TED TULLIS

TOTAL MAGNETIC FIELD SURVEY AND SHAFT SAMPLING OF THE ISAAC CREEK PLACER PROPERTY, CASINO AREA, YUKON TERRITORY

Scott Casselman
AURORA GEOSCIENCES LTD.

PLACER LEASES

IW00139	5 Mile Lease
IW00141	3 Mile Lease
IW00142	5 Mile Lease

Location: 62° 47'N, 138° 31'W
NTS: 115 J/10, 15, 16
Mining District: Whitehorse
Date: November 7, 2001

SUMMARY

A total magnetic field survey and shafting program was conducted on the Isaac Creek Placer Property (Placer Leases IW00139, IW00141 and IW00142) to determine the location of potential auriferous pay streaks in the Sunshine Creek and Isaac Creek valleys. The property is located in the Casino area (NTS sheets 115J/9, 10, 15 and 16). The surveys were conducted by a two-man crew from September 21 to October 11, 2001 with helicopter support from Carmacks.

The program involved establishing three grids with a common origin at the junction of Sunshine and Isaac Creeks. The baseline for each grid was cut and slope chained with pickets established at 25 m intervals. Lines were established at 50 m intervals by hip chain and compass with10 m station spacing. The magnetic field survey was conducted at 5 m station spacing along the survey lines. A total of 3.3 km of baseline was cut and 21.14 km of line was established and surveyed for magnetics.

The magnetic field survey identified a number of anomalous trends on the property which have magnetic signatures similar to those expect for magnetite-rich paleo-channels. These anomalies are generally on the order of 60 to 80 nT and are up to 35 m wide and 100 to 250 m in strike length.

Two of the magnetic anomalies were tested by shafting and collecting pan concentrate samples to determine the concentration of magnetic sand and to test for placer gold content. Unfortunately, due to heavy inflow of ground water, neither of the shafts were able to reach bedrock. A total of six pan concentrate samples were collected.

The pan concentrate samples did not contain sufficient amounts of magnetic sand to explain the magnetic anomalies. The samples from Shaft #1 did not contain significant amounts of gold. The samples from the lower part of Shaft #2 contained minor amounts of gold, however, none of the samples contain economic concentrations (maximum value of US $ 0.17 /cubic yard).

Recommendations for future work on the property are to deepen the shafts to bedrock to look for the magnetite-rich horizon and to collect samples to determine the gold concentration. Also, other magnetic anomalies on the property should be tested.

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1.0 INTRODUCTION

Aurora Geosciences Ltd. was retained by Ted Tullis to conduct ground total magnetic field surveys and test shafting on the Isaac Creek Placer Property. The property comprises 3 Placer Leases on Isaac Creek, Sunshine Creek and Idaho Creek. A total of 21.14 line-km of grid was established and surveyed and two shafts were sunk between September 21 to October 11, 2001. The program was conducted to locate magnetite bearing pay streaks along Isaac and Sunshine creeks. This report describes the surveys performed, data, results and an interpretation.

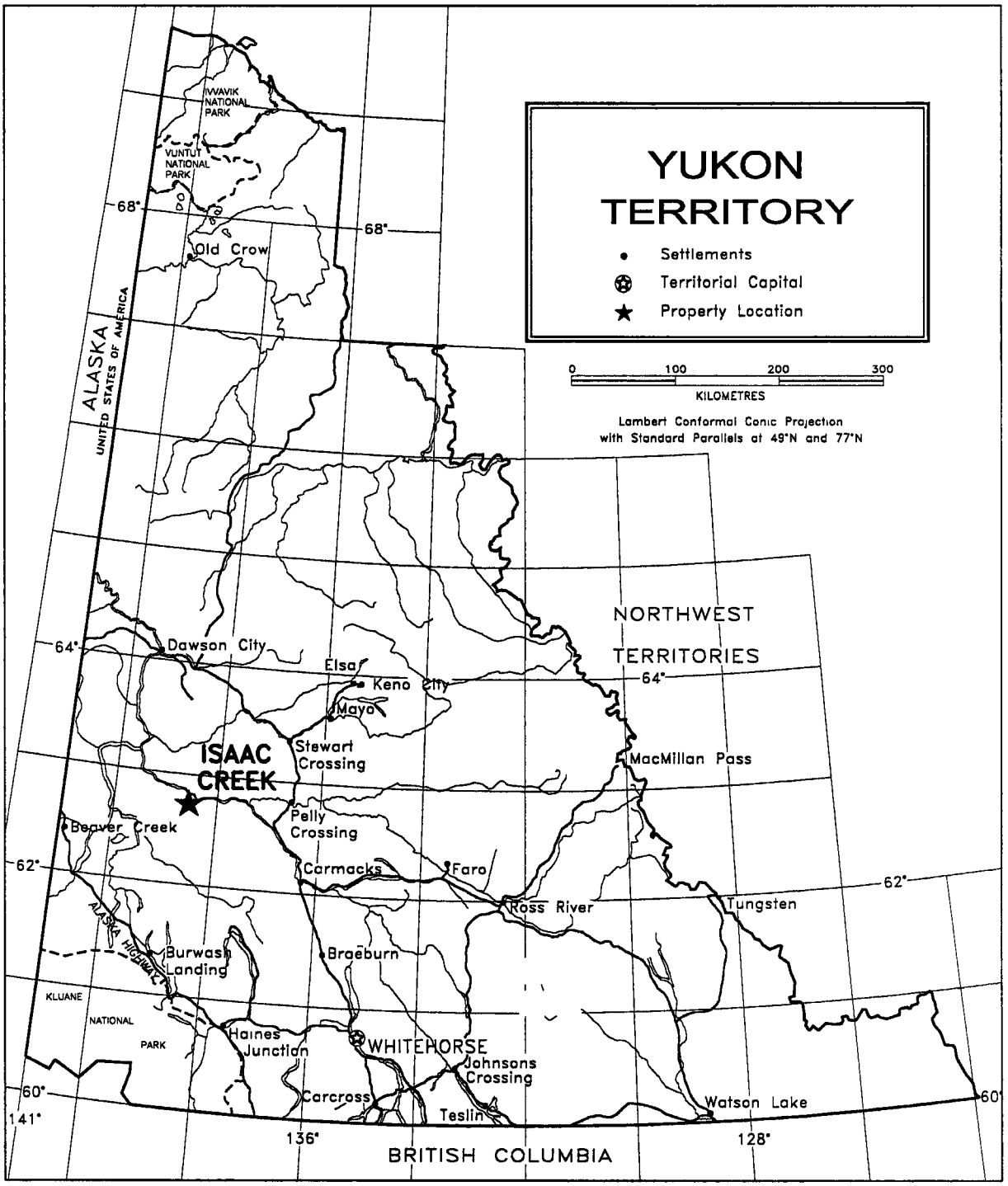
2.0 LOCATION AND ACCESS

The Isaac Creek Placer Property is located in the Casino Area of central Yukon on NTS sheets 115J/09, 15 and 16 (Figure 1). The property is centred at 62° 47' N, 138° 31' W. The property is approximately 145 km northwest of Carmacks, 145 km south of Dawson City, or 280 km northwest of Whitehorse. It is accessible by boat on the Yukon River to the mouth of Isaac Creek then by trail to the placer leases or by helicopter from Carmacks or Dawson City. The property is also accessible by the Casino cat trail. For the 2001 program equipment was mobilized and demobilized from Minto Landing by helicopter.

3.0 PHYSIOGRAPHY

The Casino Area in west central Yukon is in the Dawson Range Mountains which form a series of well rounded ridges and hills. Elevations range from 1400 feet in the Yukon River valley to over 6000 feet on the ridge tops. Valleys are generally tree covered, especially near streams, with spruce, poplar and willows. Slopes are generally sparsely covered with dwarf spruce.

