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**GEOLOGICAL AND AIRBORNE GEOPHYSICAL  
ASSESSMENT REPORT**

**KETCHUM LAKE COPPER GOLD PROJECT**

**SHESLAY RIVER AREA**

**NORTHWESTERN BRITISH COLUMBIA**

Approximate geographic centre of subject property:  
Latitude 56 degrees 52' and Longitude 130 degrees 05'.

**Prepared for**

**PANORAMA RESOURCES LTD.**

**Author: Carl von Einsiedel, P.Geol.**

**Date filed: August 24, 2007-08-23**

**Event No: SOW No.4121970**

**GEOLOGICAL SURVEY BRANCH**  
GEOLOGICAL AND AIRBORNE GEOPHYSICAL ASSESSMENT REPORT

2007

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dated January 11, 2007

## **SUMMARY**

At the request of Panorama Resources Ltd. ("Panorama") the author has prepared a Technical Report ("the Report") specific to the standards dictated by National Instrument 43-101 and Form 43-101F (Standards of disclosure for Mineral projects) with respect to the Ketchum Lake Property. The Ketchum Lake Property is an early stage alkalic porphyry copper-gold prospect located in north western British Columbia approximately 65 kilometres northwest of Telegraph Creek and approximately 140 kilometres north of Novagold Resources Galore Creek Project. This area of north western British Columbia hosts numerous advanced stage alkalic porphyry copper-gold projects and is referred to as the Stikine Arch.

The Ketchum Lake Property consists of 14 separate mineral titles totalling 4,868.19 hectares that form an irregular shaped, north to northeast oriented block roughly five kilometres wide and 9 kilometres long. Between July 15 and September 15, 2006 Panorama Resources Ltd. acquired a 100% interest in the property by direct purchase and map staking using the BC MTO online system. The total cost of the property was \$12,957.

The physiography of the property is moderate, outcrop is limited and elevations range from 1,090 meters a.s.l. to 1,130 meters a.s.l. There is no road access to the claims at present however, there is an airstrip located at the Sheslay River ten kilometres to the south of the property and the road to the former Golden Bear Mine passes roughly twenty kilometres to the south of the property. If warranted it would be feasible to construct an access road to the property however the best way to access the claims at present is by helicopter from Dease Lake located about 100 kilometres to the east.

The only recorded exploration work on the Ketchum Lake Property was carried out by the Texas Gulf Sulfur Company ("Texas Gulf") who discovered porphyry copper-gold mineralization as part of a regional reconnaissance program in 1971 and carried out limited trenching, geochemical and orientation geophysical surveys. Results of this work identified extensive "copper in soil" geochemical anomalies and a significant zone of copper-gold mineralization referred to as the Mineral Hill Prospect. The Mineral Hill prospect consists of a north trending zone measuring approximately 93 meters in width and 243 meters in length. The zone was defined by a series of twelve, 3.0 to 15.0 meter long, hand excavated trenches. According to Texas Gulf all composite trench samples collected within this zone returned copper values ranging from 0.18 to 1.83% copper along with elevated gold and silver values. According to Texas Gulf some sample intervals returned values of up to 1.6 meters averaging 3.1% copper. The geochemical surveys completed by Texas Gulf defined a copper in soil anomaly up to four hundred meters in width that extends intermittently for approximately three kilometres along strike. The mineralized zone referred to as the Mineral Hill Prospect is located at the northern end of the anomaly and the copper in soil anomaly appears to be open both to the north and to the southeast.

The technical reports published by Texas Gulf in 1973 indicate that mineralization is hosted by Late Triassic to early Jurassic aged syenites and monzonites which intrude Triassic aged andesites belonging to the Stuhini Group. This is the same geological setting that hosts most of the porphyry prospects in the Stikine Arch and based on increasing industry interest in porphyry copper-gold prospects in this area of north western BC Panorama acquired The Ketchum Lake Property.

Regional geological maps published by the BC Ministry of Mines show that the Property is underlain mainly by rocks of the Stikine Terrane (Stikinia). This region is underlain predominantly by Late Paleozoic and Mesozoic volcanic and is characterized by metal deposits related to island-arc volcanic centers. Mineral deposits commonly found in island arc settings include porphyry, intrusion-related (*i.e.* mesothermal) vein, metasomatic skarn, epithermal vein and volcanogenic massive sulphide deposits of the Kuroko type. No past production is recorded for the map area although large copper, gold and silver reserves have recently been defined at Galore Creek (proven and probable reserves effective October 5, 2006 as per Novagold News Release: 540.7 million tons containing 6.6 billion pounds of copper, 5.3 million ounces of gold and 92.6 million ounces of silver. According to Bulletin 92 published by BCEMPR alkalic porphyry copper-gold mineralization consists of breccia zones, stockworks, veinlets and disseminations of pyrite, chalcopyrite, bornite and magnetite within large zones of economically bulk-mineable mineralization in or adjoining porphyritic intrusions of diorite to syenite composition. The mineralization is spatially, temporally and genetically associated with hydrothermal alteration of the intrusive bodies and host rocks.

According to Travis, 2004, most of the claims in this part of north western British Columbia were allowed to lapse during the late 1970's and it is assumed that the Texas Gulf claims were allowed to lapse at this time. Although alkalic porphyry copper-gold deposits may have been sub-economic in the late 1970's sustained increases in copper and gold prices since 2002 and the potential for large sized deposits have resulted in increasing industry interest in these types of occurrences. The ground formerly covered by the Texas Gulf claims was acquired by Panorama in July of 2006 with additional staking carried out in September 2006. The present Ketchum Lake Property covers the former Texas Gulf Property and any potential extensions of the mineralized zone identified by Texas Gulf for several kilometres in all directions.

The final technical reports completed by Texas Gulf in 1973 note that much of the prospective contact zone between the intrusive rocks and the andesites is covered either by clay rich overburden which can mask geochemical dispersion or by Tertiary volcanic rocks. In addition it was noted that some trenches failed to penetrate the leached zone and may not have adequately tested the mineralized zone. The technical reports further note that results of orientation induced polarization surveys carried out over the known mineralized zone indicate that these surveys may be an effective method for delineating potential extensions of the zone.

There is no record of any follow up exploration work on the ground covered by the Ketchum Lake Property and considering increasing industry interest in the porphyry copper-gold prospects in north western British Columbia Panorama completed an initial stage of exploration on the Ketchum Lake Property. The author made a site visit on October 16 to verify the presence of copper-gold mineralization at the Mineral Hill Prospect reported by Texas Gulf. Between mid October and the end of December, 2006 Panorama contracted Fugro Airborne Surveys of Mississauga Ontario to complete a helicopter borne magnetic survey and carried out a program of geological work including digitizing the Texas Gulf data, preparing digital elevation models and detailed topographic maps. The cost of the work completed by Panorama was \$103,575.00.

