# 2009 Geophysical/Geological Report For The Jake Property, Kamloops M.D., B.C.

Title Page

BC Geological Survey Assessment Report 31092

Mining Division Kamloops

Jake

Property Name

Location NAD 83 Latitude 51 38 44, Longitude 120 13 27 UTM 10 692037, 5725272

- NTS Map Sheet 092P09E BCGS 092P069
- Claim Owner M. A. Kaufman, FMC 113753
- Operator M. A. Kaufman
- Author of report M. A. Kaufman
- Report Year 2009

Claims worked on 518760, 519188, 520106, 521756

General Work Geophysical, Geological, Geochemical Categories

Work Done Geophysical: 5.65 line km induced polarization, 3.75 line km magnetics Geological: traverse 10 km along old and new geophysical survey lines Geochemical: ICP assays of 9 rock float samples

Pertinent related Assessment Reports 27915, 28808, 29711 released reports

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# Jake Introduction -1-

# Introduction

The Jake Mineral Claim Group encompasses an area of approximately10,389 hectares. The property is located 13 kilometres west of the Village of Clearwater, and is easily accessible via the major logging road, Route 2, and a network of subsidiary roads. The main claim area, which occupies part of the northern Nehalliston Plateau within the Mann Creek drainage system, is generally characterized by moderate topography, and has recently been extensively logged because of pine beetle infestation.

The known prospective area is covered by transported glacial overburden generally from a few to + ten metres thick and is thus devoid of surface outcrop. The area is believed to be underlain by Pennsylvanian-Permian Fennel Volcanics, predominantly basaltic, but with some more felsic units. In places there is thought to be a thin layer of Pleistocene volcanics. Significant mineralization remained unknown until 2005 when I encountered a heavy sulfide gossan which had been recently exposed along a steep bank by logging road construction. Samples from this showing were highly anomalous in gold (up to 27 g/t) along with bismuth and copper. Subsequent prospecting over a larger area encountered anomalous mineralized float in other areas up to more than one kilometre away from the Jake discovery. The most notable known geological feature of the area is the northwesterly trending Lemieux Creek fault, which passes through the property approximately one kilometre west of the Jake showing. This fault is considered to be a major terrain bounding structure separating the Upper Paleozoic Fennel Formation (Slide Mountain Terrain) to the east from Nicola Group formations (Quesnel Terrain) on its west side.

Shortly after the discovery the original claims were optioned by Rimfire Minerals Corp., which then staked a large area around the original holding. During 2006 Rimfire conducted a VLF EM /Mag survey over the showing and immediate surrounding area and, did some excavator trenching along the showing. This was followed by extensive silt sampling and limited float and soils sampling over the whole large area staked. During 2007, Rimfire joined by Island Arc Exploration conducted limited IP surveys, excavator trenching across the discovery showing and across a few portions of IP anomalies, and 1,083 metres of core drilling in seven holes which tested the discovery

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showing and some anomalous IP areas. As the drilling intersected significant mineralization/alteration, and IP appeared to be effective, during 2008 the joint venture expanded the IP coverage with an additional 21 line kilometres of survey. This survey found many more anomalous areas, some of them extensive and strong. The joint venture intended to follow up in 2009 by drilling seven additional sites, but by late 2008 economic conditions forced Island Arc to leave the project. This left Rimfire with insufficient funding to carry on, and a subsequent merger of Rimfire with Geoinformatics has caused Rimfire to restructure. For these reasons Rimfire has recently returned my original claims and a large perimeter area around them to me.

This assessment report describes 2009 work carried out under my auspices since the property was returned to me. It involves 5.65 line kilometers of IP survey and 3.75 line kilometers of magnetic survey conducted by Scott Geophysics Ltd., and my geological mapping and float sampling along past and recent IP lines (approximately ten line kilometers). The new geophysical work was successful in expanding some of the previously detected, open geophysical anomalies, and discovering additional anomalies in prospective areas. The ongoing geological work has thus far uncovered a small amount of highly anomalous gold in float over an extensive IP anomaly, which has never been tested. Because the recent past work by Rimfire is critical to understanding the ongoing work, a detailed description of this work is given herein, followed by a detailed description of the 2009 work and my interpretation of all results to date.

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# Summary of Pre-2009 Exploration Results

Excellent detailed geological, geochemical and geophysical reports covering The Rimfire/Island Arc work from 2006 through 2008 prepared by Rimfire geologist Michael Roberts, PhD are available for download from the B. C. Ministry of MInes and Petroleum Resources assessment Aris Files, and a copy of Mike's summary Report is attached to this report along with his 2008 compilation maps and pertinent IP sections.

Comments re effectiveness of exploration methods used:

A number of stream silt anomalies have been detected for gold, and/or bismuth and/or copper within the property. A silt gold anomaly is evident on a small creek draining the vicinity of the Jake showing, and equally strong silt gold anomalies have been found in other drainages distant from the immediate Jake area. As well, bismuth and/or copper silt anomalies are found in creeks distant from the Jake. I believe that these anomalies, which to date have not been followed up, might be significant.

Only limited soils sampling has been undertaken in selected areas. In regard to gold, because of general excessive thickness of the transported alluvium, it is questionable that soils gold testing would be a generally reliable exploration method here. Rimfire was able to detect anomalous soils gold in the immediate Jake area, but this is possible because of limited amounts of mineralized float, and the fact that at the showing itself overburden depth is relatively shallow. Soils work along Road 2 north of the Jake Showing area detected possibly significant gold values, enhancing this area's potential. Generally in regard to soils gold, I believe that the presence of anomalous conditions is definitely positive, but you cannot write off areas where soils are not anomalous. Soils sampling in an area approximately one kilometre SSE from the Jake vein did pick up moderately anomalous copper and occasional bismuth. Possibly this might represent more mobile metal ions moving up through the overburden, and could be indicative of gold nearby in underlying bedrock.

In regard to geophysical surveys, the VLF EM work came up with several anomalies, the most notable, a one kilometre long NNE trending conductor

# Jake -2-

immediately adjacent on the west side of the Jake vein. After drilling we are not certain about the cause of this anomaly. Most likely it detects clay and other alteration minerals associated with a postulated fault adjacent to the Jake vein. The causes of other VLF EM anomalies detected on the property have yet to be tested. Thus far, all IP anomalies tested by drilling indicate that the anomalies are caused by increased metal sulfide content and related alteration. The Jake shear zone itself is indicated by a narrow, one station, moderate chargeability response along the shoulder of a moderate resistivity high and a low magnetic signature. In regard to magnetics, a few relatively high areas detected are of interest, and will be discussed later.

In regard to physical methods, trenching has been useful along the Jake structure, but even here, bedrock could not be reached in some critical areas. Generally, you can't predict whether you will reach bedrock, and even if it is reachable, you have to go deep, so trenching is costly. Core drilling has been effective, but a cat mounted rotary drill might be far more mobile and just as effective in obtaining assay samples. particularly for preliminary drilling in some of the very extensive anomalous areas.

Summary Geology (refer to Roberts maps and reports in appendix)

Several modes of alteration/mineralization have thus been found on the Jake Property, all in volcanic formations, and determined by either bedrock encountered in trenches or core holes, or by float samples. These include narrow shear zones containing high sulfide with high grade gold values found in trenches and core, wider alteration zones containing variable amounts of sericite-clay-carbonate-silica-biotite-chlorite-epidote with associated elevated sulfides in core, minor float containing quartz with free gold and bismuthinite, and float containing disseminated sulfides with anomalous gold. The dominant sulfides found thus far are pyrrhotite, pyrite and chalcopyrite with lesser bismuthinite, and arsenopyrite.

The Jake discovery showing has been revealed by trenching and drilling to be a NNW striking, steep southwest dipping mineralized shear zone approximately 2 metres wide at surface consisting of a chloritic envelope which encloses massive sulfides, mainly pyrrhotite, associated with quartz veining. A 1.8 metre channel sample across the structure exposed by the trench assayed 9.05 ppm Au along with significant Cu and Bi, including one .6 metre sample assaying 19.3 ppm Au. Hole 4 drilled under the trench

# Jake-3-

encountered the downdip extension of this shear zone approximately 35 vertical metres below the trench sample. It assayed 11.34 ppm Au over 1.5 metres, including .6 metre grading 27.8 ppm Au. Hole 5, drilled from the same site as 4 but at a steeper angle cut a very narrow zone of similar mineralization at about 47 vertical metres below the trench level, and another hole, no. 6, drilled in the dip direction of the structure, about 15 metres north of 4 and 5, intersected another similar narrow mineralized zone at depth, Aside from the above cited intercepts, considerable alteration was noted, but only occasional weakly anomalous gold values were evident. In practical terms, the Jake shear zone, over the 20 metre strike length drilled, appears to be a narrow shoot within an ongoing structure, with good enough grade, but a little narrow to allow economic underground mining. The structure is open and untested along strike and at depth, and the shoot itself may be open both to the NW and SE.

Mineralized zones somewhat similar to the Jake Showing were encountered approximately 300 metres NNW of it in Trench 4, and 500 metres to the NNW of it in drill hole 7. The trench showings are narrow fissures found 15 metres apart. A grab sample of one of these assayed 12.5 ppm Au. An intersection at 43 metres depth in hole 7, which averaged 1.0 ppm Au over 2.5 metres, including .2 metre of 9.49 ppm Au., appears similar to the Jake Showing. Deeper in Hole 7 are sporadic altered sections containing anomalous gold.

Drill holes 2, 3, 7 and 8 were all designed to test areas of moderate to strong IP response generally associated with high resistivities. Other than the above mentioned intercepts in hole 7, holes 2, 3 and 8 cut sporadic anomalous gold and copper, the highest gold being .693 ppm over one metre in hole 3. In regard to the IP response, generally logs of these holes indicate noticeable but low amounts of disseminated sulfides, with more altered zones containing relatively high sulfides in veinlets and disseminations. Within these altered zones there is sporadic weakly to moderately anomalous gold and/or copper, but considerable areas are devoid of significantly anomalous values.

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# Summary of 2009 Work

Please note: Stated geophysical station numbers conform to those shown on geophysical sections in appendix. As they were established by chaining, they do not necessarily conform to the NAD 83 GPS Grid shown along the map margins. However, they are plotted accurately on all maps at their true NAD 83 GPS locations. All stated non-station grid locations in this report are NAD 83 as shown on margins of all geophysical plan maps in appendix.

Shortly after the property was returned to me, I hired Scott Geophysics Ltd., which had done all previous geophysical work on the property, to carry out limited IP and magnetic surveys. The principal purpose of this work was to survey untested ground extending from the two largest and strongest IP anomalies detected in Rimfire's 2008 survey, which appeared to be still open. The 2009 survey, consisted of 5.65 line kilometers of IP and 3.75 line kilometers of magnetic survey. All of the previous IP surveys were run at 25 metre dipole spacing. While this configuration is ideal to prospect for narrow mineralized structures, its depth penetration is limited to about 50 vertical metres. As the 2009 work was designed to look for potentially larger mineralized zones, 50 metre dipole spacing was used, which allows deeper penetration (about 150 metres vertical depth). The 2009 survey was successful in expanding the previously discovered anomalies, and in some cases finding new, possibly significant anomalies. Geophysical coverage of the Jake Property now covers an irregular corridor about 5.2 kilometres north-south by an average of about 2 kilometres east-west which centres on the original Jake discovery. It appears that large portions of the area surveyed contain elevated background chargeabilities, in the range of 10. A number of much higher anomalies have been detected in various parts of the surveyed area, interestingly, almost all of them conforming to the same NNW direction as the nearby major Lemieux Creek Fault. The IP data are expressed in sections and plan maps both in triangular filtered and inverted form.

Briefly, the highlights of the 2009 geophysical survey are as follows:

All of the lines were run E-W. All interpretation and cited stations below are from the filtered sections.

# Jake-5-

Line 24100N (Stations 91900E to 93550E). This line was run 200 metres south of Rimfire's previous Line 24300N. A broad, moderate strength chargeability anomaly was detected from 92500E to 92750E, with a stronger zone at 92700E. High resistivities are prevalent throughout this interval, with very high resistivity in the 92700 E area, bordered by a band of low resistivity to the east. Another narrow high chargeability zone is seen at 93000E. A broad chargeability high continues from 93000E to 93400E with highest readings at depth from 93200E to 93400E. This zone is characterized by high resistivity. Magnetics on this line, done in 2006 are flat.

Line 25200N (Stations 90650E to 91950E). The west end of this line is close to the steep east escarpment of Mann Creek and runs eastward from here. At the west end of the line from 90700E to 90850E there is a deep (n5) strong chargeability anomaly accompanied by very low resistivity. At 91200E a narrow chargeability high is seen accompanied by moderate to low resistivity. A deep, broad chargeability anomaly is noted from 91400E to 91800E, with strongest readings noted at n3 to n5 from 91600E to 91700E. This broad high is associated with moderately high resistivity. An erratic magnetic high with narrow low points was detected from 90650E to 91000E. The deep chargeability anomaly noted above at 90700E to 90850E is coincident with the magnetic high. Magnetics on the rest of the line are flat with the exception of a low immediately east of the high.

Line 25400N (Stations 90550E to 91550E). The west end of this line is close to the steep east escarpment of Mann Creek and runs eastward from here. At the west end of the line from 94600E to 90750E there is a deep strong chargeability anomaly (n4 and n5) associated with very low resistivity. Another deep moderate strength anomaly (n4 and n5) is noted from 90950E to 91150E, which is associated with moderate to low resistivity. A deep strong chargeability anomaly (n3 to n5) is noted from 91300E to 91350E, and another strong chargeability is noted at 91550E, which coincides with the high found in the 2008 survey. These highs are associated with moderate resistivity. A strong magnetic high with narrow low points is noted from 90550E to 90700E. This is partially coincident with the deep chargeability high noted above. Magnetics on the rest of the line are nondescript with the exception of a low immediately east of the high.

Line 25600N (Stations 90450E to 91450E). The west end of this line is close to the steep east escarpment of Mann Creek and runs eastward from here. At

# Jake-6-

the west end of the line at 90500E there is a deep, moderately strong chargeability anomaly associated with very low resistivity. A chargeability anomaly is noted from 90800E to 90850E associated with high resistivity near surface. A broad, deep moderate to strong chargeability anomaly occurs from 91100E to 91450E with strong chargeability seen at depth (n3 to n5) from 91350E to 91450E. In this area there is overlap between the 2008 and 2009 lines, so this broad anomaly corresponds to the same one as found in 2008. Moderate resistivity underlies this area. A strong magnetic high is found from 90450E to 90500E coincident with the deep chargeability anomaly cited above. Magnetics on the rest of the line are flat with the exception of a low immediately east of the high, and elevated readings coincident with the chargeability high east of Station 91450E.

As the 2009 geophysical data has been merged with the previous 2007 and 2008 work, the plan maps presented in this report show all of the survey data from 2007 through 2009, with the exception of the 100 metre slice plans. The only sections presented in this report are the results of the 2009 work. Sections from the previous years are available in assessment reports previously filed by Rimfire. Included in the appendix of this report are Rimfire's 2008 compilation maps of chargeability, resistivity and magnetics. These are important as they show an excellent structural synthesis done by Mike Roberts as well as all the 2007 drill site locations and proposed 2008 drill hole locations, which have not been drilled. Later in this report you will find my overall interpretation of the combined previous and 2009 geophysical work.

Aside from the 2009 geophysical work, I am ongoing with geological work and rock float sampling along and around the 2008 and 2009 survey lines. Thus far, two interesting assays have resulted from this work; highly anomalous gold in sample MK-09-2 located at 691480E, 5725600N, and anomalous copper, silver and arsenic found in sample MK-09-6 located at 692384E, 5723408N. The possible significance of Sample 2, which contains 1.12 g/t gold along with anomalous bismuth, copper and silver above a strong IP anomaly, is discussed below under target areas (see KM 14 Zone under Kaufman Drill Hole Suggestions). Sample 6, which contains highly anomalous arsenic along with lesser copper and silver, is located south of the area covered by geophysics. All samples are described in detail in a chart found in the appendix.

# Discussion Of Drill Target Areas

All target areas are based primarily on geophysical anomalies under overburden-covered areas with, in some cases, possibly significant nearby geochemical soils anomalies or mineralized float. The principal questions for further exploration are whether the Jake Shear Zone might be wider over persistent widths in untested areas along trend, whether similar mineralized structures might be found within larger and stronger geophysical anomalies away from the Jake Trend, or whether other type mineralized zones might occur within these anomalies.

