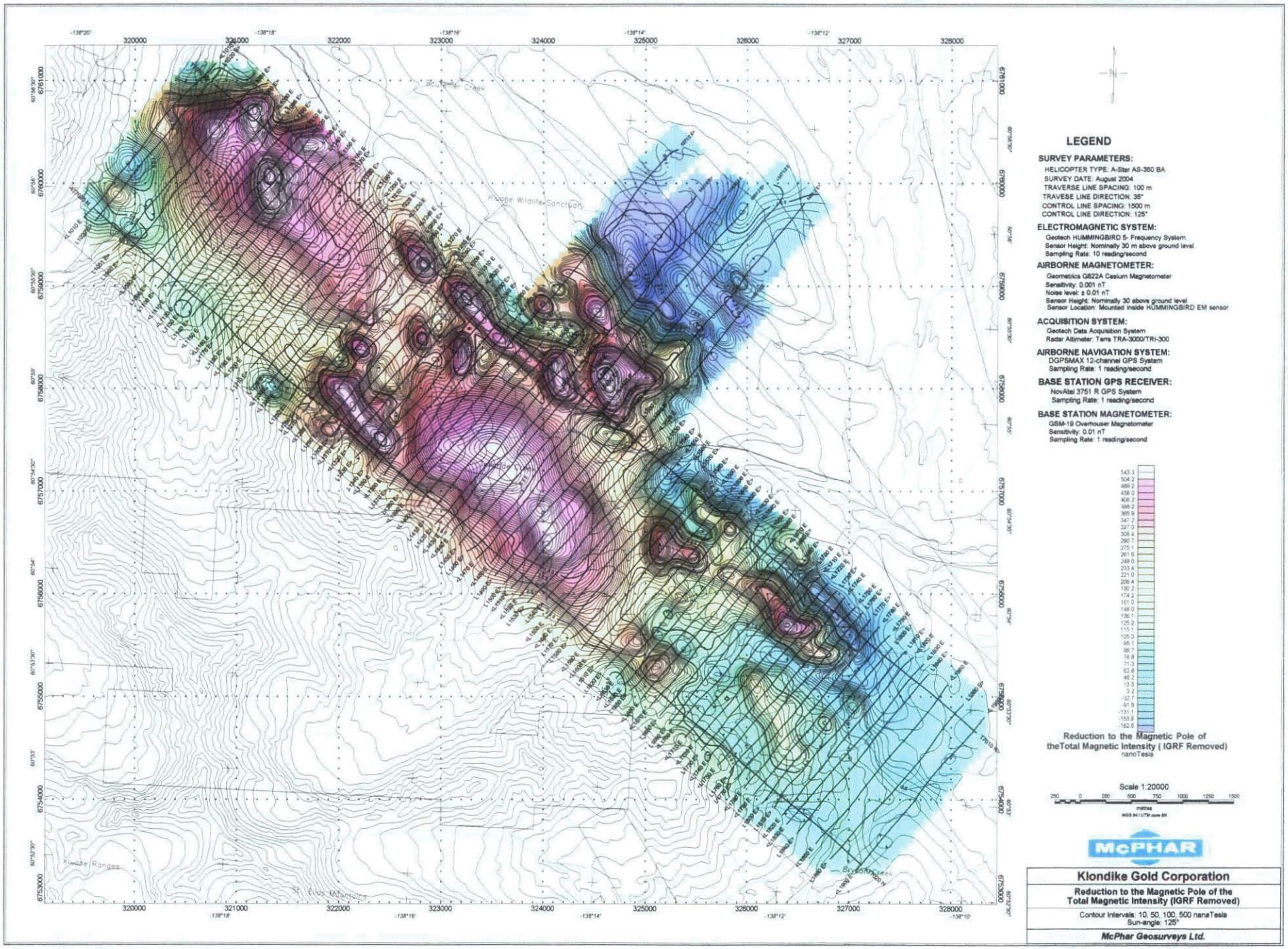
McPHAR

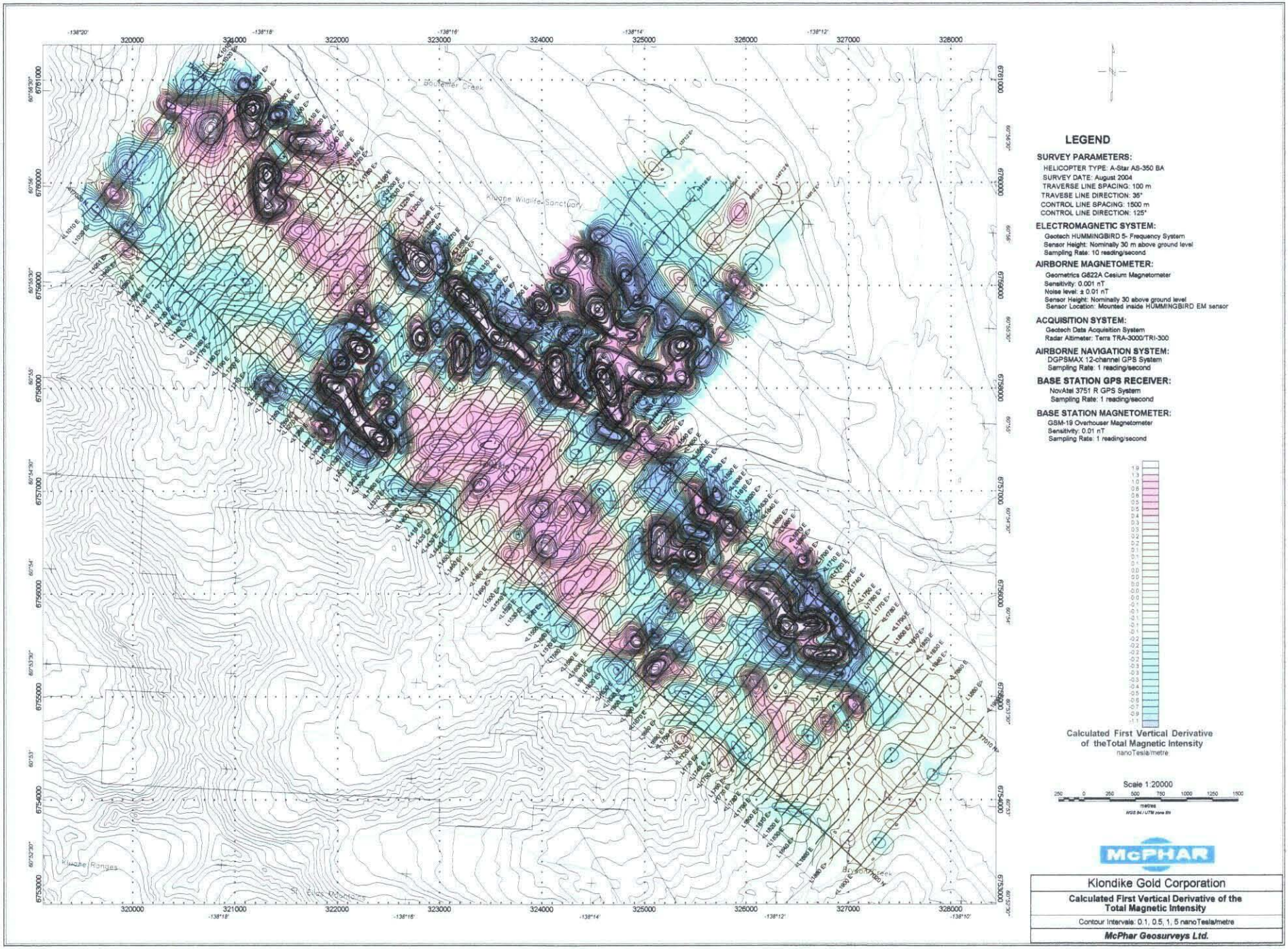
Klondike Gold Corporation

Total Magnetic Intensity (IGRF Removed)
Contour Intervals: 10, 50, 100, 500 nanoTesla

Sun-angle: 125°

McPhar Geosurveys Ltd.


LEGEND
SURVEY PARAMETERS:
HELICOPTER TYPE: A-Star AS-350 BA
SURVEY DATE: August 2004
TRAVERSE LINE SPACING: 100 m
TRAVESE LINE DIRECTION: 35°
CONTROL LINE SPACING: 1500 m
CONTROL LINE DIRECTION: 125°
ELECTROMAGNETIC SYSTEM:
Geotech HUMMINGBIRD 5- Frequency System
Sensor Height: Nominally 30 m above ground level
Sampling Rate: 10 reading/second
AIRBORNE MAGNETOMETER:
Geometrics G822A Cesium Magnetometer
Sensitivity: 0.001 nT
Noise level: ± 0.01 nT
Sensor Height: Nominally 30 above ground level
Sensor Location: Mounted inside HUMMINGBIRD EM sensor
ACQUISITION SYSTEM:
Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-300
AIRBORNE NAVIGATION SYSTEM:
DGPSMAX 12-channel GPS System
Sampling Rate: 1 reading/second
BASE STATION GPS RECEIVER:
NovAtel 3751 R GPS System
Sampling Rate: 1 reading/second
BASE STATION MAGNETOMETER:
GSM-19 Overhouser Magnetometer
Sensitivity: 0.01 nT
Sampling Rate: 1 reading/second
543.3
504.2
469.2
438.0
406.2
385.2
365.9
347.2
327.0
308.4
290.7
275.1
261.6
248.0
233.4
221.0
206.4
190.2
174.2
161.0
148.0
136.1
125.2
115.1
105.0
95.1
86.7
76.8
71.3
62.8
46.2
13.5
2.2
-32.7
-91.9
-131.1
-153.8
-182.6
Reduction to the Magnetic Pole of theTotal Magnetic Intensity (IGRF Removed)
nanoTesla
Scale 1:20000
250 0 250 500 750 1000 1250 1500
metres
WGS 84 / UTM zone 8N
McPHAR
Klondike Gold Corporation
Reduction to the Magnetic Pole of the Total Magnetic Intensity (IGRF Removed)
Contour Intervals: 10, 50, 100, 500 nanaTesla
Sun-angle: 125°
McPhar Geosurveys Ltd.



LEGEND

SURVEY PARAMETERS:
HELICOPTER TYPE: A-Star AS-350 BA
SURVEY DATE: August 2004
TRAVERSE LINE SPACING: 100 m
TRAVESE LINE DIRECTION: 35°
CONTROL LINE SPACING: 1500 m
CONTROL LINE DIRECTION: 125°

ELECTROMAGNETIC SYSTEM:
Geotech HUMMINGBIRD 5- Frequency System
Sensor Height: Nominally 30 m above ground level
Sampling Rate: 10 reading/second

AIRBORNE MAGNETOMETER:
Geometrics G822A Cesium Magnetometer
Sensitivity: 0.001 nT
Noise level: ± 0.01 nT
Sensor Height: Nominally 30 above ground level
Sensor Location: Mounted inside HUMMINGBIRD EM sensor

ACQUISITION SYSTEM:
Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-300

AIRBORNE NAVIGATION SYSTEM:
DGPSMAX 12-channel GPS System
Sampling Rate: 1 reading/second

BASE STATION GPS RECEIVER:
NovAtel 3751 R GPS System
Sampling Rate: 1 reading/second

BASE STATION MAGNETOMETER:
GSM-19 Overhouser Magnetometer
Sensitivity: 0.01 nT
Sampling Rate: 1 reading/second

Calculated First Vertical Derivative of theTotal Magnetic Intensity
nanoTesla/metre

Scale 1:20000

250 0 250 500 750 1000 1250 1500
metres
WGS 84 / UTM zone 8N

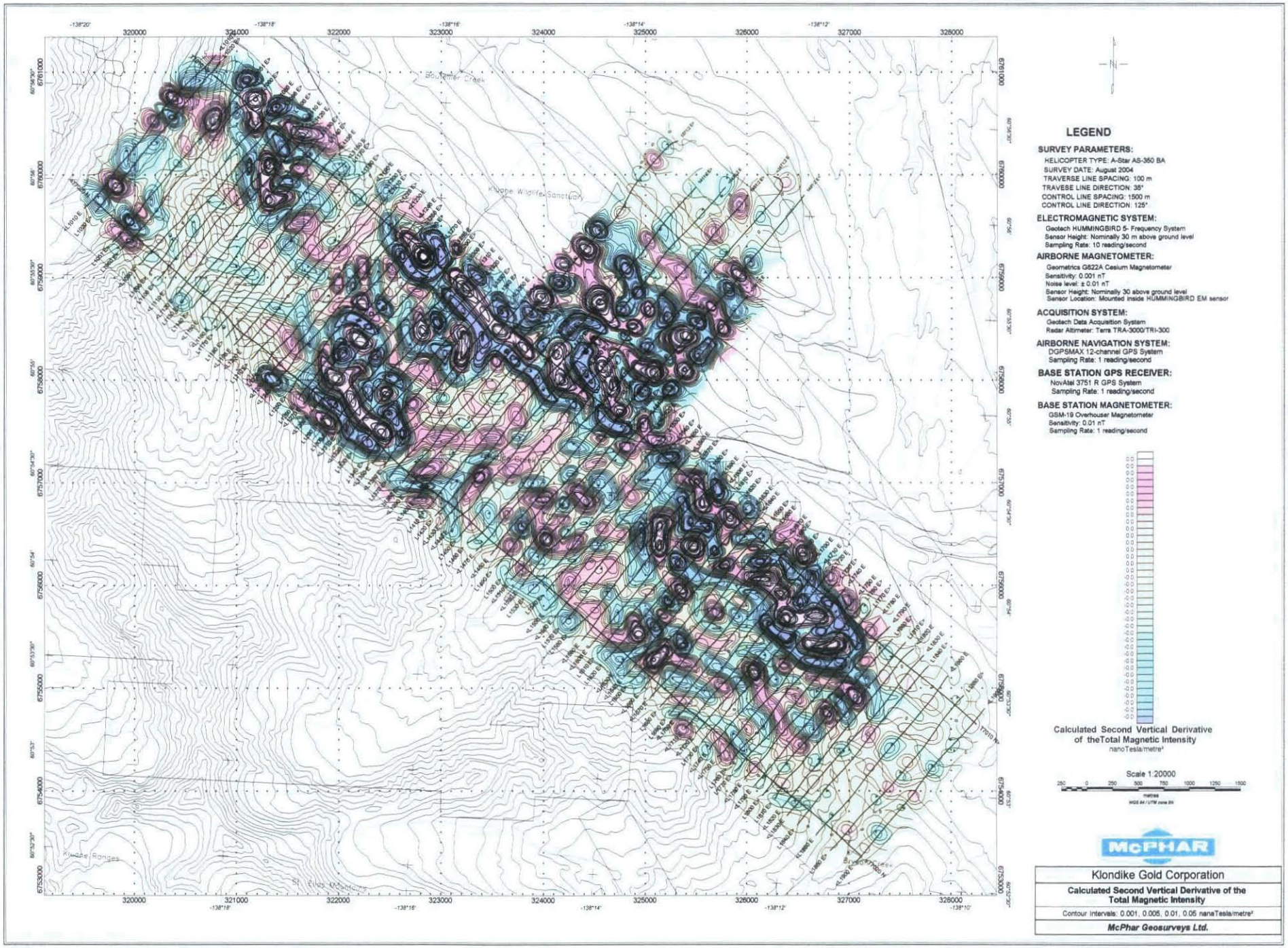
McPHAR

Klondike Gold Corporation

Calculated First Vertical Derivative of the Total Magnetic Intensity

Contour Intervals: 0.1, 0.5, 1, 5 nanoTesla/metre

McPhar Geosurveys Ltd.