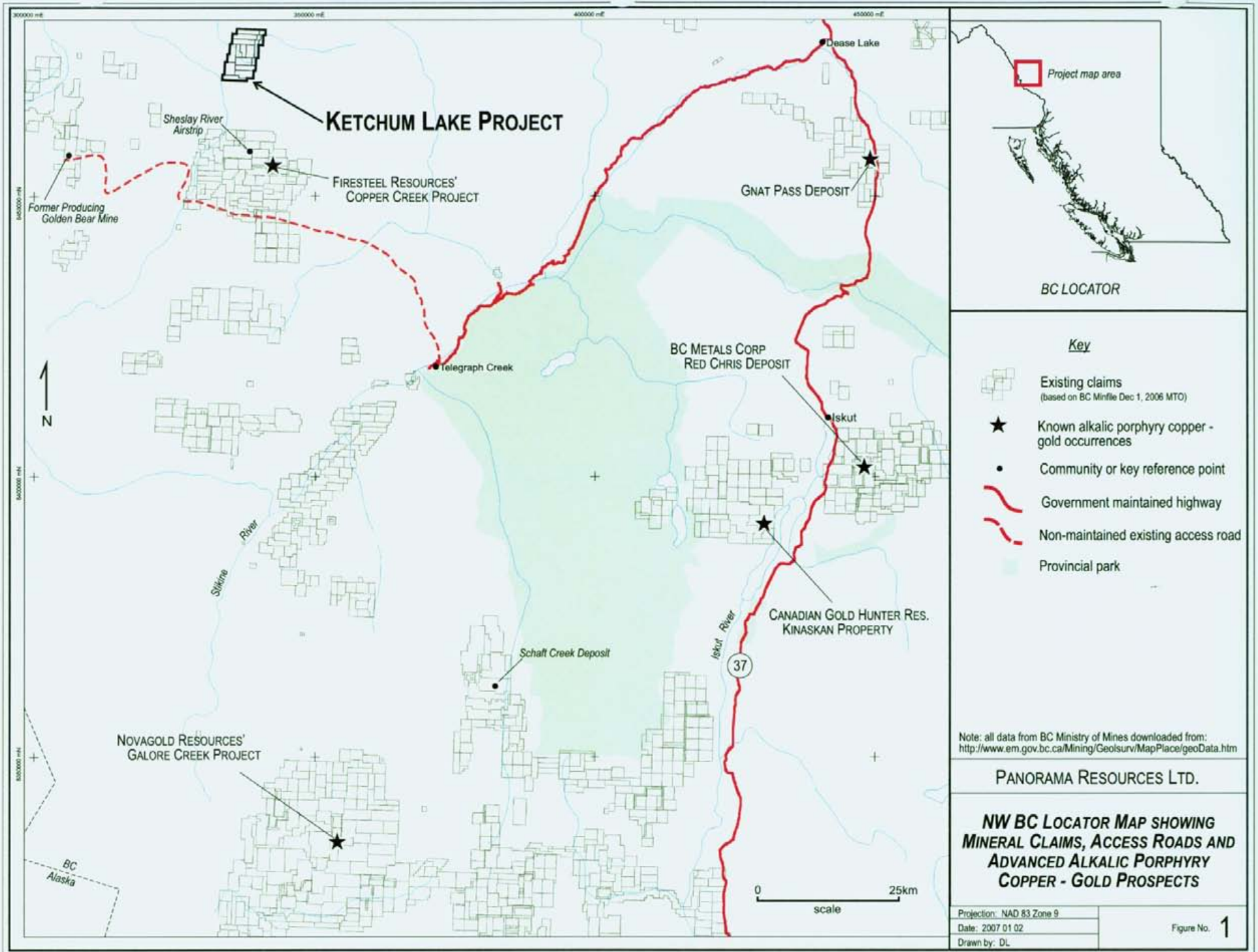
According to the technical summary included in the BC Ministry of Mines Minfile database mineralization at Mineral Hill occurs in multiple parallel, braided, breccia zones up to several meters in width. The strongest mineralization consists of coarse-grained hematite containing random sulphide grains or, less commonly, patches of sulphide grains with little or no hematite. The most widespread mineralization is scattered grains or stringers of chalcopyrite, pyrite and specular hematite or coatings of malachite on fracture and shear planes. Detailed examination reveals that in addition to the main sulphides chalcopyrite and pyrite and copper oxides, small amounts of bornite, chalcocite, minor sphalerite, tennantite and traces of an unidentified sulphosalt are present.

Technical reports prepared by Texas Gulf indicate that the most widespread alteration is a pervasive, pink coloration that may be caused in part by potassium feldspar. Sheared rocks usually appear bleached due to an increase in sericite and clay minerals and an attendant destruction of biotite. A distinctive gossan has formed over parts of the mineralized zone characterized by "limonite" that is a dark yellowish brown color.

Results of sampling by the author confirmed that the mineralized area identified by Texas Gulf does in fact host significant copper gold mineralization. A series of 12 mineralized grab and chip samples were collected from two trenches located in the west central part of the Mineral Hill Zone and results ranged from 0.86 to 5.03% copper, 0.06 to 0.54 g/t gold and 5.7 to 20.7 g/t silver. Select mineralized samples assayed up to 8.68% copper.

Data from the airborne magnetic survey indicates that the mineralization associated with the Mineral Hill prospect and the main copper geochemical anomalies identified by Texas Gulf are associated with a broad, north to northeast trending magnetic low. The magnetic anomaly extends for up to two kilometres to the north and south of the limits of the geochemical anomaly defined by Texas Gulf and parallels the interpreted contact between the intrusive rocks in the north eastern and eastern parts of the property and the andesites belonging to the Stuhini group in the central part of the property. In the southern part of the property in an area mapped as undifferentiated sediments belonging to the Stuhini Group the magnetic survey defined an irregular shaped magnetic high, approximately one kilometre in diameter that is interpreted as a second area of alkalic intrusive rocks.

Based on the results of the exploration work completed by Panorama additional exploration work is warranted on the Ketchum Lake Property. In the author's opinion there is potential to extend the limits of the mineralization identified at Mineral Hill and potential to identify additional mineralized zones in the central and south central parts of the claim area. A three Stage exploration program is recommended. Stage 1 should consist of detailed geological mapping, geochemical surveys and trenching at a cost of \$215,000. The grid area surveyed by Texas Gulf should be extended to the north and to the south. Stage 2, contingent on the results of Stage 1, should consist of trenching and detailed induced polarization surveys to delineate potential drill targets. The estimated cost of detailed geophysical surveys is estimated at \$275,000. In the event that coincident geochemical and geophysical targets are defined in Stage 1 and 2 a program of diamond drill testing would be warranted at a cost of approximately \$495,000.



Note: all data from BC Ministry of Mines downloaded from:  
<http://www.em.gov.bc.ca/Mining/Geosurv/MapPlace/geoData.htm>

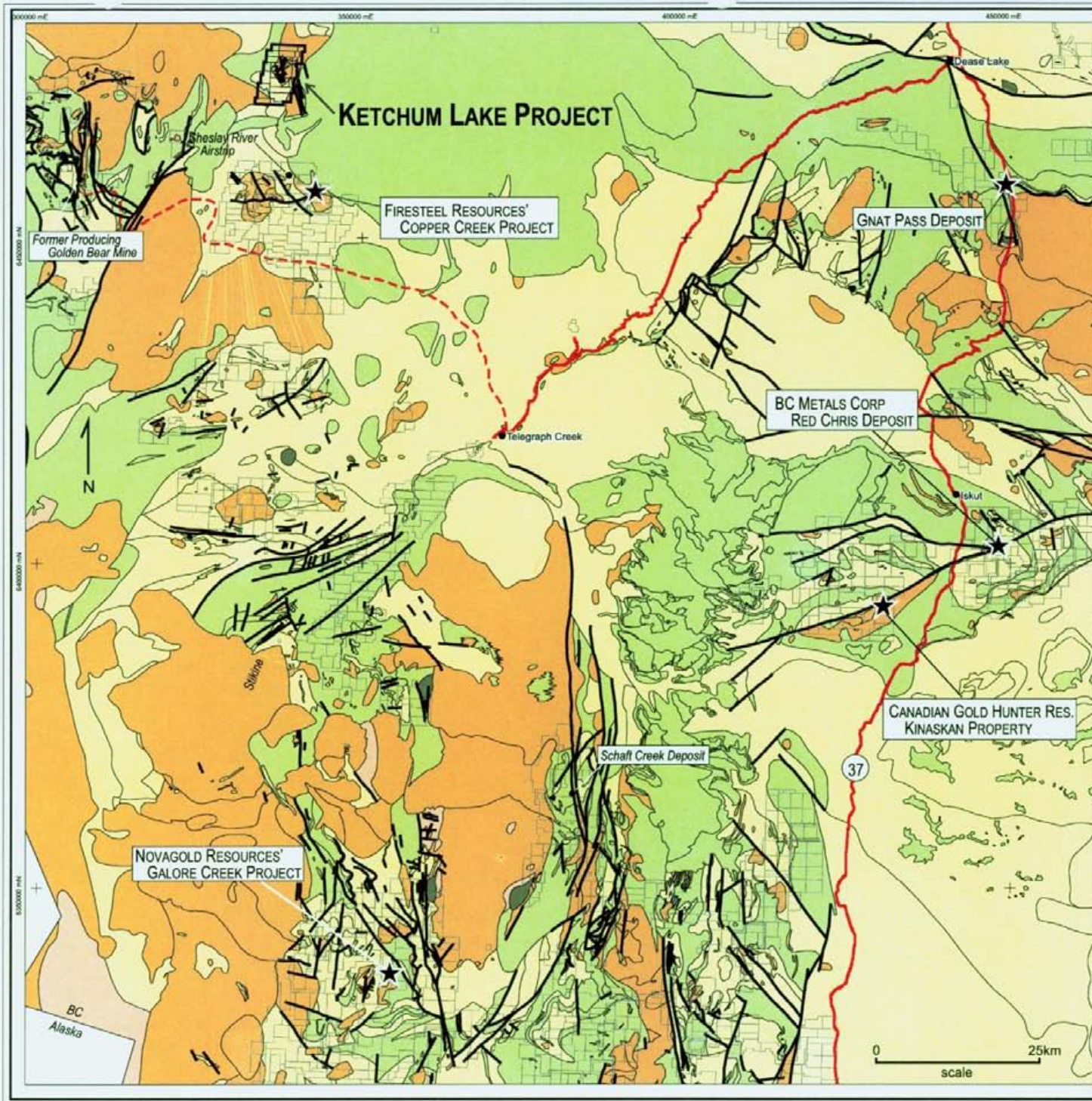
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**NW BC LOCATOR MAP SHOWING  
 MINERAL CLAIMS, ACCESS ROADS AND  
 ADVANCED ALKALIC PORPHYRY  
 COPPER - GOLD PROSPECTS**