Mike Robert's Selections: Discussed in his 2008 report, and shown on his 2008 geophysical compilation (chargeability, resistivity and mag) maps, are seven new drill holes designed to follow up on the Jake "Corridor", and to test two other geophysical anomalies. These show on the maps as Holes 08 -1 through 7, and have yet to be drilled. Also showing on these maps are the previously drilled holes 07-1 through 7, which are briefly described above, and in detail in Rimfire's 2007 assessment report. Mikes's selections generally are predicated on mimicking the geophysical signature of the Jake Vein (high chargeability along the shoulder of a resistivity high). I believe that all of Mike's selections should be drilled, but I would suggest new priorities based on my 2009 work. Also, two of Mike's selections (08-4 and 5), are located on one inlying Claim (508272), the only such claim within the Jake Claim Group, which is owned by another party. Considering Mike's other selections, I would relegate holes 08-1 and 7 to top priority. Hole 08-1 is located on the postulated southeast strike of of the Jake structure approximately 130 metres southeast from the discovery showing. Rimfire unsuccessfully tried to trench this area in 2006. Of interest at this site is continuation of the IP trend upon which the showing is located, and the coincident presence here of a magnetic anomaly. As the gold values at the Jake showing are associated with weakly magnetic massive pyrrhotite with no magnetic anomaly, it is possible that the coincident magnetic and chargeability anomalies at the 08-1 site might represent a larger mineralized zone than the narrow Jake showing. Also, I would place a high priority to Hole 08-7, which is designed to test a strong chargeability anomaly, designated as Road 2 Zone, which is parallel with and 350 metres east of the

# Jake-8-

weaker and intermittent chargeability anomaly seen at the Jake structure. This site, which is just east of a postulated fault zone, could possibly overly a different style of mineralization than the Jake.

Kaufman Drill Hole Selections: As we still have very limited knowledge of the area, I believe that on a priority basis it is important to investigate the two most extensive and strongest chargeability anomalies found to date on the property, both of which were expanded by the 2009 work. These are designated on Robert's 2008 Compilation maps respectively as the KM 14 and Road 131 Zones. There are no known outcrops in either of these zones, and they have not been exposed in any way aside from geophysics.

The "KM 14 Zone", which is seen on Lines 25200N through 26000N, is located at its closest known point about 450 metres NW of the Jake showing. It is found on a moderately sloping crest which steepens to the west. The apparent trend of this anomaly, which extends for + .8 kilometre, is NNW, but within the overall trend there are several extensive zones of higher (20 to+30) chargeabilities, which in places (such as Line 25600N) at depth appear to form wide east-west bulges. Sections indicate that the anomaly comes close to surface (n1level) in its eastern portion, but is deeper as the slope steepens to the west. Possibly the reason for this could be a thin layer of Pleistocene volcanic rock overlying parts of the anomalous area. There are several clues indicating that this anomaly might in places represent significant mineralization. Some mineralized boulders, both large and small, found at the base of the hill beneath the IP anomaly, contain weakly anomalous gold, and/or more strongly anomalous bismuth, copper and cobalt. Silt from a small drainage which cuts through the IP anomaly contains anomalous bismuth. Anomalous gold with bismuth and copper was detected in a Rimfire soils test survey along Road 2 just east of the IP anomaly on line 25200N (the survey was not carried westward beyond this point). And a small amount of float found near one of the strongest and widest parts of the IP anomaly, on Line 25600N, 691480E, assayed 1.12 g/t Au along with anomalous Bi and Cu. This sample was a composite comprised of soft, leached gossan material and dark coloured, silicified, volcanic rock with disseminated sulfides. The soft material must be close to its source, as it would not survive transport. Interestingly, there was no quartz veining seen in this area, as is prevalent at the Jake showing. Further prospecting for float will be undertaken along the anomaly trend, but current

information justifies drilling in the area of Line 25600N, 691400E. I believe that this extensive anomaly might contain mineralization controlled by structure and stratigraphy.

The Road 131 Zone, seen on Lines 24500N through 24100N, is comprised of two main high anomalous chargeability trends located approximately from 1 to 1.4 kilometre SE of the Jake discovery area. The western zone, which centres at about 692600E, extends for at least 400 metres in a NNW direction, and is less than 100 metres wide. On Line 21400N it is accompanied by very high resistivity, which forms a shoulder to low resistivity immediately E of the chargeability high. The NNW trending eastern zone, which also extends for at least 400 metres on trend, centres at 692900E. It is quite wide with very strong chargeabilities indicated for 300 metres across the zone along Line 24400N. Generally high resistivities are found within the broad chargeability area, but at its eastern margin both chargeability and resistivity numbers drop drastically, indicating the likelihood of a NNW trending fault here. The ground over most of this anomalous area is a hummocky wasteland. There is, of course, no bedrock, or even close-to source-float, within the main anomalous area. Some small outcrops of Fennell basalt(?) are found at a considerable distance northeast of the anomalous area, and about 200 metres south of it near its east end. Possible indications that the extensive IP anomalous area might contain significant mineralization are a gold silt anomaly in a creek which drains through parts of it, a copper silt anomaly in another creek draining it further to the east, some anomalous soils copper along its east margin, and some very weakly elevated gold values indicated in samples from the above mentioned outcrops to its south. Probably the only way to meaningfully test the IP anomaly is to drill. I suggest two initial sites. One would be on the above described western zone drilling eastward from Line 24100N at about 692650E, which would test the high IP response through the resistivity high where it transforms to a low, possibly indicating a fault zone. The other would drill eastward from Line 24400N at about 692950E, which would test a wide area of very high chargeability close to the postulated fault zone to the east indicated by a drastic drop in both chargeability and resistivity. It appears that the western anomaly might be related to a structure possibly similar to the Jake, while the eastern anomaly might be related to a broader sulfide bearing shattered zone.

# Jake-10-

IP anomalies in proximity to magnetic anomalies: Three magnetic high anomalies have been found within the surveyed area (see Magnetic Plan map), the causes of which are not certain. A N-S elongated high is seen in the northeastern part of the surveyed area at the east end of Line 5725200N in an area designated by Roberts as KM 12 Zone A. One of his recommended 2008 drill holes, 08-6, was selected to test a chargebility anomaly located just west of the mag high. My traverse through this IP anomaly area revealed no near-source float. My best guess in interpreting this anomaly is that the mag high probably represents an intrusive, maybe a sill or dike, and that the IP response might represent some sort of contact mineralization. The drill hole certainly would be justified at some time, but, in reviewing both the filtered and inversion IP, the anomaly suspiciously appears greatly enhanced by the inversion. As the filtered chargeabilities appear only moderately high, I would relegate this target to a secondary priority.

An irregular shaped mag high comprised of three apparent lobes which trend NNW-SSE, but with an overall E-W trend is found along Line 24800N centred at 692220E. Robert's Drill Hole 08-1 mentioned above was selected to test a peak mag high maybe caused by pyrrhotite, coincident with a chargeability high here. This hole should be a high priority. In regard to the overall mag anomaly here, which appears to trend across the general NNW structural trend, possibly it could be related to a dike-like intrusive.

The most extensive and strongest magnetic high detected in the surveyed area to date was found during the recent 2009 survey on the west parts of Lines 25200N through 25600N. This anomaly, which is open to the W, NW, and SE is in an area either very close to or along the east margin of the major Lemieux Creek Fault. Within this area the GSC has mapped a band of Pleistocene volcanic rocks, which form an irregular thin layer over the older formations. It is possible the mag high might be related to this surficial layer, but this is not certain because there is no mag anomaly over a similar band of these volcanics which has been mapped east of the mag high. So if it has a deeper source, the cause would likely be intrusive rocks and/or magnetic minerals associated with the Lemieux Creek Fault. Interestingly, there is a deep (n3-n5) chargeability anomaly associated with very low resistivity seen at the western edge of Lines 25200N through 25600N. This anomaly, which is best seen on the 100 metre slice map, may be open to the west. On Line

# Jake-11-

25200N it occurs within the mag high, while on Lines 25400N and 25600N it is within the broad mag low east of the high. This might be an interesting drill target, but more work needs to be done across Mann Creek to the west to better define the target area.

A slightly elevated mag high which might be significant is found along Line 25600N partially coincident with the previously described high chargeability drill target centred at 691500E.

Other Possible Target Areas: An interesting IP anomaly occurs between the above mentioned KM 14 Zone and the deep IP anomaly associated with the magnetic anomaly found at the western margin of Lines 25200N, 25400N and 25600N. This anomaly, which is best viewed in the sections or in the 100 metre slice inversion plan, is seen on all three of the above lines centered approximately at 91200E. It is most evident on Line 25200N from 91200 to 91300E, which would make a good drill target. At deeper levels this anomaly in places appears to merge with the KM 14 Zone. Another possibly interesting drill target would be the IP anomaly located approximately150 metres NE of the Jake Showing centered at about 692250E on Lines 25000N and 25100N.

M. A. Kaufman, Geologist, P. Eng. PO Box 14336 Spokane Valley, WA 99214 USA 509 924 7710 dv10@comcast.net

Sept. 14, 2009

# Jake-12-

# Statement of Qualifications M. A. Kaufman

I, M. A. Kaufman hereby state that I have worked as a mining geologist and mining engineer for 52 years.

I received an A, B, degree in geology from Dartmouth College in 1955, and an M. S. degree in geology and mining engineering from the University of Minnesota in 1957.

I am currently registered as a Professional Engineer/Geologist in the province of British Columbia.

From the period 1955 - 1965 I worked for the major companies Kennecott Copper Corp., Giant Yellowknife Gold Mines (Falconbridge), Kerr-McGee, and Hunting Survey Corp., Ltd. I then worked independently as a consultant and contractor, mainly for major companies. From 1969 through 1988, I was a principal of the consulting and contracting firm of Knox, Kaufman, Inc. From 1989 to present I have worked as an independent consultant and prospector.

M. A. Kaufman

#### LOGISTICAL REPORT

#### INDUCED POLARIZATIONAND MAGNETOMETER SURVEYS

#### JAKE PROJECT CLEARWATER AREA, B.C.

on behalf of

M. A. Kaufman PO Box 14336 Spokane Valley, WA 99214

Survey performed: July 27-31, 2009

by

Brad Scott, Geologist (GIT) SCOTT GEOPHYSICS LTD. 4013 West 14<sup>th</sup> Avenue Vancouver, B.C. V6R 2X3

August 16, 2009

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Ch Res Ma	argeability/resistivity pseudosections Lines 24100N, 25200N, 25400N, 25600N argeability contour plan – Triangular-Filtered Values (UTM coordinates) sistivity contour plan – Triangular-Filtered Values (UTM coordinates) gnetometer contour plan (UTM coordinates) gnetometer profiles (idealized grid coordinates)	
	Accompanying Data Files	
On	e (1) CD-ROM with all survey data and plots in Surfer 8 and pdf formats	rear of report

#### 1. INTRODUCTION

Induced polarization (IP) and total field magnetometer surveys were performed at the Jake Project, Clearwater area, B.C. within the period July 27-31, 2009. In addition, non-differential GPS readings were taken at each station and at all remote ("infinite") current locations.

The survey was performed by Scott Geophysics Ltd. on behalf of M. A. Kaufman. This report describes the instrumentation and procedures, and presents the results of the survey.

#### 2. SURVEY COVERAGE AND PROCEDURES

This survey was a continuation work performed in 2006-2008 for Rimfire Minerals Corp. The poledipole array was used. Readings were taken with an "a" spacing of 50 metres and "n" separations of 1-5. The on line current electrode was located to the west of the potential electrodes.

Total field magnetometer readings were taken at 12.5 metre intervals and corrected for diurnal variation against a fixed base station cycling at 10 second intervals.

GPS readings were taken at each station subject to satellite reception. Elevation measurements are barometric altimeter readings, calibrated to GPS altitude at the beginning of each line.

A total of 5.65 kilometres of IP and 3.75 km of magnetometer survey were performed.

The chargeability and resistivity results are presented on the accompanying pseudosections and triangular-filtered plan maps. The magnetometer survey results are presented on the accompanying profiles and plan maps. All survey data are archived to the accompanying CD-ROM.

#### 3. PERSONNEL

Brad Scott was the crew chief on the survey on behalf of Scott Geophysics Ltd. M. A. Kaufman was his own representative.

#### 4. INSTRUMENTATION

A GDD GRx8 receiver and a GDD TxII-5000W transmitter were used for the IP survey. Readings were taken in the time domain using a 2 second on/2 second off alternating square wave. The chargeability values plotted on the accompanying pseudosections and plan maps are for the interval 690 to 1050 msec after shutoff.

Scintrex ENVI proton precession magnetometers were used for both field and base units for the magnetometer survey.

GPS readings were taken with a Garmin GPSMap 60CSx GPS receiver.

Respectfully Submitted,

kg

Brad Scott, Geologist (GIT)

Statement of Qualifications

for

Brad Scott, Geologist (GIT)

of

1230 Harrison Way, Gabriola, B.C. V0R 1X2

I, Brad Scott, hereby certify the following statements regarding my qualifications and involvement in the program of work on behalf of M. A. Kaufman at the Jake Project, Clearwater area, B.C. as presented in this report August 16, 2009:

The work was performed by individuals trained and qualified for its performance.

I have no material interest in the property under consideration in this report.

I graduated from the University of British Columbia with a Bachelor of Science degree (Geology) in 2000.

I am a member-in-training of the Association of Professional Engineers and Geoscientists of the Province of British Columbia.

I have been practising my profession in the field of Mineral Exploration since 2000.

Respectfully submitted,

kga

Brad Scott

	A	В	С	D	E	F	G	H	I	J
1	Jake Project 2	009 Rock Samples								
2			Significa	nt Assay	Results					
3	Sample no.	Location NAD 83	Au ppb	Cu ppm	Bi ppm	Ag ppm	n As ppm	Lithology		
4										
5	MK 09-1	692342, 5724130	15	33	<5	<.2	<5	Float	siliceous, brec	ciated andesite
6										
7	MK 09-2	691480, 5725600	>1000*	111	75	0.	.4 <5	Float	composite soft	; leached goss
8										
9	MK 09-3	692617, 5721400	10	82	<5	<.2	<5	Float	siliceous, gray	-green volcanic
10										
11	MK 09-4	693354, 5723905	10	38	<5	<.2	<5	ос	sheared, gray-	green volvanic
12										
13	MK 09-5	693165, 5724100	10	42	<5	<.2	<5	Float	gray-green vo	canic w/Fe/Ox
14										
15	MK 09-6	692384, 5723408	10	175	10	0.	.6 715	Float	siliceous gray-	green volcanic
16										
17	MK 09-7	692777, 5723266	10	56	<5	<.2	<5	Float	siliceous gray-	green volcanic
18										
19	MK 09-8	694992, 5724008	5	22	5	<.2	25	Float	brick red goss	an and dark vo
20										
21	MK 09-9	694609, 5723689	10	22	<5	<.2	<5	Float	gray andesite	w/qtz veinlets a
22										
23										
24	* MK 09-2		1.12g/t							

	K	L	М	N
1				
2				
3				
4				
5	w/dissem. Py/	ро		
6				
7	an, siliceous da	rk ggray volcar	nic w/dissem. S	Sulfide
8				
9	w/ Fe/ox on fr	actures & disse	em. Py/po	
10				
11	w/dissem. Py/	Ро		
12				
13	on fractures, m	ninor dissem. P	Y/PO	
14				
15	w/rubbly gossa	n veinlets or c	oating?,dissem	. Py/Po
16				
-	cut by gossan v	veinlets w/diss	em. Py/Po	
18				
19	canic w/ disser	n. Sulfide		
20				
21	and dissem. Py	; some earthy	gray mineral	
22				
23				
24				



### MEMO

DATE: NOVEMBER 14, 2008

TO: ISLAND ARC EXPLORATION

FROM: MIKE ROBERTS

RE: JAKE 2008 IP AND PROPOSED DRILLING

### Introduction

Drilling and trenching at the Jake Project has shown that high Au grades are consistently associated with quartz veins that contain net-textured pyritepyrrhotite-chalcopyrite and that these veins are coincident with elevated, yet narrow, IP anomalies. Based on these observations, the 2008 IP program aimed to extend the IP survey to identify other potential Jake-like targets. However, drilling also confirmed that other sulphide-bearing, sericite-carbonate-chlorite-clay altered structures and disseminated-style sulphide mineralization in mafic volcanic rocks are the source of some IP anomalies, yet do not carry significant Au mineralization. This memo aims to identify the Jake-like IP signature in the new, inverted and merged IP and Resistivity data, in conjunction with the enlarged ground magnetic survey, in order to rank and select potential drilling targets.

### Survey Scale Stratigraphic and Structural Features

In order to identify possible mineralized structures, the significant stratigraphic domains and structural breaks within the area covered by the merged 2006-2008 ground geophysical survey have been interpreted based on the Resistivity, IP and ground magnetic data, in conjunction with trenching, drilling and map observations.

The ground magnetic data shows a magnetic response in the survey area that has a northwest to north-northwest trending grain. There are several strong north-northwest trending magnetic highs (>56700nT): 1) Jake Area; 2) Jake NW Extension; Road 840 Zone; KM14 Zone; KM12 Zone. These magnetic highs are most likely relatively fresh mafic volcanic rocks or their intrusive equivalents. Broad areas of lower magnetic response may represent either thicker intervals of interbedded sediments, alteration of mafic rocks in structural corridors, areas of thicker glacial overburden, or a combination of these features.