LEGEND

SURVEY PARAMETERS:
HELICOPTER TYPE: A-Star AS-350 BA
SURVEY DATE: August 2004
TRAVERSE LINE SPACING: 100 m
TRAVESE LINE DIRECTION: 35°
CONTROL LINE SPACING: 1500 m
CONTROL LINE DIRECTION: 125°

ELECTROMAGNETIC SYSTEM:
Geotech HUMMINGBIRD 5- Frequency System
Sensor Height: Nominally 30 m above ground level
Sampling Rate: 10 reading/second

AIRBORNE MAGNETOMETER:
Geometrics G822A Cesium Magnetometer
Sensitivity: 0.001 nT
Noise level: ± 0.01 nT
Sensor Height: Nominally 30 above ground level
Sensor Location: Mounted inside HUMMINGBIRD EM sensor

ACQUISITION SYSTEM:
Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-300

AIRBORNE NAVIGATION SYSTEM:
DGPSMAX 12-channel GPS System
Sampling Rate: 1 reading/second

BASE STATION GPS RECEIVER:
NovAtel 3751 R GPS System
Sampling Rate: 1 reading/second

BASE STATION MAGNETOMETER:
GSM-19 Overhouser Magnetometer
Sensitivity: 0.01 nT
Sampling Rate: 1 reading/second

Calculated Second Vertical Derivative
of theTotal Magnetic Intensity
nanoTesla/metre²

Scale 1:20000

250 0 250 500 750 1000 1250 1500
metres
WGS 84 / UTM zone 8N

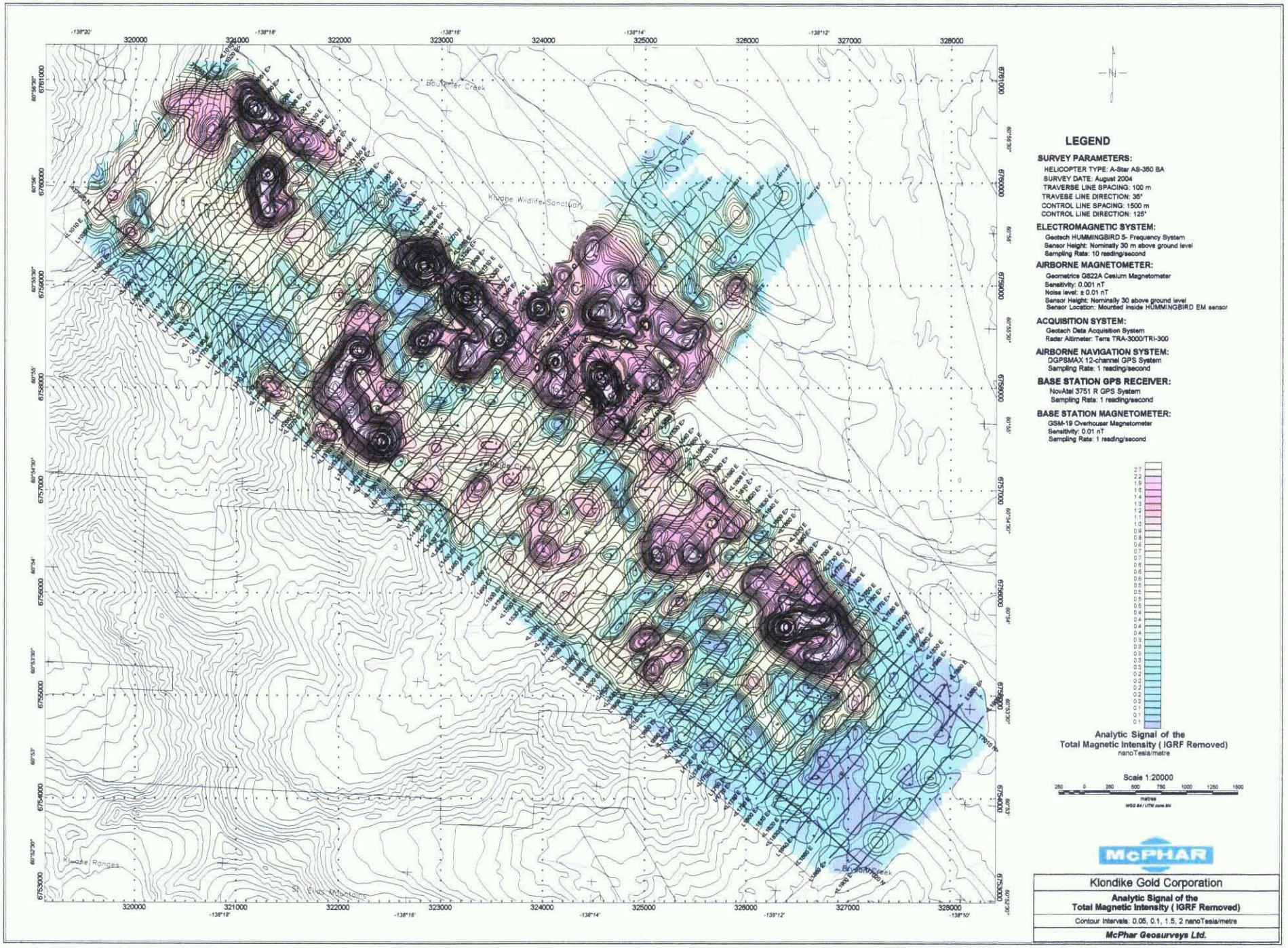
McPHAR

Klondike Gold Corporation

Calculated Second Vertical Derivative of the Total Magnetic Intensity

Contour Intervals: 0.001, 0.005, 0.01, 0.05 nanaTesla/metre²

McPhar Geosurveys Ltd.



LEGEND

SURVEY PARAMETERS:
HELICOPTER TYPE: A-Star AS-350 BA
SURVEY DATE: August 2004
TRAVERSE LINE SPACING: 100 m
TRAVESE LINE DIRECTION: 35°
CONTROL LINE SPACING: 1500 m
CONTROL LINE DIRECTION: 125°

ELECTROMAGNETIC SYSTEM:
Geotech HUMMINGBIRD 5- Frequency System
Sensor Height: Nominally 30 m above ground level
Sampling Rate: 10 reading/second

AIRBORNE MAGNETOMETER:
Geometrics G822A Cesium Magnetometer
Sensitivity: 0.001 nT
Noise level: ± 0.01 nT
Sensor Height: Nominally 30 above ground level
Sensor Location: Mounted inside HUMMINGBIRD EM sensor

ACQUISITION SYSTEM:
Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-300

AIRBORNE NAVIGATION SYSTEM:
DGPSMAX 12-channel GPS System
Sampling Rate: 1 reading/second

BASE STATION GPS RECEIVER:
NovAtel 3751 R GPS System
Sampling Rate: 1 reading/second

BASE STATION MAGNETOMETER:
GSM-19 Overhouser Magnetometer
Sensitivity: 0.01 nT
Sampling Rate: 1 reading/second

Analytic Signal of the
Total Magnetic Intensity (IGRF Removed)
nanoTesla/metre

Scale 1:20000

250 0 250 500 750 1000 1250 1500
metres
WGS 84 / UTM zone 8N

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Klondike Gold Corporation

Analytic Signal of the Total Magnetic Intensity (IGRF Removed)

Contour Intervals: 0.05, 0.1, 1.5, 2 nanoTesla/metre

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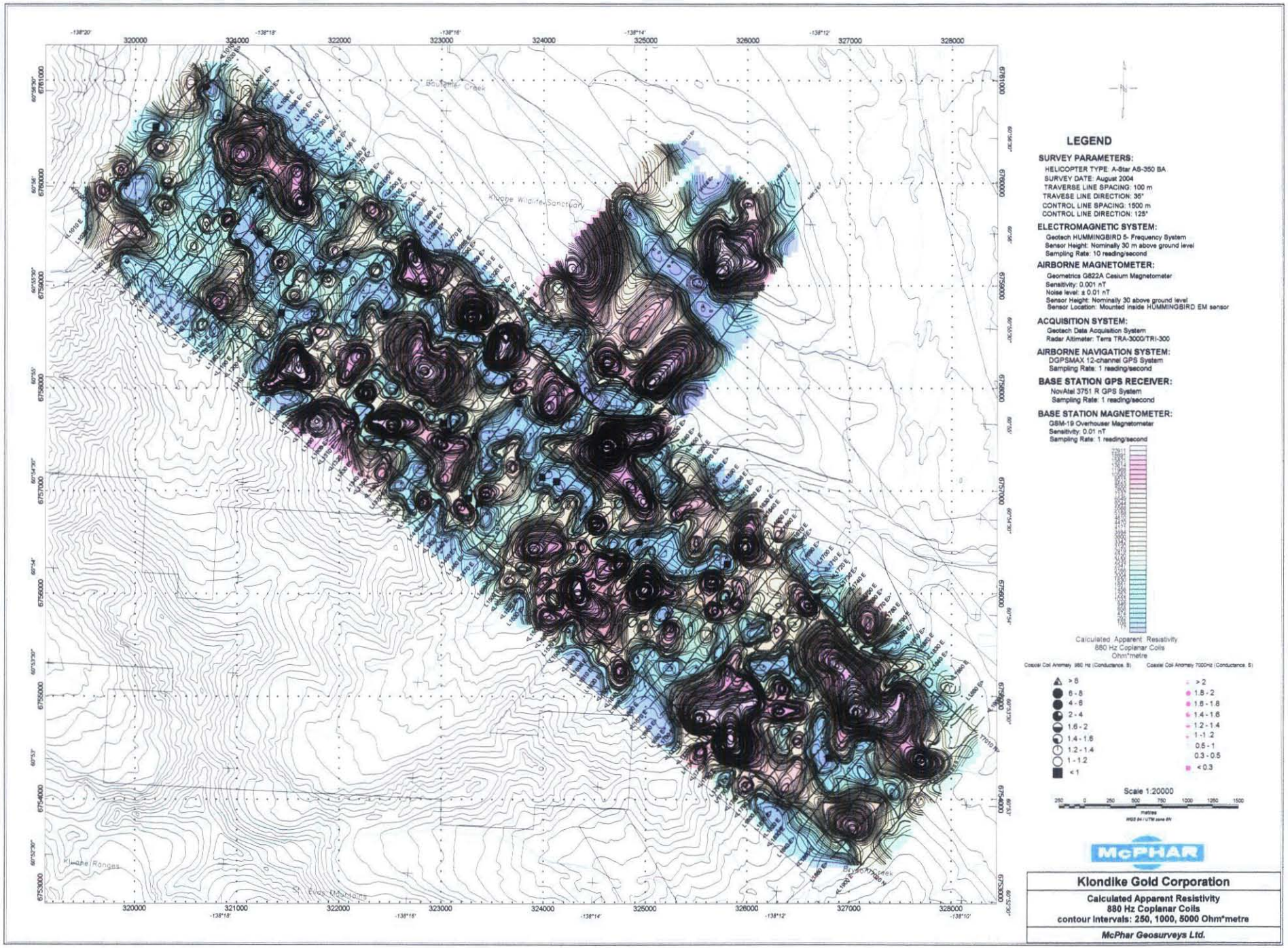
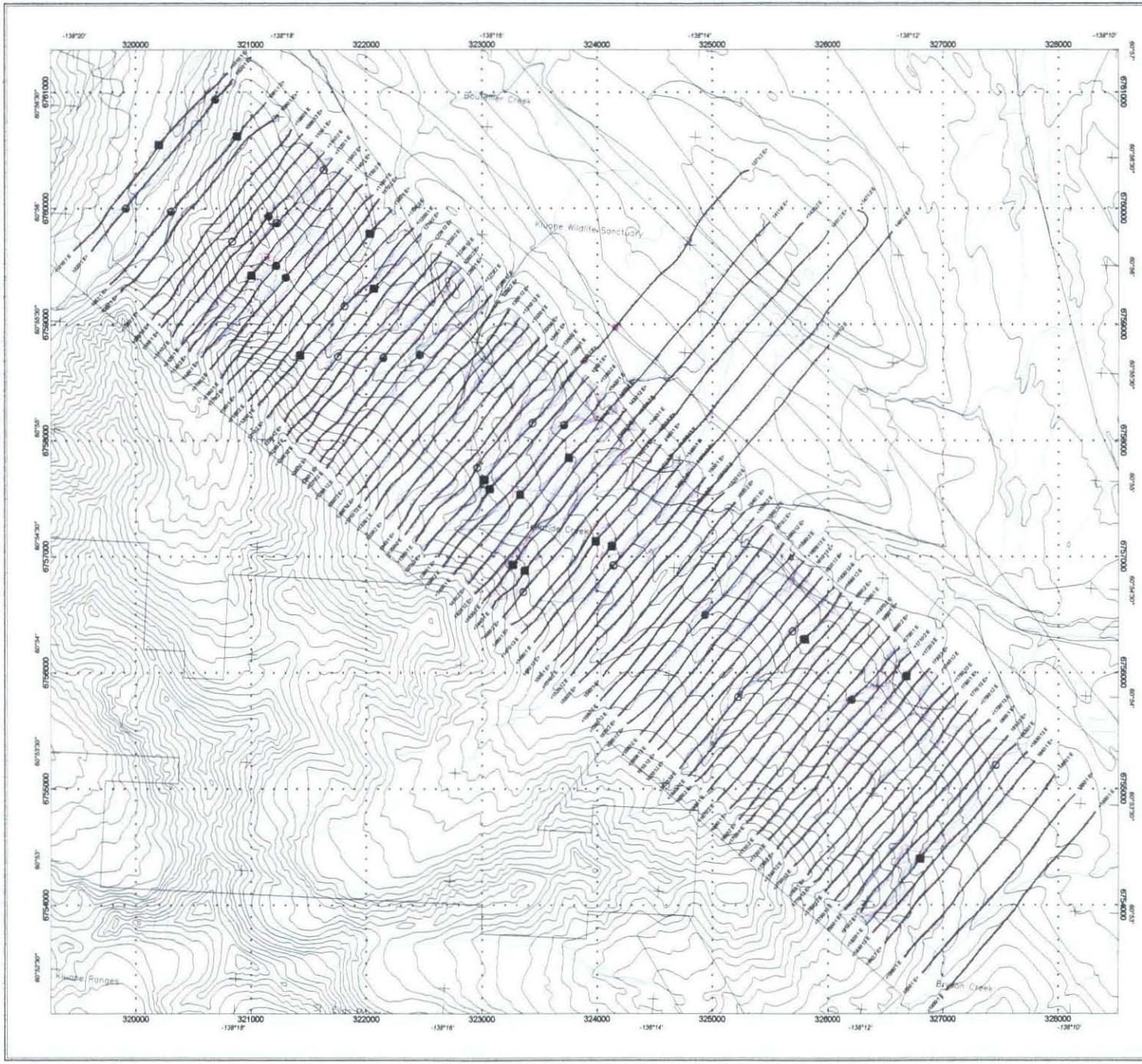