The climate is subarctic with an annual precipitation of 40 centimetres. Temperatures generally range from highs of up to 25° C in July and August to lows of -30 to -50° C in January. Permafrost is widespread but discontinuous. Most of the Dawson Range escaped Pleistocene continental glaciation; minor alpine glaciation produced small cirques and terminal moraines.



PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
S. G. CASSELMAN
GEOSCIENTIST

TED TULLIS	**ISAAC CREEK PLACER PROPERTY**	
PROPERTY LOCATION	**MINING DISTRICT: WHITEHORSE**	
	NTS: 115J/10,15,16	**Datum: LCC**
	Job: TTL-51-YT	**SCALE 1: 6,000,000**
Aurora Geosciences Ltd.	**DATE: 7 Nov 01**	**FIGURE: 1**

4.0 HISTORY

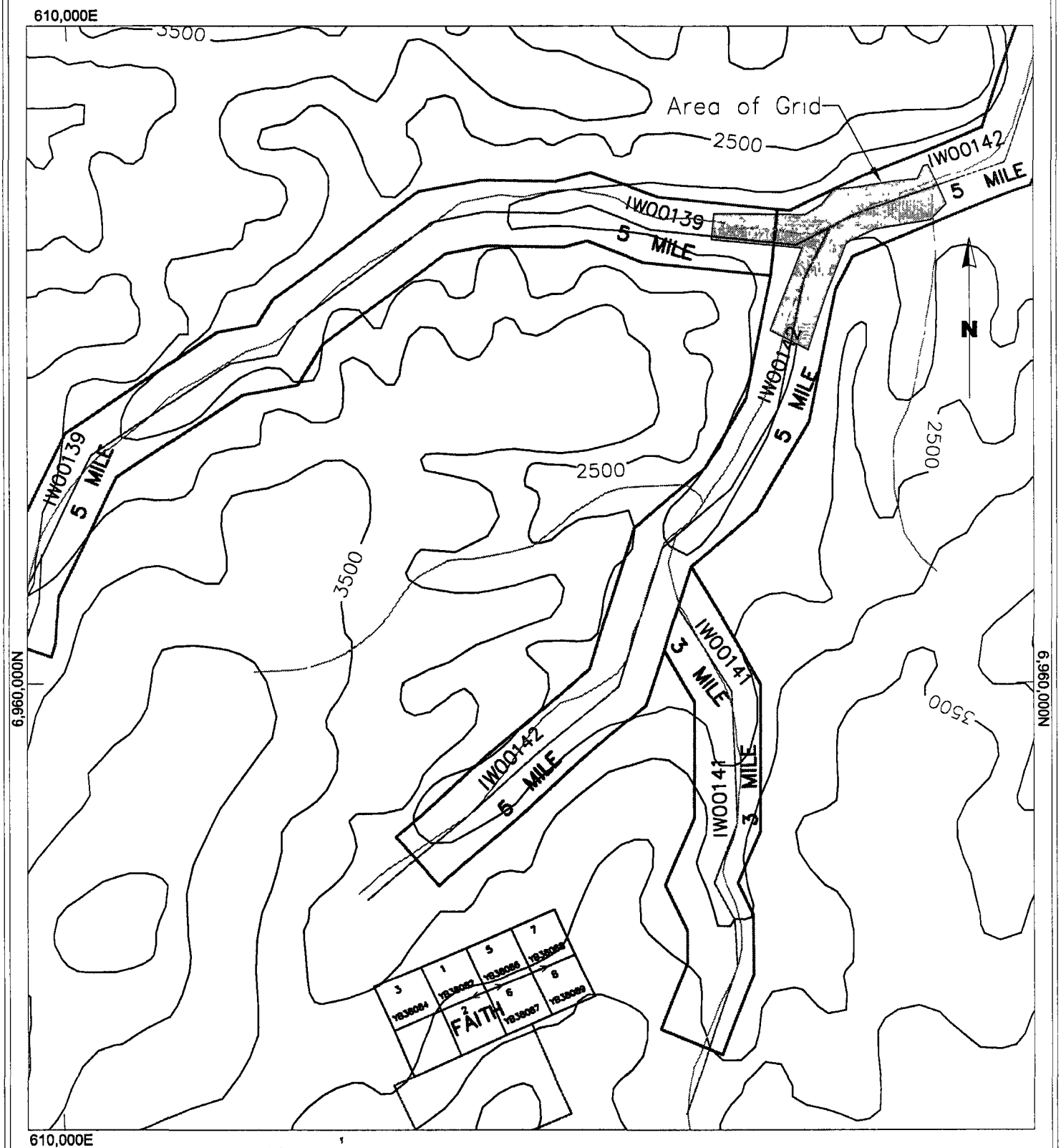
Early exploration in the Casino Area focussed on placer gold in Canadian Creek, 10 km west of Isaac Creek. In 1911, placer claims were staked by J. Britton and C. Brown. The creek underwent sporadic work since then. In 1917, D. D. Cairnes of the Geological Survey of Canada, recognized huebnerite ($MnWO_4$) in heavy mineral concentrates of the placer workings and suggested that the gold and tungsten mineralization was derived from an intrusive complex up stream. The total placer gold production from Canadian Creek is unknown; however, from 1980 to 1985 about 50 kg (1615 troy ounces) of gold was produced. During the second world war a small amount of tungsten was recovered.

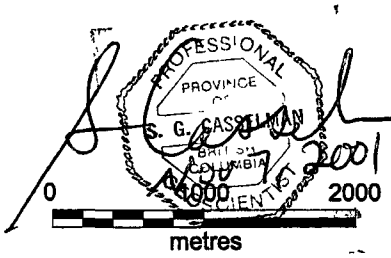
In 1915, claims were staked on Rude Creek, 10 km south of Isaac Creek, by Jens Rude and George Jensen. At this time approximately 25 persons were prospecting and mining along the creek. By 1920 interest had waned and all claims had lapsed. The creek was re-worked by George Leslie and his partner, George Stevenson, from 1933 to 1954. In 1979, Larry Smith acquired ground on Rude Creek which he sold to Gold Creek Mining Ltd. Gold Creek Mining went into production the following year, but only lasted to the end of the 1981 season. In 1987, Andre Fournier began mining on Rude Creek near its confluence with Dip Creek. He mined this area until 1991, when he moved his operation to a site 5.5 km up from Dip Creek. Reported gold production for the period 1987 to 1990 was 3483 crude ounces.

Isaac Creek, Idaho Creek and Sunshine Creek underwent limited prospecting during the Klondike Gold rush and during the 1940's and 1950's. In the 1990's, Archer, Cathro and Associates (1981) Ltd conducted some ridge line soil sampling in the area and test pitting in valley. There is no documented production from these creeks.

In 1917, the first quartz claims were staked at the Casino Property by N. Hanson. In the early 1940's, silver-lead-zinc veins were discovered by J. Meloy and A. Brown approximately 3 km south of the Canadian Creek placer workings. These veins produced 372.5 tonnes of hand-cobbed argentiferous galena, assaying 3689 g/t Ag, 17.1 g/t Au, 48.3% Pb, 5% Zn, 1.5% Cu and 0.02% Bi between 1965 and 1980.

In 1967, the porphyry potential of the Casino Property was recognized. The property was worked extensively by the Brynelsen Group from 1968 to 1973; by Archer, Cathro and Associates (1981) Ltd in 1992; and by Pacific Sentinel Gold Corp. in 1993 and 1994.





TED TULLIS	**ISAAC CREEK PLACER PROPERTY**	
CLAIM & GRID LOCATION MAP	**MINING DISTRICT: WHITEHORSE**	
	NTS: 115J/9,10,15,16	**Datum: NAD 83**
	Job: TTL-51-YT	**SCALE 1: 50,000**
Aurora Geosciences Ltd.	**DATE: 24 Oct 01**	**FIGURE: 2**

5.0 PROPERTY

The Isaac Creek Property consists of three Placer Leases in the Whitehorse Mining Division. Information is summarized below:

Lease	# of Miles	Registered Holder	Expiry date
IW00139	5	Diane Porter	January 2, 2002
IW00141	3	Peter Walsh	January 2, 2002
IW00142	5	Don Dixon	January 2, 2002

Lease locations as shown on government placer maps and the location of the survey grid are shown in Figure 2.