1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> order structures have been interpreted based on a combination of the magnetic data, inverted resistivity sections and the 50m resistivity depth slice. The 20m resistivity depth slice shows local areas of thicker overburden, and should not be used to interpret structures and geology. Structures have been interpreted and subdivided as follows:

### 1<sup>st</sup> Order Structures

In the centre of the survey, there is one significant structure which is defined by a deep and broad resistivity low across which the northwest trending grain of stratigraphy appears to be disrupted. The amount and sense of offset across this structure is not apparent due to the lack of an unambiguous offset marker. This break is interpreted as a 1<sup>st</sup> Order Structure (i.e. most significant offset) because it is parallel to the terrain-bounding Lemieux Creek fault (1.5 km to the west) and lesser structures merge or are truncated by this fault. The exception to this is an east-northeast-trending structure in the southeast quadrant of the survey that offsets or deflects this structure. If some of the broad northwest trending magnetic lows in the survey area represent sedimentary stratigraphy, then the 1<sup>st</sup> order fault may have preferentially nucleated at a low angle to bedding between mafic volcanic rocks and a thick package of sediments.

# 2<sup>nd</sup> Order Structures

2<sup>nd</sup> order structures are linear features that show offsets of 50-100m in magnetic and resistivity domains, and are also coincident with weak to moderate linear resistivity lows (altered fault zone). The best example of offset along these structures is shown in the Road 840 Zone, by offsets in magnetic and resistivity domains that indicate a dextral sense of displacement. These are structures with measurable apparent displacements that have high potential for fluid flow and quartz veining in dilational or compressional jogs. 2<sup>nd</sup> order structures also show broader and deeper resistivity and magnetic lows where they merge or are truncated by the 1<sup>st</sup> order structure and other 2<sup>nd</sup> order structures.

# 3rd Order Faults

3<sup>rd</sup> order structures are linear features defined by narrow resistivity lows that cut across the inferred northwest-trending stratigraphic grain, yet where a clear sense of offset is absent.

# Target Areas

# Jake Area

The Jake vein is situated between two NNW-trending 2<sup>nd</sup> order faults that are truncated to the NW by a NE-trending 2<sup>nd</sup> order fault that is defined by a deeper resistivity low and VLF-EM anomaly "A". From trenching, the Jake vein is a NW-oriented vein within a narrow shear structure such that mineralized quartz veins

(characteristically with net-texture pyrrhotite-pyrite-chalcopyrite) are boundinaged within the structure (micro and macro textures indicate post-mineralization shearing and displacement). The resistivity plan at 50m shows that the Jake vein is in an area of moderate yet irregular resistivity (vertical resistivity gradients) on the shoulder of a broad resistivity high. The irregular resistivity pattern may reflect alteration associated with other 2<sup>nd</sup> or 3<sup>rd</sup> order structures, including the Jake structure/vein not identified by the resolution of the survey.

In section, the IP data shows that the Jake vein is coincident with a NW-trending, ~25m wide, steep, 20-25mv/V IP anomaly that is truncated by the NE-trending fault (VLF A), and extends 350m to the SE, parallel to a 2<sup>nd</sup> order structure. To the NNE of the Jake vein is a broad area of high chargeability coincident with high resistivity. This may reflect a broad zone of disseminated sulphides in mafic volcanic rocks (possibly silicified), yet without significant cross-cutting structures. Due to the contiguous resistivity signature, this zone of broad IP response is less likely to contain structures with significant mineralized quartz veining.

The data associated with the Jake vein indicates that steep and narrow IP anomalies associated with 2<sup>nd</sup> and 3<sup>rd</sup> order structures are likely the most prospective for other, possibly wider Jake-like veins.

# Jake SE Zone

The Jake SE area was tested by J-DDH07-08 to target a NNE-trending clay altered fault structure broadly coincident with an IP anomaly. This structure is evident on the Resistivity plan as a NNE-trending  $3^{rd}$  order structure that merges to the north into the NW-trending  $1^{st}$  order structure. The IP anomaly here is broad (50m wide), slightly offset to the east of the NNE-trending structure, and is coincident with broad resistivity high (fine grained basalt with silica + sericite  $\pm$  biotite alteration, 0.5 to 1% pyrrhotite disseminations, with locally greater (5%) sulphide disseminations and veins). This IP anomaly may be the SE extension of the resistive block in the NE of the Jake Area.

From drilling, this fault structure returned geochemically anomalous Au, Bi, Cu, and As values, yet no quartz veins of significant width with high Au values. Likewise the more resistive basalt with disseminated sulphides did not return any significant Au values, although one sample with blebby chalcopyrite and associated biotite alteration returned 0.15% Cu. This area suggests that fault structures on the shoulders of IP and Resitivity highs are geochemically anomalous and possibly prospective targets.

# Road 2 Zone

Road 2 Zone occurs to the immediate NE of the Jake SE and is characterized by a 450m long, up to 50m wide, NNW-trending, high to very high chargeability

anomaly (up to 50 mV/V). This anomaly is coincident with an interpreted 2<sup>nd</sup> order structure sub-parallel to the 1<sup>st</sup> order structure to the west. Here the IP anomaly is offset immediately to the east of the interpreted 2<sup>nd</sup> order structure and is coincident with relatively moderate resistivity values on the western margin of strongly resistive block. This linear IP anomaly has quite high chargeability values (50-60 mV/V on L25000N), coincident with relatively high resistivity values (500-700 Ohm-m), therefore it is unlikely to be a carbonaceous mudstone. This anomaly may either be the signature of a fault sliver of mafic volcanic rock with abundant disseminated sulphide, a pyritic sediment with relatively high resistivity values.

### Jake NW Extension

The Jake NW Extension was targeted by J-DDH07-02, -03 and -07. This area was targeted due to a NW trending IP anomaly that was interpreted as the NW extension of the Jake vein.

Two significant structures are interpreted in this area: #1) a NNW trending 3<sup>rd</sup> order structure that occurs on the western margin of a large resistive block (basalt from drilling; also strongly magnetic where it is most resistive – "least-altered") that is coincident with a moderate, west-dipping resistivity low (200-300 ohm-m) and a similarly west-dipping chargeability high (30-35 mv/V), this structure may be the NNW extension of NNW-oriented 2<sup>nd</sup> order structures in the Jake Area; and #2) a 2<sup>nd</sup> order fault "VLF A" which is NNE-trending and characterized by a deep resistivity low and a moderate to strong chargeability anomaly.

Both structures were intersected in the 2007 drilling and were described as follows:

### Structure #1

<u>J-DDH07-03, 42-44m</u>: 1 m interval with multiple quartz-pyrrhotite-pyritechalcopyrite veins up to 15 mm wide above a bleached, clay-carbonate altered shear zone.

<u>J-DDH07-07, 43.5 m</u>: A narrow chloritized shear zone at 43.5 m consists of sheared chlorite-clay altered basalt and quartz vein fragments with net texture to blebby pyrite and lesser pyrrhotite and chalcopyrite. Increased sulphide veins and disseminations occur in the preceding 10 m of core, presumably the hangingwall.

### Structure #2

<u>J-DDH07-02, 148.9 to 154.8 m</u>: ~1 m of 3% vein sulphides above a 2 m wide sericite-clay altered, bleached interval with quartz and calcite veins and fault gouge at moderate angles to the core axis; 2 m of quartz stockwork with 1% PO

veining; 50 cm of strong alteration and thick quartz and possible feldspar veins; and a lower margin of shear fabric and minor gouge.

<u>J-DDH07-03, 152 to 164 m</u>: significant structures with overprinted alteration, mineralization, veining and deformation. Narrow intervals showing purely ductile deformation are bleached, sericite-carbonate-silica altered and locally contain up to 10% fine grained pyrite. Chlorite is a more prominent alteration mineral within areas that show mixed brittle and ductile deformation and a greater variety of sulphide mineralization including veins, lenses and disseminations of pyrrhotite, pyrite and chalcopyrite. Consistent 0.5-2% pyrrhotite+/-pyrite disseminations and small veins

From	То	Width	Comments	Au	Au check	Ag	As	Bi pp	Cu pp	Fe	s	Ca
		(m)		ppm	ppm	ppm	ppm	m	m	%	%	%
J-DDH0	07-03 Nort	hwest Tre	nding IP anomaly									
42.1	43.0	0.9	qz-po-py-cpy veins <15 mm wide	0.69		0.3	90	42	319	7.00	2.05	1.43
43.0	43.8	0.8	bleached, clay-carbonate altered shear zone	0.04		0.2	548	12	163	6.95	1.08	6.04
158.8	159.7	0.9	strongly silicified, localized breccia	0.11		0.2	42	<2	34	4.36	0.13	1.81
163.2	163.5	0.3	bleached, silica-sericite-carbonate altered shear zone	0.18		0.2	370	<2	232	5.31	1.62	4.87
J-DDH0	07-07 Nort	hwest Tre	nding IP anomaly									
43.5	43.8	0.3	sheared, chlorite-clay altered	1.80	1.83	0.7	732	75	779	9.13	3.51	2.62
43.8	44.0	0.2	sheared quartz vein and chloritized basalt with 25% net texture py-po	9.49	8.85	2.1	1505	522	347	10.25	8.08	6.07
44.0	45.0	1.0	sheared, chlorite altered	0.11		0.2	76	9	101	4.93	0.79	1.94
45.0	46.0	1.0	5 cm qz-sulphide vein	0.07		0.2	21	7	96	4.37	0.64	4.03
		2.5		1.00								
		0.5		4.64								
166.5	167.5	1.0	py and po-cpy veining below a bleached sericite-clay –carbonate altered shear zone	0.15		<0.2	164	4	51	5.15	0.29	2.10

The NNW-trending structure (#1) is the only structure in the NW extension to return anomalous Au-Bi-Cu values (Jake-like) from trenching and drilling, including the highest Au value from the Northwest Extension Zone of 8.85 g/t Au over 20 cm from J-DDH07-07. This structure, with coincident IP anomaly of similar width and value, continues to the NNW for +200m where it intersects a NW-trending 2<sup>nd</sup> order fault (however also continues further north into the Road 840 East Zone (see below).

Similar to the Jake SE Zone, the ductile-brittle sericite-carbonate altered, NEtrending fault in the NW Extension Zone (#2) may have been broadly active during deformation associated with mineralization, but appears to lack significant dilation for Au mineralized quartz veining. The lower 50 m of J-DDH07-07 likely intersected a northwest trending 2<sup>nd</sup> order structure that truncates structures #1 and #2 and is expressed by: highly variable alteration and numerous pyritic shear zones and faults; the most prominent structures are 0.5-3 m wide bleached, sericite-silica-carbonate-clay altered shear zones with fine grained pyrite. Pyrrhotite and chalcopyrite mineralization are limited in extent and seem to be related to later brittle deformation, generally as veins/fracture fill.

# Road 840 East Zone

The Road 840 East Zone is defined by an IP anomaly centered on a 2<sup>nd</sup> order NNW-trending structure that might be the continuation of structure #1 from the Jake NW Extension (and the Jake Area). This structure shows a ~100-150m dextral offset both in the magnetic and resistivity data. Similar to the Jake NW Extension zone, this 2<sup>nd</sup> order fault (i.e. narrow resistivity low) is coincident with a high IP response (especially on lines 25600N and 25700N). This may reflect mineralization similar to the NW Extension Zone with potential for dilation and Jake-like quartz veining.

# Road 840 West Zone

Moderate to strong IP anomalies occur in this zone on the shoulder of 1<sup>st</sup> and 2<sup>nd</sup> order faults coincident with areas of moderate resistivity (500-700 Ohm-m). These are areas with relatively steep resisitivity gradients, therefore the IP may be coincident with a fault structure that does not have a strong resistivity low (silification?), otherwise this may represent disseminated sulphide mineralization on the shoulder of these fault zones.

# KM14 Zone

The northwestern portion of the survey (KM14 Zone) is characterized by broad and moderate to high chargeability values. These anomalies are generally coincident with broad resistivity highs or the shoulders of resistivity highs. Due to the broad nature of these IP anomalies it is more likely that they represent stratigraphic units rather than discrete mineralization. However, IP anomalies that straddle the shoulder of resistivity highs (e.g. 91200mE on L25800N) may indicate a potentially mineralized structure.

# KM12 Zone

The eastern portion of the survey (KM12 Zone) is also characterized by broad and moderate to high chargeability values coincident with broad resistivity highs (divided south to north into A and B). These areas also commonly have strong, west-dipping horizontal gradients in IP and Resistivity at 10-20m depth, likely indicating the depth of glacial overburden (see east side of L26000N, 25800N and 25300N). Similar to KM14 Zone, these anomalies appear stratigraphic. Of interest in this Zone is a strongly magnetic unit on the far eastern side of the survey with moderate IP values coincident with moderate to high resistivity values. It is unclear what rock types this might represent (volcanic, intrusive?), however the western margin of this magnetic unit appears in fault (?) contact with adjacent resistive/chargeable unit, and this possible structure may represent a suitable structure for mineralization (competency contrasts, sulphidation effect with Fe-rich magnetic unit, possible heat driver if pluton).

# Road 131 Zone

Road 131 Zone occurs in the southeast corner of the IP survey and is characterized by broad and high IP values coincident with areas of high resistivity. The high resistivity values are also coincident with elevated magnetic response, therefore indicating that this package is likely comprised of mafic volcanic rocks. This zone is therefore similar and possibly contiguous with the KM12 Zone.

### Conclusions

Gold mineralization at the Jake and the NW extension is associated with quartz veining in narrow NNW-oriented shear zones. No obvious control on Au mineralization, such as strong contrasts in host rock composition (sulphidation), is apparent, other than quartz veining. This indicates that Au precipitation may have been driven by pressure gradient in zones of dilation, represented by quartz veining. The net textured sulphides in quartz veins reflect post-mineralization shearing within a protracted shearing event. To date, all Jake-like veins occur in NW to NNW-oriented structures. Although NE-oriented structures may have been active during deformation associated with mineralizaton, it is possible that they were not optimally oriented for dilation and Au-mineralized quartz veining.

# Target Area Ranking and Drill Hole Selection

Target areas are ranked according to their similarity to the Jake veins (see Table 1 below).

Targets with a rank of 1 are IP anomalies associated with NW to NNW-oriented 2<sup>nd</sup> or 3<sup>rd</sup> order structures generally on strike with the Jake vein and the Jake NW Extension. These targets define a potential 1km long structural zone.

Targets with a rank of 2 are IP anomalies located on the shoulder of 1<sup>st</sup> and 2<sup>nd</sup> order structures, including one target at a sharp break in the highest magnetic anomaly.

Targets with a rank of 3 are broad areas of coincident chargeability anomalies and resistivity highs. The shoulders of these resistivity highs (possible faults),

may be prospective for mineralized structures, but could as easily define stratigraphic boundaries.

Drill targets have been selected for target areas of Rank 1 and 2, for a total of 875 metres of drilling in 7 holes.

### Budget

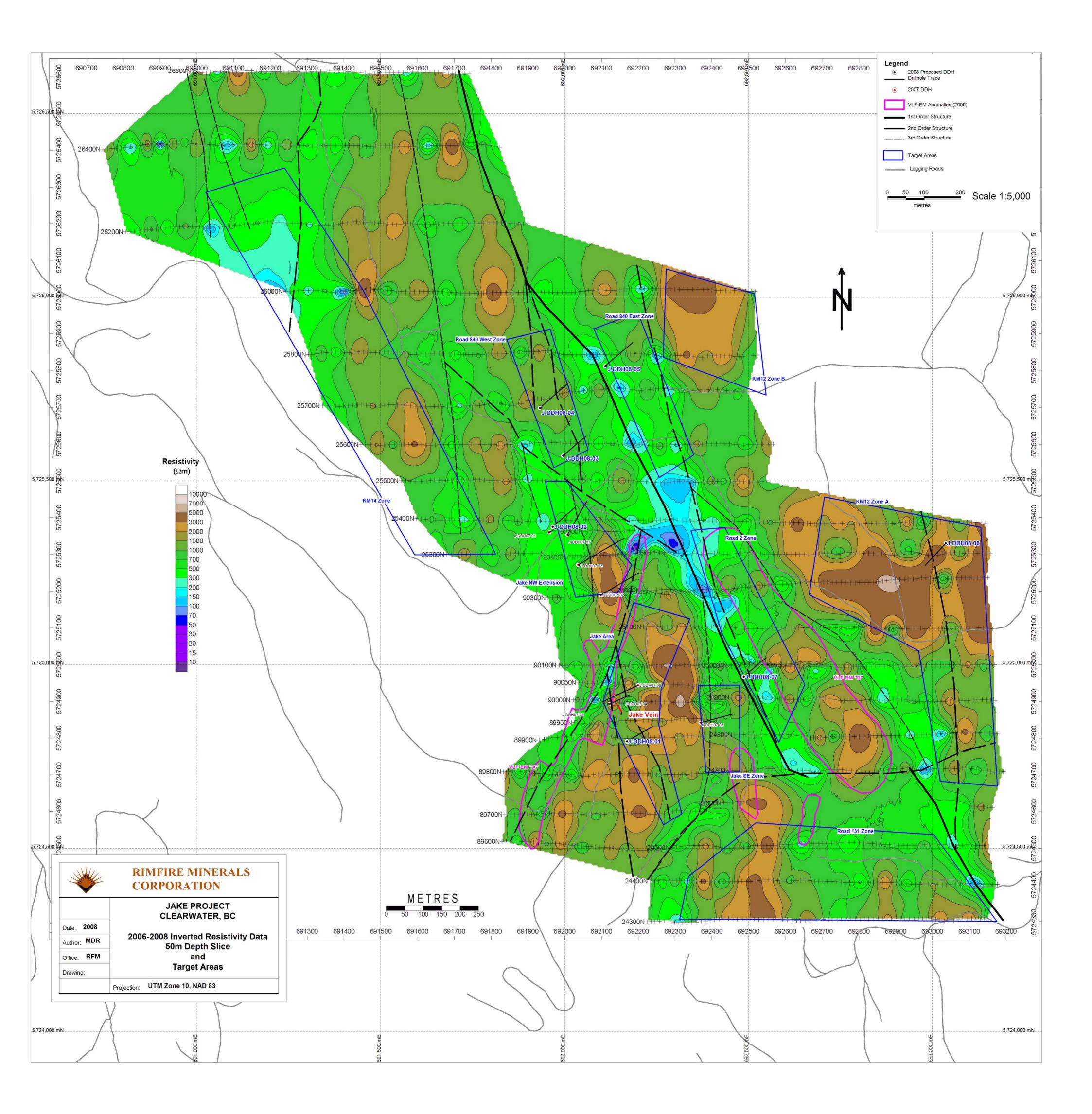
The "all-in" cost of the 2007 drill program at the Jake was \$300/metre. Based on this rate, the cost of the proposed program is \$290,000 including a 10% contingency.