Bonanza Creek
Klondike Wildlife Sanctuary
Klondike Ranges
St. Elias Mountains
Bryson Creek
LEGEND
SURVEY PARAMETERS:
HELICOPTER TYPE: A-Star AS-350 BA
SURVEY DATE: August 2004
TRAVERSE LINE SPACING: 100 m
TRAVERSE LINE DIRECTION: 35°
CONTROL LINE SPACING: 1500 m
CONTROL LINE DIRECTION: 125°
ELECTROMAGNETIC SYSTEM:
Geotech HUMMINGBIRD 5- Frequency System
Sensor Height: Nominally 30 m above ground level
Sampling Rate: 10 reading/second
AIRBORNE MAGNETOMETER:
Geometrics G822A Cesium Magnetometer
Sensitivity: 0.001 nT
Noise level: ± 0.01 nT
Sensor Height: Nominally 30 above ground level
Sensor Location: Mounted inside HUMMINGBIRD EM sensor
ACQUISITION SYSTEM:
Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-300
AIRBORNE NAVIGATION SYSTEM:
DGPSMAX 12-channel GPS System
Sampling Rate: 1 reading/second
BASE STATION GPS RECEIVER:
NovAtel 3751 R GPS System
Sampling Rate: 1 reading/second
BASE STATION MAGNETOMETER:
GSM-19 Overhouser Magnetometer
Sensitivity: 0.01 nT
Sampling Rate: 1 reading/second
Calculated Apparent Resistivity
880 Hz Coplanar Coils
Ohm*metre
Coaxial Coil Anomaly 880 Hz (Conductance, S)
Coaxial Coil Anomaly 7000Hz (Conductance, S)
> 8
6 - 8
4 - 6
2 - 4
1.6 - 2
1.4 - 1.6
1.2 - 1.4
1 - 1.2
< 1
> 2
1.8 - 2
1.6 - 1.8
1.4 - 1.6
1.2 - 1.4
1 - 1.2
0.5 - 1
0.3 - 0.5
< 0.3
Scale 1:20000
250 0 250 500 750 1000 1250 1500
metres
WGS 84 / UTM zone 8N
McPHAR
Klondike Gold Corporation
Calculated Apparent Resistivity
880 Hz Coplanar Coils
contour intervals: 250, 1000, 5000 Ohm*metre
McPhar Geosurveys Ltd.



LEGEND

SURVEY PARAMETERS:

HELICOPTER TYPE: A-Star AS-350 BA
SURVEY DATE: August 2004
TRAVERSE LINE SPACING: 100 m
TRAVESE LINE DIRECTION: 35°
CONTROL LINE SPACING: 1500 m
CONTROL LINE DIRECTION: 125°

ELECTROMAGNETIC SYSTEM:

Geotech HUMMINGBIRD 5- Frequency System
Sensor Height: Nominally 30 m above ground level
Sampling Rate: 10 reading/second

AIRBORNE MAGNETOMETER:

Geometrics G822A Cesium Magnetometer
Sensitivity: 0.001 nT
Noise level: ± 0.01 nT
Sensor Height: Nominally 30 above ground level
Sensor Location: Mounted inside HUMMINGBIRD EM sensor

ACQUISITION SYSTEM:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-300

AIRBORNE NAVIGATION SYSTEM:

DGPSMAX 12-channel GPS System
Sampling Rate: 1 reading/second

BASE STATION GPS RECEIVER:

NovAtel 3751 R GPS System
Sampling Rate: 1 reading/second

BASE STATION MAGNETOMETER:

GSM-19 Overhouser Magnetometer
Sensitivity: 0.01 nT
Sampling Rate: 1 reading/second

Coaxial Coil Anomaly 980 Hz (Conductance, S)

- >8
- 6 - 8
- 4 - 6
- 2 - 4
- 1.6 - 2
- 1.4 - 1.6
- 1.2 - 1.4
- 1-1.2
- <1

Coaxial Coil Anomaly 7000Hz (Conductance, S)

- >2
- 1.8 - 2
- 1.6 - 1.8
- 1.4 - 1.6
- 1.2 - 1.4
- 1 - 1.2
- 0.5 - 1
- 0.3 - 0.5
- <0.3

Scale 1:20000

250 0 250 500 750 1000 1250 1500
metres
WGS 84 / UTM zone 8N

McPHAR

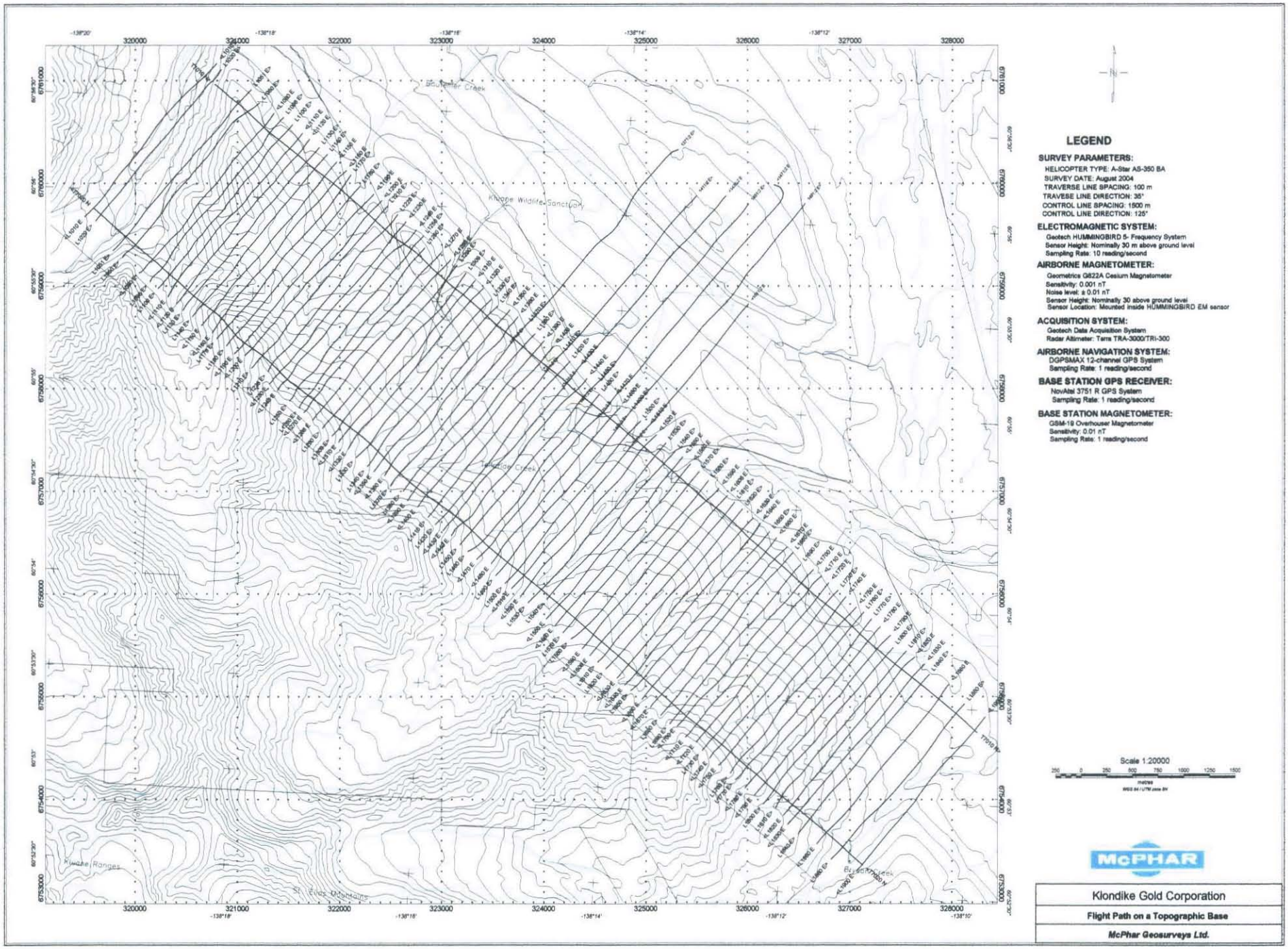
Klondike Gold Corporation

Offset EM profiles map
Coaxial 980Hz and Coplanar 880Hz

Scale:

In-Phase 880 Hz	5 ppm/mm
Quadrature 880 Hz	5 ppm/mm
In-Phase 980 Hz	1 ppm/mm
Quadrature 980 Hz	1 ppm/mm

McPhar Geosurveys Ltd.



LEGEND

SURVEY PARAMETERS:
- HELICOPTER TYPE: A-Star AS-350 BA
- SURVEY DATE: August 2004
- TRAVERSE LINE SPACING: 100 m
- TRAVESE LINE DIRECTION: 35°
- CONTROL LINE SPACING: 1500 m
- CONTROL LINE DIRECTION: 125°

ELECTROMAGNETIC SYSTEM:
- Geotech HUMMINGBIRD 5- Frequency System
- Sensor Height: Nominally 30 m above ground level
- Sampling Rate: 10 reading/second

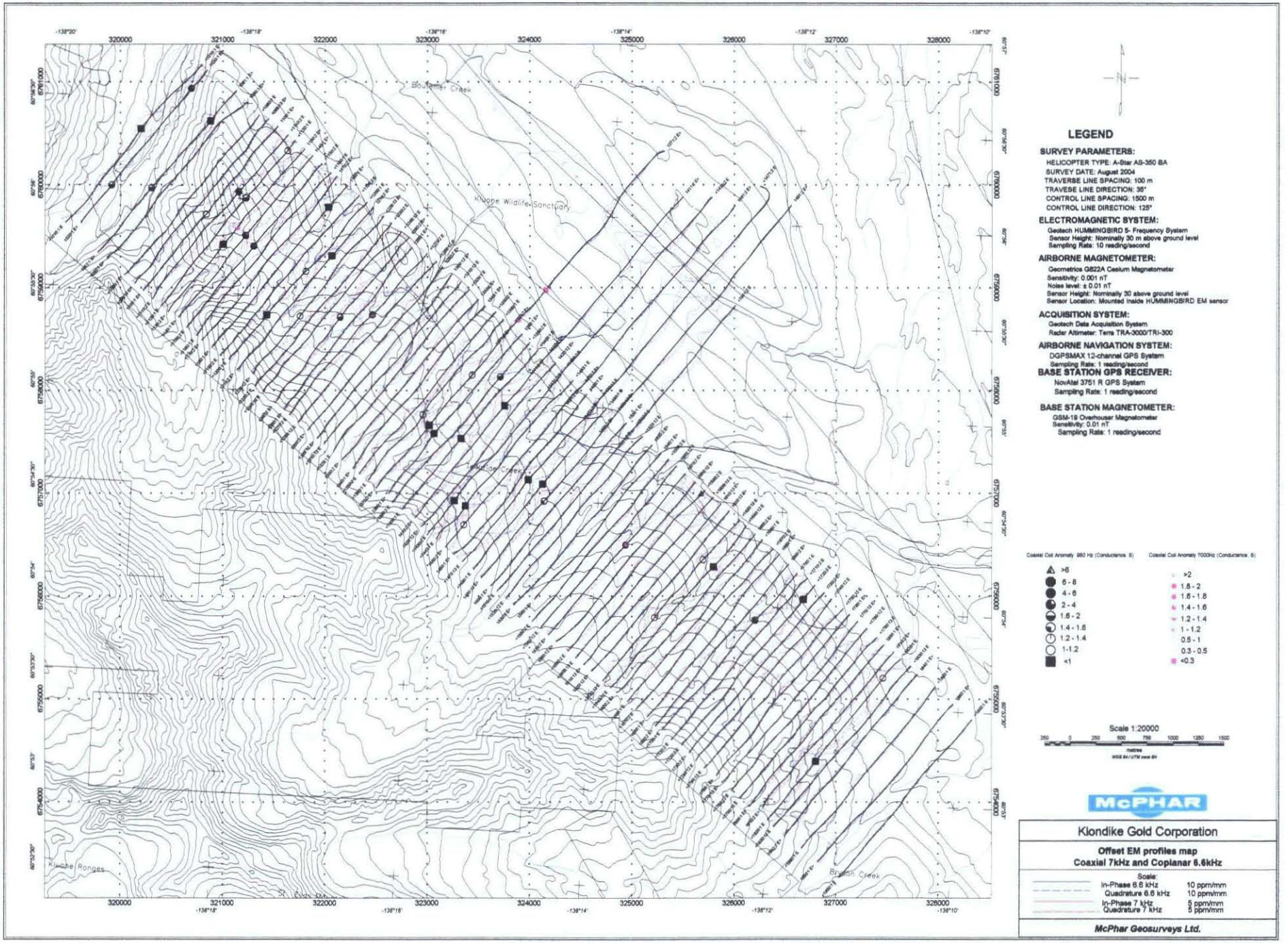
AIRBORNE MAGNETOMETER:
- Geometrics G822A Cesium Magnetometer
- Sensitivity: 0.001 nT
- Noise level: ± 0.01 nT
- Sensor Height: Nominally 30 above ground level
- Sensor Location: Mounted inside HUMMINGBIRD EM sensor

ACQUISITION SYSTEM:
- Geotech Data Acquisition System
- Radar Altimeter: Terra TRA-3000/TRI-300