Projection: NAD 83 Zone 9  
 Date: 2007 01 02  
 Drawn by: DL

Figure No. **1**





**Key**

- Intrusive rocks
- Metamorphic rocks
- Sedimentary rocks
- Ultramafic rocks
- Volcanic rocks
- Existing claims  
(based on BC Minfile Dec 1, 2006 MTO)
- Known alkalic porphyry copper - gold occurrences
- Community or key reference point
- Government maintained highway
- Non-maintained existing access road

Note: all data from BC Ministry of Mines downloaded from:  
<http://www.em.gov.bc.ca/Mining/Geosurv/MapPlace/geoData.htm>

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**REGIONAL GEOLOGY MAP  
SHOWING ADVANCED ALKALIC  
PORPHYRY COPPER -  
GOLD PROSPECTS**

Projection: NAD 83 Zone 9  
Date: 2007 01 02  
Drawn by: DL

Figure No. **2**

## **1. INTRODUCTION AND TERMS OF REFERENCE**

### **1.1 General Scope and Conduct**

The author was requested by Panorama Resources Ltd. to review all available historic technical information for the Ketchum Lake Property area, to supervise completion of a preliminary exploration program on the property and if warranted, to plan and recommend a program to explore the mineral potential of the claims.

The qualified person who is the author of this report worked on various exploration projects in the Galore Creek area between 2002 and present for several junior mining companies. The author visited the Ketchum Lake Property on October 16, 2006.

### **1.2 Sources of Information**

The available technical data for the Ketchum Lake Property consists of regional geological information compiled by the BC Ministry of Energy and Mines and assessment reports completed by the Texas Gulf Sulphur Company in 1972 and 1973 which are on file with the BC Ministry of Energy and Mines. Sources are listed in the References section of this report and are cited where appropriate in the body of this report.

The reports compiled by Texas Gulf appear to have been completed by competent professionals without any misleading or promotional intent.

The main source of regional geological information concerning the project area is Bulletin 92 and Bulletin 104 published by the British Columbia Ministry of Energy and Mines. The author has no reason to doubt the accuracy or completeness of the contained information.

### **1.3 Disclaimer**

To the best of the author's knowledge at the time of writing of this report, the subject property(s) is free of any liens or pending legal actions and is not subject to any underlying royalties, back-in rights, payments or other encumbrances.

To the best of the author's knowledge, there are no known existing environmental liabilities to which the property is subject, other than the requirement to mitigate any environmental impact on the claims that may arise in the course of normal exploration work and the requirement to remove any camps constructed on the Ketchum Lake Claims or any equipment used in exploration of the claims in the event that exploration work is terminated.

## 2. PROPERTY DESCRIPTION AND LOCATION

### 2.1 Location

The property is located approximately 65 kilometres north west of the community of Telegraph Creek and approximately 140 kilometres north of Novagold's Galore Creek Project. The approximate geographic centre of the property is situated at Latitude 56 degrees 52' and Longitude 130 degrees 05'.

The location of the project area relative to other mining claims, access roads and other developed alkalic porphyry copper-gold prospects is illustrated in Figure 1.

### 2.2 Property Description

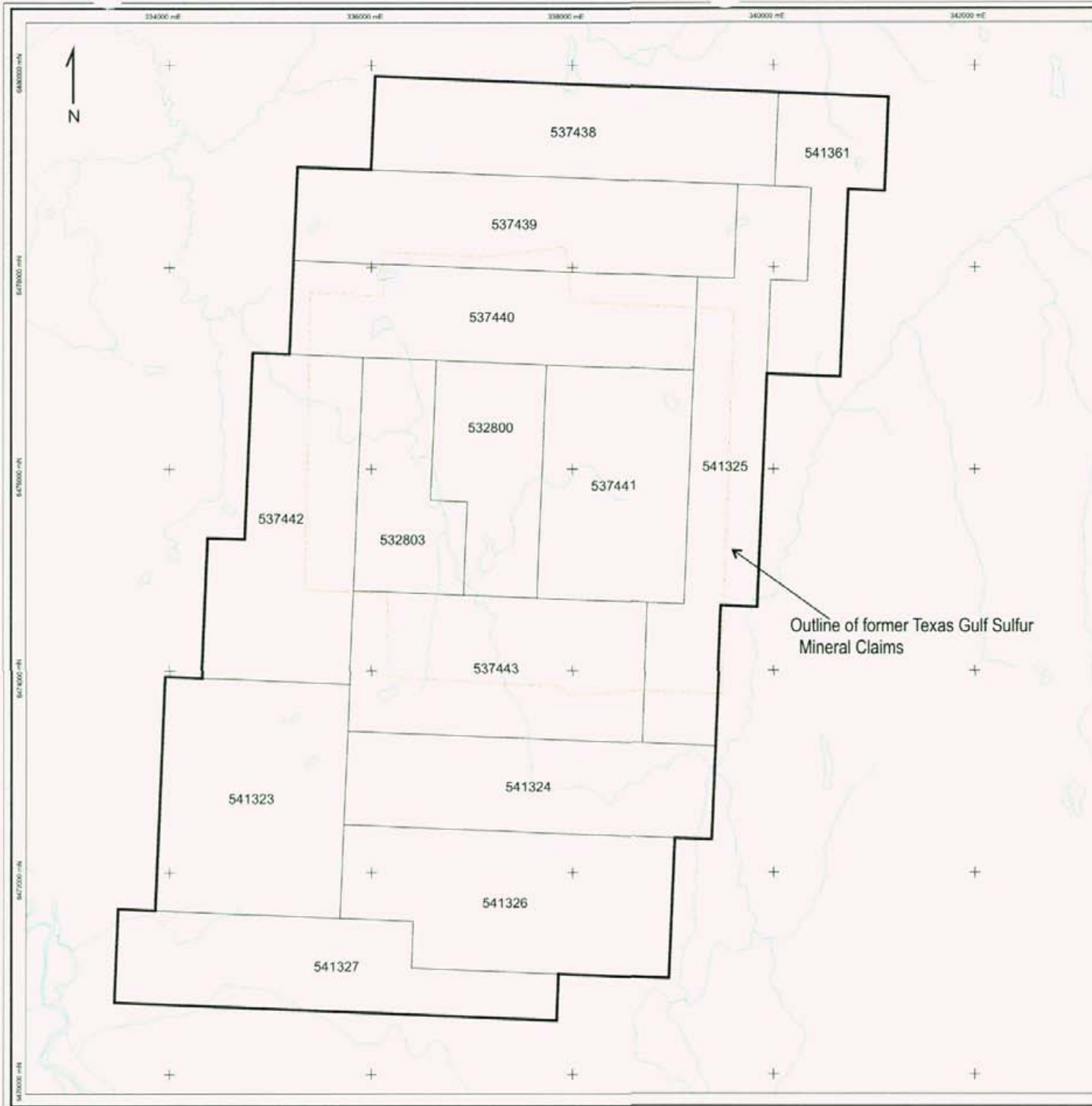
The property consists of 14 contiguous map staked mineral titles comprising 4,868.2 hectares. The claims form an irregular, staircase shaped, north to north east oriented block roughly 9 kilometres long and 5 kilometres wide

Panorama Resources Ltd. acquired a 100% interest in the Property by direct purchase and staking between July 15 and September 15, 2006.





Table 1: Listing of claims comprising the Ketchum Lake Property effective January 15, 2007.