6.0 REGIONAL GEOLOGY

The Isaac Creek Property is in an overlapping zone with Yukon Cataclastic Terrane to the north and Yukon Crystalline Terrane to the South. An elongate band of ultramafic rocks occurs sporadically along the suture between the two terranes.

The Yukon Crystalline Terrane consists of Yukon Metamorphic complex intruded by the Dawson Range Suite. The Yukon Metamorphic Complex is dominated by quartz-biotite-plagioclase gneiss, metamorphic granodiorite to quartz diorite and less abundant quartzite and meta diorite/amphibolite. The Dawson Range Suite is dominated by medium to coarse grained quartz diorite to granodiorite.

The Dawson Range Suite is bordered by Mount Nansen Suite volcanics and intruded by related feldspar porphyry dykes and scattered intrusions of the Coffee Creek Suite (granodiorite and quartz diorite).

The Yukon Cataclastic Terrane is comprised of Yukon Group metamorphosed sedimentary rocks (limestone, quartzite, schists).

The surficial geology of the area is best described from work done at Canadian Creek. There, the depth of placer gravels has been found to reach greater than 28 m. The geology consists of 0.8 m to 28 m of organic muck overlaying 1.8 to 6.8 m of gravels. The gravels are rounded and generally under 0.3 m in diameter, although some larger boulders occur. They have a thin layer of small boulders near the top and another towards the bottom. The gravels continue down to bedrock, with clay content increasing as bedrock is approached. The pay horizon was found to be the first 1 to 1.5 m of gravel, which was occasionally cemented into "hard-pan". Gold is mostly fine-grained with some small nuggets and of many different shapes, including: wire, rough,

flat and gold with quartz attached. Heavy minerals present include magnetite, hematite and various tungsten minerals. These deposits are generally frozen.

The surficial geology of the Isaac Creek area as observed from the shafting program consisted of up to 0.2 m of organics overlying a layer of fine silt up to 0.6 m thick. The silt is well layered and indicative of a very quiescent environment and may be glacial. Below this is a 0.75 to 1.5 m thick bed of cobbley boulders (to 0.5 m round) with sandy gravel matrix. This is underlain by a orange-stained, iron-oxide-rich, sandy gravel layer with occasional boulders. The bottom of the orange-stained sandy gravel layer was not reached due to water seepage, however, it is at least 0.75 m thick. Both shafts occur within 10 m of the current creek channel and did not have any permafrost.

7.0 GRIDDING PROCEDURE

The geophysical surveys were conducted on three grids with a common origin of 0 N, 0 E located near the junction of Isaac Creek and Sunshine Creek, at NAD 27 UTM coordinate 627347 mE, 6964234 mN. The baseline for Grid 1 is at a bearing of 70° from this point and goes to 0 N, 1000 E. The baseline for grid 2 is at a bearing of ~~100°~~ 205° and goes to 0 N, 1100 W and that for Grid 3 is at a bearing of ~~205°~~ 280° and goes to 0 N, 1200 W. The baselines were cut, chained and slope corrected with 25 m pickets. Lines were run perpendicular to the baseline at 50 m intervals using a compass and hip chain and are flagged in orange. Stations were marked on the lines at 20 m intervals with orange and blue flagging. The grid consists of 21.14 line-km of survey lines turned from 3.3 km of base line. The ends of the lines were surveyed with a non-differential, 12 channel GPS (accuracy approximately 8 m). The GPS coordinates are listed in Appendix IV.

8.0 MAGNETIC FIELD SURVEY

8.1 PERSONNEL AND EQUIPMENT

The surveys were conducted by S. Casselman and P. Malacarne. They were equipped with the following instruments and equipment:

Field unit:	2 - GEM GSM-19
Base station:	GEM GSM-19
Data processing:	P-166 laptop computer
Camp Equipment:	For two persons
Line Cutting Equipment:	Chainsaw, axes, hip chain, straight chain, flagging, etc

Other: 4x4 truck

The crew spent a total of 42 man-days on the property. The daily log is attached as Appendix III.

8.2 SURVEY SPECIFICATIONS

The magnetometer surveys were conducted according to the following specifications:

Station spacing: 5.0 m

Base station mag: installed on the survey grid near the camp location and cycled at 5 second intervals.

Levelling: Daily, each operator surveyed 5 points along the baseline near camp for levelling purposes.

8.3 MAGNETIC FIELD THEORY

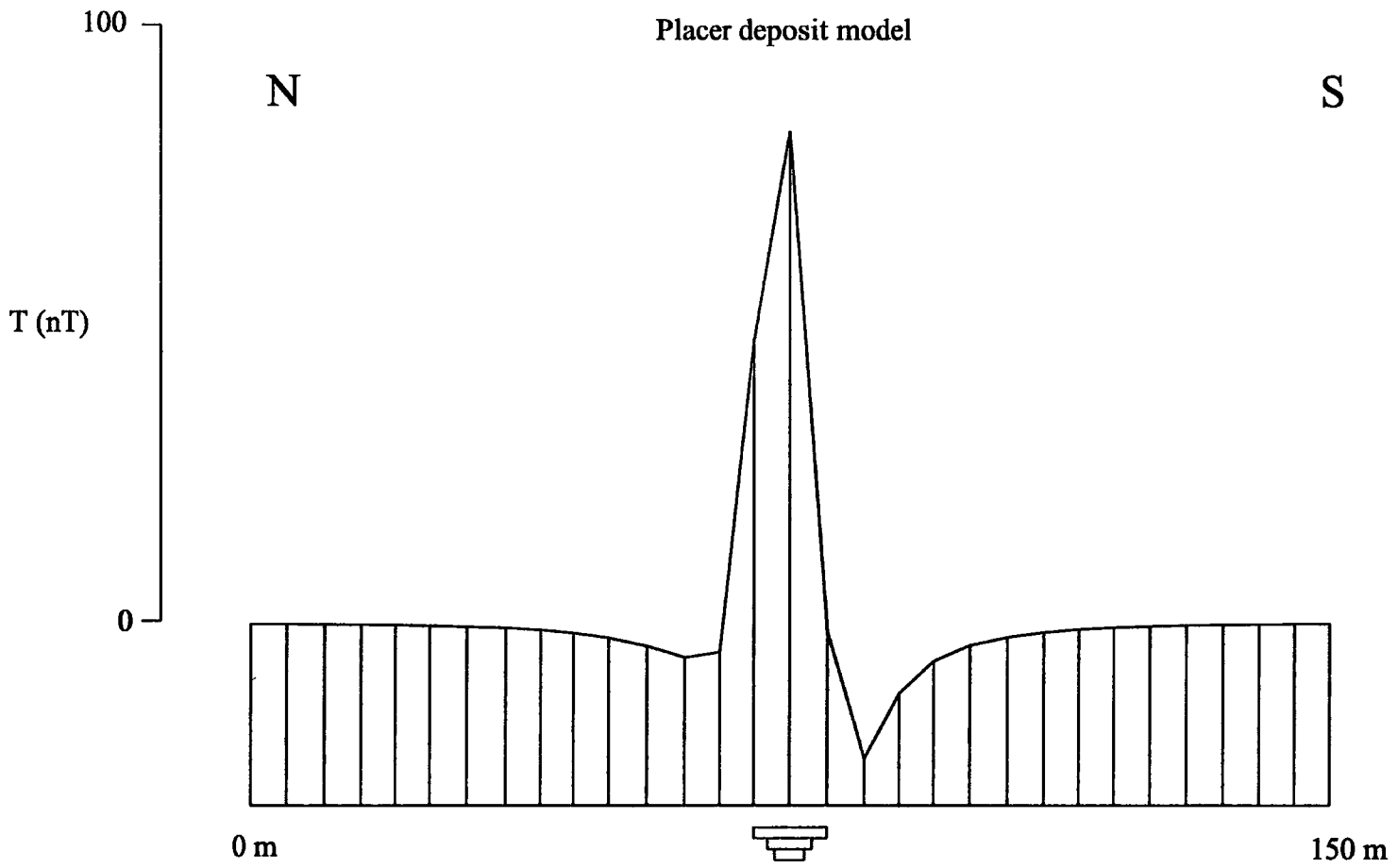
Magnetic field theory is well described in standard texts (eg. Telford *et. al.* 1990). In a placer setting, minerals with high specific gravity (magnetite, ilmenite, gold, etc.) are preferentially concentrated where the water flow has the highest velocity and greatest turbulence and material with lower specific gravity is winnowed from the sediment. Thus, magnetite derived from bedrock weathering is concentrated in the main channel of a creek or river. High concentrations of "black sand" (magnetite, ilmenite, chromite) are often recorded in auriferous pay streaks where the stream bed has remained relatively immobile for some period, permitting hydraulic concentration to build up a significant volume of these minerals.