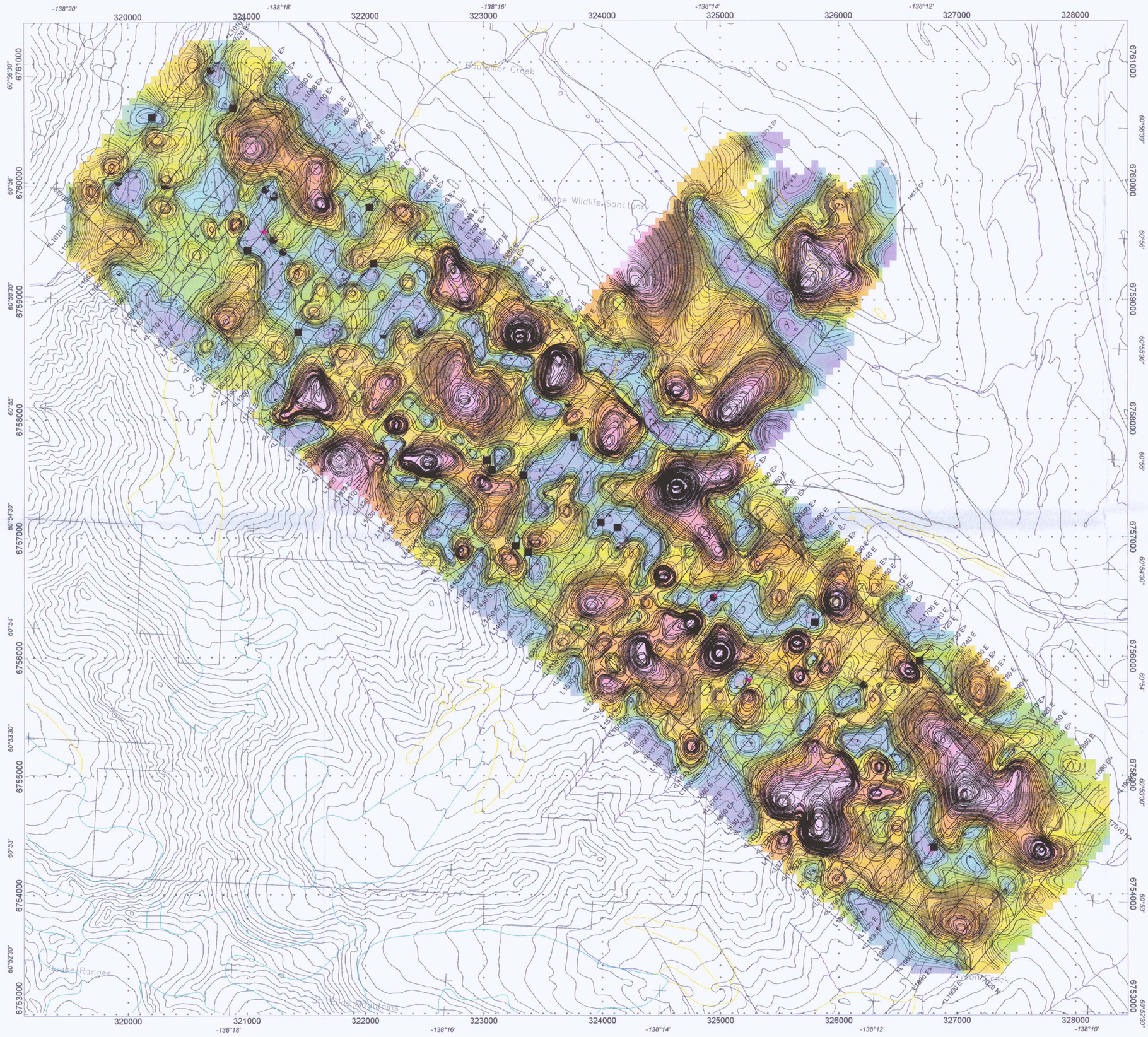
AIRBORNE NAVIGATION SYSTEM:
- DGPSMAX 12-channel GPS System
- Sampling Rate: 1 reading/second

BASE STATION GPS RECEIVER:
- NovAtel 3751 R GPS System
- Sampling Rate: 1 reading/second

BASE STATION MAGNETOMETER:
- GSM-19 Overhouser Magnetometer
- Sensitivity: 0.01 nT
- Sampling Rate: 1 reading/second


Klondike Gold Corporation
Offset EM profiles map
Coaxial 7kHz and Coplanar 6.6kHz
Scale:
In-Phase 6.6 kHz 10 ppm/mm
Quadrature 6.6 kHz 10 ppm/mm
In-Phase 7 kHz 5 ppm/mm
Quadrature 7 kHz 5 ppm/mm
McPhar Geosurveys Ltd.
LEGEND
SURVEY PARAMETERS:
HELICOPTER TYPE: A-Star AS-350 BA
SURVEY DATE: August 2004
TRAVERSE LINE SPACING: 100 m
TRAVESE LINE DIRECTION: 38°
CONTROL LINE SPACING: 1500 m
CONTROL LINE DIRECTION: 128°
ELECTROMAGNETIC SYSTEM:
Geotech HUMMINGBIRD 5- Frequency System
Sensor Height: Nominally 30 m above ground level
Sampling Rate: 10 reading/second
AIRBORNE MAGNETOMETER:
Geometrics G822A Cesium Magnetometer
Sensitivity: 0.001 nT
Noise level: ± 0.01 nT
Sensor Height: Nominally 30 above ground level
Sensor Location: Mounted inside HUMMINGBIRD EM sensor
ACQUISITION SYSTEM:
Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-300
AIRBORNE NAVIGATION SYSTEM:
DGPSMAX 12-channel GPS System
Sampling Rate: 1 reading/second
BASE STATION GPS RECEIVER:
NovAtel 3751 R GPS System
Sampling Rate: 1 reading/second
BASE STATION MAGNETOMETER:
GSM-19 Overhouser Magnetometer
Senatility: 0.01 nT
Sampling Rate: 1 reading/second
Coaxial Coil Anomaly 980 Hz (Conductance, S)
>8
6 - 8
4 - 6
2 - 4
1.8 - 2
1.4 - 1.8
1.2 - 1.4
1 - 1.2
<1
Coaxial Coil Anomaly 7000Hz (Conductance, S)
>2
1.8 - 2
1.6 - 1.8
1.4 - 1.6
1.2 - 1.4
1 - 1.2
0.5 - 1
0.3 - 0.5
<0.3
Scale 1:20000
250 0 250 500 750 1000 1250 1500
metres
WGS 84 / UTM zone 8N
McPHAR
Boulanger Creek
Kluane Wildlife Sanctuary
Bryson Creek
Kluane Ranges
St. Elias Range
320000
321000
322000
323000
324000
325000
326000
327000
328000
-138°20'
-138°18'
-138°16'
-138°14'
-138°12'
-138°10'
60°36'30"
60°35'30"
60°34'30"
60°33'30"
60°32'30"
6761000
6760000
6759000
6758000
6757000
6756000
6755000
6754000

POCKET MAPS



LEGEND

SURVEY PARAMETERS:

HELICOPTER TYPE: A-Star AS-350 BA
SURVEY DATE: August 2004
TRAVERSE LINE SPACING: 100 m
TRAVESE LINE DIRECTION: 35°
CONTROL LINE SPACING: 1500 m
CONTROL LINE DIRECTION: 125°

ELECTROMAGNETIC SYSTEM:

Geotech HUMMINGBIRD 5- Frequency System
Sensor Height: Nominally 30 m above ground level
Sampling Rate: 10 reading/second

AIRBORNE MAGNETOMETER:

Geometrics G822A Cesium Magnetometer
Sensitivity: 0.001 nT
Noise level: ± 0.01 nT
Sensor Height: Nominally 30 above ground level
Sensor Location: Mounted inside HUMMINGBIRD EM sensor

ACQUISITION SYSTEM:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-300

AIRBORNE NAVIGATION SYSTEM:

DGPSMAX 12-channel GPS System
Sampling Rate: 1 reading/second

BASE STATION GPS RECEIVER:

NovAtel 3751 R GPS System
Sampling Rate: 1 reading/second

BASE STATION MAGNETOMETER:

GSM-19 Overhouser Magnetometer
Sensitivity: 0.01 nT
Sampling Rate: 1 reading/second

22911
16691
15021
13614
11968
10583
9515
8553
7800
7137
6549
6044
5568
5168
4810
4470
4171
3884
3600
3342
3120
2919
2720
2535
2347
2168
2004
1837
1651
1456
1252
1033
846
656
474
252
108
17

Calculated Apparent Resistivity
880 Hz Coplanar Coils
Ohm*metre

0944o5

Coaxial Coil Anomaly 980 Hz (Conductance, S)	Coaxial Coil Anomaly 7000Hz (Conductance, S)
> 8	> 2
6 - 8	1.8 - 2
4 - 6	1.6 - 1.8
2 - 4	1.4 - 1.6
1.6 - 2	1.2 - 1.4
1.4 - 1.6	1 -1 .2
1.2 - 1.4	0.5 - 1
1 - 1.2	0.3 - 0.5
< 1	< 0.3

Scale 1:20000

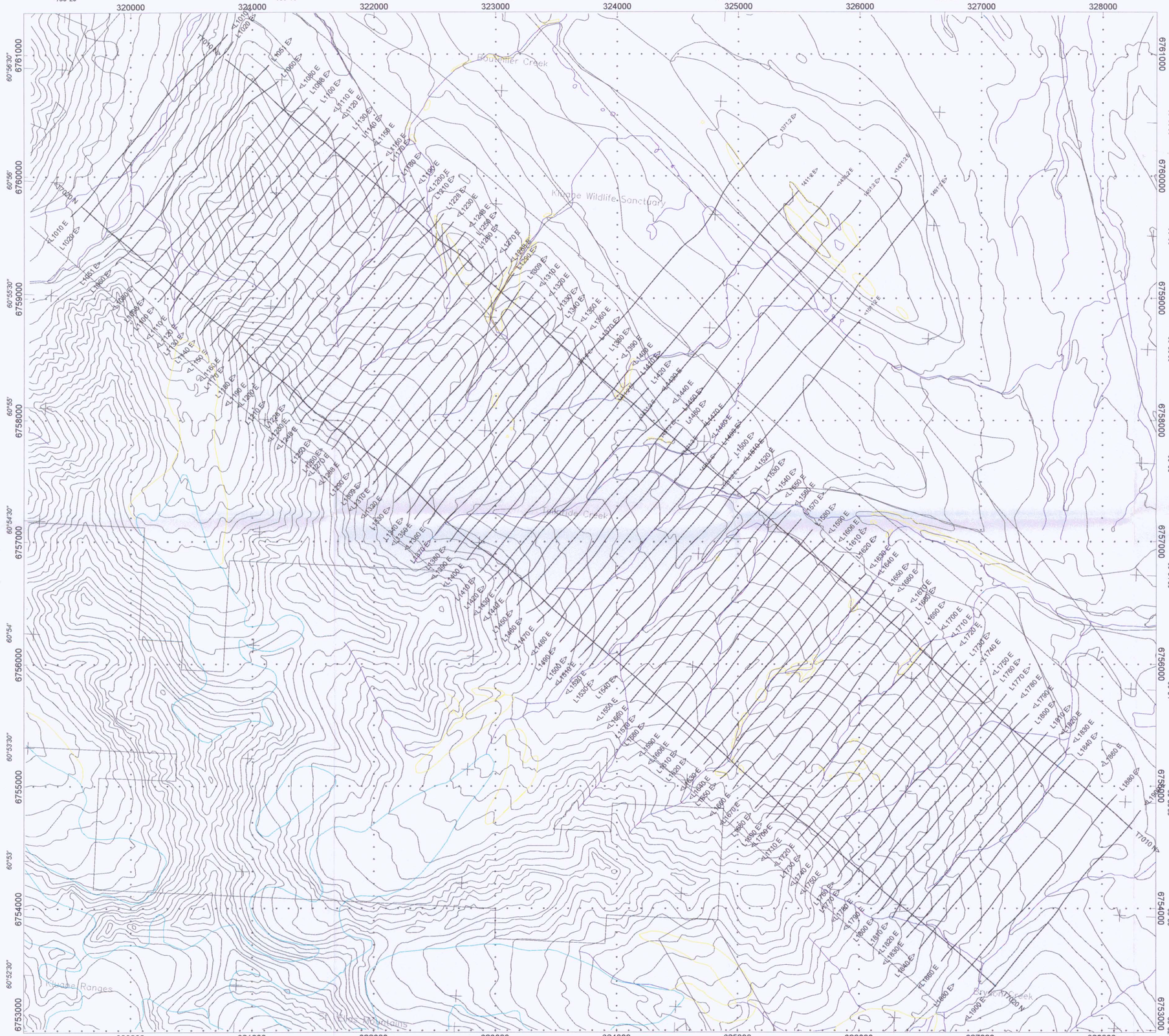
250 0 250 500 750 1000 1250 1500
metres
WGS 84 / UTM zone 8N

McPHAR

Klondike Gold Corporation

Calculated Apparent Resistivity
880 Hz Coplanar Coils
contour Intervals: 250, 1000, 5000 Ohm*metre

McPhar Geosurveys Ltd.