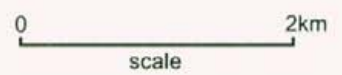
tenure no.	issue date	good to date	area in ha	registered owner
541323	20060915	2008 10 30	424.33	Panorama Resources Ltd.
541324	20060915	2008 10 30	339.43	Panorama Resources Ltd.
541325	20060915	2008 10 30	407.00	Panorama Resources Ltd.
541326	20060915	2008 10 30	424.40	Panorama Resources Ltd.
541327	20060915	2008 10 30	339.59	Panorama Resources Ltd.
537438	20060720	2008 10 30	372.85	Panorama Resources Ltd.
537439	20060720	2008 10 30	406.80	Panorama Resources Ltd.
537440	20060720	2008 10 30	372.96	Panorama Resources Ltd.
537441	20060720	2008 10 30	339.17	Panorama Resources Ltd.
537442	20060720	2008 10 30	407.09	Panorama Resources Ltd.
537443	20060720	2008 10 30	407.20	Panorama Resources Ltd.
541361	20060915	2008 10 30	203.39	Panorama Resources Ltd.
532800	20060421	2008 10 30	220.46	Panorama Resources Ltd.
532803	20060421	2008 10 30	203.52	Panorama Resources Ltd.
Total area			4868.19	

Figure 3 shows the location of each of the mineral claims that comprise the Ketchum Lake Property relative to generalized topographic features and also shows the location of the former Texas Gulf claim group.



**KEY**

-  Claim outline
- 541361 Tenure Number
-  Outline of former Texas Gulf Sulfur Mineral Claims
-  Lake outline
-  Stream / river



Note: all data from BC Ministry of Mines downloaded from:  
<http://www.em.gov.bc.ca/Mining/Geosurv/MapPlace/geoData.htm>

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**PROPERTY MAP SHOWING CLAIM  
 TENURE NUMBERS AND OUTLINE OF  
 FORMER TEXAS GULF CLAIMS**

Projection: NAD 83 Zone 9  
 Date: 2007 01 02  
 Drawn by: DL

Figure No. **3**

### 2.3 Provincial Mining Regulations

All of the claims which comprise the Ketchum Lake Property were staked pursuant to the BC Ministry of Energy and Mines MTO system (Mineral Titles Online System). Title to the claims is maintained through the performance of annual assessment filings and payment of required fees.

To the best of the author's knowledge, government permits will be required to carry out the proposed II and III exploration programs. These programs will require application to the Ministry of Energy and Mines for permits and the Issuer may be required to post security equivalent to the estimated costs of any reclamation work which will be required after completion of the proposed exploration work.

The reader is cautioned that there is no guarantee that the Issuer will be able to obtain the permits required to carry out the proposed work program. However, the author is not aware of any problems encountered by other junior mining companies in obtaining the permits required to carry out similar programs in nearby areas.

To the best of the author's knowledge approval from local First Nations communities may also be required to carry out the proposed exploration programs. The reader is cautioned that there is no guarantee that the Issuer will be able to obtain approval from local First Nations. However, the author is not aware of any problems encountered by other junior mining companies in obtaining approval to carry out similar programs in nearby areas nor is the author aware of any instances where local First Nations communities have objected to exploration work in the general project area.

To the best of the author's knowledge, none of the claims which comprise the Ketchum Lake Property have surface rights. In the event that a significant mineralized zone is identified detailed environmental impact studies will need to be completed prior to initiation of any advanced exploration or mining activities. The reader is cautioned that there is no guarantee that areas for potential mine waste disposal, heap leach pads, or areas for processing plants will be available within the Ketchum Lake Claim Group.

### **3. ACCESSIBILITY, CLIMATE, PHYSIOGRAPHY AND INFRASTRUCTURE**

#### **3.1 Accessibility and Infrastructure**

Access to the property is by way of helicopter or fixed wing aircraft from the community of Telegraph Creek approximately 65 kilometres south east of the property or from the community of Dease Lake approximately 100 kilometres east of the Property. Figure 1 shows the location of the property relative to nearby access roads, mines and other developed prospects. It is also possible to land a float plane on Ketchum Lake located at the south eastern corner of the Ketchum Lake Property.

There is no road access to the claims however there is an airstrip located at the Sheslay River ten kilometres to the south of the property and the road to the former Golden Bear Mine passes roughly twenty kilometres to the south of the property. If warranted it would be feasible to construct an access road to the property however the best way to access the claims at present is by helicopter from the community of Dease Lake located about 100 kilometres to the east.

Crews travelling to and from the site can stay at Dease Lake 100 or at Telegraph Creek. Driving time to Dease Lake from Terrace is approximately eight hours. Experienced field personnel and drilling contractors are available in the communities of Terrace and Smithers.

A temporary tent camp for crew accommodation for completion of the proposed Stage 1 program may need to be constructed on site. Alternatively, in the event that a charter helicopter is available in Telegraph Creek at the time the project is completed field crews can access the property via helicopter for comparable costs.

#### **3.2 Physiography, Climate, Vegetation and Current Land Use**

The physiography of the Property is moderate, outcrop is limited and elevations range from 1,090 meters a.s.l. to 1,130 meters a.s.l. The Property straddles the headwaters of the Didudontu River. Within the Ketchum Lake area topography is generally subdued. Figure 3 shows the property boundaries and tenure reference numbers relative to generalized topography.

The project area is in the rain shadow of the Coast Range Mountains and annual precipitation is 425 mm including average snowfall of 218 cm. The Ketchum Lake Property is generally free of snow for approximately six months of the year. In general, exploration work in this area is carried out from June until October however snow cover is generally light and exploration work could be carried out from April through to November.

Satellite imagery shows that approximately 90% of the area within the Ketchum Lake Property is either forest covered or overburden covered. Forested areas comprise stunted spruce, fir and cedar typical of sub-alpine conditions. Due to limited access current land use is limited to hunting.

## 4. HISTORY OF EXPLORATION

### 4.1 General Description

In 1897 the Telegraph Trail which ran from Telegraph Creek to Atlin, was established and used as a major transportation route to the goldfields of the Yukon. In 1901 the Dominion of Canada Government connected the Yukon telegraph line with the British Columbia system that had previously ended in Quesnel. (Travis, A., 2004). The Telegraph Trail passes through the central part of the Ketchum Lake Property along the Dudidontu River Valley. In 1936 the Yukon Telegraph line was shut down, short wave radio had come into use and therefore telegraph communication no longer seemed necessary

The earliest recorded discovery of copper mineralization in the general project area was the discovery at Copper Creek located approximately 15 kilometres south of the Ketchum Property. The first exploration work was carried out in the late 1950's and by the early 1960's both Kennecott and Newmont were involved in exploration near the Copper Creek project.

The only recorded exploration work within the Ketchum Lake Property was carried out by Texas Gulf in the early 1970's. According to Travis, 2004, most of the mining claims in the area expired in the late 1970's.