The materials comprising black sand are magnetically susceptible. Magnetite has a very high magnetic susceptibility of 1200-19200x10^{-3} SI units, ilmenite ranges from 300-3500x10^{-3} SI units. Average magnetic susceptibilities for sedimentary, igneous (excluding ultramafic) and metamorphic rocks are 0-18, 3-160 and 0-70 x10^{-3} SI units, respectively. The magnetic susceptibility of fluvial sediments is in the range 0-2x10^{-3} SI units. There is consequently a significant susceptibility contrast between gravels with elevated concentrations of black sand and both bedrock and average gravels.

A knowledge of expected magnetic responses on the property is useful in interpreting the data. Forward models of typical magnetic responses for a target consisting of a sheet-like slab with a tapered keel at the base were generated using Geopak REVS software to determine the typical signature of a magnetite-rich gravel channel. The models incorporate the local earth field as calculated by the International Geomagnetic

Reference Field (IGRF) for the time and location of the survey. The mean magnetic field at the Isaac Creek Property had an IGRF total field strength of 57,425 nT, declination of 28.5° E and inclination of -77.4° at the time of the survey. Two models were created, one for the grid orientation on upper Isaac Creek and one for the grid orientation on Sunshine Creek and lower Isaac Creek. The models show the response of a 50 m (strike length) slab at a depth of 1.5 m. The slab narrows with depth at 1.5 m increments from 10 m to 6 m to 4 m. For the upper Isaac Creek slab the strike is 25°; the Sunshine Creek and Lower Isaac Creek slab strikes at 85°. The susceptibility contrast was taken to be 0.001×10^{-3} SI units.

The results of the modeling are presented in Figures 3 and 4.



Dimensions: Stacked source - 50 m(EW) x 10 m(NS) x 1.5 m (thick)
50 m x 6 m x 1.5 m
50 m x 4 m x 1.5 m

Strike: 85 ^{o} Line Azimuth: 25 ^{o}
Susceptibility contrast: 0.001 x 10 $^{-3}$ SI units

Figure 3. Magnetic model for a placer channel on Lower Isaac and Sunshine creeks

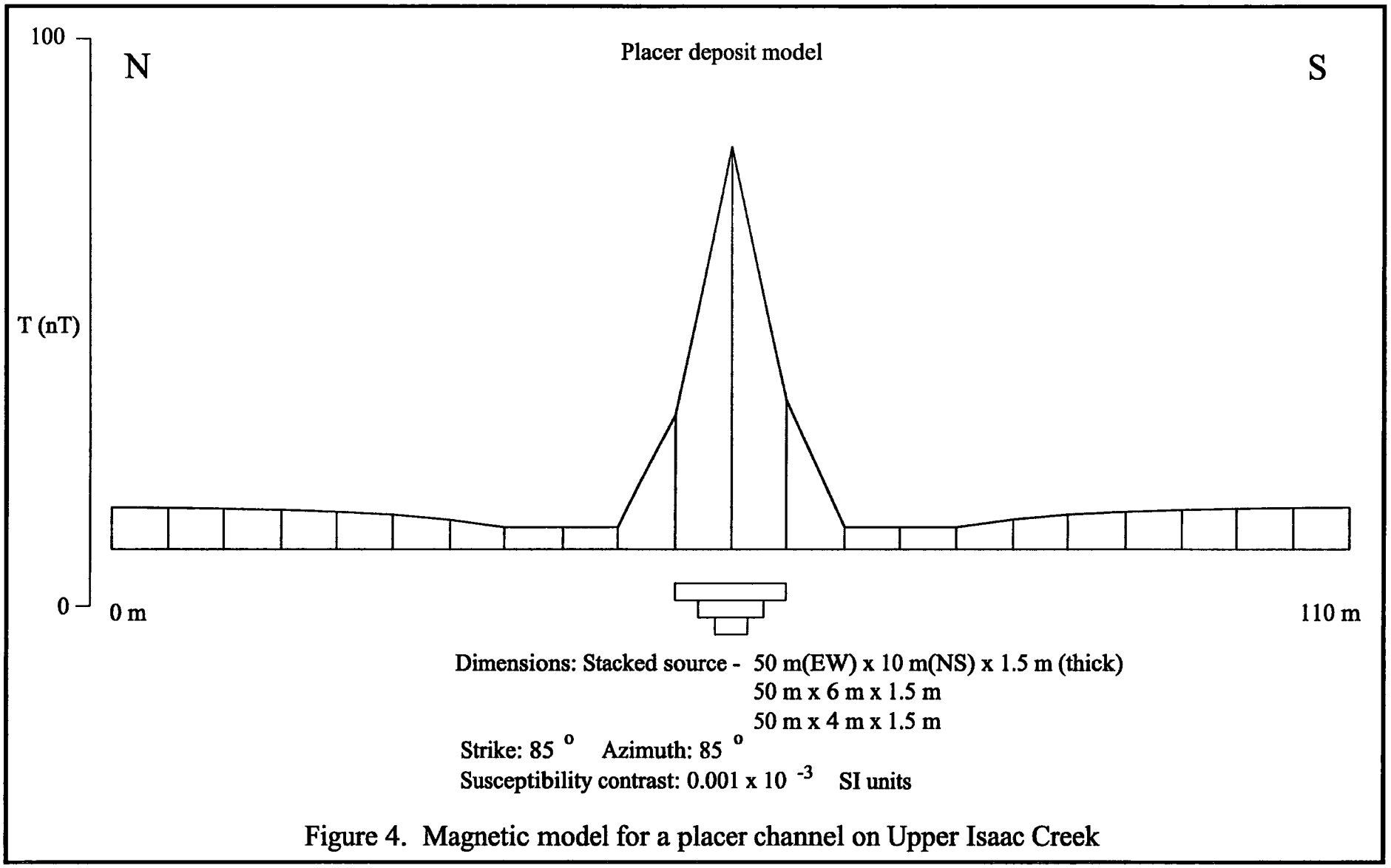


Figure 4. Magnetic model for a placer channel on Upper Isaac Creek

8.4 RESULTS

Digital data is appended to this report on disk. The magnetic field data is in the following format:

Line Station UTM_E UTM_N Lev_mag Corr_mag Field_mag

Where UTM_N and UTM_N are UTM coordinates for the data points in NAD 27, Lev_mag is the corrected and levelled magnetic field, Corr_mag is the corrected magnetic field and Field_mag is the raw field data. The following plots at 1:2,500 are appended to this report in the back pockets:

Figure 5.	Total magnetic field stacked profile map
Figure 6.	Total magnetic field shaded colour contour map

The total magnetic field identified several significant features on the property which may represent magnetite-rich paleo-channels. Anomalies **A** through **D** occur on Grid 3, anomalies **E** through **H** on Grid 1 and anomalies **I** through **M** on Grid 2. The more significant anomalies, which show good correlation to the models in Figures 3 and 4 are discussed below:

Anomaly **B** extends from L 600 W / 150 S to L 750 W / 115 S. The response consists of a roughly asymmetric high of up to 80 nT. The half width of the high is on the order of 35 m.