LEGEND

SURVEY PARAMETERS:

HELICOPTER TYPE: A-Star AS-350 BA
SURVEY DATE: August 2004
TRAVERSE LINE SPACING: 100 m
TRAVESE LINE DIRECTION: 35°
CONTROL LINE SPACING: 1500 m
CONTROL LINE DIRECTION: 125°

ELECTROMAGNETIC SYSTEM:

Geotech HUMMINGBIRD 5- Frequency System
Sensor Height: Nominally 30 m above ground level
Sampling Rate: 10 reading/second

AIRBORNE MAGNETOMETER:

Geometrics G822A Cesium Magnetometer
Sensitivity: 0.001 nT
Noise level: ± 0.01 nT
Sensor Height: Nominally 30 above ground level
Sensor Location: Mounted inside HUMMINGBIRD EM sensor

ACQUISITION SYSTEM:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-300

AIRBORNE NAVIGATION SYSTEM:

DGPSMAX 12-channel GPS System
Sampling Rate: 1 reading/second

BASE STATION GPS RECEIVER:

NovAtel 3751 R GPS System
Sampling Rate: 1 reading/second

BASE STATION MAGNETOMETER:

GSM-19 Overhouser Magnetometer
Sensitivity: 0.01 nT
Sampling Rate: 1 reading/second

Scale 1:20000

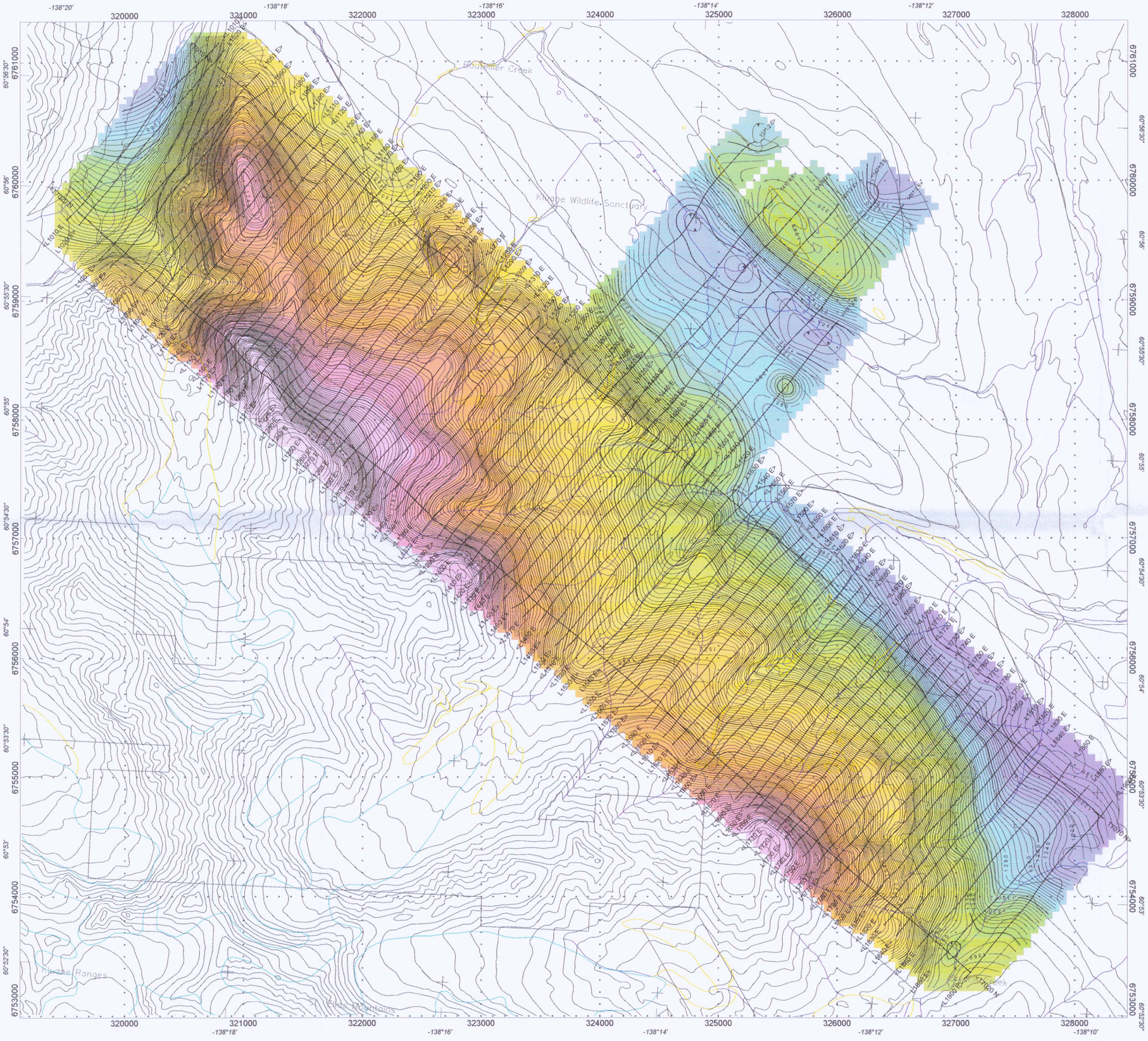
250 0 250 500 750 1000 1250 1500
metres
WGS 84 / UTM zone 8N

McPHAR

Klondike Gold Corporation

Flight Path on a Topographic Base

McPhar Geosurveys Ltd.



LEGEND

SURVEY PARAMETERS:

HELICOPTER TYPE: A-Star AS-350 BA
SURVEY DATE: August 2004
TRAVERSE LINE SPACING: 100 m
TRAVESE LINE DIRECTION: 35°
CONTROL LINE SPACING: 1500 m
CONTROL LINE DIRECTION: 125°

ELECTROMAGNETIC SYSTEM:

Geotech HUMMINGBIRD 5- Frequency System
Sensor Height: Nominally 30 m above ground level
Sampling Rate: 10 reading/second

AIRBORNE MAGNETOMETER:

Geometrics G822A Cesium Magnetometer
Sensitivity: 0.001 nT
Noise level: ± 0.01 nT
Sensor Height: Nominally 30 above ground level
Sensor Location: Mounted inside HUMMINGBIRD EM sensor

ACQUISITION SYSTEM:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-300

AIRBORNE NAVIGATION SYSTEM:

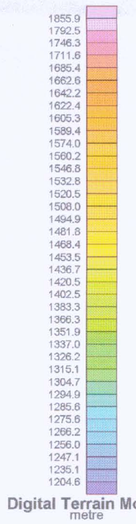
DGPSMAX 12-channel GPS System
Sampling Rate: 1 reading/second

BASE STATION GPS RECEIVER:

NovAtel 3751 R GPS System
Sampling Rate: 1 reading/second

BASE STATION MAGNETOMETER:

GSM-19 Overhouser Magnetometer
Sensitivity: 0.01 nT
Sampling Rate: 1 reading/second



Digital Terrain Model
metre

094485

Scale 1:20000

250 0 250 500 750 1000 1250 1500
metres
WGS 84 / UTM zone 8N

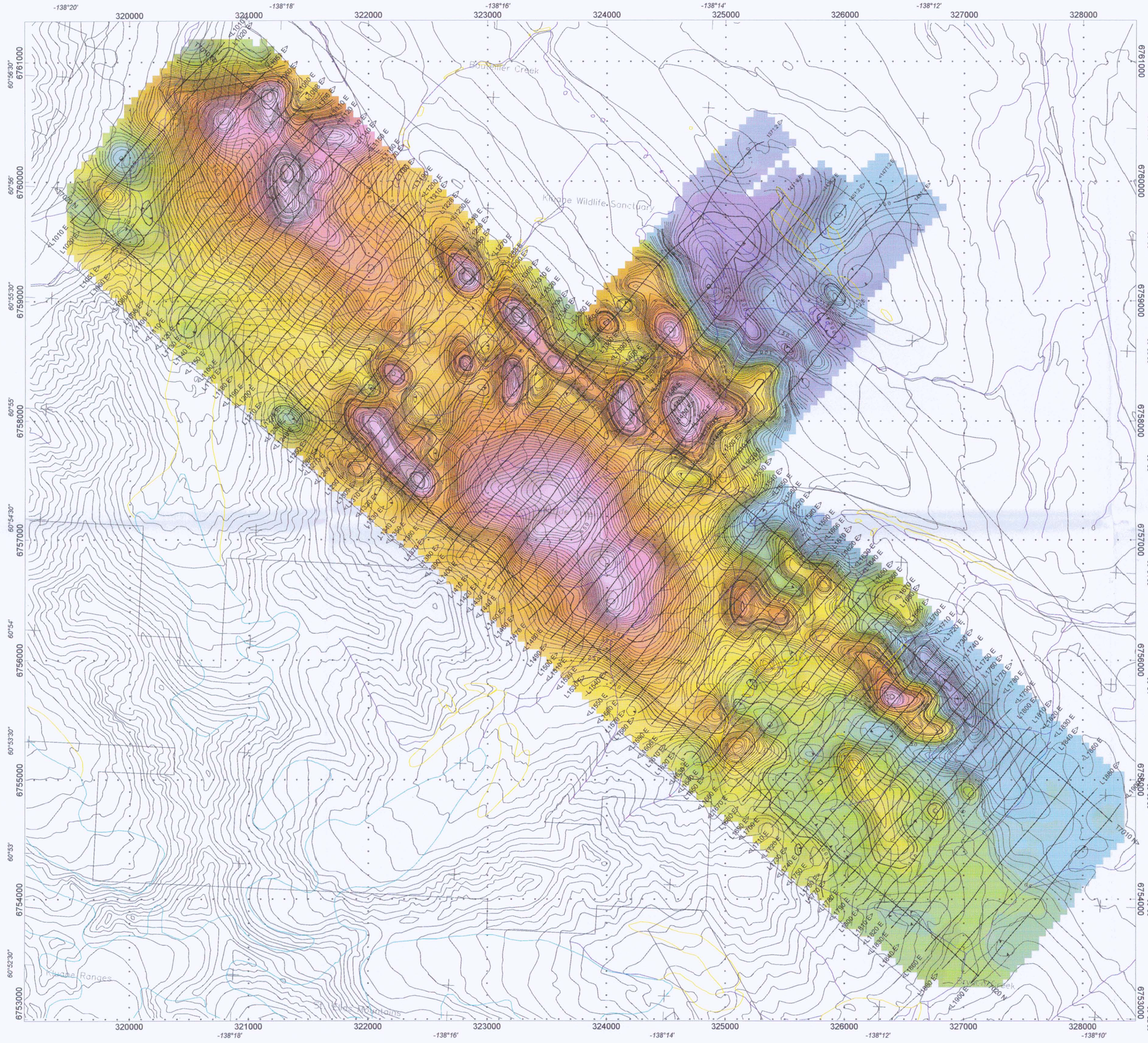
McPHAR

Klondike Gold Corporation

Digital Terrain Model
Contour Intervals: 5, 20, 50, 100, 500 metre

Sun-angle: 125°

McPhar Geosurveys Ltd.



LEGEND

SURVEY PARAMETERS:

HELICOPTER TYPE: A-Star AS-350 BA
SURVEY DATE: August 2004
TRAVERSE LINE SPACING: 100 m
TRAVESE LINE DIRECTION: 35°
CONTROL LINE SPACING: 1500 m
CONTROL LINE DIRECTION: 125°

ELECTROMAGNETIC SYSTEM:

Geotech HUMMINGBIRD 5- Frequency System
Sensor Height: Nominally 30 m above ground level
Sampling Rate: 10 reading/second

AIRBORNE MAGNETOMETER:

Geometrics G822A Cesium Magnetometer
Sensitivity: 0.001 nT
Noise level: ± 0.01 nT
Sensor Height: Nominally 30 above ground level
Sensor Location: Mounted inside HUMMINGBIRD EM sensor

ACQUISITION SYSTEM:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-300

AIRBORNE NAVIGATION SYSTEM:

DGPSMAX 12-channel GPS System
Sampling Rate: 1 reading/second

BASE STATION GPS RECEIVER:

NovAtel 3751 R GPS System
Sampling Rate: 1 reading/second

BASE STATION MAGNETOMETER:

GSM-19 Overhouser Magnetometer
Sensitivity: 0.01 nT
Sampling Rate: 1 reading/second

543.3
504.2
469.2
438.0
408.2
388.2
365.9
347.2
327.0
308.4
290.7
275.1
261.6
248.0
233.4
221.0
206.4
190.2
174.2
161.0
148.0
136.1
125.2
115.1
105.0
95.1
86.7
78.8
71.3
62.8
46.2
13.5
3.2
-32.7
-91.9
-131.1
-153.8
-182.6

Reduction to the Magnetic Pole of theTotal Magnetic Intensity (IGRF Removed)
nanoTesla

Scale 1:20000

250 0 250 500 750 1000 1250 1500
metres
WGS 84 / UTM zone 8N

McPHAR

Klondike Gold Corporation

Reduction to the Magnetic Pole of the Total Magnetic Intensity (IGRF Removed)

Contour Intervals: 10, 50, 100, 500 nanoTesla
Sun-angle: 125°

McPhar Geosurveys Ltd.

LEGEND

SURVEY PARAMETERS:

HELICOPTER TYPE: A-Star AS-350 BA
SURVEY DATE: August 2004
TRAVERSE LINE SPACING: 100 m
TRAVESE LINE DIRECTION: 35°
CONTROL LINE SPACING: 1500 m
CONTROL LINE DIRECTION: 125°

ELECTROMAGNETIC SYSTEM:

Geotech HUMMINGBIRD 5- Frequency System
Sensor Height: Nominally 30 m above ground level
Sampling Rate: 10 reading/second

AIRBORNE MAGNETOMETER:

Geometrics G822A Cesium Magnetometer
Sensitivity: 0.001 nT
Noise level: ± 0.01 nT
Sensor Height: Nominally 30 above ground level
Sensor Location: Mounted inside HUMMINGBIRD EM sensor

ACQUISITION SYSTEM:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-300

AIRBORNE NAVIGATION SYSTEM:

DGPSMAX 12-channel GPS System
Sampling Rate: 1 reading/second

BASE STATION GPS RECEIVER:

NovAtel 3751 R GPS System
Sampling Rate: 1 reading/second

BASE STATION MAGNETOMETER:

GSM-19 Overhouser Magnetometer
Sensitivity: 0.01 nT
Sampling Rate: 1 reading/second