### 4.2 Texas Gulf Sulfur Company

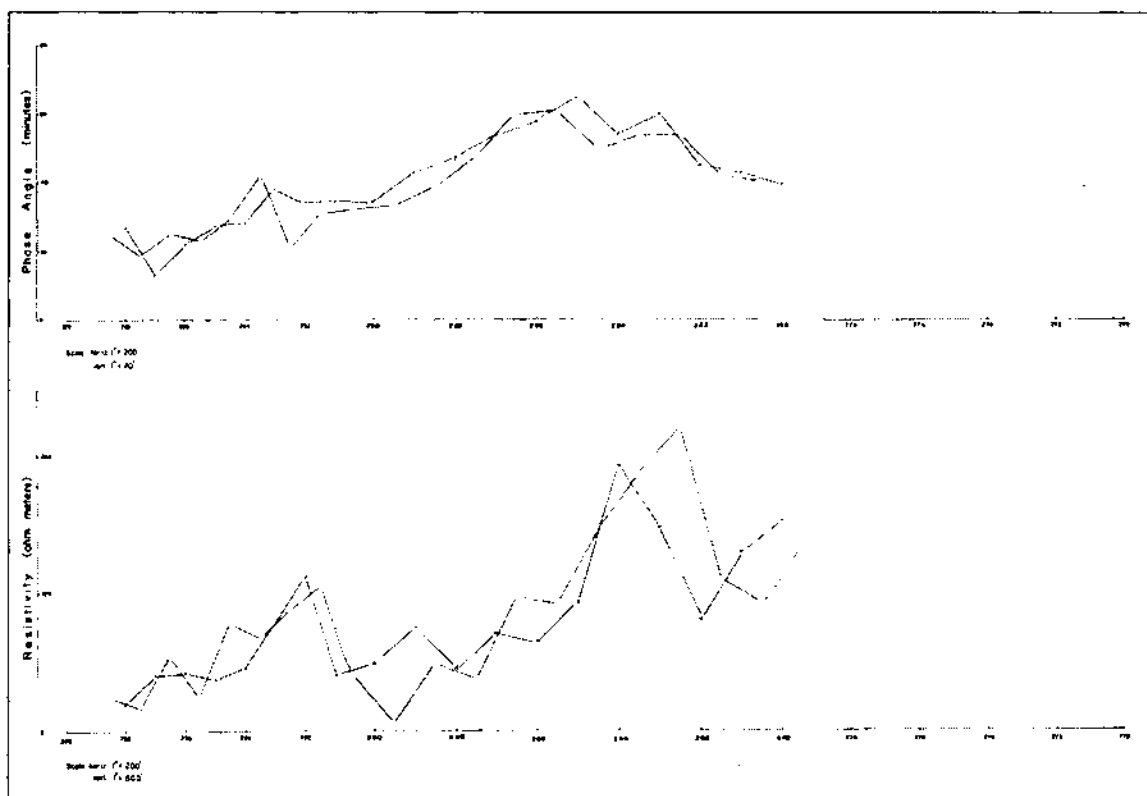
Texas Gulf discovered porphyry copper-gold mineralization as part of a regional reconnaissance program in 1971 and carried out soil geochemical and orientation geophysical surveys within the present boundaries of the Ketchum Lake Property.

The geochemical surveys comprised a total of 1,193 samples collected at approximately 30 meter intervals on lines spaced approximately 150 to 300 meters apart. Samples were reportedly analyzed for copper, zinc and molybdenum. The geochemical surveys completed by Texas Gulf defined a copper in soil anomaly up to four hundred meters in width that extends intermittently for approximately three kilometres along strike. The mineralized zone referred to as the Mineral Hill Prospect is located at the northern end of the anomaly. The copper in soil anomaly appears to be open to the north of the Mineral Hill prospect and also appears to be open in a south south east direction from the southern limit of geochemical survey grid completed by Texas Gulf. Figure 5a and 5b show the location of the Texas Gulf grid relative to current property boundaries and the approximate location of the "copper in soil" anomalies identified by Texas Gulf. Threshold values were arbitrarily set at the 75<sup>th</sup>, 90<sup>th</sup>, and 95<sup>th</sup> percentiles (71, 96 and 121 ppm copper respectively) and peak values ranged from 350 to 1,330 ppm copper.

Results of this work identified a significant zone of north to northwest trending copper-gold mineralization referred to as the Mineral Hill Prospect, measuring approximately 93 meters in width and 243 meters in length. According to Texas Gulf all composite trench samples collected within this zone returned copper values higher than 0.2% copper and elevated gold and silver values with some trenches returning values up to 1.6 meters that averaged 3.1% copper.

The final technical reports completed by Texas Gulf in 1973 note that the much of the prospective contact zone between the intrusive rocks and the andesites is covered either by clay rich overburden which can mask geochemical dispersion or Tertiary volcanic rocks. In addition it was noted that some trenches failed to penetrate the leached zone and may not have adequately tested the mineralized zone. The technical reports further note that results of an orientation induced polarization survey carried out over the known mineralized zone indicate that this type of survey may be an effective method for delineating potential extensions of the zone. (See Plate 2)

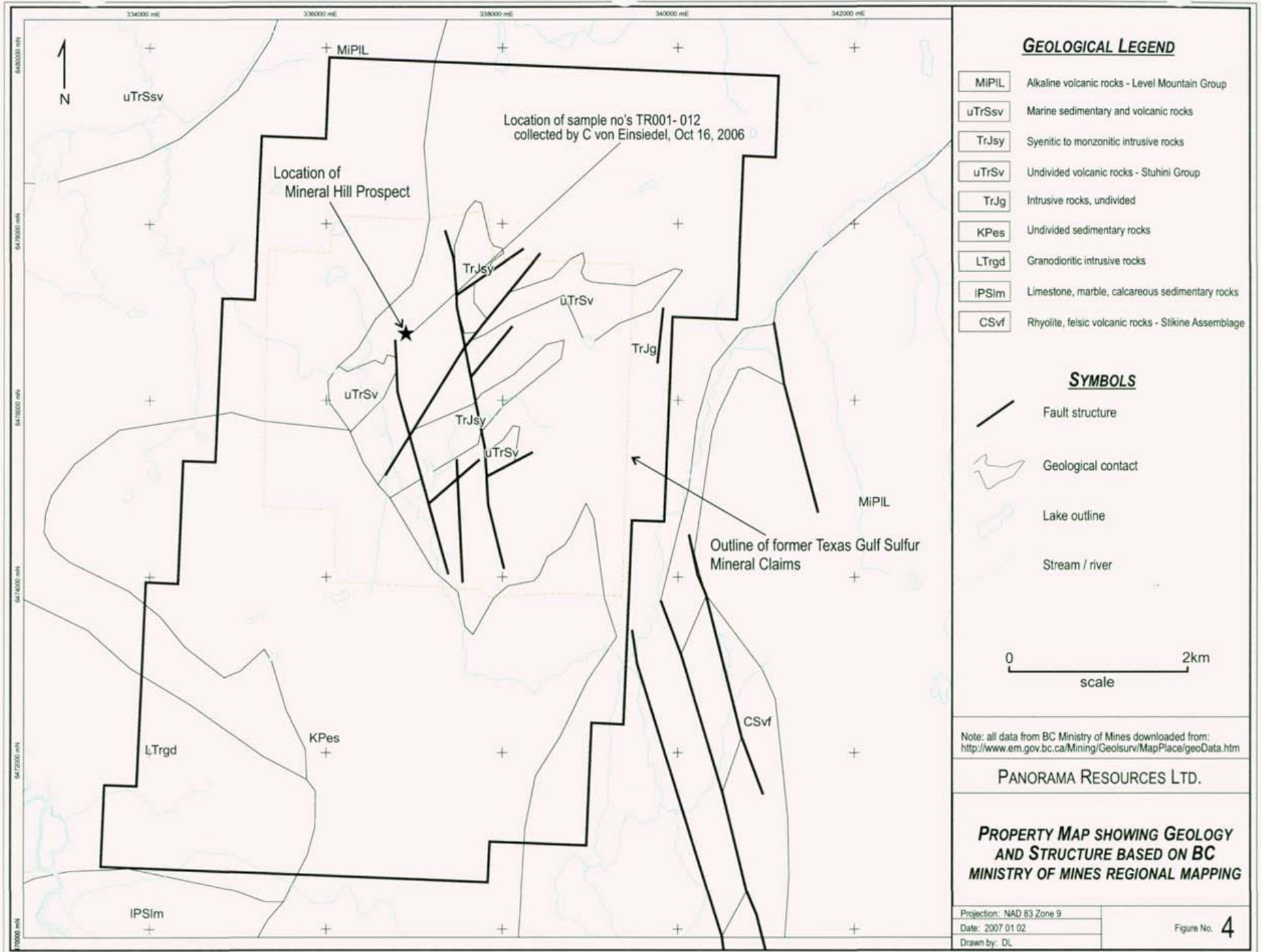
Plate 2: Orientation IP Profile on Line 3+25N across the Mineral Hill Prospect. Note the chargeability response in the eastern part of the profile which corresponds to southern part of the trenched area.



The technical reports published by Texas Gulf in 1973 indicate that mineralization is hosted by Late Triassic to early Jurassic aged syenites and monzonites which intrude Triassic aged andesites belonging to the Stuhini Group. This is the same geological setting that hosts most of the porphyry prospects in the Stikine Arch

There is no record of any follow up exploration work on the ground covered by the Panorama claims and considering increasing industry interest in the porphyry copper-gold prospects in north western British Columbia the author recommended that Panorama complete an initial stage of exploration on the Ketchum Lake Property.