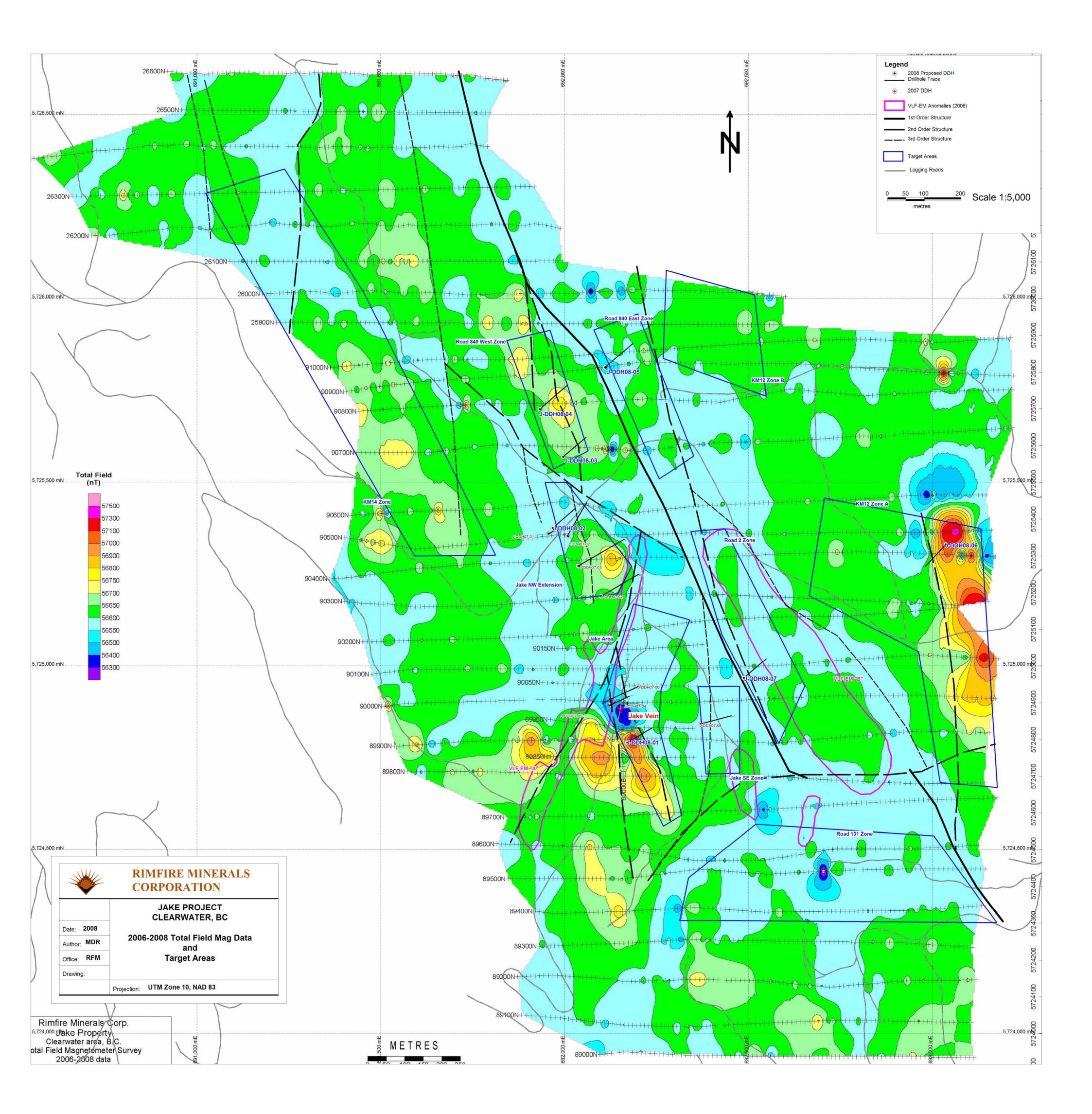
	Id	ble 1. Target Area Ranking and		sea D	rill H	
Target Area	Rank	Target Area Synopsis	Length (m)	Az	Dip	Drill Hole Target Comment
Jake Area	1	NNW-oriented, coincident and steep resistivity low and chargeability high on the shoulders of resistivity and magnetic highs: SE on-strike extension of the Jake vein				
		J-DDH08-01	125	NE	-50	testing on-strike extent of Jake structure and shoulder of magnetic high
Jake NW Extension	1	Equivalent to the Jake area: NNW-oriented, coincident resistivity low and chargeability high				
		J-DDH08-02	125	NE	-50	re-attempt of J-DDH07-01 to intersect the thickest section of the west-dipping IP high and Res low that might be the downdip extent of the Au mineralized structure
Road 840 West Zone	1	Equivalent to the Jake area: NNW-oriented, coincident resistivity low and chargeability high				
		J-DDH08-03	125	NE	-50	testing coincident IP anom and resistivity low similar to the Jake
		J-DDH08-04	125	NE	-50	same as above, 100m step-out to NW
Road 2 Zone	2	NNW-oriented, strong linear IP anomaly on the shoulder of a deep resistivity low (2 <sup>nd</sup> order structure)				
		J-DDH08-05	125	NE	-50	strong and broad IP anomaly on should of 2nd order structure
KM12 Zone (A and B)	2	Broad areas of resistivity and chargeability high: shoulder of strong magnetic high may be prospective as chemical trap (A)				
		J-DDH08-06	125	SW	-50	structure at contact of strongly magneticnetic unit with broad IP anom
Road 840 East Zone	2	NNW-oriented, strong linear IP anomaly on the shoulder of a deep resistivity low (2 <sup>nd</sup> order structure): similar to Road 2 Zone				
		J-DDH08-07	125	NE	-50	strong and broad IP anomaly on should of 2nd order structure
Jake SE Zone	3	NE-oriented fault structure on shoulder of chargeable and resistive block, NE orientation possibly not favourable				
KM14 Zone	3	Broad areas of resistivity and chargeability high: shoulder structures may be prospective				
Road 131 Zone	3	Broad areas of resistivity and chargeability high: shoulder structures may be prospective				
		Total metres	875		1	

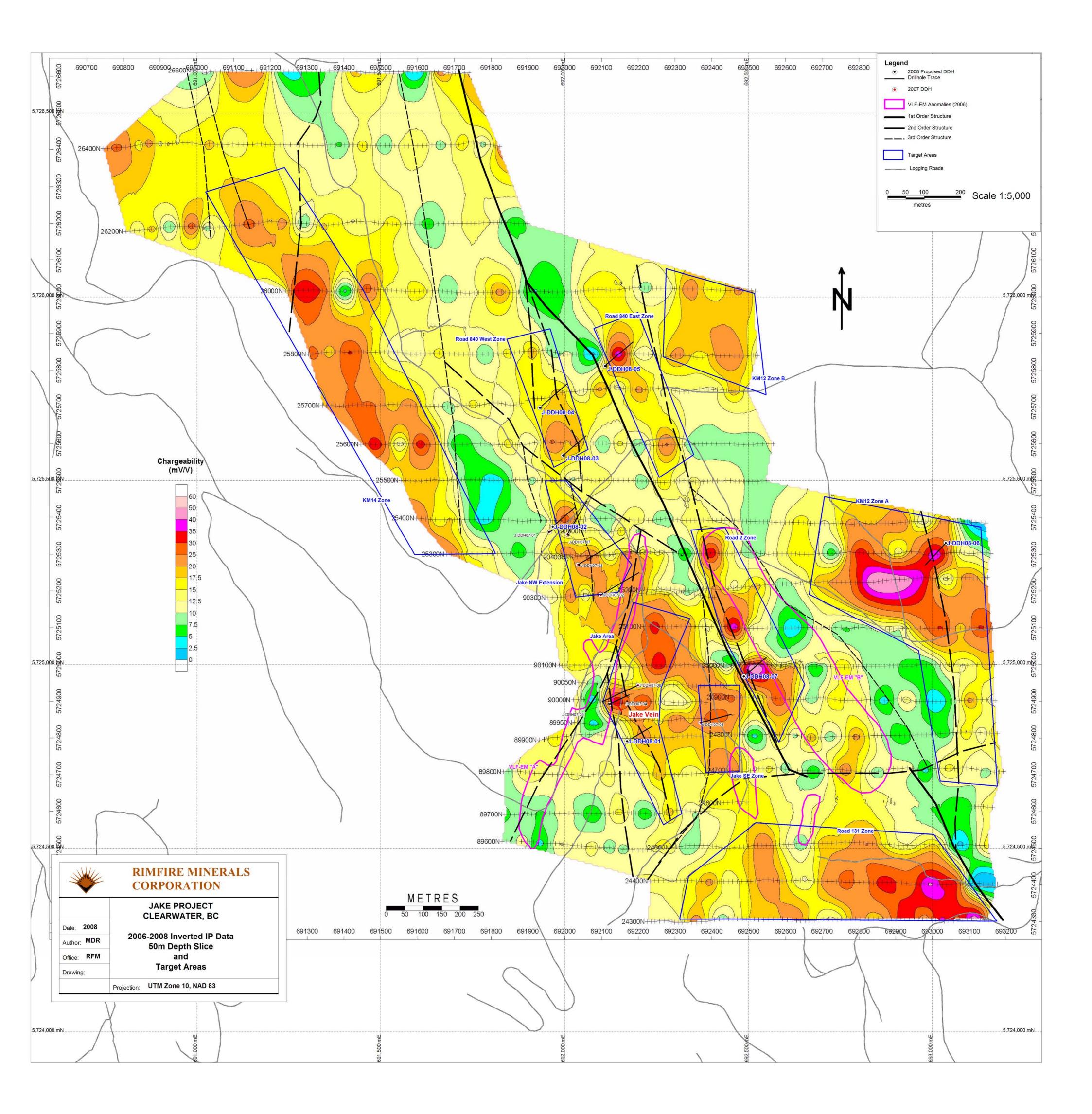
# Table 1. Target Area Ranking and Proposed Drill Holes at the Jake.

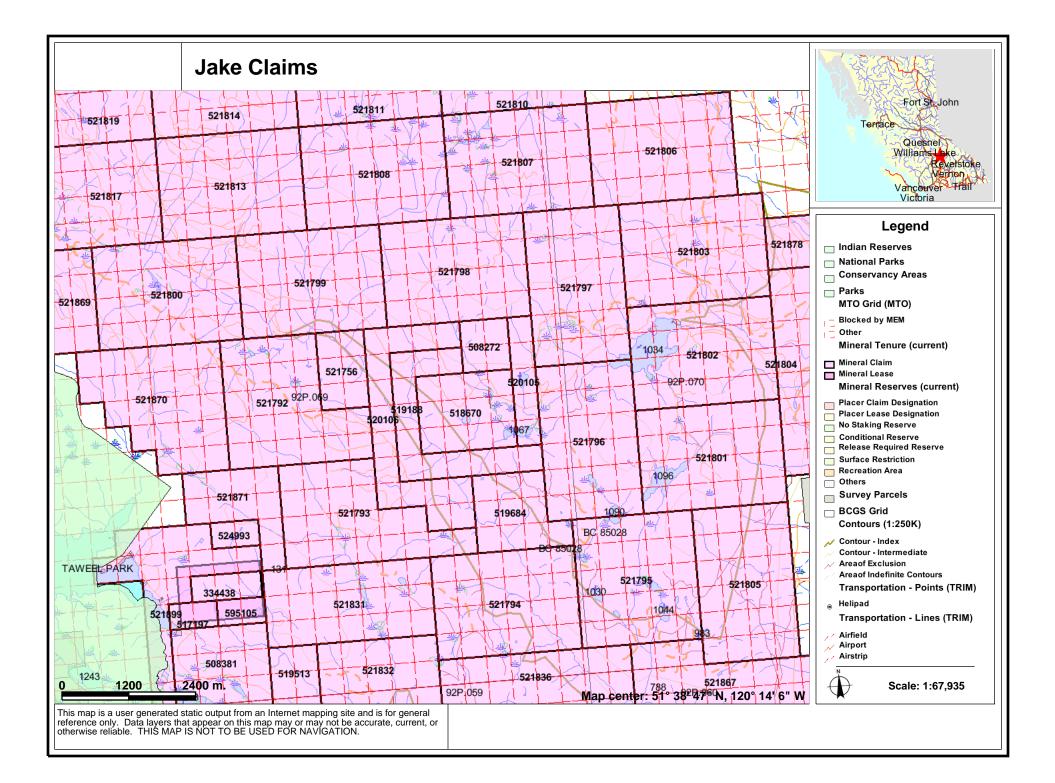
	A	В	С
1	Jake Property, Kamloor	os M. D. Statement of Co	sts 2009
2			
3	Contractors		
4	Scott Geophysics		\$18,013.75
5			\$910.11
6			\$708.75
7			\$700.70
8			
9	Eco Tech Lab		\$294.37
10			
11			
12	M. A. Kaufman		
13	Geological and		
14	supervision		
15	Date		
16		Design survey	
17		map prep	\$650.00
18	23		\$325.00
19		Lay out lines	\$650.00
20		geology on 08 lines	\$650.00
21		meet Scott personnel	\$325.00
22	20	review new survey	\$323.00
23	27		\$650.00
24	28	"	\$650.00
25	29	н	\$650.00
26	30	н	\$325.00
27			\$020.00
28			
29	T contractors/		\$24,801.98
30	supervision		φ21,001.70
31	M. A. Kaufman		
32	Expenses		
33		map copies	8.97
34	21	· · · · ·	12.23
35	21		12.20
36	Field Expenses	meals	lodging
37			i saging
38	23-Jul	\$13.50	\$90.40
39	20-501	\$13.30	φ / 0. <del>1</del> 0
40		\$8.23	
41	24	\$7.63	
42	<u></u>	\$18.25	
43		\$1.89	
44	25	\$12.41	
45	23	\$4.61	
46		\$8.70	
40		φ0.70	
48			
+0			

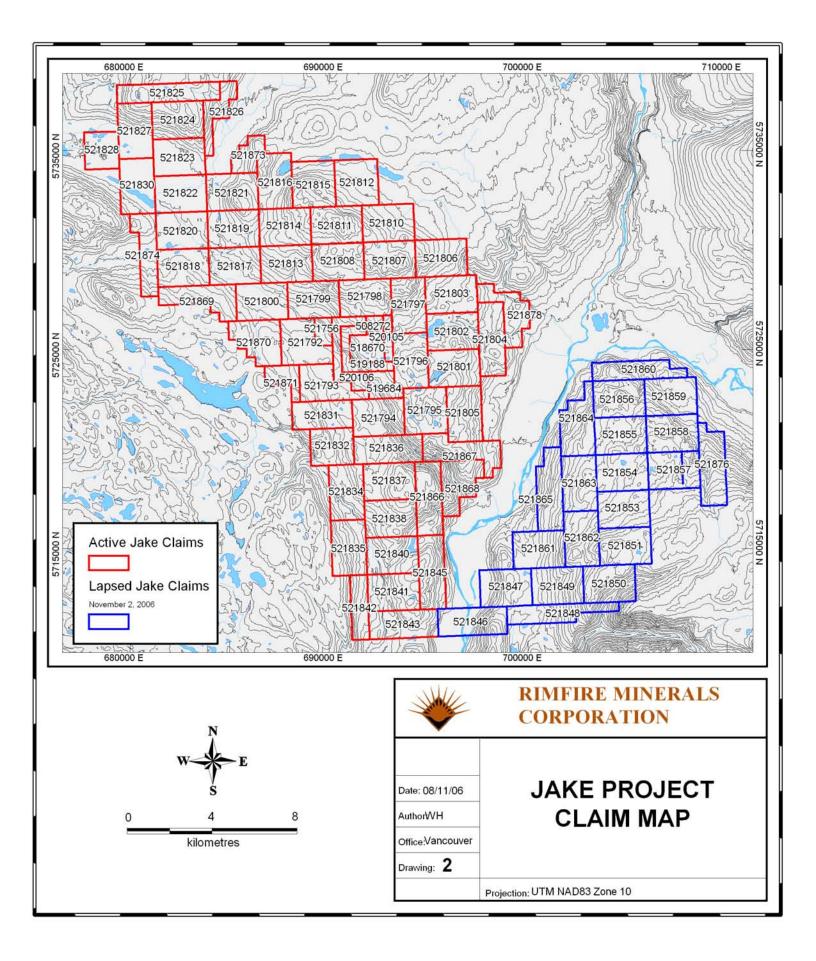
	A	В	С
49	26	\$13.50	
50		\$17.00	
51	27	\$8.11	
52		\$20.62	
53		\$17.29	
54	28	\$5.03	
55		\$6.29	
56	29	\$6.21	
57		\$23.25	
58			
59		\$12.43	
60	30	\$6.60	
61		\$18.05	
62	31	\$6.21	\$751.20
63	Sub total	\$259.81	\$841.60
64	Grand Total Field	\$1,101.41	
65			
66	Vehicle Expenses		
67	9 days x \$130	\$1,170.00	
68			
69	Grand Total All Work	\$27,094.59	
70	From PAC Acct.	\$5,457.41	
71	Grand Total	\$32,552.00	