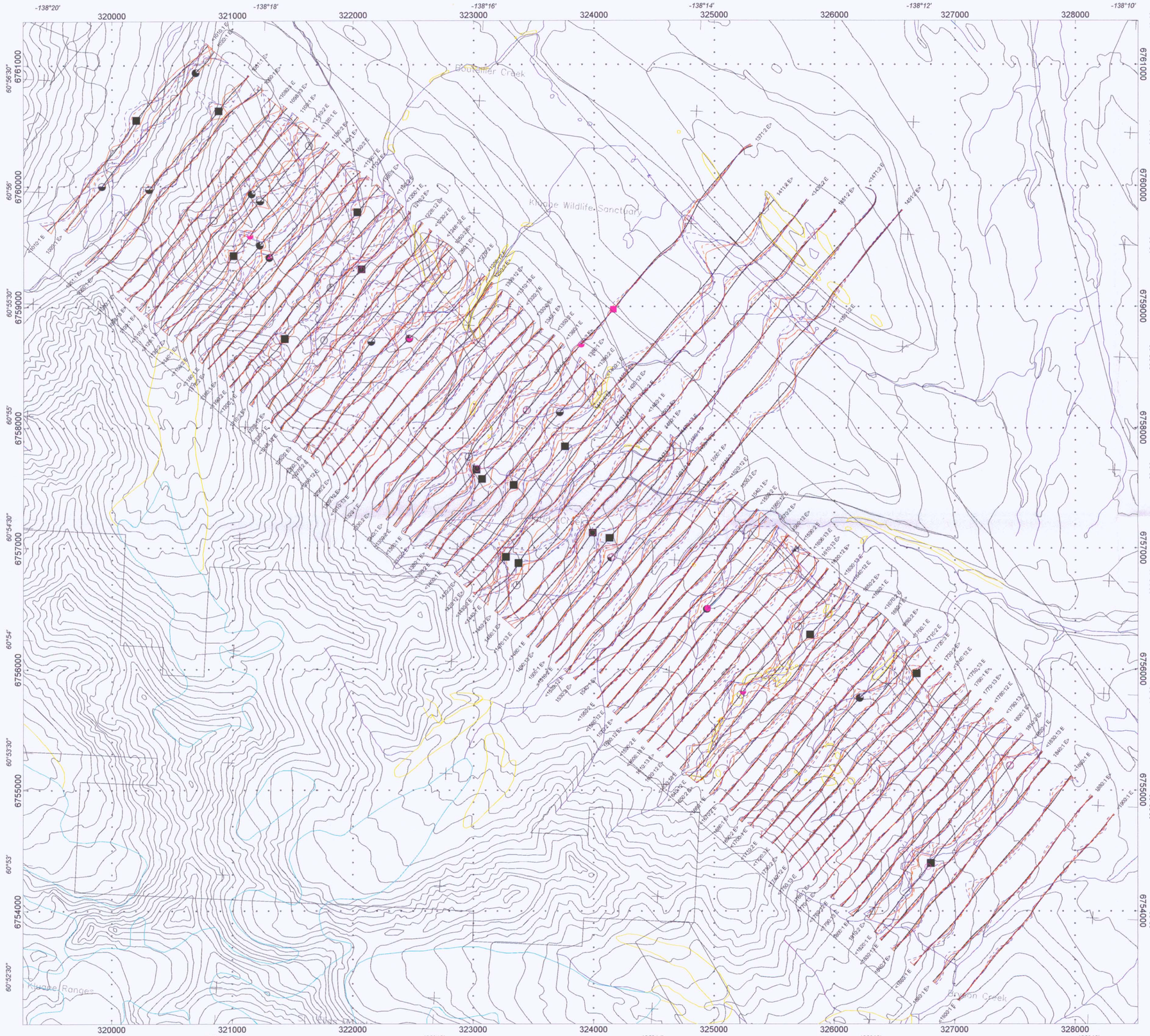
1.9
1.3
1.0
0.8
0.6
0.5
0.5
0.4
0.3
0.3
0.2
0.2
0.1
0.1
0.1
0.0
0.0
0.0
-0.0
-0.0
-0.1
-0.1
-0.1
-0.1
-0.2
-0.2
-0.2
-0.2
-0.3
-0.3
-0.3
-0.4
-0.5
-0.6
-0.7
-0.9
-1.1

Calculated First Vertical Derivative of theTotal Magnetic Intensity
nanoTesla/metre

Scale 1:20000
250 0 250 500 750 1000 1250 1500
metres
WGS 84 / UTM zone 8N

McPHAR

Klondike Gold Corporation
Calculated First Vertical Derivative of the Total Magnetic Intensity
Contour Intervals: 0.1, 0.5, 1, 5 nanoTesla/metre
McPhar Geosurveys Ltd.



LEGEND

SURVEY PARAMETERS:

HELICOPTER TYPE: A-Star AS-350 BA
SURVEY DATE: August 2004
TRAVERSE LINE SPACING: 100 m
TRAVESE LINE DIRECTION: 35°
CONTROL LINE SPACING: 1500 m
CONTROL LINE DIRECTION: 125°

ELECTROMAGNETIC SYSTEM:

Geotech HUMMINGBIRD 5- Frequency System
Sensor Height: Nominally 30 m above ground level
Sampling Rate: 10 reading/second

AIRBORNE MAGNETOMETER:

Geometrics G822A Cesium Magnetometer
Sensitivity: 0.001 nT
Noise level: ± 0.01 nT
Sensor Height: Nominally 30 above ground level
Sensor Location: Mounted inside HUMMINGBIRD EM sensor

ACQUISITION SYSTEM:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-300

AIRBORNE NAVIGATION SYSTEM:

DGPSMAX 12-channel GPS System
Sampling Rate: 1 reading/second

BASE STATION GPS RECEIVER:

NovAtel 3751 R GPS System
Sampling Rate: 1 reading/second

BASE STATION MAGNETOMETER:

GSM-19 Overhouser Magnetometer
Sensitivity: 0.01 nT
Sampling Rate: 1 reading/second

Coaxial Coil Anomaly 980 Hz (Conductance, S)

- >8
- 6 - 8
- 4 - 6
- 2 - 4
- 1.6 - 2
- 1.4 - 1.6
- 1.2 - 1.4
- 1-1.2
- <1

Coaxial Coil Anomaly 7000Hz (Conductance, S)

- >2
- 1.8 - 2
- 1.6 - 1.8
- 1.4 - 1.6
- 1.2 - 1.4
- 1 - 1.2
- 0.5 - 1
- 0.3 - 0.5
- <0.3

Scale 1:20000

250 0 250 500 750 1000 1250 1500
metres
WGS 64 / UTM zone 8N

McPHAR

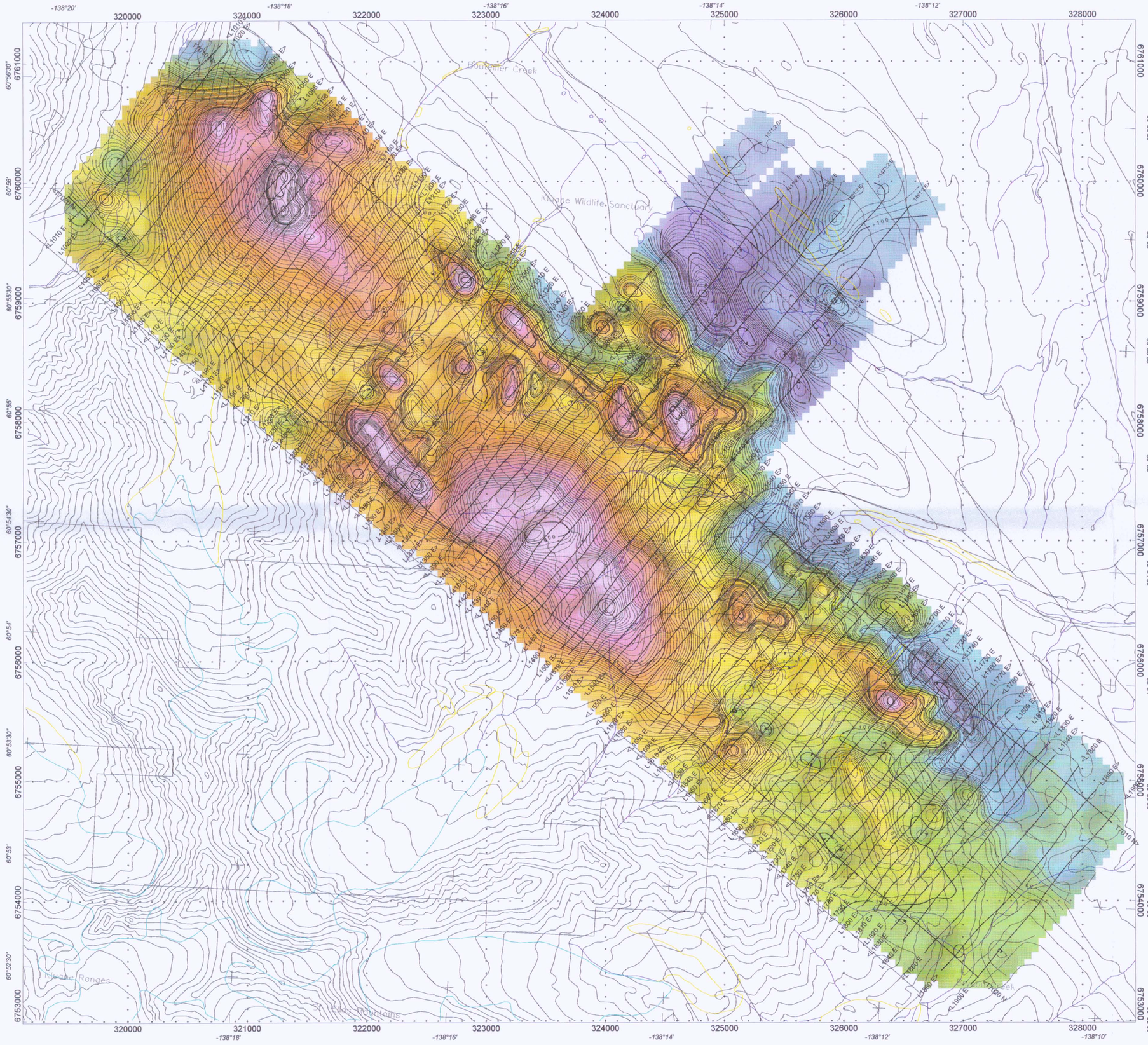
Klondike Gold Corporation

Offset EM profiles map
Coaxial 7kHz and Coplanar 6.6kHz

Scale:

In-Phase 6.6 kHz	10 ppm/mm
Quadrature 6.6 kHz	10 ppm/mm
In-Phase 7 kHz	5 ppm/mm
Quadrature 7 kHz	5 ppm/mm

McPhar Geosurveys Ltd.



LEGEND

SURVEY PARAMETERS:

HELICOPTER TYPE: A-Star AS-350 BA
SURVEY DATE: August 2004
TRAVERSE LINE SPACING: 100 m
TRAVESE LINE DIRECTION: 35°
CONTROL LINE SPACING: 1500 m
CONTROL LINE DIRECTION: 125°

ELECTROMAGNETIC SYSTEM:

Geotech HUMMINGBIRD 5- Frequency System
Sensor Height: Nominally 30 m above ground level
Sampling Rate: 10 reading/second

AIRBORNE MAGNETOMETER:

Geometrics G822A Cesium Magnetometer
Sensitivity: 0.001 nT
Noise level: ± 0.01 nT
Sensor Height: Nominally 30 above ground level
Sensor Location: Mounted inside HUMMINGBIRD EM sensor

ACQUISITION SYSTEM:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-300

AIRBORNE NAVIGATION SYSTEM:

DGPSMAX 12-channel GPS System
Sampling Rate: 1 reading/second

BASE STATION GPS RECEIVER:

NovAtel 3751 R GPS System
Sampling Rate: 1 reading/second

BASE STATION MAGNETOMETER:

GSM-19 Overhouser Magnetometer
Sensitivity: 0.01 nT
Sampling Rate: 1 reading/second

561.8
507.6
470.9
445.8
422.2
399.5
379.6
359.8
341.6
325.2
307.1
292.4
276.3
262.0
247.6
232.9
217.4
201.7
186.7
174.2
161.5
150.2
137.0
123.8
113.4
103.1
91.8
81.5
66.7
41.7
25.5
15.3
-10.4
-58.5
-98.9
-127.6
-160.9
-203.6

Total Magnetic Intensity (IGRF Removed)
nanoTesla

Scale 1:20000

250 0 250 500 750 1000 1250 1500
metres
WGS 84 / UTM zone 8N

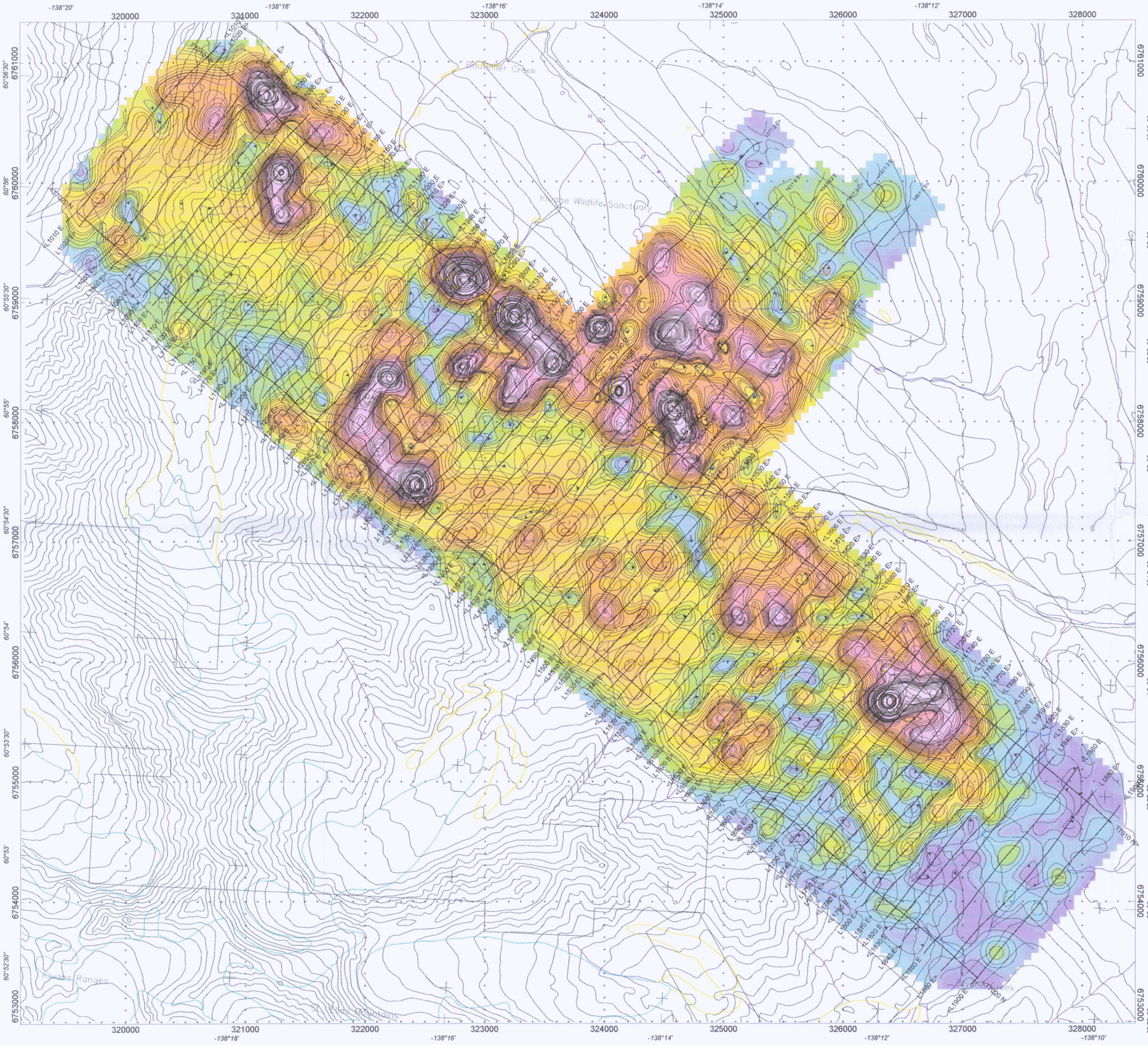
McPHAR

Klondike Gold Corporation

Total Magnetic Intensity (IGRF Removed)
Contour Intervals: 10, 50, 100, 500 nanoTesla

Sun-angle: 125°

McPhar Geosurveys Ltd.