**GEOLOGICAL LEGEND**

- MIPIl Alkaline volcanic rocks - Level Mountain Group
- uTrSsv Marine sedimentary and volcanic rocks
- TrJsy Syenitic to monzonitic intrusive rocks
- uTrSv Undivided volcanic rocks - Stuhini Group
- TrJg Intrusive rocks, undivided
- KPes Undivided sedimentary rocks
- LTrgd Granodioritic intrusive rocks
- IPSIm Limestone, marble, calcareous sedimentary rocks
- CSvf Rhyolite, felsic volcanic rocks - Stikine Assemblage

**SYMBOLS**

- Fault structure
- Geological contact
- Lake outline
- Stream / river



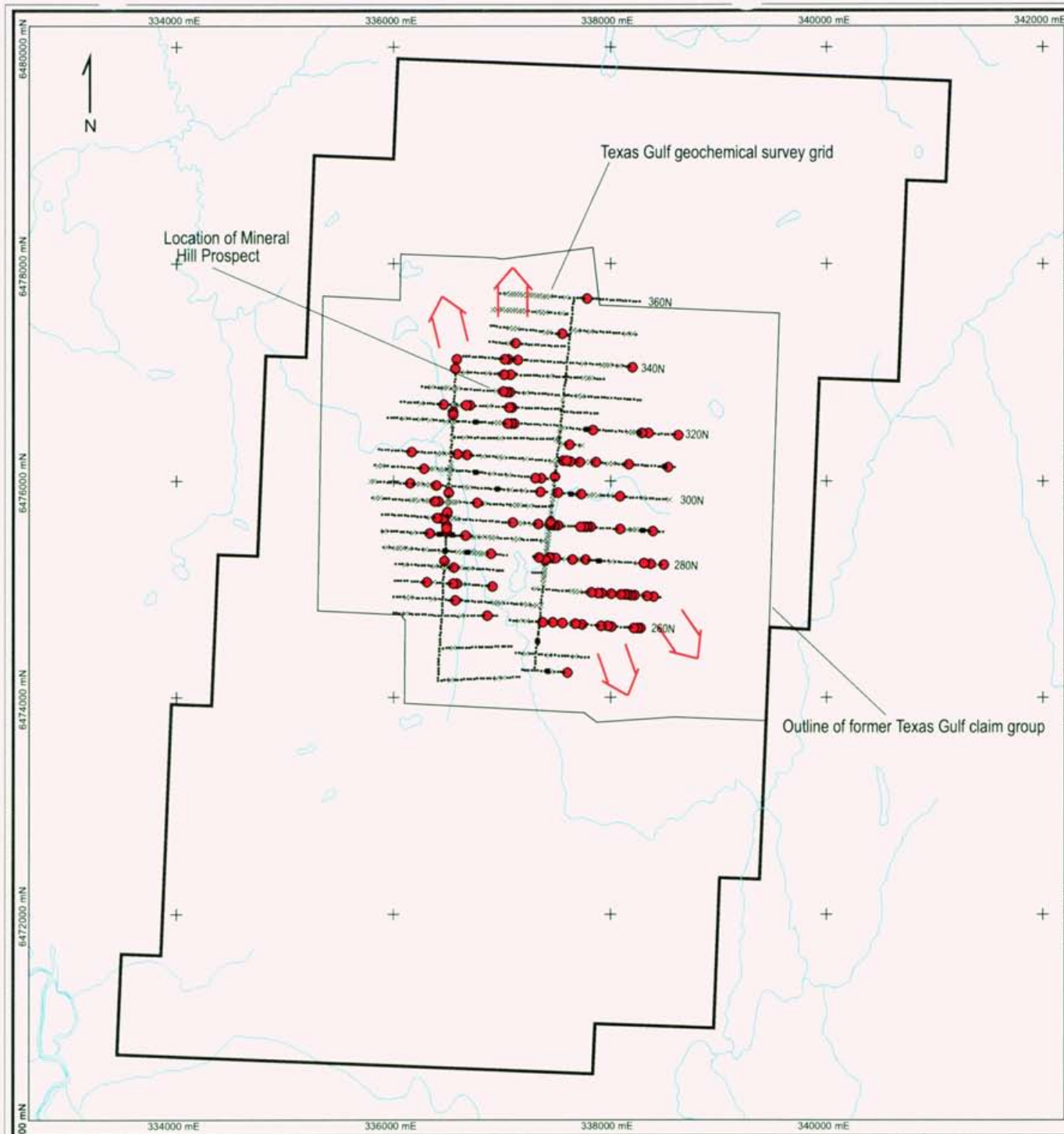
Note: all data from BC Ministry of Mines downloaded from:  
<http://www.em.gov.bc.ca/Mining/Geosurv/MapPlace/geoData.htm>

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**PROPERTY MAP SHOWING GEOLOGY  
 AND STRUCTURE BASED ON BC  
 MINISTRY OF MINES REGIONAL MAPPING**







Projection: NAD 83 Zone 9  
 Date: 2007 01 02  
 Drawn by: DL

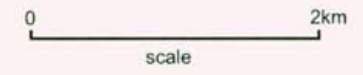
Figure No. **4**



**KEY**

**Soil geochemical survey data**

-  1971-1972 Texas Gulf survey grid
-  96 to 1,330 (90th percentile)
-  No sample collected, stream or marsh
-  Potential extension of geochemical anomaly
-  Lake outline
-  Stream / river

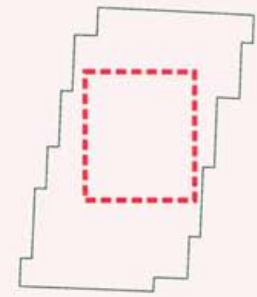
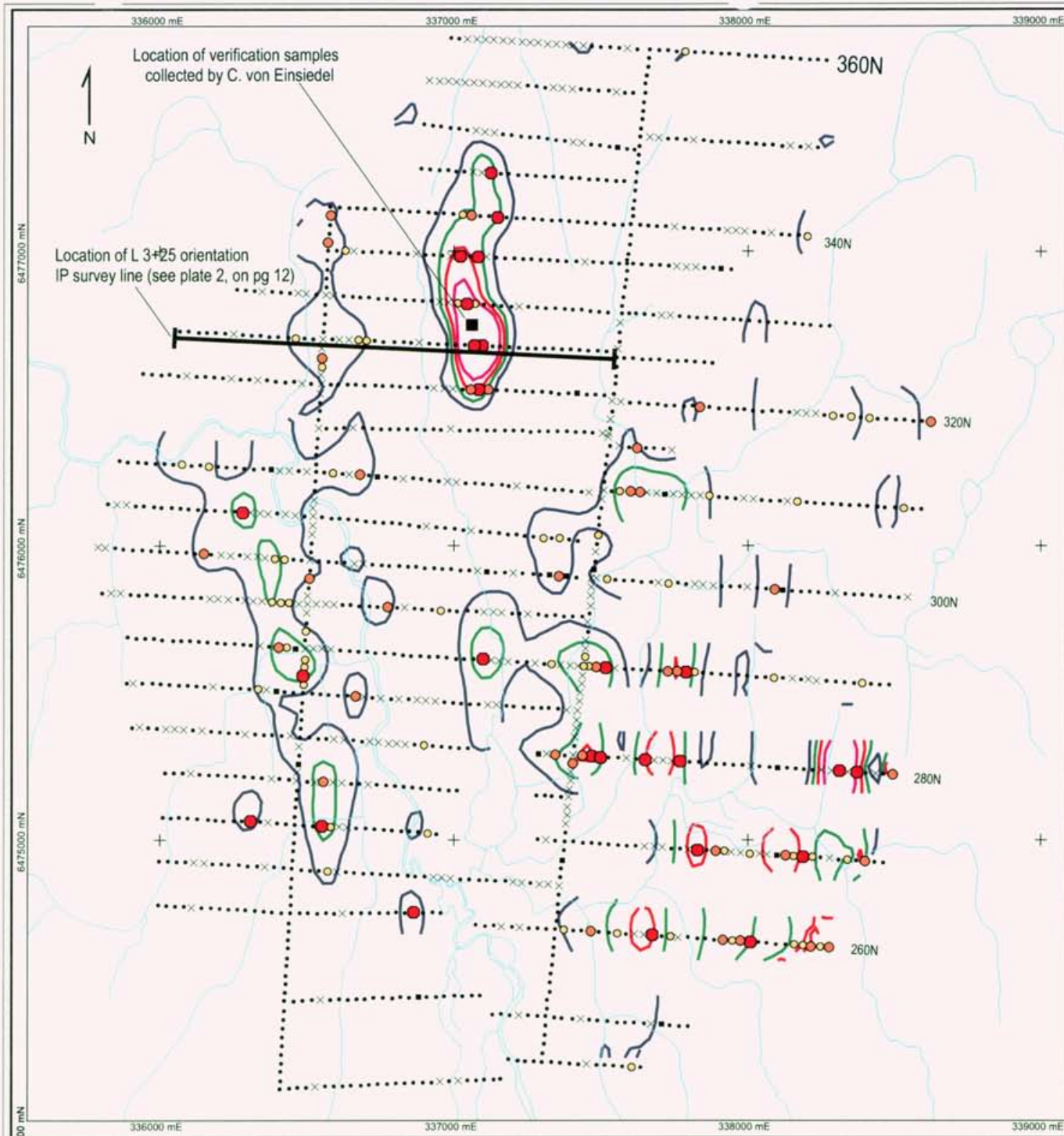


PANORAMA RESOURCES LTD.