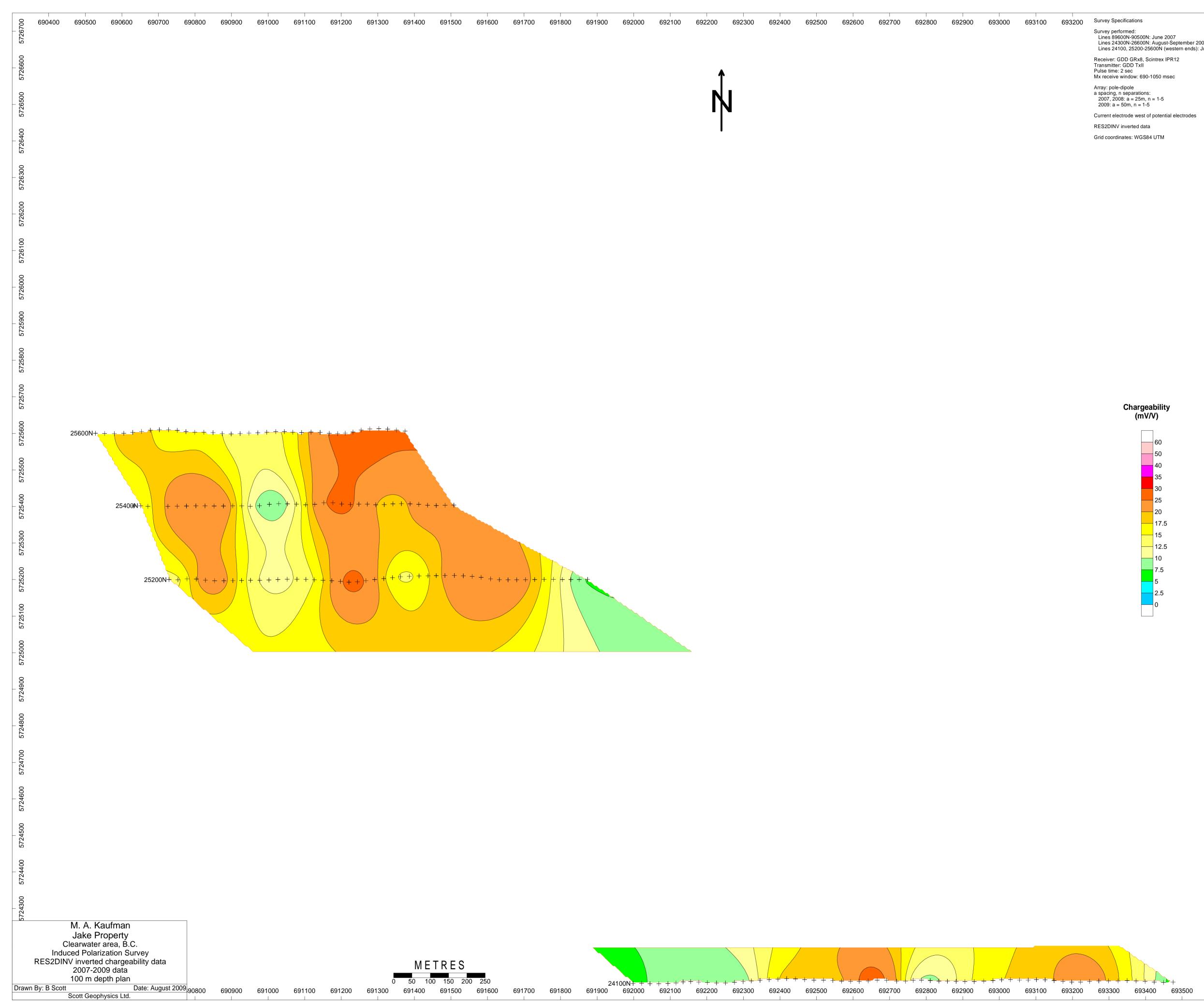












Lines 24100, 25200-25600N (western e Receiver: GDD GRx8, Scintrex IPR12 Transmitter: GDD TxII Pulse time: 2 sec Mx receive window: 690-1050 msec Array: pole-dipole a spacing, n separations: 2007, 2008: a = 25m, n = 1-5 2009: a = 50m, n = 1-5															
Line's 89600N-90500N: June 2007 Line's 24300N-26500N (western e Receiver: GDD GRx8, Scintrex IPR12 Transmitter: GDD TxII Pulse time: 2 sec Mrray: pole-dipole a spacing, n separations: 2007, 2008: a = 25m, n = 1-5 2009: a = 50m, n = 1-5 2009: a = 50m, n = 1-5 2009: a = 50m, n = 1-5	691900	692000	692100	692200	692300	692400	692500	692600	692700	692800	692900	693000	693100	693200	Survey Specifications
Transmitter: GDD Txll Pulse time: 2 sec Mx receive window: 690-1050 msec Array: pole-dipole a spacing, n separations: 2007, 2008: a = 25m, n = 1-5 2009: a = 50m, n = 1-5 Current electrode west of potential electro RES2DINV inverted data															
a spacing, n separations: 2007, 2008: a = 25m, n = 1-5 2009: a = 50m, n = 1-5 Current electrode west of potential electro RES2DINV inverted data				↑											Transmitter: GDD TxII Pulse time: 2 sec
RES2DINV inverted data				N	J										a spacing, n separations: 2007, 2008: a = 25m, n = 1-5
				• • •											Current electrode west of potential electro
Grid coordinates: WGS84 UTM															RES2DINV inverted data
															Grid coordinates: WGS84 UTM

## Chargeability (mV/V)



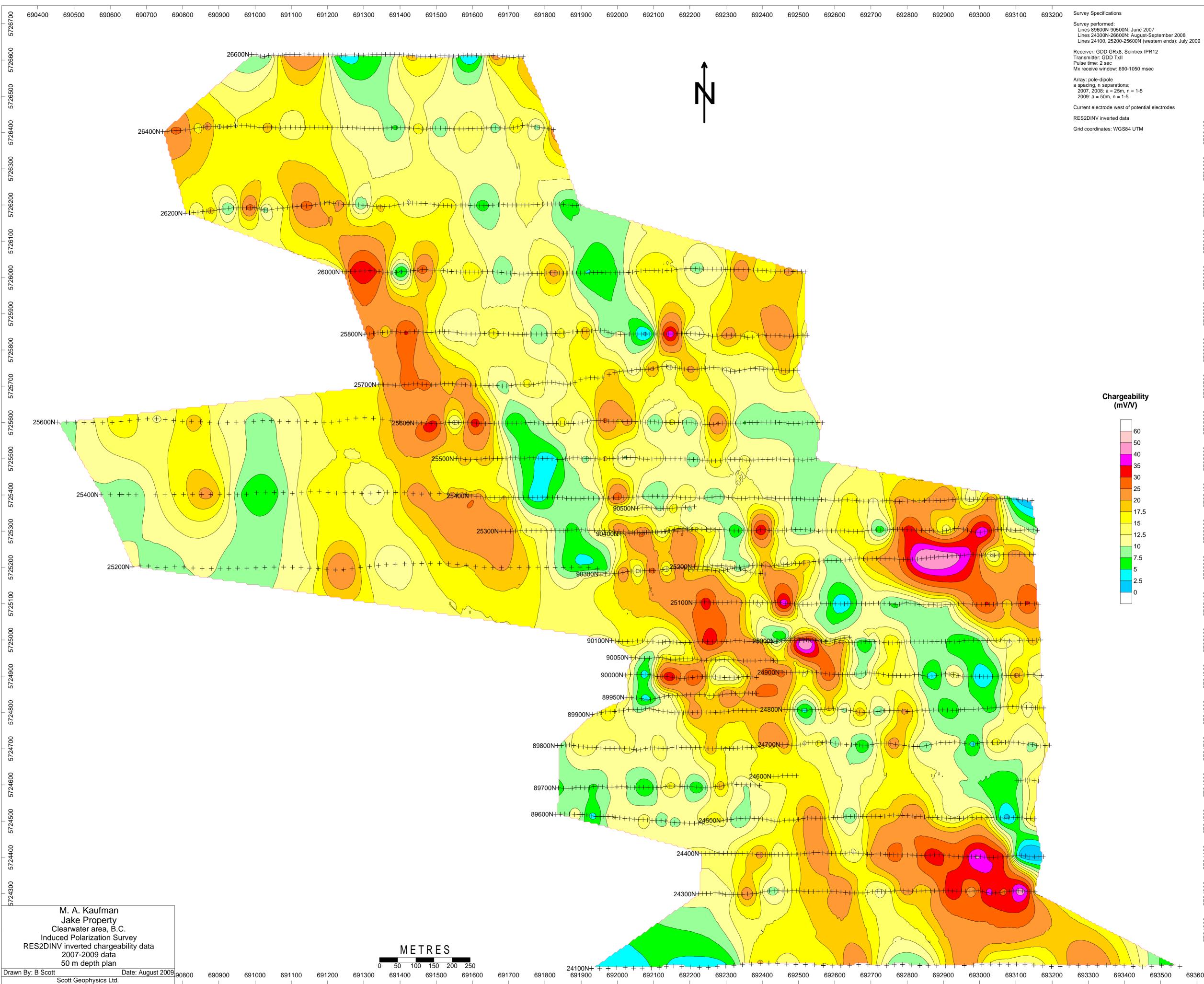
# June 2007 August-September 2008 600N (western ends): July 2009

otential electrodes

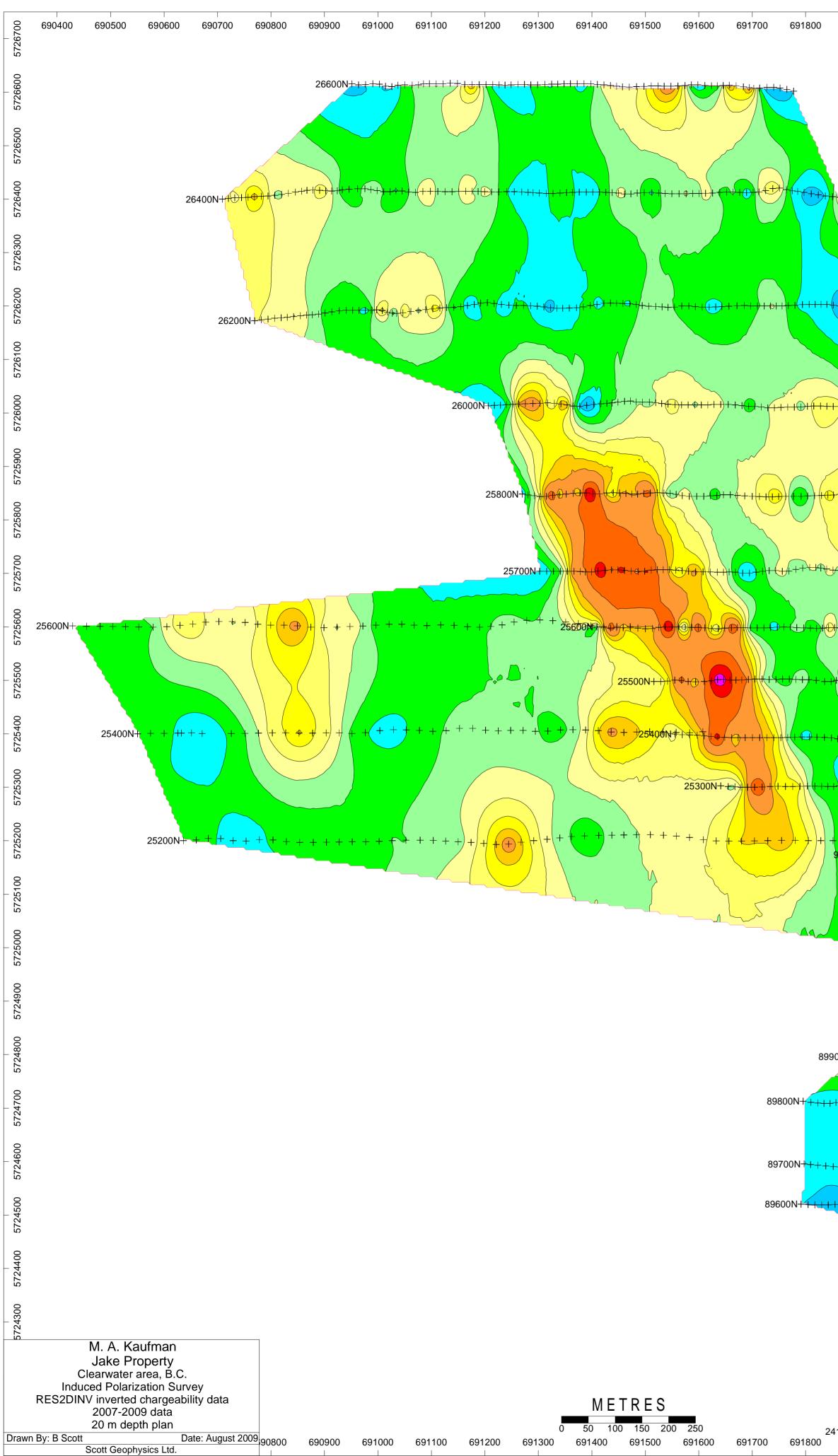
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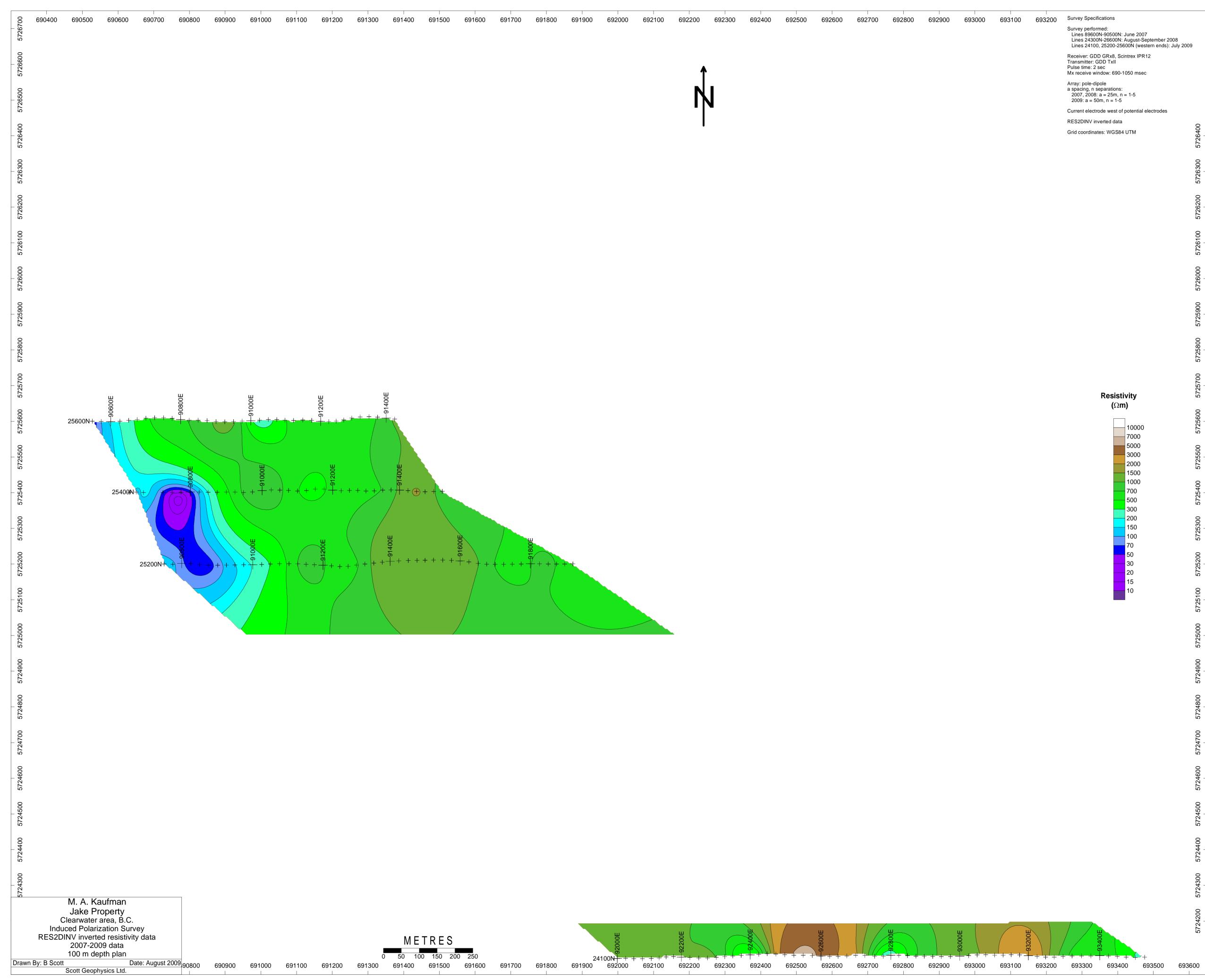
12.5