LEGEND

SURVEY PARAMETERS:

HELICOPTER TYPE: A-Star AS-350 BA
SURVEY DATE: August 2004
TRAVERSE LINE SPACING: 100 m
TRAVESE LINE DIRECTION: 35°
CONTROL LINE SPACING: 1500 m
CONTROL LINE DIRECTION: 125°

ELECTROMAGNETIC SYSTEM:

Geotech HUMMINGBIRD 5- Frequency System
Sensor Height: Nominally 30 m above ground level
Sampling Rate: 10 reading/second

AIRBORNE MAGNETOMETER:

Geometrics G822A Cesium Magnetometer
Sensitivity: 0.001 nT
Noise level: ± 0.01 nT
Sensor Height: Nominally 30 above ground level
Sensor Location: Mounted inside HUMMINGBIRD EM sensor

ACQUISITION SYSTEM:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-300

AIRBORNE NAVIGATION SYSTEM:

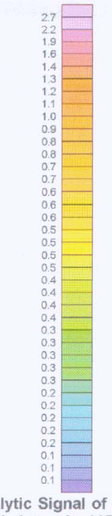
DGPSMAX 12-channel GPS System
Sampling Rate: 1 reading/second

BASE STATION GPS RECEIVER:

NovAtel 3751 R GPS System
Sampling Rate: 1 reading/second

BASE STATION MAGNETOMETER:

GSM-19 Overhouser Magnetometer
Sensitivity: 0.01 nT
Sampling Rate: 1 reading/second



Analytic Signal of the
Total Magnetic Intensity (IGRF Removed)
nanoTesla/metre

Scale 1:20000

250 0 250 500 750 1000 1250 1500
metres
WGS 84 / UTM zone 8N

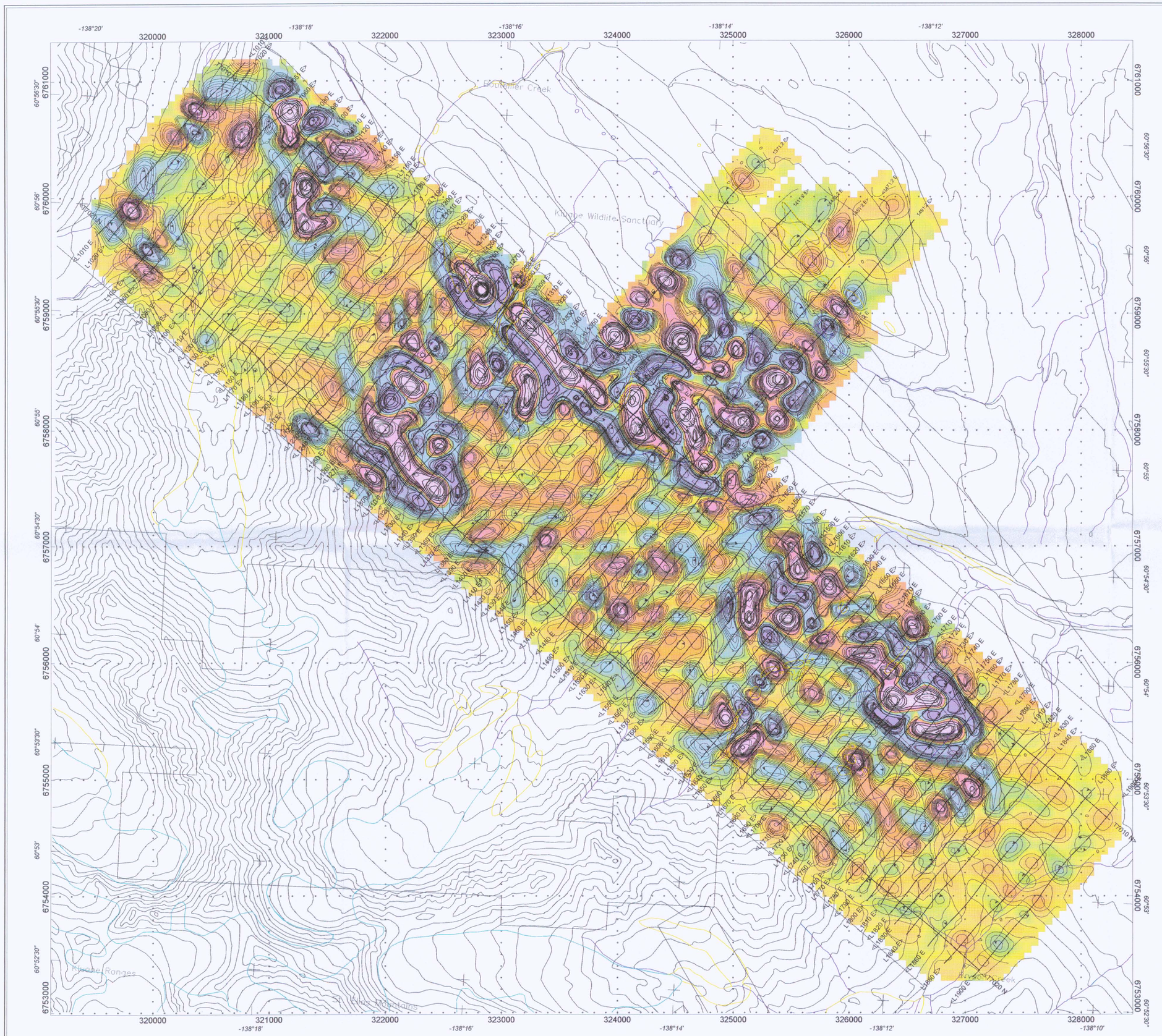
McPHAR

Klondike Gold Corporation

Analytic Signal of the
Total Magnetic Intensity (IGRF Removed)

Contour Intervals: 0.05, 0.1, 1.5, 2 nanoTesla/metre

McPhar Geosurveys Ltd.



LEGEND

SURVEY PARAMETERS:

HELICOPTER TYPE: A-Star AS-350 BA
SURVEY DATE: August 2004
TRAVERSE LINE SPACING: 100 m
TRAVESE LINE DIRECTION: 35°
CONTROL LINE SPACING: 1500 m
CONTROL LINE DIRECTION: 125°

ELECTROMAGNETIC SYSTEM:

Geotech HUMMINGBIRD 5- Frequency System
Sensor Height: Nominally 30 m above ground level
Sampling Rate: 10 reading/second

AIRBORNE MAGNETOMETER:

Geometrics G822A Cesium Magnetometer
Sensitivity: 0.001 nT
Noise level: ± 0.01 nT
Sensor Height: Nominally 30 above ground level
Sensor Location: Mounted inside HUMMINGBIRD EM sensor

ACQUISITION SYSTEM:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-300

AIRBORNE NAVIGATION SYSTEM:

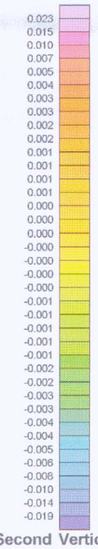
DGPSMAX 12-channel GPS System
Sampling Rate: 1 reading/second

BASE STATION GPS RECEIVER:

NovAtel 3751 R GPS System
Sampling Rate: 1 reading/second

BASE STATION MAGNETOMETER:

GSM-19 Overhouser Magnetometer
Sensitivity: 0.01 nT
Sampling Rate: 1 reading/second



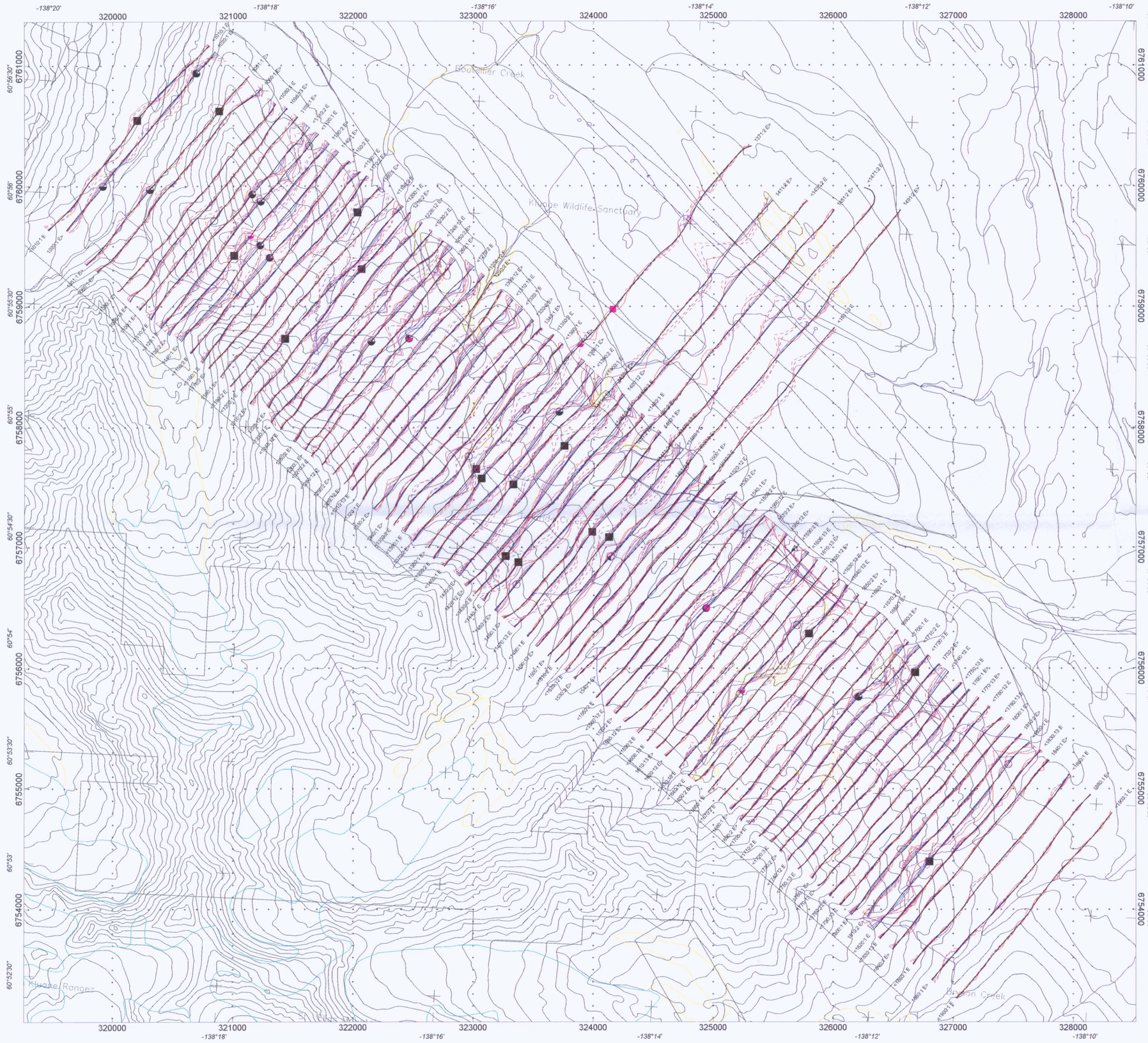
Calculated Second Vertical Derivative of the Total Magnetic Intensity
nanoTesla/metre²

Scale 1:20000

250 0 250 500 750 1000 1250 1500
metres
WGS 84 / UTM zone 8N

McPHAR

Klondike Gold Corporation
Calculated Second Vertical Derivative of the Total Magnetic Intensity
Contour Intervals: 0.001, 0.005, 0.01, 0.05 nanaTesla/metre²
McPhar Geosurveys Ltd.



LEGEND

SURVEY PARAMETERS:

HELICOPTER TYPE: A-Star AS-350 BA
SURVEY DATE: August 2004
TRAVERSE LINE SPACING: 100 m
TRAVESE LINE DIRECTION: 35°
CONTROL LINE SPACING: 1500 m
CONTROL LINE DIRECTION: 125°

ELECTROMAGNETIC SYSTEM:

Geotech HUMMINGBIRD 5- Frequency System
Sensor Height: Nominally 30 m above ground level
Sampling Rate: 10 reading/second

AIRBORNE MAGNETOMETER:

Geometrics G822A Cesium Magnetometer
Sensitivity: 0.001 nT
Noise level: ± 0.01 nT
Sensor Height: Nominally 30 above ground level
Sensor Location: Mounted inside HUMMINGBIRD EM sensor

ACQUISITION SYSTEM:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-300

AIRBORNE NAVIGATION SYSTEM:

DGPSMAX 12-channel GPS System
Sampling Rate: 1 reading/second

BASE STATION GPS RECEIVER:

NovAtel 3751 R GPS System
Sampling Rate: 1 reading/second

BASE STATION MAGNETOMETER:

GSM-19 Overhouser Magnetometer
Sensitivity: 0.01 nT
Sampling Rate: 1 reading/second

Coaxial Coil Anomaly 980 Hz (Conductance, S)	Coaxial Coil Anomaly 7000Hz (Conductance, S)
>8	>2
6 - 8	1.8 - 2
4 - 6	1.6 - 1.8
2 - 4	1.4 - 1.6
1.6 - 2	1.2 - 1.4
1.4 - 1.6	1 - 1.2
1.2 - 1.4	0.5 - 1
1-1.2	0.3 - 0.5
<1	<0.3