**PROPERTY MAP SHOWING OUTLINE OF  
FORMER TEXAS GULF CLAIM GROUP  
GEOCHEMICAL SURVEY GRID AND COPPER  
IN SOIL GEOCHEMICAL ANOMALIES**

Projection: NAD 83 Zone 9  
Date: 2007 01 02  
Drawn by: DL

Figure No. **5A**



**LOCATOR MAP SHOWING DETAIL AREA**

**KEY**

Copper Contours - Percentiles

- 71 ppm - 75th pct
- 96 ppm - 90th pct
- 121 ppm - 95th pct
- 155 ppm - 98th pct

Note: contour lines do not extend across 300m spaced profile lines due to the fact that the area of influence for a single sample should not generally exceed 100m. Fill in profile lines must be completed in the east central part of the grid area to verify the continuity of the copper geochemical anomaly.

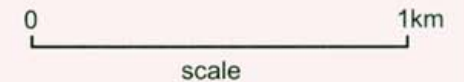
Copper Soil Sample Locations

- 154 to 1,330
- 121 to 154
- 96 to 120
- 71 to 95

× no sample collected, stream or marsh

Lake outline

Stream / river



PANORAMA RESOURCES LTD.

**DETAIL MAP SHOWING CONTOURED "COPPER IN SOIL" DATA, LOCATION OF TEXAS GULF IP LINE AND LOCATION OF VERIFICATION SAMPLES COLLECTED BY C. VON EINSIEDEL**

Projection: NAD 83 Zone 9

Date: 2007 01 02

Drawn by: DL

Figure No. **5B**

## 5. GEOLOGICAL SETTING

### 5.1 Regional Geology

Author's note: The majority of the information in this item is excerpted from Bulletin 92 and Bulletin 104 published by the British Columbia Ministry of Energy and Mines.

The Ketchum Lake Property area is located in the west central part of the Stikine Terrane which is the westernmost terrane of British Columbia's Intermontane Belt. Like the other terranes of the North American cordilleran, the Stikine Terrane originated as an island arc west of ancestral North America and was amalgamated along with the Cache Creek, Quesnel and Slide Mountain terranes prior to accretion to the North American craton.

The Stikine terrane comprises Paleozoic aged sediments and volcanics referred to as the Stikine Assemblage which are unconformably overlain by Triassic aged sediments and volcanics belonging to the Stuhini Group. These rocks are intruded by late Triassic to Early Jurassic aged alkaline bodies which occupy a north northwest trending belt along the east side of the Coast Plutonic Belt.

According to Barr et al., 1976, alkalic porphyry copper deposits occur throughout the Intermontane Belt in both the Stikine and Quesnel terranes and are restricted to the volcanic island arc assemblages of the Nicola, Takla and Stuhini groups. The best known example of the alkaline porphyry copper deposits in the Stikine Terrane is the Galore Creek deposit located approximately 140 kilometers south of Ketchum Lake. Galore Creek is presently the focus of an intensive evaluation by Nova Gold Resources Ltd. Age dating shows that U-Pb ages are similar (circa 200 to 210 Ma) for intrusions associated with porphyry Cu-Au deposits in both the Stikine and the Quesnel terranes. Multiple alkaline intrusions and associated ultramafic phases are also present at Galore Creek (Barr, 1966; Allen *et al.*, 1976; Enns *et al.*, 1995) U-Pb dates of  $205.1 \pm 2.3$  (zircon) and  $200.1 \pm 2.2$  (titanite) for the potassium feldspar megacrystic syenite porphyry at Galore Creek (Mortensen *et al.*, 1995) constrain emplacement ages and brackets Cu-Au mineralization.

The Ketchum Lake area lies within an important base and precious metal-rich part of Northwestern British Columbia, termed the "Stikine Arch or Golden Horseshoe" (Lefebvre, 1991). The Horseshoe extends north from Alice Arm to the Taku River, east of the Coast Belt, and wraps back around the northwestern edge of the Bowser basin as far east as the Toodoggone River.

Mineral deposits and prospects in the Golden Horseshoe can be grouped into four main categories: calcalkaline Cu-Mo-Au and alkaline Cu-Au porphyries; Cu- and Cu-Au skarns; subvolcanic Cu-Ag-Au (As-Sb) fault and shear-hosted veins and carbonate hosted replacement; and stratiform volcanogenic massive sulphide and carbonate hosted (?Irish-type) Zn-Pb-Ag deposits. The distribution of mineral occurrences in the map area (except stratiform types) shows a direct correlation with north and northeast striking faults and Late Triassic to Early Jurassic intrusive rocks.

For the subject property alkalic porphyry copper-gold deposits are believed to be the most important potential target.

## 5.2 Property Geology

According to technical reports prepared by the Texas Gulf Sulfur Company in 1972 and 1973 the Ketchum Lake area is underlain by andesitic volcanic rocks which have been intruded by syenitic rocks that appear to be genetically related to the andesites.

The syenite, in which mineralization occurs, is part of a complex intrusive body, varying in composition from granodiorite to syenite, and outcropping over an area of some six by twelve kilometers, to the north of Ketchum Lake. The andesitic volcanic rocks are believed to be Upper Triassic in age.

The contacts between the andesites and the intrusive rocks are largely obscured by Tertiary aged volcanic rocks to the northwest and to the east of the Ketchum Lake area.

The andesites are the oldest rocks exposed in the area. They are extensively altered and incorporated into the underlying intrusive bodies. The roof pendants or downward faulted blocks of andesite form a northeast-trending belt across the claim area. The granodiorite, hybrid syenite and syenite may be differential phases of a complex intrusion.

The granodiorite and hybrid syenite masses have local variations in composition especially noticeable where andesites have been incorporated. The Tertiary volcanic flows, up to 250 meters thick, are predominantly basalts intercalated with minor rhyolite. They unconformably overlie the older rocks and may fill a pre-existing valley on the west side of the claim group. Tertiary feeder dykes, of variable composition, are aphanitic in character. They are seen to cut all the older rocks in the area.

Two major fault systems are present in the area, a north-northwest system and a northeast system. Both systems are steeply dipping normal faults. The northeast system is the older and is offset by the north northwest system. It appears to control the rock type distribution. The north-northwest fault system may control the mineralization.

Crackling in the pink syenite is evident on Mineral Hill and other mineralized areas. This crackling shows up as light foliation or as uneven fracture surfaces approximately one-half inch apart. On Mineral Hill the crackling may contain chalcopyrite.

According to the Texas Gulf reports field mapping suggests there may be concentric zones of alteration around the mineralization on Mineral Hill. This zonation consists of a central core of fresh pink syenite followed by a zone of sericitization and/or kaolinization of mafics and feldspars in the syenite and hybrid syenite. This zone is followed by progressively weaker argillic alteration, until fresh hybrid syenite is the dominant rock. Sericitization and kaolinization of the syenite is also present along the Dudidontu River but not as well developed as in the Mineral Hill area. Local chloritization of the mafics in granodiorite is present adjacent to faults. Chloritization and epidotization of the andesites are pronounced. In some areas epidote is the main constituent, in others, alteration is not as intense and only chloritization has taken place.

The geological map for the Ketchum Lake area that is available from the BC Ministry of Energy and Mines is included as Figure 4.