Anomaly **C** extends from L 450 W / 110 S to L 500 W / 115 S. The response is a broad, rounded, slightly asymmetric high of up to 70 nT. The half width is 50 m.

Anomaly **E** extends from L 150 E / 110 N to L 350 E / 155 N. The response consists of a sharp high with a pronounced south side trough and fits the model response for Sunshine Creek and lower Isaac Creek (Figure 3) quite well. There is a 20 m separation between the peak and trough. Anomaly **F** has a similar response to Anomaly **E** and parallels it, 25 to 30 m to the south. It extends from L 200 E / 100 N to L 300 E / 120 N.

Anomaly **H** extends from L 550 E / 35 S to L 650 E / 40 S on Grid 1. It consists of a sharp high with a south-side trough as per the model in Figure 3 and it parallels the current creek bed.

Anomaly **I** on Grid 3 extends from L 100 W / 75 N to L 200 W / 160 N. The anomaly is generally symmetrical as per the model for upper Isaac Creek in Figure 4. The anomaly reaches 65 nT and peak to trough distance is 15 m. The anomaly runs through a meander on Isaac Creek.

Anomaly **K** extends from L 600 W / 185 N to L 650 W / 195 N. The anomaly is along the current creek bed. It has a sharp peak and is relatively symmetrical with a half width of about 20 m.

Anomaly **M** parallels the current creek bed from L 750 W / 105 N to L 900 W / 130 N. The Profiles are variable along the trend of the anomaly. At the north and south ends the anomaly is symmetrical, in the middle it is slightly noisy. The half width is up to 18 m wide.

9.0 SHAFTING AND SAMPLING PROCEDURE

Two shafts were sunk by hand on magnetic anomalies identified by the magnetic survey to determine if the cause of the anomalies were magnetic sand and to test for placer gold content. Shaft # 1 is located on Grid 3 at line 450 W, 100 S and Shaft #2 is located on Grid 2 at line 100 W, 80 N. Both shafts are approximately 1.5 x 1.5 m in plan. Shaft #1 was dug to 1.5 m and Shaft #2 to 2.9 m. The depths of both shafts were limited by ground water inflow and both did not reach bedrock. At Shaft #2 cribbing was established from surface to the bottom of the shaft to prevent the walls from collapsing, Shaft #1 required no cribbing. The cribbing consisted of placing 3 m long poles (minimum 6 cm diameter spruce trees) along all sides of the shaft and bracing these with horizontal braces at 1 m intervals down the shaft. Photographs of Shaft #2 are included in Appendix VII.

The shafts were mapped and samples collected from each of the different sediment types encountered. The mapping notes are included in Appendix V, sample geochemical analytical certificates are included in Appendix VI. Two samples were collected from Pit #1 and 4 samples from Pit # 2. The sampling procedure consisted of collecting a constant volume of material (15 litres) for each sample. This material was then concentrated by panning down to black sand. The pan concentrates were examined visually and sent to Northern Analytical Labs for processing. The analytical processing consisted of drying and weighing the concentrate (in grams) and analysis of the complete sample for gold, silver, platinum and palladium by fire assay with atomic absorption finish

10.0 SAMPLING RESULTS

Table 1, below, lists the sample results and calculated value per cubic yard for the 6 samples collected. The assay results are reported in parts per billion. These were converted to total grams of gold by multiplying by the weight of the sample. The grams were converted to troy ounces per 15 litre sample and then converted to troy ounce per cubic yard. This value is then multiplied by US $ 280 per ounce of gold to get the value per cubic yard of gravel in US $.

Sample	Pan Con. Weight (g)	Au (ppb)	Total Au (g)	Total Au (oz)/15 litre	Au oz /cubic yard	US$/cubic yard ($280/oz)
Pit # 1						
Sample 1	5.857	7	0.000000041	0.000000001	0.000000067	0 00
Sample 2	5.795	7	0.000000041	0.000000001	0.000000066	0.00
Pit # 2						
Sample 1	16.613	3567	0.000059259	0.000001905	0.000097109	0 03
Sample 2	48.008	7558	0.000362844	0.000011666	0.000594606	0.17
Sample 3	13.956	2452	0.000034220	0.000001100	0.000056078	0.02
Sample 4	35.255	3661	0.000129069	0.000004150	0.000211509	0.06

1 gram = 0.0321508 ounce (troy)
15 litres = 0.0196193 cubic yards

This table shows the value per cubic yard for the six samples collected is not economic. However, in both of the pits bedrock was not reached. Also, the amount of black sand obtained in the pan concentrates does not fully account for the magnetic anomalies identified by the survey. Thus, the main magnetite-rich horizon was probably not reached and not sampled.

During the panning process a fine, metallic grey concentrate tail was observed in the pan. Since ultramafic rocks have been mapped upstream, it was postulated that this material might contain platinum or palladium. The analysis, however, shows no significant values.

11.0 CONCLUSIONS

The results of the magnetic survey and shafting and sampling conducted on the Isaac Creek Property suggest the following conclusions:

A. A number of total field magnetic anomalies were identified during the survey.

B. Many of these anomalies have a magnetic signature that is consistent with a magnetite-rich paleo-stream channel and appear to be generally between 2 to 6 m deep.

C. The samples collected from the two pits dug on the property did not return economic concentrations of gold, silver, platinum or palladium. However, neither of the shafts reached bedrock.

D. Minor amounts of gold were returned from the lower levels of Pit #2.

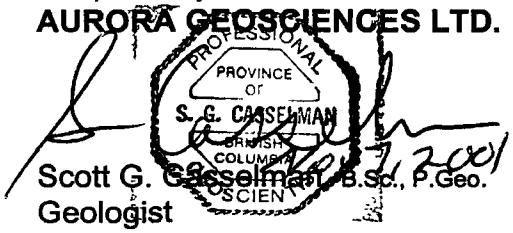
12.0 RECOMMENDATIONS

The following recommendations are made based on the conclusions of this work:

A. Shafts 1 and 2 should be deepened to bedrock and samples collected to test for magnetite and gold content. To do this a pump may be required to remove water from the shafts.

B. If successful, other anomalies on the property should be tested, in particular anomalies **E**, **H** and **M** look interesting.

Respectfully submitted,
AURORA GEOSCIENCES LTD.



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

REFERENCES

Brommeland, L. K., (1995). Casino Project Assessment Report, 1994 Placer Exploration Program. Yukon Assessment Report 120161.

Telford, W.M., L.P. Geldart and R.E. Sheriff (1990). Applied Geophysics (2nd Edition) New York: Cambridge University Press.

APPENDIX I. STATEMENT OF QUALIFICATIONS

I, Scott Casselman, residing at 33 Firth Road, Whitehorse, Yukon Territory, Y1A 4R5, certify that:

1) I graduated from Carleton University, Ottawa, Ontario, with a Bachelor of Science Degree in Geology in 1985.

2) I have practised the profession of geology since graduation and that I am a currently employed by Aurora Geosciences Ltd.

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

4) I supervised the exploration program described in this report.

Dated this 7th day of November, 2001, at Whitehorse, Yukon Territory.