691900	692000	692100	692200	692300	692400	692500	692600	692700	692800	692900	693000	693100	693200	Survey Specifications Survey performed: Lines 89600N-90500N: June 2007 Lines 24300N-26600N: August-Septem Lines 24100, 25200-25600N (western e Receiver: GDD GRx8, Scintrex IPR12 Transmitter: GDD TxII Pulse time: 2 sec Mx receive window: 690-1050 msec Array: pole-dipole a spacing, n separations: 2007, 2008: a = 25m, n = 1-5 2009: a = 50m, n = 1-5 Current electrode west of potential electrod RES2DINV inverted data Grid coordinates: WGS84 UTM
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900 899 9900N++1++1++1														
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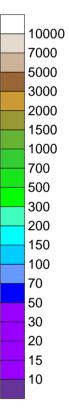
# June 2007 August-September 2008 600N (western ends): July 2009

otential electrodes



691900	692000	692100	692200	692300	692400	692500	692600	692700	692800	692900	693000	693100	693200	Survey Specifications
														Survey performed: Lines 89600N-90500N: June Lines 24300N-26600N: Augu Lines 24100, 25200-25600N
			↑	•										Receiver: GDD GRx8, Scintrex Transmitter: GDD TxII Pulse time: 2 sec Mx receive window: 690-1050 r
			N	J										Array: pole-dipole a spacing, n separations: 2007, 2008: a = 25m, n = 1-5 2009: a = 50m, n = 1-5
			-	-										Current electrode west of poter
														RES2DINV inverted data
														Grid coordinates: WGS84 UTM

## Resistivity **(**Ω**m)**



## lune 2007 August-September 2008 00N (western ends): July 2009 trex IPR12

)50 msec

1-5

otential electrodes

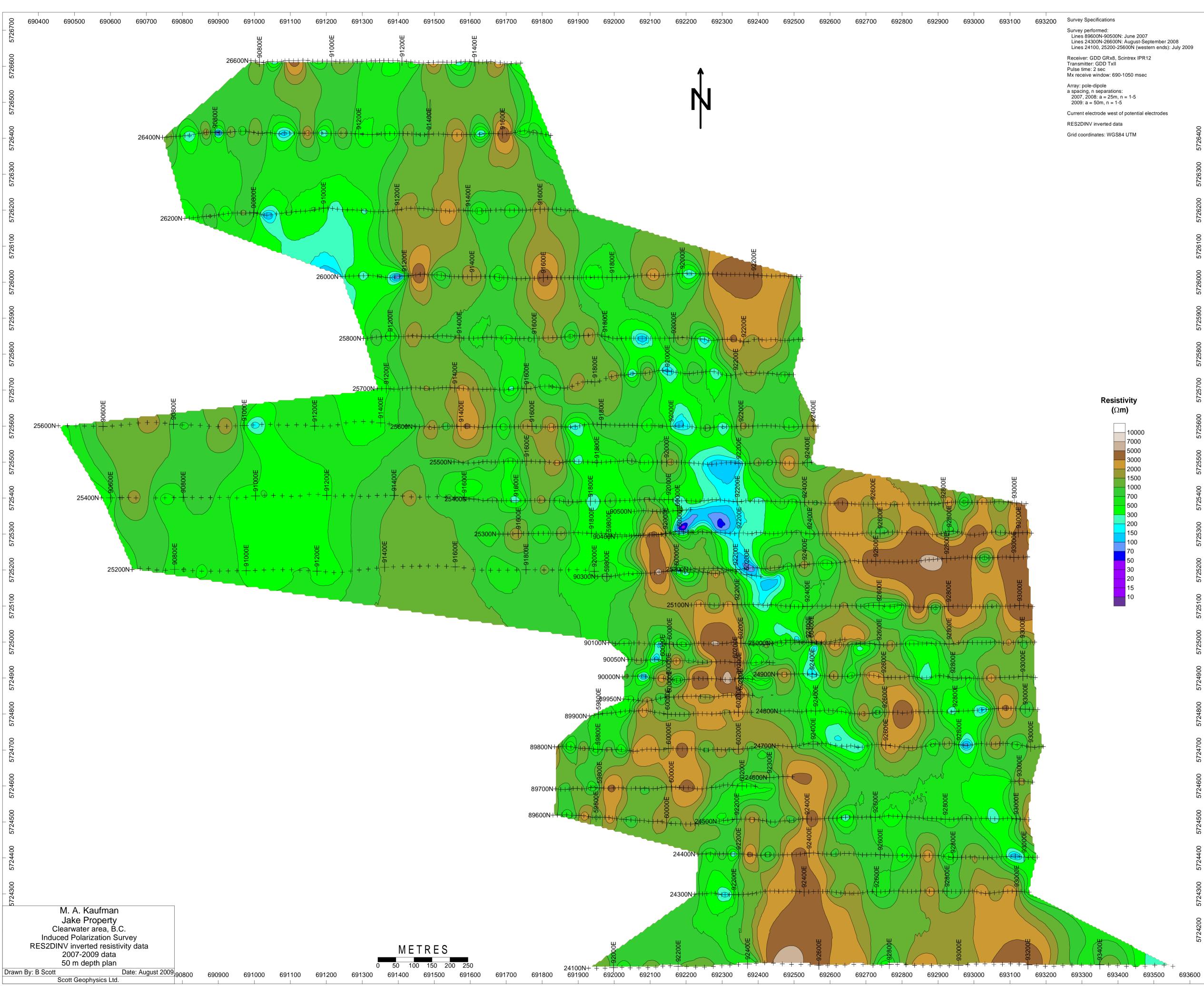
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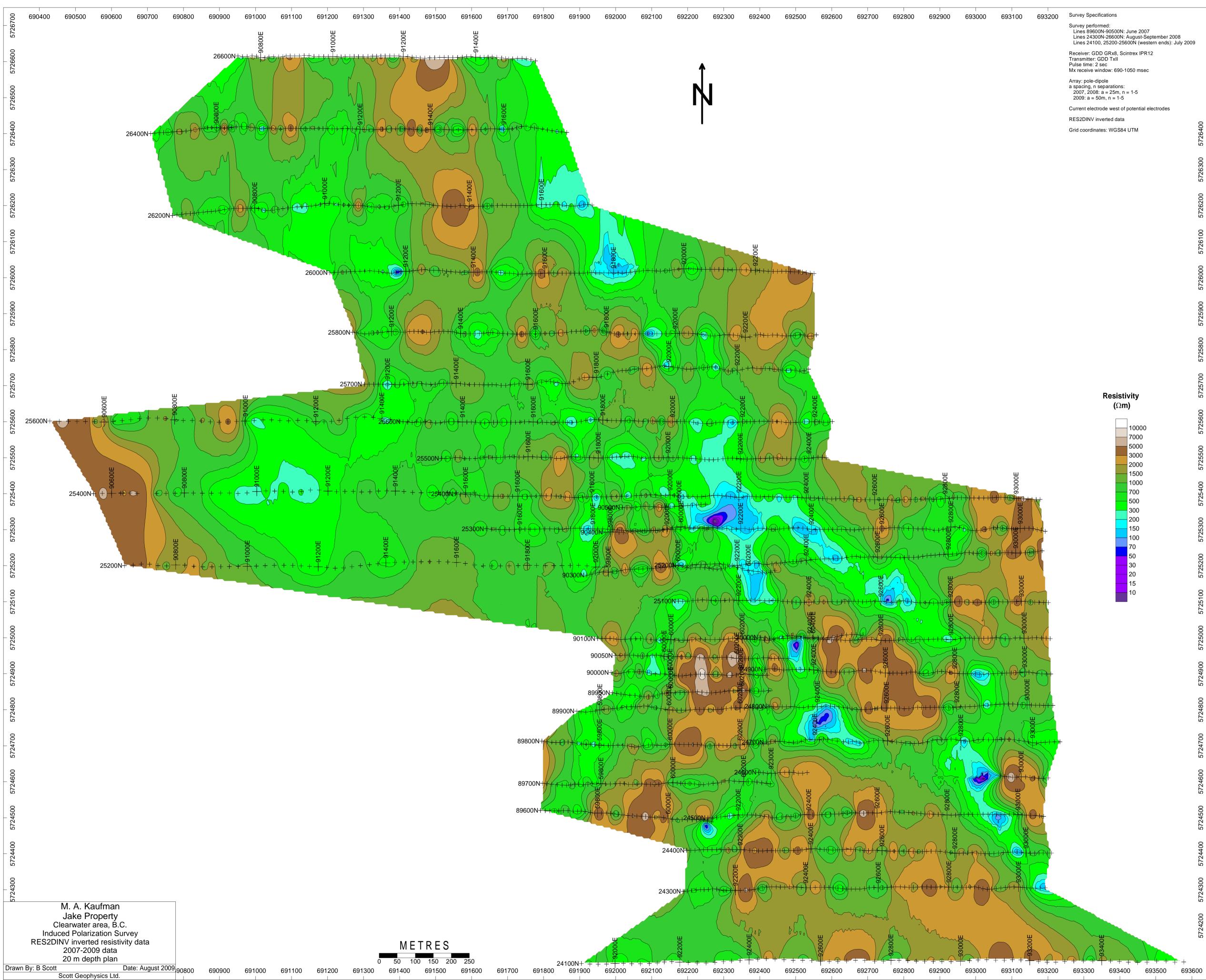
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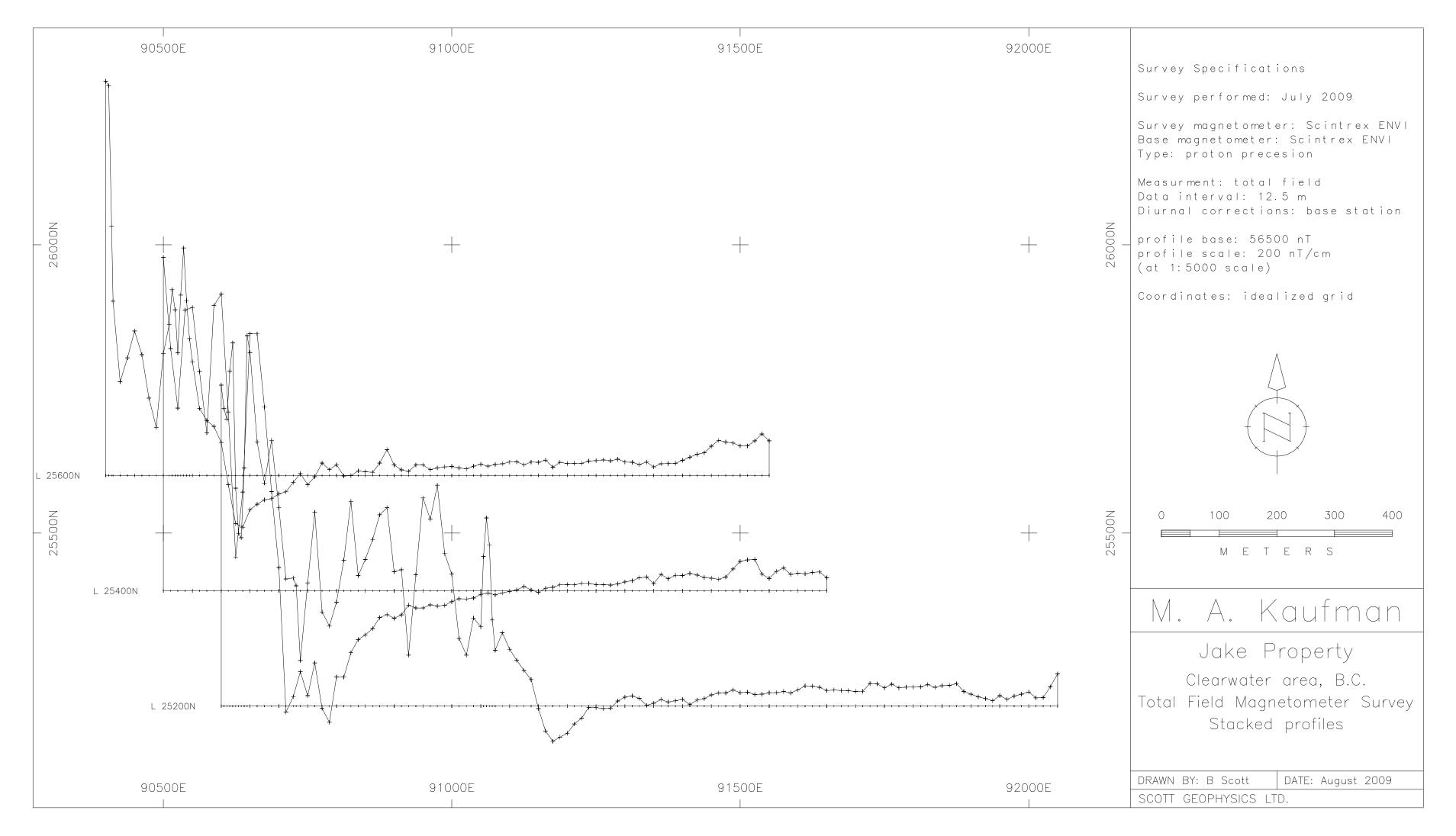
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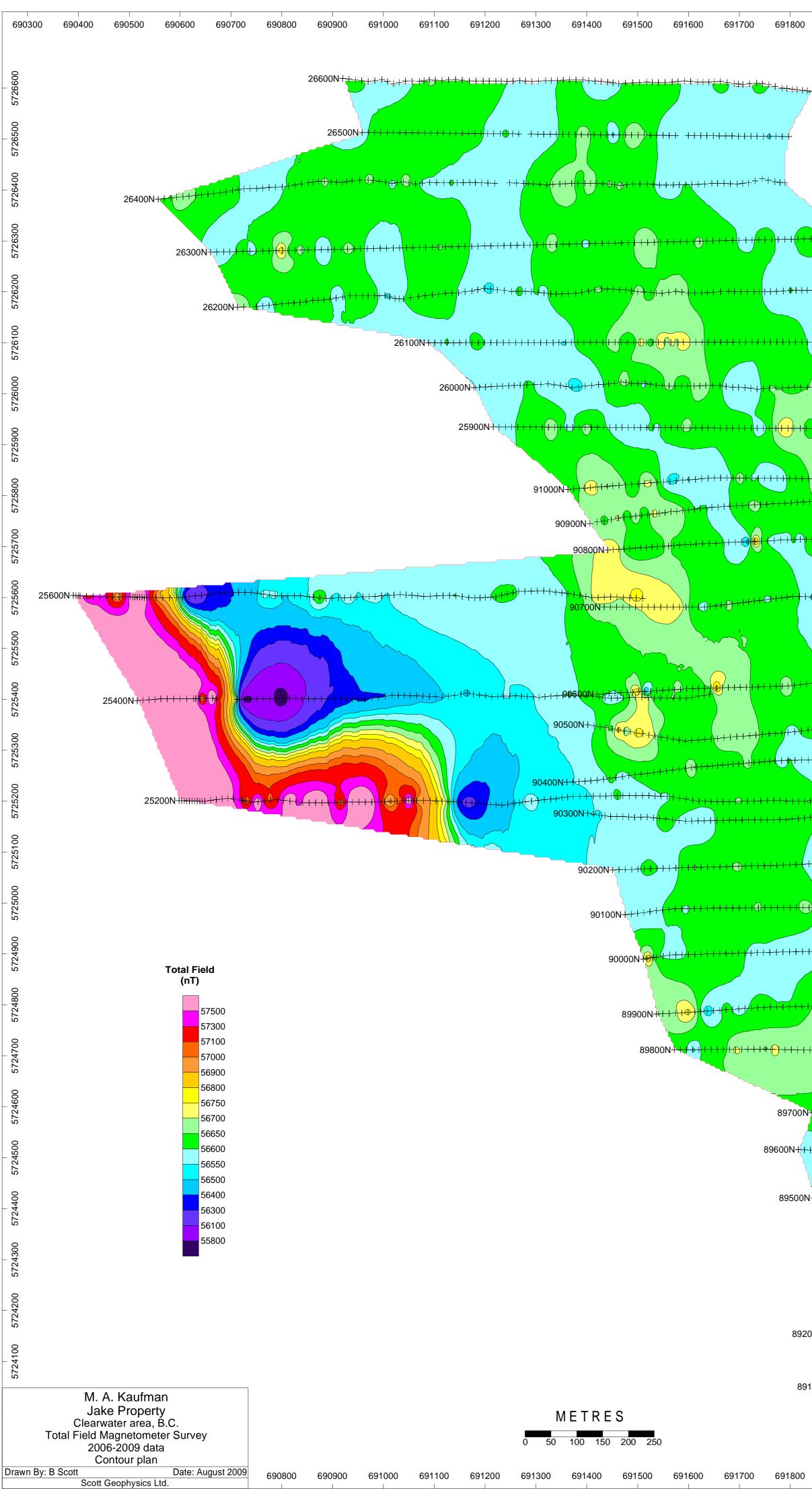
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JTM