Scale 1:20000

250 0 250 500 750 1000 1250 1500
metres
WGS 84 / UTM zone 8N

McPHAR

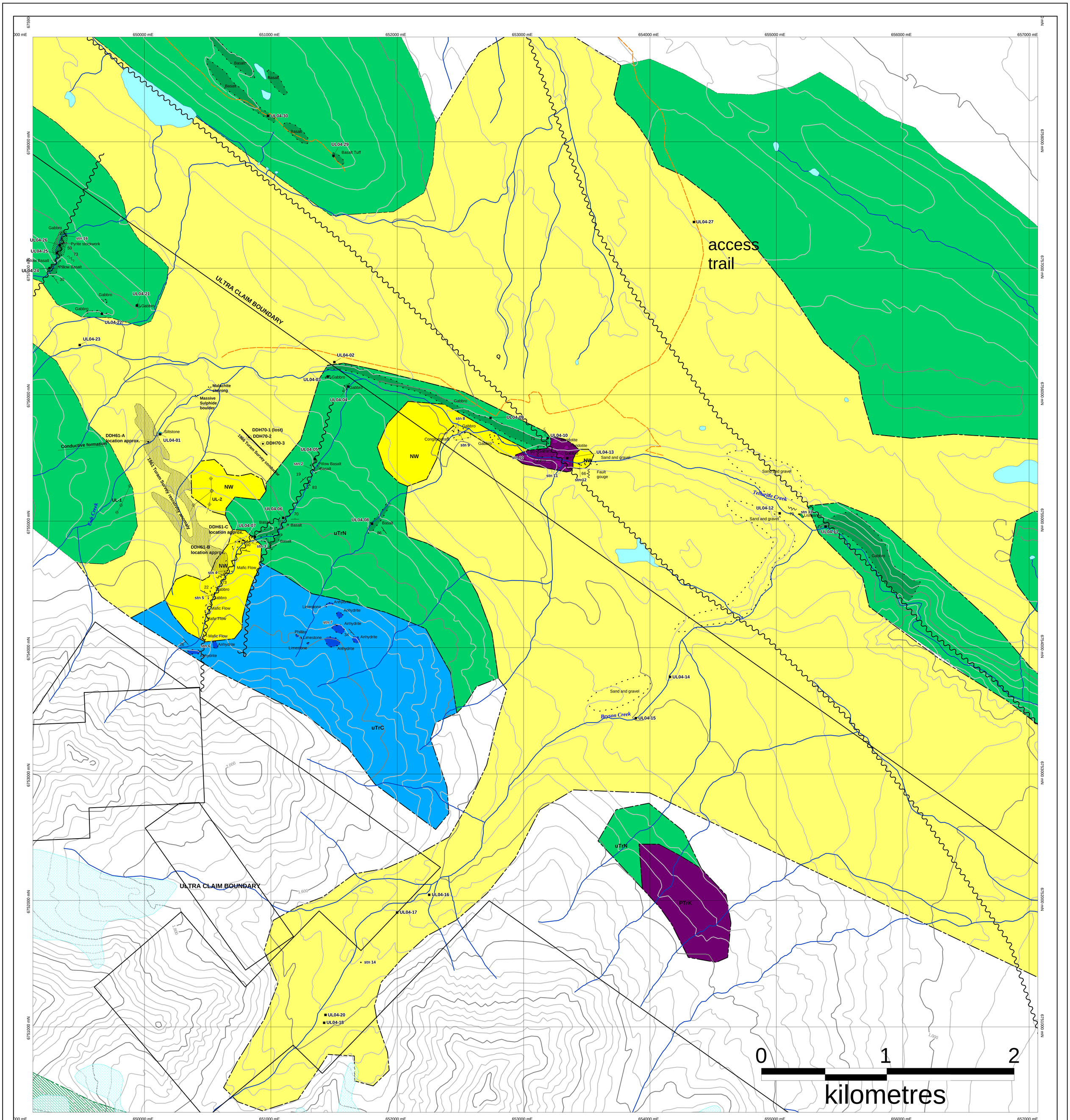
Klondike Gold Corporation

Offset EM profiles map
Coaxial 980Hz and Coplanar 880Hz

Scale:

In-Phase 880 Hz	5 ppm/mm
Quadrature 880 Hz	5 ppm/mm
In-Phase 980 Hz	1 ppm/mm
Quadrature 980 Hz	1 ppm/mm

McPhar Geosurveys Ltd.



LEGEND

- **Q** — Quaternary: sand and gravel
- **OA** — Miocene to Pliocene: Amphitheatre Formation - sandstone, conglomerate,siltstone, mudstone
- **NW** — Paleocene to Oligocene: Wrangell Lavas - mafic to felsic volcanic rocks
- **uTrN** — Upper Triassic: Nocolai Group - basalt to andesite flows
- **PTrK** — Late Triassic: Kluane Ultramafic Suite - mafic to ultramafic intrusions
- **ODB** — Silurian and Devonian: Bullion Group - limestone, marble and minor argillites

- 65 — bedding with dip
- 55 — fault with dip
- UL04-01 ■ — rock sample location
- stn 01 ● — geological measurement location
- outcrop
- contact - assumed
- mineralized zone
- drill hole location
- mineralized showing
- 1961 Turam survey resistive zone
- 1966 Turam survey conductor
- UL-1 — 2002 HLEM survey conductor

SAMPLE	Ag (ppm)	Au (ppm)	As (ppm)	Cu (ppm)	Cu (%)	Ni (ppm)	Zn (ppm)
UL04-01	1.2	0.008	6	48		86	71
UL04-02	1	0.016	10	98		24	22
UL04-03	0.2	0.002	15	13		36	68
UL04-04	0.2	0.006	6	74		37	66
UL04-05	0.3	0.003	2	304		39	87
UL04-06	<0.2	0.002	6	7		176	48
UL04-07	0.2	0.006	4	69		45	78
UL04-08	<0.2	0.001	2	20		55	96
UL04-09	<0.2	0.007	<2	71		45	83
UL04-10 + 12	0.2	0.002	11	64		384	47
UL04-11	0.2	0.027	2	86		55	62
UL04-13	0.3	0.011	109	6		6	136
UL04-14	0.3	0.008	27	70		33	77
UL04-15	0.3	0.008	31	237		38	25
UL04-16	0.4	0.006	19	101		51	88
UL04-17	0.7	0.015	107	1370		32	1375
UL04-18	0.4	0.006	17	62		32	10
UL04-19	0.5	0.007	165	575		14	536
UL04-20	3.1	0.007	2910	>10000	1.14	37	903
UL04-21	0.2	0.004	7	58		30	42

SAMPLE	Ag (ppm)	Au (ppm)	As (ppm)	Cu (ppm)	Ni (ppm)	Zn (ppm)
UL04-22	<0.2	0.005	7	69	52	66
UL04-23	0.3	0.009	8	292	65	9
UL04-24	<0.2	0.004	7	35	68	58
UL04-25	0.2	0.003	9	67	76	26
UL04-26	0.2	0.008	5	474	45	52
UL04-27	<0.2	<0.001	6	101	38	70
UL04-28	0.2	<0.001	6	49	54	57
UL04-29	<0.2	<0.001	2	52	42	61
UL04-30	<0.2	0.002	4	158	50	78
UL04-31	<0.2	0.013	<2	477	20	22
UL04-32	<0.2	0.009	5	158	36	31
UL04-33	<0.2	0.003	<2	53	61	68
UL04-34	<0.2	0.007	37	44	102	31
UL04-35	<0.2	0.009	10	108	65	29
UL04-36	<0.2	0.003	<2	86	46	45
UL04-37	<0.2	0.004	<2	1045	146	7
UL04-38	<0.2	<0.001	<2	25	51	45
UL04-39	0.8		4	4560	3030	56
UL04-40	<0.2	0.002	<2	69	71	61
UL04-41	<0.2	0.021	4	203	53	32
UL04-42	<0.2	0.02	2	1310	15	7

N, W, E, S

scale = 1:10,000
NAD 83 UTM zone 7
contours interval in metres

KLONDIKE GOLD CORPORATION
ULTRA PROPERTY
PROPERTY GEOLOGY MAP
SOUTH SHEET

Haines Junction Area, Yukon **NTS 115B/16**
Whitehorse Mining District **December 2004**
Figure 5

AURORA GEOSCIENCES LTD

644000 mE 645000 mE 646000 mE 647000 mE 648000 mE 649000 mE 650000 mE 651000 mE

6761000 mN 6760000 mN 6759000 mN 6758000 mN 6757000 mN 6756000 mN 6755000 mN 6754000 mN 6753000 mN

Silver Creek

Basalt Tuff
stn 18
63
UL04-32
45
Basalt Tuff
Fault gouge
stn 17
Basalt lapilli tuff
76
36
Gabbro
Limestone
UL04-36
UL04-33
Basalt
UL04-35
UL04-34
Pyrite stockwork
UL04-37
76
UL04-38
Graphitic sediments
Conglomerate
Conglomerate
UL04-39
OA
Basalt
UL04-42
stn 19
stn 20
Pyrite stockwork
70
UL04-41
Phyllitic sediments
Basalt
uTrC
UL04-40
Basalt
Basalt
Phyllitic sediments
uTrN
Basalt
ULTRA CLAIM BOUNDARY
Gabbro
UL04-26
stn 16
Pyrite stockwork
50
UL04-25
73
Pillow Basalt
Pillow Basalt
UL04-24
30
uTrC
Limestone
stn 15
Basalt
Basalt
56
Basalt
Gabbro
UL04-21
Gabbro
Gabbro
UL04-22
UL04-23
uTrN
UL04-28
Pillowed Basalt
UL04-31
Basalt Tuff
Basalt
Basalt
Basalt
UL04-30
Basalt
Malachite staining
Massive Sulphide boulder
UL04-03
DDH61-A location approx.
Siltstone
UL04-01
DDH70-1 (lost)
DDH70-2
DDH70-3
1966 Turam Survey conductor
Conductive formation
1991 Turam Survey resistivity anomaly
UL04-05
stn 2
Pillow B
Basal
19
83
NW
UL-2
UL-1
Creek Fault
UL04-06
70
Basalt
Basalt
DDH61-C location approx.
UL04-07
DDH61-B location approx.
stn 3
Basalt
NW
Mafic Flow
stn 4
73
22
Gabbro
Gabbro
stn 5
Mafic Flow
Mafic Flow
Mafic Flow
Limestone
stn
Philite
Limestone
Anhydrite
26
stn 6
Anhydrite
Limestone
2,000
Glacier
PTrK
Chlorite
uTrC
Siltstone
Limestone
SDB
Gypsum
78
stn 1
Fro berg
Telluride
Glacier
Glacier
Glacier
0 0.2 0.4
kilometres
2,200

LEGEND

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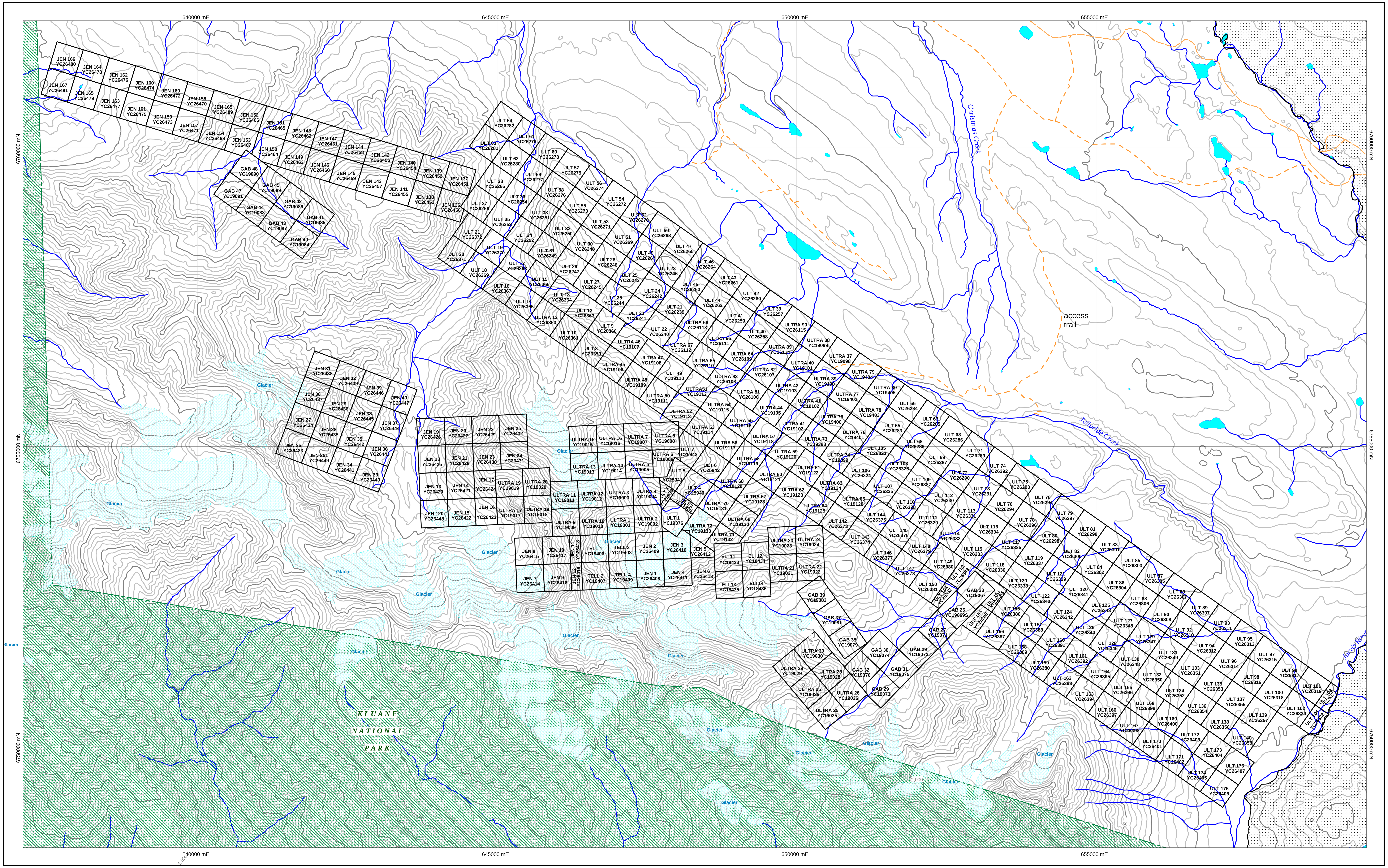
N W E S

scale = 1:10,000
NAD 83 UTM zone 7
contours interval in metres

KLONDIKE GOLD CORPORATION
ULTRA PROPERTY
PROPERTY GEOLOGY MAP
NORTH SHEET

Haines Junction Area, Yukon **NTS 115B/16**
Whitehorse Mining District **December 2004**
Figure 6

AURORA GEOSCIENCES LTD



LEGEND

- Ultra Claim (name & grant number)
- First Nation Land Claim
- Kluane Park

Scale: 1:25000

Projection: UTM Zone 7 (NAD 83)

KLONDIKE GOLD CORPORATION
ULTRA PROPERTY
CLAIM LOCATION MAP

Haines Junction Area, Yukon **NTS 115B/16**
Whitehorse Mining District **December 2004**
Figure 4

AURORA GEOSCIENCES LTD