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA S. G. CASSELMAN GEOSCIENTIST

Nov 7, 2001

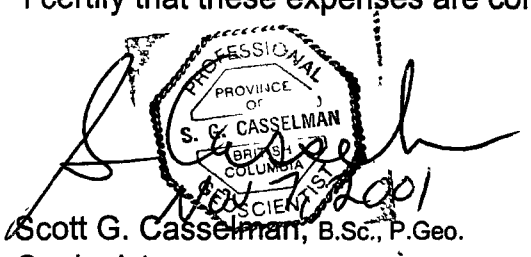
Scott G. Casselman, B.Sc., P.Geo.
Geologist

APPENDIX II. STATEMENT OF EXPENDITURES

Mobe / Demobe	$ 2,354.00
Line cutting (11 days @ $ 1,337.50 /day)*	$ 14,712.50
Geophysical survey charges (5 days @ $ 1,337.50/day)*	$ 6,687.50
Shafting (3 days @ $ 1,337.50 /day)*	$ 4,012.50
Helicopter charter, incl fuel (6 hours @ $ 1,013.25 /hour)	$ 6,079.50
Analytical Costs	$ 346.88
Miscellaneous expenses	$ 325.25
Report	$ 2,675.00
Total project expenses	***$ 37,193.13***

* includes camp and equipment rental and food

I certify that these expenses are correct to the best of my knowledge.



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

APPENDIX III. DAILY LOG

Period: September 21st, 2001 - October 11th, 2001

Personnel: Scott Casselman - Crew Chief
Peter Malacarne - Assistant

Fri Sept 21 SC and PM finish loading gear and drive to Carmacks. Meet with Brian Parsons and continue to Minto Landing to unload truck at staging area. SC drives truck back to Carmacks then helicopter heli to staging area. Brian slings gear to Sunshine Ck then PM and SC with internal load. Set-up camp until bed time.

Sat Sept 22 Cold in morning, minor hail on ground, clear and sunny. Finish setting up camp until noon, then scout out area looking for lease lines or posts. Locate 2 4x4 posts lying on ground at base of tree approx 65 m from Junction of Isaac and Sunshine creeks - no marking on them, no flagging, no marked lines found.

Sun Sept 23 Cold in morning, minor hail on ground, clear and sunny. Begin cutting baseline for Grid 1, 120 m south of camp (Lower Isaac Creek). Run baseline at 250 degrees and cut it to near jct of Sunshine and Isaac creeks. Origin of grid (0 N, 0 E) located 30 m south of two posts found lying on ground.

Production: 750 m of line cutting

Mon Sept 24 Cold in morning, ice on still water, clear and sunny. Continue cutting baseline for Grid 3, up Sunshine Creek. Start at same origin as for Grid 1 and run baseline at bearing of 280 degrees.

Production: 500 m of line cutting

Tue Sept 25 Cold in morning, ice on still water, clear and sunny warm in afternoon. Finish cutting Grid 3 Baseline to 1200 W.

Production: 700 m of line cutting

Wed Sept 26 Cold in morning, ice on still water, clear and sunny warm in afternoon. Start on baseline for Grid 2 (Upper Isaac Creek) from

origin of Grid 1 and 3. Baseline at orientation of 205 degrees, cut from 0 W to 800 W.

Production: 800 m of line cutting

Thu Sept 27 Cold in morning, ice on still water, clear and sunny warm in afternoon. Finish baseline for Grid 2 at 1100 W. Locate some old axe cut trees at creek and one piece of relatively new (1 to 2 years old) pink flagging on ground. Run lines 1000 W and 900 W to creek and drop trees for bridges. Continue down Isaac Ck and drop trees at approximate 100 m intervals for crossings.

Production: 300 m of line cutting
200 m of chaining

Fri Sept 28 Cold in morning, ice on still water, clear and sunny warm in afternoon. Finish baseline for Grid 1 from 750E to 1000 E. Cut trees for bridge crossings.

Production: 250 m of line cutting

Sat Sept 29 Cold in morning, ice on still water, clear and sunny warm in afternoon. Run lines on east side of grid 1. From 1000 E to 250 E.

Production: 4260 m of chaining

Sun Sept 30 Cold in morning, ice on still water, clear and sunny warm in afternoon, clouding over late in day. Run lines on west side of Grid 1 and east side of Grid 3. From 250 E to 300W.

Production: 5720 m of chaining

Mon Oct 1 Overcast all day, warmer in am, but did not warm-up at all through day. Run lines on west side of Grid 3 and east side of Grid 2.

Production: 4800 m of chaining

Tue Oct 2 Snow and freezing rain in early am, sun came out around 1:00 clear in afternoon and warmer. Run lines on west side of Grid 2 - slow going in wet bush.

Production: 4200 m of chaining

Wed Oct 3 Overcast most of day and cool. SC runs mag on grid 3 and 2 lines on Grid 2. PM finishes running lines on Grid 2.

Production: 1960 m of chaining
7000 m of mag

Thu Oct 4 Overcast in AM clear and cool in afternoon. PM runs mag on grid 2. SC starts pitting anomaly on grid 3 at 450W/100S. Dig to 1.7 m - hit water table. Collects 1 sample.

Production: 4120 m of mag
1.7 m shafting

Fri Oct 5 Clear and mild in AM, warm in afternoon. PM finishes mag on grid 2 and moves to Grid 1. SC completes pit on grid 3 at 450W/100S and starts pit on Grid 2 at L100W/80N.

Production: 3420 m of mag
1 m shafting

Sat Oct 6 Rain in night, clearing and mild in AM, warm in afternoon scattered shower. PM does mag on grid 1. SC works on pit 2 on grid 2 at L100W/80N. Pit to 2.15 m - need to crib.

Production: 5120 m of mag
1.15 m shafting

Sun Oct 7 Overcast all day and cold. PM finishes mag on grid 1 then goes to help on Pit 2. SC works on pit 2.

Production: 1580 m of mag

Mon Oct 8 Light snow in night and through morning and early afternoon, clearing later in day. SC and PM crib Pit 2 and deepen to 2.5 m.

Production: 0.5 m of shafting

Tue Oct 9 Overcast and cool in morning. SC and PM pitting at Pit 2 and deepen to 3.0m. Run into to water - unable to bail fast enough.

Production: 0.5 m of shafting

Wed Oct 10 Overcast and cool, clear in afternoon. Collect sample from bottom of pit and pan for concentrate. Tear down kitchen tarp and pack-up gear for de-mobe in late afternoon.

Thu Oct 11 Clear and cold. Pack-up tent and gear in morning. Helicopter arrives at 11:00 for de-mobe. Drive from Carmacks to Whitehorse at 4:00 in afternoon.

Summary:

Line Cutting:	3300 m
Hip Chaining:	21.140 line km
Magnetics:	21.240 line km
Shafting	4.85 m

Survey days:	19
Mobe/demobe:	2

APPENDIX IV. GRID LINE SURVEY COORDINATES

			NAD 27		
	North	Easting	UTM E	UTM N	accuracy
Grid 1	-120	1000	628316	6964513	4.7
	0	1000	628260	6964626	
	300	1000	628146	6964890	5.5
	-140	950	628284	6964473	7
	300	950	628107	6964880	5.5
	-160	900	628232	6964448	6.2
	200	900	628088	6964764	5.2
	-160	850	628202	6964422	5 5
	200	850	628052	6964753	7.4
	-200	800	628170	6964366	5.4
	220	800	628002	6964755	5.2
	-140	750	628094	6964407	6.1
	240	750	627956	6964746	5.2
	-120	700	628035	6964396	6.8
	240	700	627896	6964742	4.6
	-100	650	627983	6964389	7.7
	260	650	627836	6964720	5.1
	-100	600	627945	6964369	5 7
	280	600	627795	6964722	6
	-100	550	627892	6964360	6.4
	280	550	627754	6964699	4.4
	-100	500	627848	6964339	4 5
	280	500	627690	6964690	6
	-80	450	627795	6964338	6.8
	300	450	627648	6964682	4.6
	-80	400	627747	6964318	6
	320	400	627583	6964667	5.1
	-80	350	627707	6964300	4.8
	340	350	627531	6964679	5.8
	-80	300	627657	6964284	5.6
	360	300	627487	6964670	5.6
	-60	250	627610	6964274	7.8
	340	250	627455	6964642	7.7
	-60	200	627557	6964241	5 3
	380	200	627383	6964657	7.7
	-40	150	627501	6964262	6.5
	340	150	627353	6964604	6.8
	-20	100	627449	6964254	7.9
	400	100	627283	6964649	5.8
	-60	50	627422	6964196	5.4
	360	50	627246	6964596	10.5
	-60	0	627376	6964186	4.6
Origin	0	0	627347	6964234	
	360	0	627219	6964573	6 3