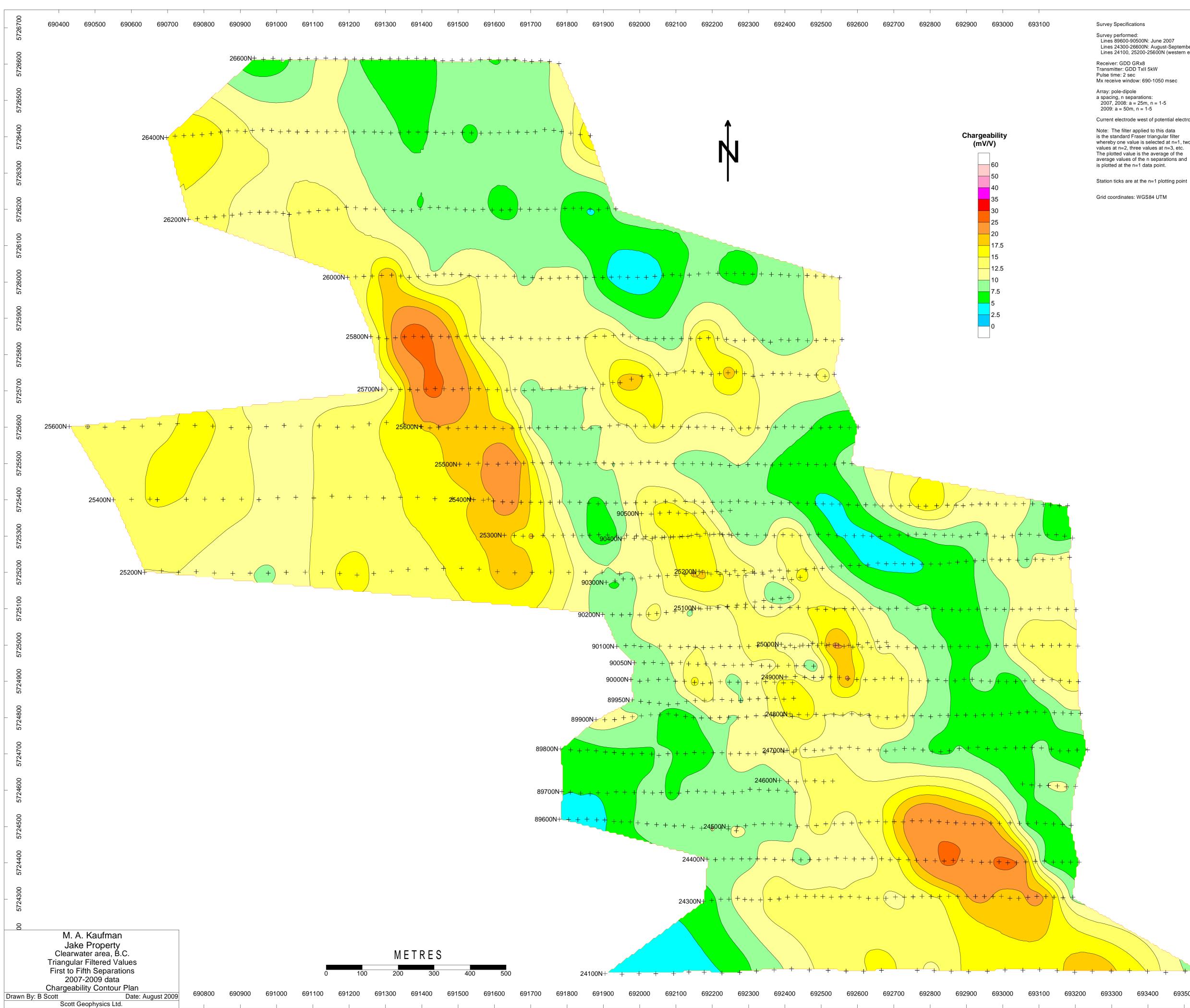




691800	691900 +	692000	692100	692200	692300	692400	692500	692600	692700	692800	Survey Specifications Survey performed: Lines 89000N-91000N, 600 Lines 25900N-26600N: Aug Lines 25200N-25600N: July Survey magnetometer: Scintres Type: proton precesion	just-September 2008 /, 2009 ex ENVI	006
+++					N	1.					Measurment: total field Data interval: 12.5 m Diurnal corrections: base stat Grid coordinates: WGS84 UT		5726500 
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<u>-</u> ++ <b>♦</b> +++-		┝┿┿┿											5726200 
++++++		+++++++++++++++++++++++++++++++++++++++											5726100 
					++++++++	-+ + + <del>+ + + +</del> +	<del>╡╪╞╪╪</del> ╋						5726000 
					<del>┞┼┼╿╿┝┝╎</del>	┽┼┼┼╀┿┿┿┥	+++++++0	<del>1</del> ]↓ ++++++++		+++++++++++++++++++++++++++++++++++++++	<del>╵┼╎<mark>┼</mark>╎┼┼┼┿<mark>┝╋╔┼╎┼┽┼┥</mark></del>	<del></del>	5725900 
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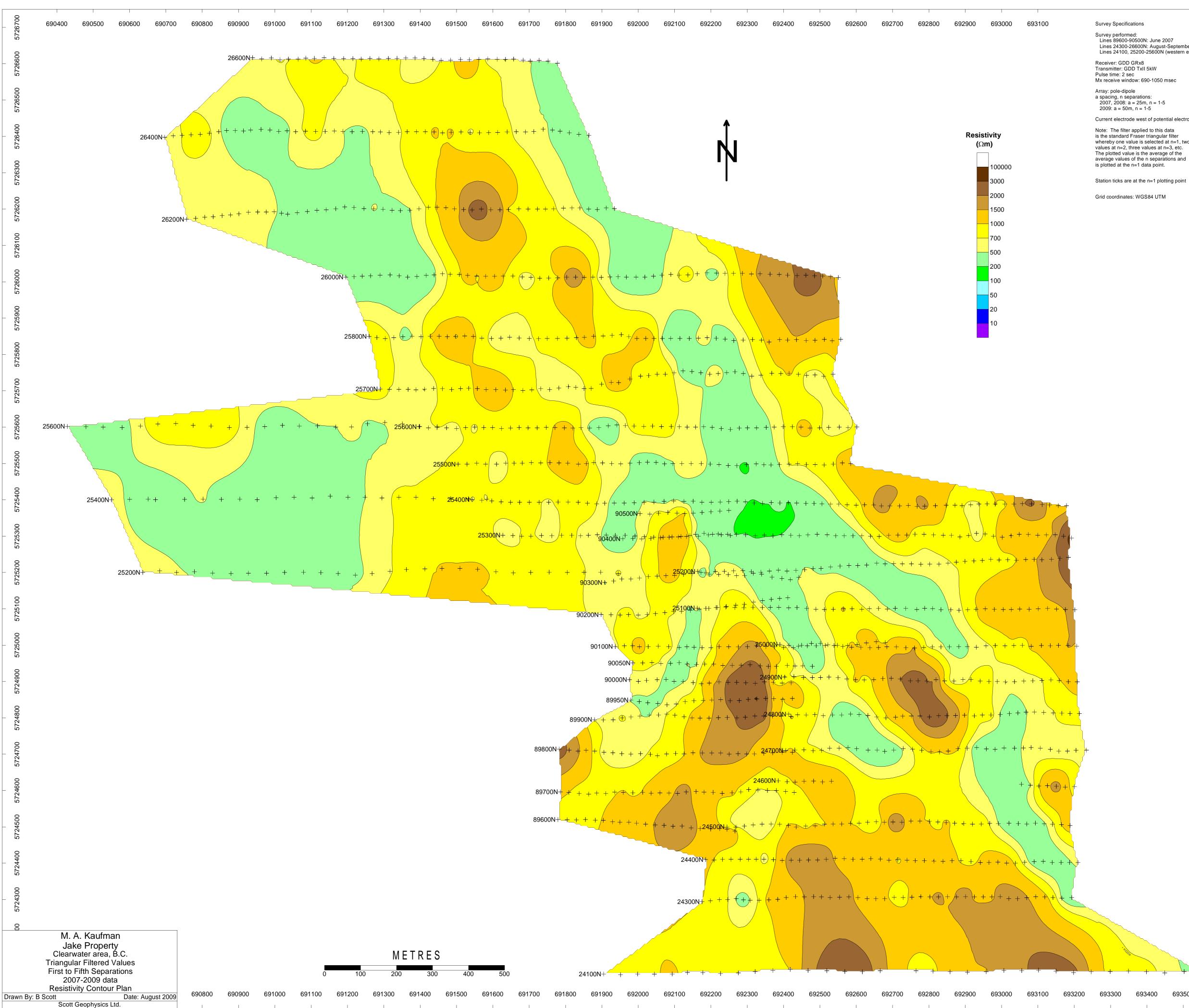
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Survey Specifications



Lines 24300-26600N: August-September 2008 Lines 24100, 25200-25600N (western ends): July 2009

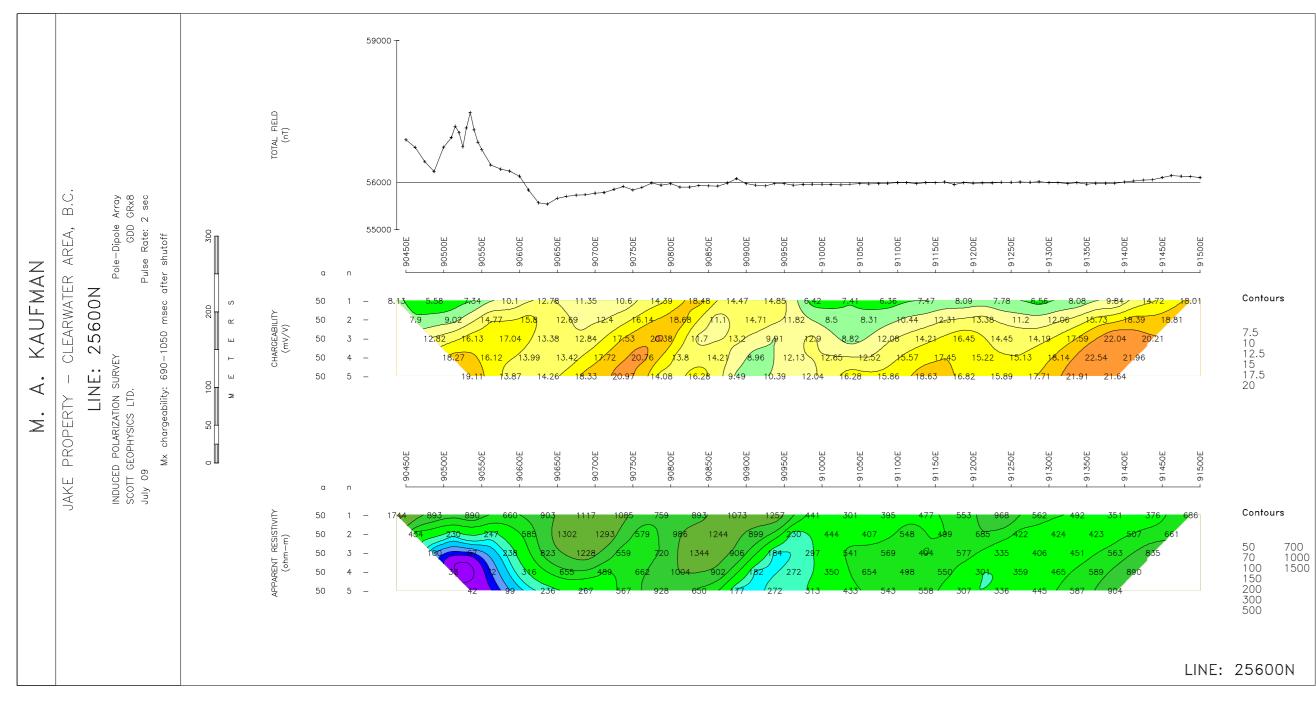
Current electrode west of potential electrodes whereby one value is selected at n=1, two values at n=2, three values at n=3, etc. The plotted value is the average of the