Grid 2	-80	-1100	627037	6963162	5.6
	0	-1100	626957	6963213	
	300	-1100	626691	6963339	7.1
	-60	-1050	627036	6963243	9.4
	300	-1050	626702	6963380	7.5
	-40	-1000	627034	6963294	5.9
	-40	-950	627046	6963337	6.2
	280	-950	626761	6963463	6.2
	-40	-900	627068	6963392	5.4
	280	-900	626789	6963516	6.4
	-40	-850	627086	6963423	5 3
	260	-850	626820	6963563	6.1
	-40	-800	627103	6963477	5.1
	260	-800	626825	6963585	4.2
	-40	-750	627121	6963522	7.3
	260	-750	626854	6963658	6
	-40	-700	627136	6963561	6.5
	260	-700	626871	6963683	5.2
	-40	-650	627157	6963612	5.8
	280	-650	626882	6963756	8.1
	-40	-600	627174	6963656	6.2
	260	-600	626880	6963796	13.2
	-60	-550	627208	6963691	9.9
	280	-550	626905	6963852	5.7
	-40	-500	627208	6963748	4 9
	280	-500	626924	6963878	5.9
	-40	-450	627230	6963799	8.2
	260	-450	626951	6963915	6.4
	-40	-400	627247	6963847	4.3
	280	-400	626953	6963971	6
	-40	-350	627258	6963890	5.4
	300	-350	626955	6964031	6.1
	-40	-300	627284	6963928	5.1
	300	-300	626964	6964084	5.8
	-40	-250	627297	6963985	7.2
	300	-250	626981	6964124	6.5
	280	-200	627020	6964155	4.1
	-40	-150	627328	6964070	5.4
	180	-150	627138	6964191	3.7
	-40	-100	627354	6964129	7.1
	160	-100	627168	6964228	5.7
	-60	-50	627391	6964161	6.5
	100	-50	627243	6964243	8.8

Grid 3	-200	-1200	626152	6964189	5.4
	0	-1200	626165	6964389	
	40	-1200	626174	6964422	4.7
	-200	-1150	626200	6964187	4.7
	40	-1150	626218	6964414	6.1
	-200	-1100	626245	6964174	6.1
	40	-1100	626276	6964409	6 5
	-200	-1050	626294	6964170	4 6
	40	-1050	626310	6964409	4 8
	-200	-1000	626337	6964163	5 6
	60	-1000	626368	6964424	6 3
	-200	-950	626401	6964155	6.8
	60	-950	626414	6964412	4 7
	-200	-900	626450	6964145	5.1
	60	-900	626470	6964423	5.6
	-200	-850	626489	6964147	6.8
	60	-850	626508	6964396	6.3
	-180	-800	626545	6964164	5.6
	60	-800	626573	6964387	4.7
	-160	-750	626594	6964170	5.5
	40	-750	626610	6964368	5.6
	-160	-700	626641	6964162	5.6
	60	-700	626670	6964372	5.8
	-200	-650	626693	6964122	5.5
	80	-650	626714	6964395	7.3
	-180	-600	626734	6964126	4.8
	60	-600	626763	6964365	8.2
	-180	-550	626786	6964107	6.1
	40	-550	626808	6964343	5.3
	-180	-500	626833	6964118	5 8
	100	-500	626864	6964384	4.7
	-160	-450	626881	6964128	5.5
	100	-450	626910	6964384	6.3
	-160	-400	626937	6964121	4.3
	120	-400	626971	6964399	4.6
	-160	-350	626988	6964113	6.3
	140	-350	627014	6964408	6.2
	-120	-300	627036	6964147	7.3
	180	-300	627085	6964457	6.3
	-100	-250	627098	6964161	5.4
	240	-250	627122	6964493	5.7
	-60	-200	627143	6964194	5.7
	260	-200	627167	6964505	6.7
	-40	-150	627197	6964215	6.2
	280	-150	627223	6964520	4.8
	-40	-100	627239	6964205	7.3
	200	-100	627263	6964443	4.3
	-40	-50	627298	6964196	5.1
	80	-50	627306	6964322	8.3

APPENDIX V. SHAFT GEOLOGY NOTES

SHAFT 1

Grid 3, Line 450 W, 100 S

Depth (cm)	Description
0 - 20	- Moss
20 - 50	- Dark brown to gray organic-rich clay. - Ground is frozen to bottom of clay due to cold temperatures (ie. Not permafrost)
50 - 140	- Mixed light brown sand layers (30%) with dark brown clayey-sand layers (70%) - clay has approximately 10% organics, including wood sticks, etc. - rare pebbles, no water and not frozen - Sample # Pit 1, Sample #1 - pan concentrate consists of 2 to 4 ml of black sand, no visible gold
140 - 190	- Bouldery, gravely sand - 40% boulders, 30% gravel, 30% sand of mixed rock types including quartz, schist, intrusive rx and porphyritic rx - ground water starts to flow strongly at 170 cm depth - Sample # Pit 2, Sample #2 - pan concentrate consists of 5 ml of black sand with one very fine speck of gold

SHAFT 2

Grid 2, Line 100 W, 80 N

Depth (cm)	Description
0 - 20	- Mossy organic layer
20 - 75	- Fairly consistent silt layer - generally light to medium gray-brown with lenses of orange silt up to 20 cm x 10 cm - very little to no organics except fine tree roots - Material indicative of quiescent environment, may be from glacial lake - sample # Pit 2, Sample #1 - very biotite rich - approximately 5 ml of black sand, no visible gold
75 - 190	- Bouldery, cobbley layer - rounded boulders to 30 cm (50%) - 20% cobbles, 30% sandy gravel matrix - boulders are predominantly igneous - intermediate to felsic composition - some schist and quartz vein material present - sand is light to medium brown with abundant biotite - sample # Pit 2, Sample #2 - pan con consists of 5 to 78 ml of black sand with a tail of about 0.5 ml of a metallic silvery sand (silt)
190 - 290	- Red-orange, sandy, gravelly cobbley horizon - noticeable colour change to red-orange and much less boulders than overlying horizon - becomes slightly more bouldery at 260 cm - hit water table at 250 cm - encounter a large (50x30x25 cm) boulder at 270 cm - sample # Pit 2, Sample #3 from 190 cm to 205 cm - 8 to 10 ml of black sand with a few very fine flecks of gold and about 0.5 ml of a metallic silvery sand (silt) - sample # Pit 2, Sample #4 from 205 cm to 290 cm - 10 to 12 ml of black sand with a few very fine flecks of gold and about 1 ml of a metallic silvery sand (silt)

APPENDIX VI.

GEOCHEMICAL ANALYTICAL CERTIFICATES

Northern Analytical Laboratories ltd.