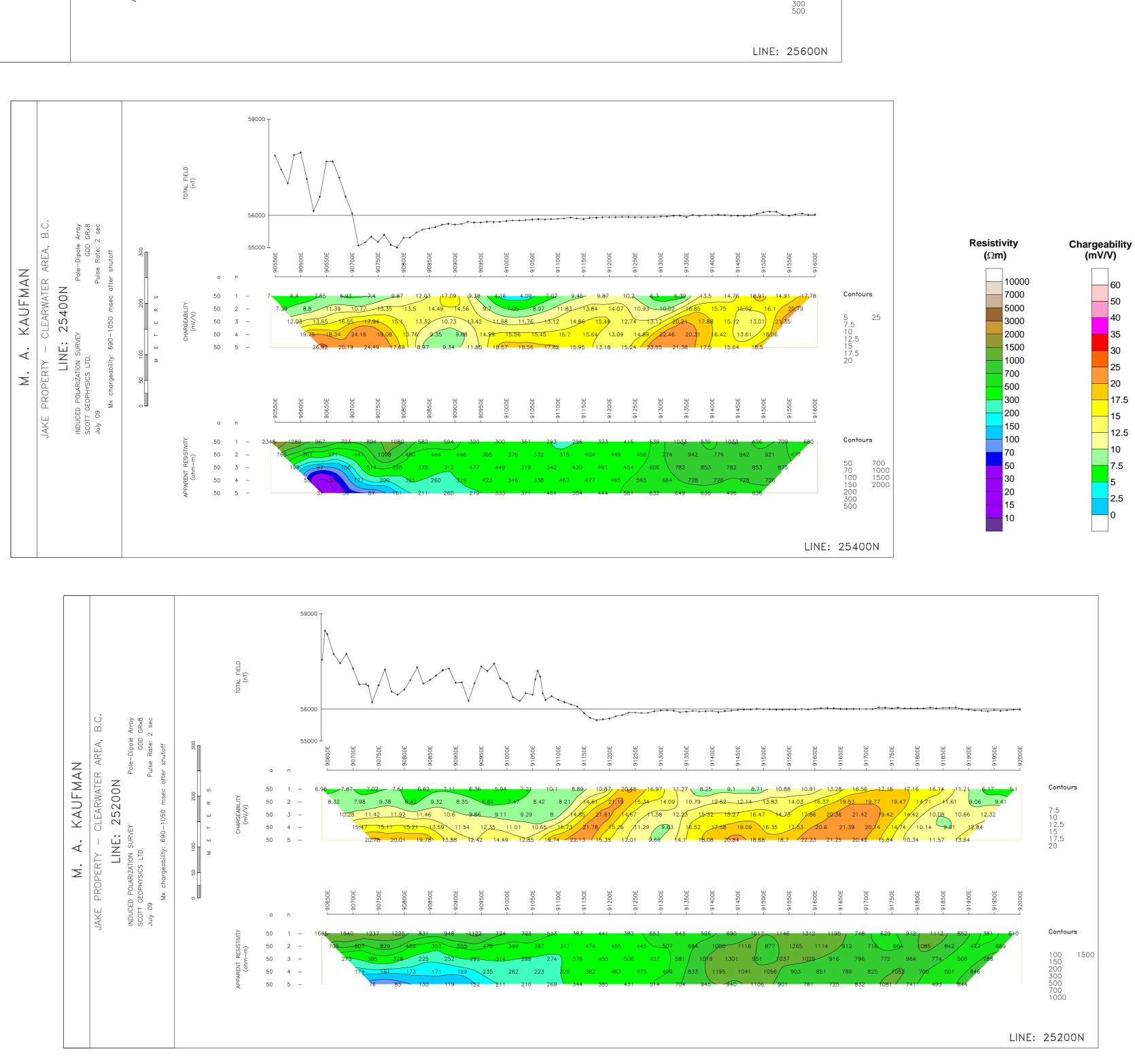


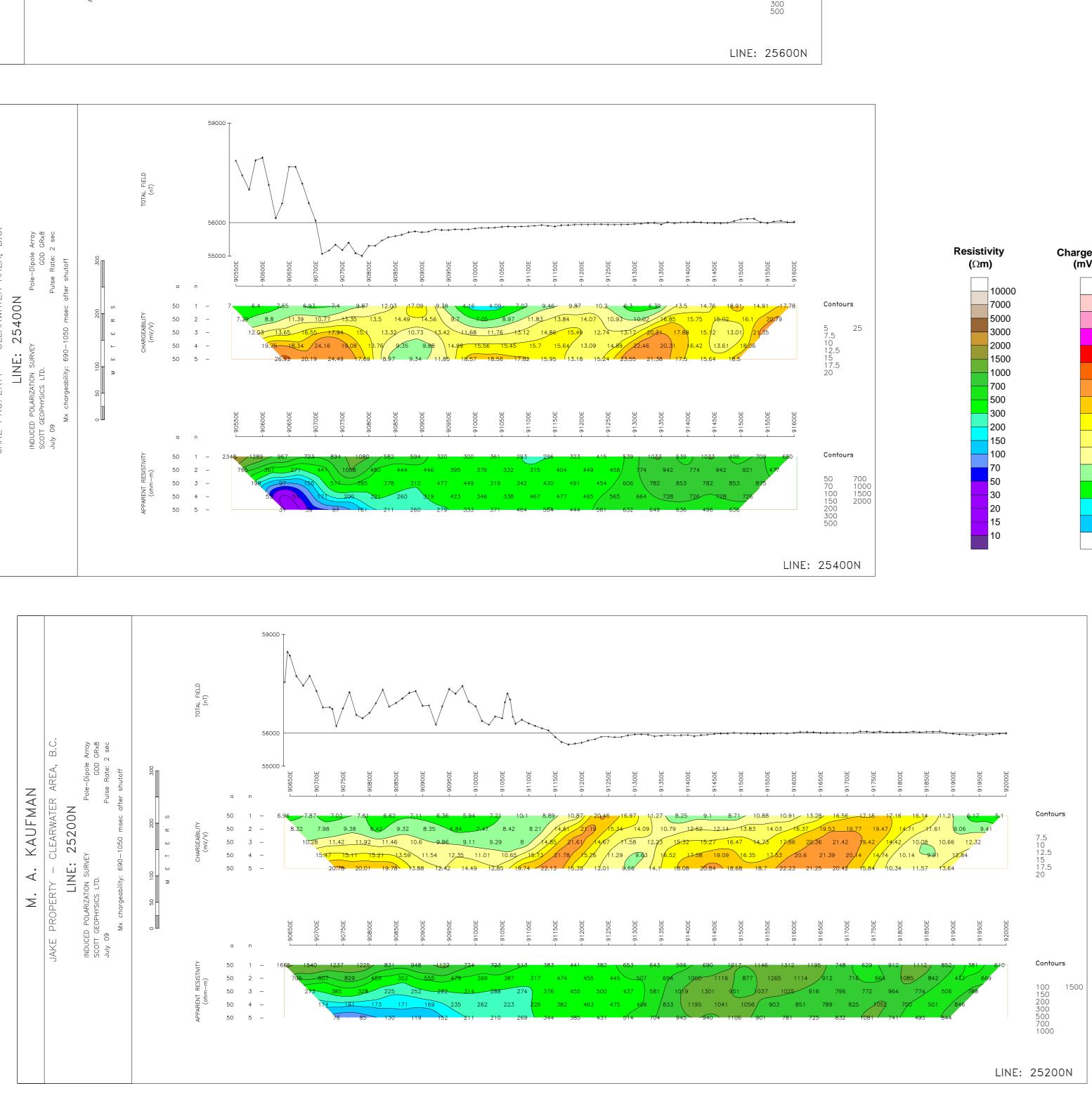
Lines 24300-26600N: August-September 2008 Lines 24100, 25200-25600N (western ends): July 2009

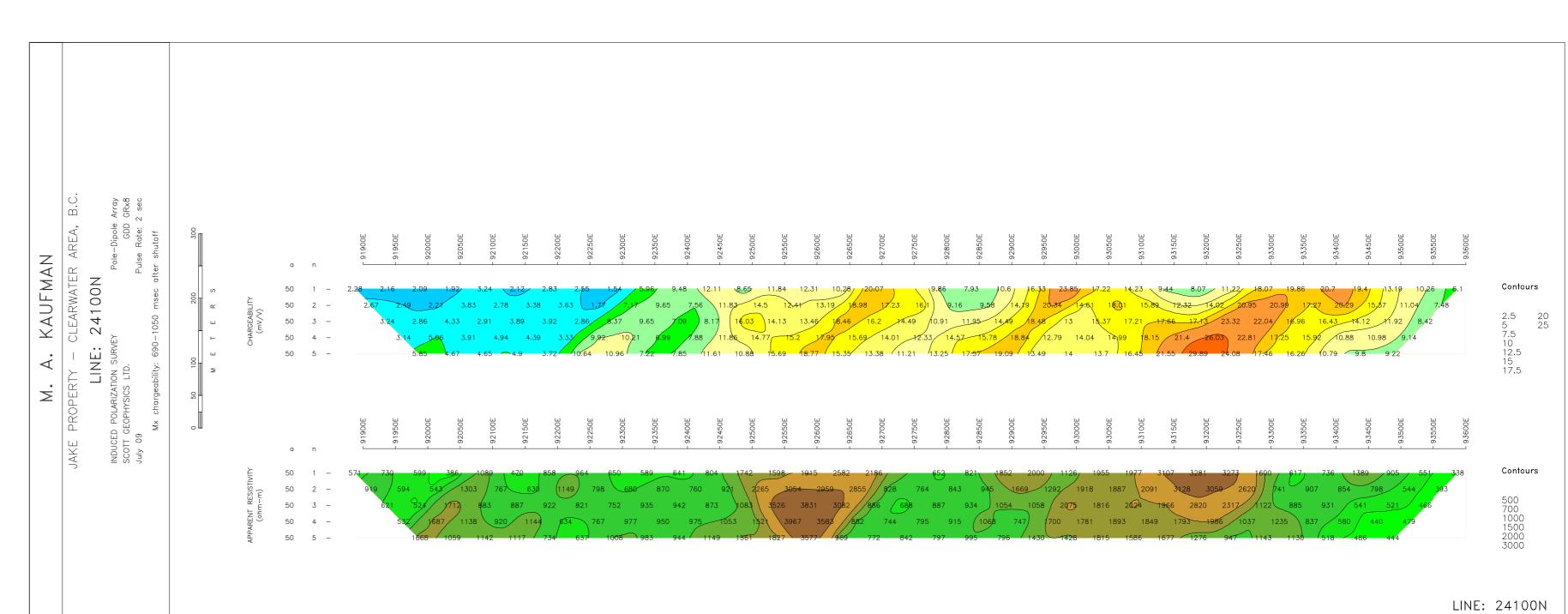
Current electrode west of potential electrodes whereby one value is selected at n=1, two values at n=2, three values at n=3, etc. The plotted value is the average of the

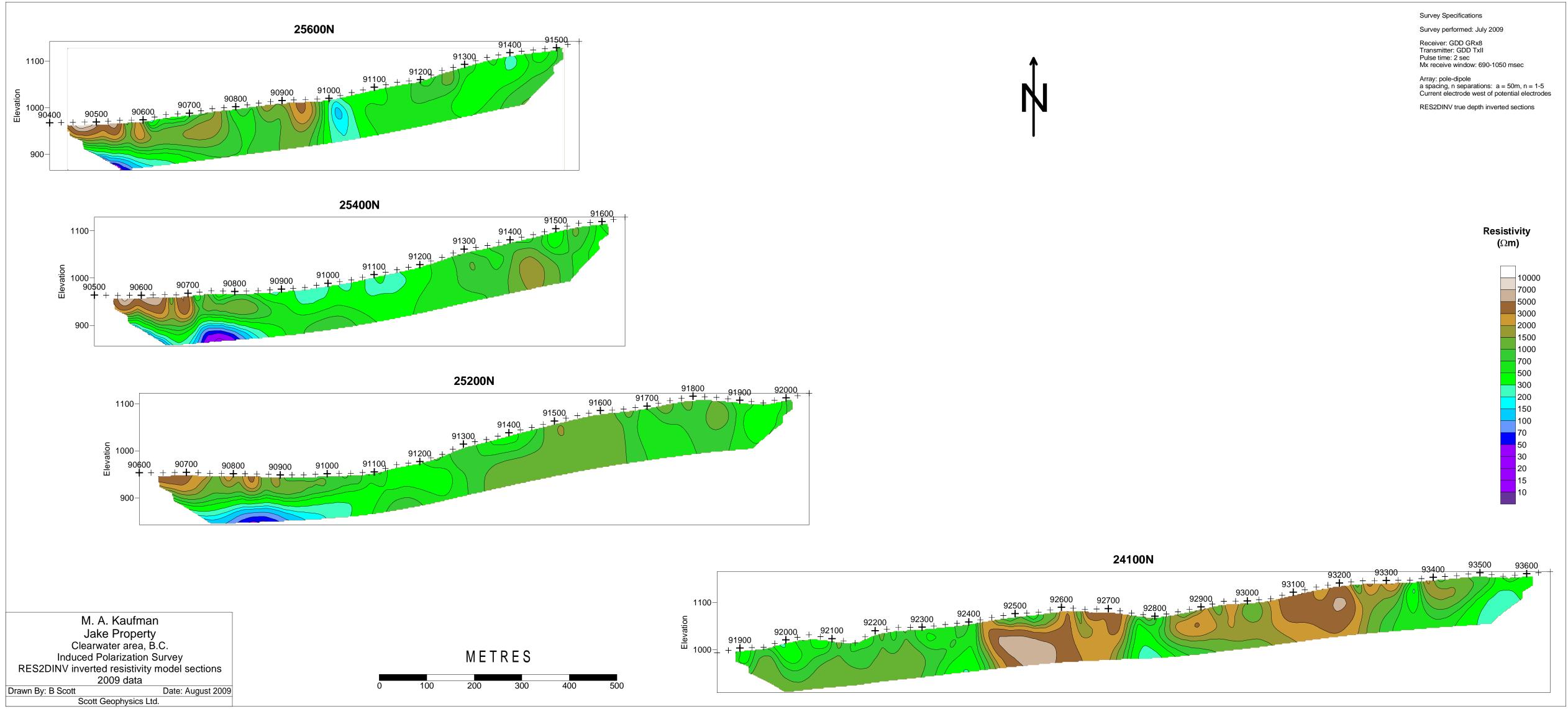
Station ticks are at the n=1 plotting point



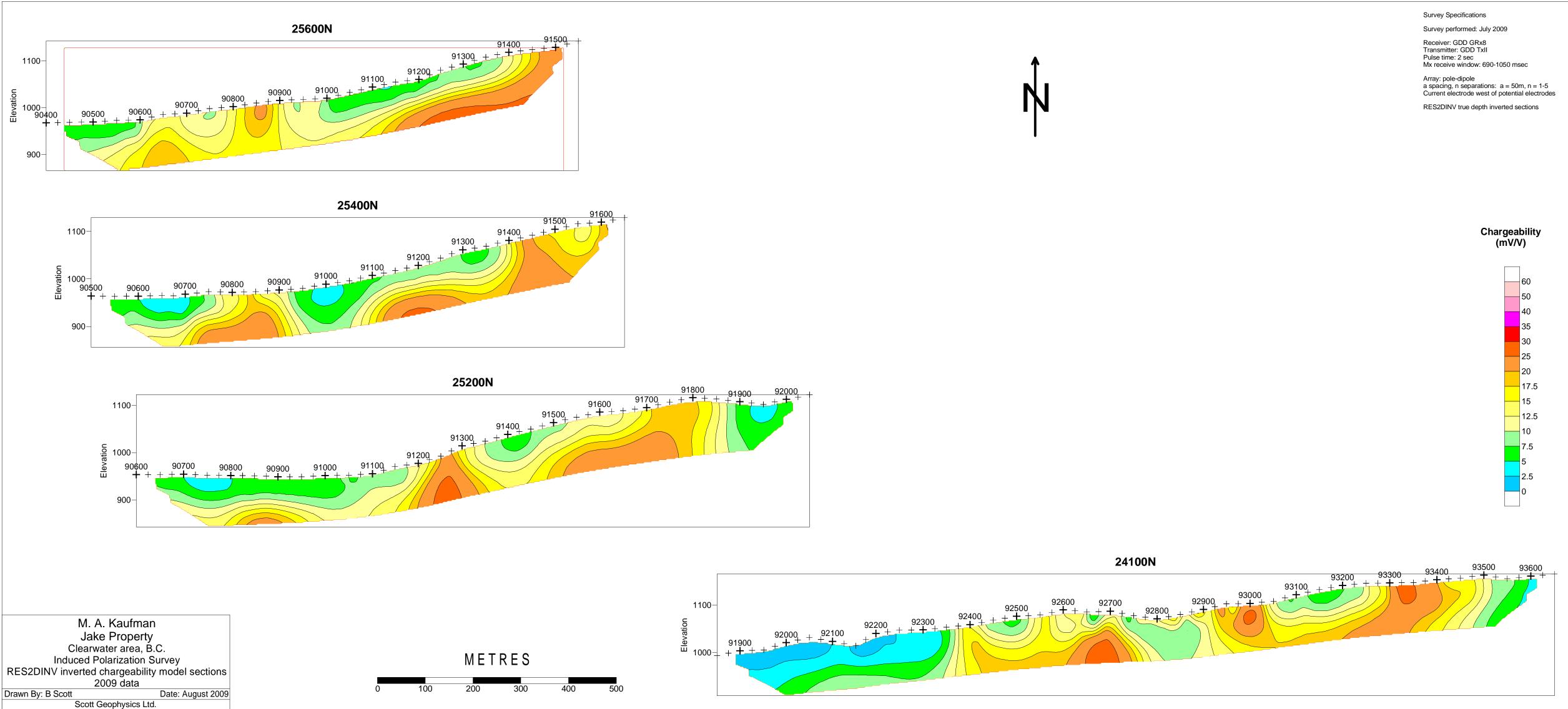














## SCOTT GEOPHYSICS LTD. 4013 West 14<sup>th</sup> Avenue Vancouver, B.C. V6R 2X3, CANADA

August 5, 2009

Tel 604 228 0237 Fax 604 228 0254

M.A. KAUFMAN PO Box 14336 Spokane Valley, WA 99214, USA

## Invoice: IP and Magnetometer Surveys, Jake Property, B.C. (0923I01)

The following charges are due for work on the above project, per our agreement of June 8, 2009.

Fixed fee (section 9.1) Crew Chief (Brad Scott), Technician (Jan H	\$600.00	
July 26: travel, set up at motel	1 travel day @ \$940	940.00
July 27-31: IP survey	5 survey days @ \$1440	7,200.00
Expenses (9.4)		,
Per attached summary:	(\$3329.36 – 151.22 GST) x 1.1	3,495.95
4x4 Crew Cab: July 26-31	6 days @ \$130	780.00
Assistants (9.5)		
Esteban Zaragoza: July 26-31	6 days @ \$230	1,380.00
Ben Kary: July 26-31	6 days @ \$230	1,380.00
Scott Fauteux: July 26-31	6 days @ \$230	1,380.00
Total charges: Plus GST @ 5% (GST No. 10475 4106) Total with GST Less advance payment TOTAL THIS INVOICE:		\$17,155.95 <u>857.80</u> \$18,013.75 <u>4,000.00</u> \$14,013.75

Yours Sincerely,

Alan Scott

Encl. - progress report, expense summary

SCOTT GEOPHYSICS LTD. 4013 West 14<sup>th</sup> Avenue Vancouver, B.C. V6R 2X3, CANADA

August 15, 2009

Tel 604 228 0237 Fax 604 228 0254

M.A. KAUFMAN PO Box 14336 Spokane Valley, WA 99214, USA

## Invoice: IP and Magnetometer Surveys, Jake Property, B.C. (0923I02)

The following charges are due for the magnetometer survey on the above project, per our agreement of June 8, 2009 and the progress report that accompanied invoice 0923I01 of August 5.

Magnetometer survey (9.7)	3.75 km @ \$180	\$675.00
Total charges: Plus GST @ 5% (GST No. 10475 4106) TOTAL THIS INVOICE:		\$675.00 <u>33.75</u> \$708.75

Yours Sincerely,

Alan Scott

NOTE: The original of this invoice will follow by mail.

### SCOTT GEOPHYSICS LTD. 4013 West 14<sup>th</sup> Avenue Vancouver, B.C. V6R 2X3, CANADA

August 31, 2009

Tel 604 228 0237 Fax 604 228 0254

M.A. KAUFMAN PO Box 14336 Spokane Valley, WA 99214, USA

## Invoice: IP and Magnetometer Surveys, Jake Property, B.C. (0923I03)

The following charges are due for additional presentation per our agreement of June 8, 2009 and the cost estimate provided by Brad

Additional presentation (9.6)		
Inversion of IP/res data		\$400.00
Plotter charges for one colour copy of	all maps:	
Pseudosections, filtered Mx/resisti	vity, magnetometer contour plans	
	32 sq ft @ \$5	160.00
Inverted Mx/resistivity sections, 13	5m, 30m, 50m depth plans	
	54 sq ft @ \$5	270.00
Express Post	(\$36.77 – 0.00 GST)	36.77
Total charges:		\$866.77
Plus GST @ 5% (GST No. 10475 410	6)	43.34
TOTAL THIS INVOICE:		\$910.11

Yours Sincerely,

Alan Scott

NOTE: The original of this invoice will follow by mail.