105 Copper Road
Whitehorse, Yukon
Y1A 2Z7
Ph (867) 668-4968
Fax. (867) 668-4890
E-mail NAL@yknet yk ca

18/10/2001

Certificate of Analysis

of pages (not including this page): 1

Aurora Geosciences

WO# 00249

Certified by _____
Justin Lemphers (Senior Assayer)

Date Received: 15/10/01

SAMPLE PREPARATION:

Code	# of Samples	Type	Preparation Description (All wet samples are dried first.)
c	6	concentrate	Riffle split 200g, pulverize to -100 mesh (if necessary)

ANALYTICAL METHODS SUMMARY:

Symbol	Units	Element	Method (A:assay) (G:geochem)	Fusion/Digestion	Lower Limit	Upper Limit

1 oz/ton = 34.286 g/mt
1000ppb = 1ppm = 1g/mt = 0.0001% = 0.029166oz/ton

Northern Analytical Laboratories ltd.

105 Copper Road
Whitehorse, Yukon
Y1A 2Z7
Ph (867) 668-4968
Fax (867) 668-4890
E-mail NAL@yknet yk ca

18/10/2001 Certificate of Analysis

Aurora Geosciences WO# 00249

Certified by

	Sample #	Sample Weight (g)
c	P1S1	5.857
c	P1S2	5.795
c	P2S1	16.613
c	P2S2	48.008
c	P2S3	13.956
c	P2S4	35.255

CERTIFICATE OF ANALYSIS
iPL 01J1210

[redacted] olum[redacted] eet [redacted]
Vancouver B C
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Phone (604) 879-7878
Fax (604) 879-7898
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INTERNATIONAL PLASMA LABORATORY LTD

Northern Analytical Laboratories

Project : WO#00249
Shipper : Norm Smith
Shipment: PO# 568142

Analysis:
Au/Ag/Pd/Pt(FA/AAS 30g) in ppb

Comment:

6 Samples Out. Oct 28, 2001 In: Oct 25, 2001 [121013:15:33 10102801]

CODE	AMOUNT	TYPE	PREPARATION DESCRIPTION	PULP	REJECT
B253	6	Pan Conc	Received as it is, no sample prep	12M/Dis	00M/Dis

NS=No Sample Rep=Replicate M=Month Dis=Discard

Analytical Summary

##	Code	Method	Units	Description	Element	Limit Low	Limit High
01	0313	FA/AAS	ppb	Au FA/AAS finish 30g	Gold	2	10000
02	0321	FA/AAS	ppm	Ag (FA/AAS 30g) in ppm	Silver	0.1	100 0
03	0331	FA/AAS	ppb	Pt FA/AAS finish 30g in ppb	Platinum	15	10000
04	0341	FA/AAS	ppb	Pd FA/AAS finish 30g in ppb	Palladium	1	10000

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DL=Download 3D=3½ Disk EM=E Mail BT=BBS Type BL=BBS(1=Yes 0=No) ID=C 030901

* Our liability is limited solely to the analytical cost of these analyses

BC Certified Assayer: David Chiu

CERTIFICATE OF ANALYSIS
iPL 01J1210

INTERNATIONAL PLASMA LABORATORY LTD
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Canada V5Y 3E1
Phone (604) 879-7878
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Email ipl@direct ca

Client : Northern Analytical Laboratories
Project: WO#00249

6 Samples
6=Pan Conc.

[121013:15:33:10102801]

Out: Oct 28, 2001
In : Oct 25, 2001

Sample Name	Type	Au ppb	Ag ppm	Pt ppb	Pd ppb
P1S1	Pan Conc.	7	<0 1	<15	16
P1S2	Pan Conc.	7	<0.1	<15	14
P2S1	Pan Conc	3567	22 5	<15	<1
P2S2	Pan Conc	7558	5 8	<15	9
P2S3	Pan Conc.	2452	4.4	<15	<1
P2S4	Pan Conc.	3661	5 5	<15	3
Minimum Detection		2	0 1	15	1
Maximum Detection		10000	100 0	10000	10000
Method		FA/AAS	FA/AAS	FA/AAS	FA/AAS

—=No Test Ins=Insufficient Sample Del=Delay Max=No Estimate Rec=ReCheck m=x1000 %=Estimate %> NS=No Sample

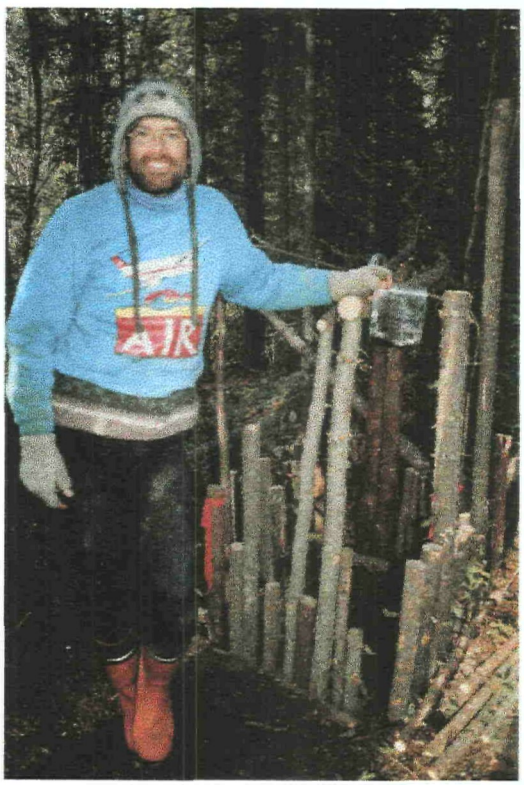
APPENDIX VII.

PHOTOGRAPHS

Helicopter arriving at camp on lower Isaac Creek

Peter Malacarne on Grid 2 Baseline, upper Isaac Creek valley

Panning sample at Shaft #2



Scott Casselman at Shaft #2 - note cribbing and pan concentrate sample

Peter Malacarne bailing water from Shaft #2

Shaft #2 seal-up for winter

626200E 626400E 626600E 626800E 627000E 627200E 627400E 627600E 627800E 628000E 628200E

6964800N 6964600N 6964400N 6964200N 6964000N 6963800N 6963600N 6963400N 6963200N

GRID 1

GRID 2

GRID 3

2500

Camp

Lower Isaac Creek

Upper Isaac Creek

Sunshine Creek

Pit #1

Pit #2

A B C D E F G H I J K L M

L 1200 W L 1100 W L 1000 W L 900 W L 800 W L 700 W L 600 W L 500 W L 400 W L 300 W L 200 W L 100 W L 0 L 100 E L 200 E L 300 E L 400 E L 500 E L 600 E L 700 E L 800 E L 900 E L 1000 E

Total Magnetic Field Profile

Base Level coincident with line= 57,950 nT
5 nT per mm
Positive direction is to the right/above (east)

D Magnetic Anomaly Trend

Shaft Location

Scale 1:2500

50 0 50 100 150
metres

TED TULLIS

ISAAC CREEK PROPERTY
TOTAL MAGNETIC FIELD STACKED PROFILE MAP

NTS: 115J 9, 10, 15, 16 Datum: NAD 27
Mining Division: Whitehorse Date: 6 Nov, 2001

AURORA GEOSCIENCES LTD.

Nov 7, 2001

626200E 626400E 626600E 626800E 627000E 627200E 627400E 627600E 627800E 628000E 628200E

6964800N 6964600N 6964400N 6964200N 6964000N 6963800N 6963600N 6963400N 6963200N

GRID 1

GRID 2

GRID 3

2500

Camp

Pit #1

Pit #2

Trail

Lower Isaac Creek

Isaac Creek

D Magnetic Anomaly Trend

Shaft Location

Scale 1:2500

50 0 50 100 150
metres

Contours in feet

N0936969 N0936869 N0936769 N0936669

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(13 Nov 2001)
Whitehorse, Yukon Y1A 2C6

Nov 7, 2001

TED TULLIS

ISAAC CREEK PROPERTY
TOTAL MAGNETIC FIELD SHADED COLOUR CONTOUR MAP

NTS: 115J 9, 10, 15, 16 Datum: NAD 27
Mining Division: Whitehorse Date: 6 Nov. 2001 Figure 6

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