## 6. DEPOSIT MODELS

### 6.1 Characteristics of alkalic porphyry copper-gold deposits (Reference BCEMPR Bulletin 092)

Alkalic porphyry copper-gold deposits occur throughout the length of the Intermontane Belt in both Stikinia and, Quesnellia (northern and central BC). They are restricted to Late Triassic and Early Jurassic volcanic island arc assemblages of the Nicola, Takla and Stuhini groups and form a class distinct from the calcalkaline porphyry deposits (Barr *et al.*, 1976).

Mineralization occurs in alkaline magmatic centers that are characterized by alkaline intrusions and comagmatic subalkaline to alkaline and shoshonitic volcanic rocks (de Rosen- Spence, 1985.). Crowded feldspar porphyritic textures are characteristic of both the intrusives and the volcanics; pyroxene-phyric basalts are typical.

The alkaline intrusions evolved from crystal-fractionated, volatile and metal-enriched magmas (Fox, 1989; Mutschler *et al.*, 1990) that were emplaced rapidly and often intrude their volcanic edifice. Multiple intrusions of crystal-rich magma produce porphyritic textured intrusives, intrusive breccias and hydrothermal breccias. These intrusive pulses predate, coincide with and postdate alteration and mineralization related to the magmatic centers.

The intrusive bodies are typically small (less than 2 to 3 kilometers across), spatially related to long-lived regional-scale faults (Preto 1989, Nelson, 1991) and commonly have spatial and temporal relationships with calcalkaline magmatism.

The deposits occupy brecciated and faulted zones related to extensively altered subvolcanic intrusions and their volcanic host rocks. Alteration patterns are distinctly different from those of classic calcalkaline deposits which are characterized by concentric phyllic-argillic-propylitic zones. The alkalic deposits typically have a central potassic-or sodic plagioclase zone which passes outward into a propylitic zone. These often overlap and are overprinted by retrograde metasomatic alteration.

Magnetite breccias and disseminations are associated with the potassic alteration zone, which hosts most of the copper and gold mineralization. Disseminated pyrite and minor copper mineralization mantle the propylitic alteration zone.

Typical sulphide assemblages include pyrite, chalcopyrite, bornite, chalcocite and pyrrhotite in decreasing abundance. The deposits are characteristically enriched in silver and gold, and are particularly silver-rich in comparison with calcalkaline porphyry deposits (Sinclair *et al.*, 1982).

Preliminary exploration work carried out by the Texas Gulf Sulfur Company between 1971 and 1973 identified a large copper in soil geochemical anomaly and a zone of copper mineralization within the anomaly referred to as Mineral Hill. Mineral Hill consists of an area measuring 93 meters east west by 243 meters north south that hosts multiple, parallel shear and breccia zones containing chalcopyrite, bornite pyrite, hematite and various copper oxide minerals such as malachite, covellite and chalcocite.

## 7. MINERALIZATION

### 7.1 Mineral Hill Zone

The most important mineralized zone identified to date on the Ketchum Lake Property is the Mineral Hill Prospect. The mineralized zone was identified by reconnaissance prospecting carried out by Texas Gulf in 1971. Limited trenching of the northernmost geochemical anomaly identified a significant zone of copper mineralization referred to as "Mineral Hill" or the Pet Prospect. Trenches were cut on east-west lines of the flagged grid, except in the immediate area of mineralization, where they are closer together.

A mineralized area, in which all save two composite samples returned assays of at least 0.20 percent copper, was extended to a length of 243 meters and a width of 93 meters (length of 800 feet and a width of 300 feet). The zone was defined by a series of twelve, 3.0 to 15.0 meter long, hand excavated trenches. According to Texas Gulf all composite trench samples collected within this zone returned copper values ranging from 0.18 to 1.83% copper along with elevated gold and silver values and individual assays within this zone run as high as 3.18% copper, over 1.6 meters. The mineralization, consists of malachite, azurite, chalcopyrite, chalcocite and bornite in association with hematite and pyrite, which occurs in braided, steeply-dipping fracture zones. Small amounts of gold and silver were detected in the assayed samples.

According to Texas Gulf the area of 0.20 percent copper, occurs primarily within the pink syenite phase of the intrusive. A peripheral area of lower grade copper mineralization was also established around the higher grade zone.

### 7.2 Other mineralized areas

According to the technical reports published by Texas Gulf there are several additional variably mineralized zones identified within the former Texas Gulf property.

At the River Prospect a ten meter section of 10% disseminated pyrite, in a well fractured syenite, was found near the Dudidontu River a few hundred meters west of Mineral Hill. Two outcrops of well-fractured and faulted andesites in the same area also contained disseminated pyrite. Picked samples from these outcrops returned low copper values (0.02%) with trace amounts of gold and silver.

In the area southeast of the Mineral Hill Zone an area referred to as Flats Northeast was identified that contained abundant sulfide mineralization in volcanic rocks. Several trenches were started in this area on what proved to be boulders. According to Texas Gulf no samples were taken although several of the boulders contained pyrite and chalcopyrite. This area is believed to be within the southern part of the geochemical anomaly defined by Texas Gulf.

With the exception of samples collected from trenches within the Mineral Hill Zone no verification sampling has been completed to confirm the presence of any of the referenced mineralized areas.

## 8. EXPLORATION

Between October 15 and December 15, 2006 Panorama contracted Fugro Airborne Surveys of Mississauga Ontario to complete a helicopter borne magnetic survey that covered the entire Ketchum Lake Property. In addition Panorama carried out a program of geological work including digitizing the Texas Gulf data, preparing digital elevation models and detailed topographic maps. The author made a site visit by helicopter from Dease Lake on October 16<sup>th</sup> to verify the mineralization reported by Texas Gulf.

Results of sampling by the author confirmed that the mineralized area identified by Texas Gulf does in fact host significant copper gold mineralization. A series of 12 mineralized grab and chip samples were collected from two trenches located in the west central part of the Mineral Hill Zone and results ranged from 0.86 to 5.03% copper, 0.06 to 0.54 g/t gold and 5.7 to 20.7 g/t silver. Select mineralized samples assayed up to 8.68% copper. The samples are listed in Plate 3 which includes copies of the ALS Chemex Assay certificates.

Field examinations showed that mineralization occurs in multiple parallel, braided, breccia zones a few centimeters to several meters in width. The strongest mineralization consists of coarse-grained hematite containing random sulphide grains or, less commonly, patches of sulphide grains with little or no hematite. The most widespread mineralization is scattered grains or stringers of chalcopyrite, pyrite and specular hematite or coatings of malachite on fracture and shear planes. Detailed examination reveals that in addition to the main sulphides chalcopyrite and pyrite, small amounts of bornite, chalcocite, minor sphalerite, tennantite and traces of an unidentified sulphosalt are present.

Data from the airborne magnetic survey indicates that the mineralization associated with the Mineral Hill prospect and the main copper geochemical anomalies identified by Texas Gulf are associated with a broad, north to northeast trending magnetic low. The total field magnetics data are included as figure 6.

The magnetic anomaly extends for up to two kilometres to the north and south of the limits of the geochemical anomaly defined by Texas Gulf and parallels the interpreted contact between the intrusive rocks in the north eastern and eastern parts of the property and the andesites belonging to the Stuhini group in the central part of the property. The outline of the inferred prospective contact zone is shown in figure 6 and figure 7.

In the southern part of the property in an area mapped as undifferentiated sediments belonging to the Stuhini Group the magnetic survey defined an irregular shaped magnetic high, approximately one kilometre in diameter that is interpreted as a buried or blind, alkalic intrusion. The location of this inferred intrusive is shown in figure 7. Magnetic highs in the western part of the property are tentatively interpreted as erosion remnants of the Tertiary plateau basalts that form part of the Level Mountain Group.

The total cost of the work completed between mid October and mid December of 2006 by Panorama Resources was \$103,575.00.





## **9. DRILLING**

No drilling was carried out by on the Ketchum Lake Property by Panorama Resources Ltd.

## **10. SAMPLING METHOD AND APPROACH**

As noted in Section 8. Exploration the only sampling that was carried out was a verification sampling program designed to confirm that significant copper-gold mineralization is present at the Mineral Hill prospect.

## **11. SAMPLE PREPARATION, ANALYSIS AND SECURITY**

All samples collected by the author from the Ketchum Lake Property were sealed in plastic sample bags and shipped by bonded commercial transport to ALS Chemex in North Vancouver.

All samples were prepared and analyzed by ALS Chemex. Samples were dried, crushed to -100 mesh and analyzed by AA23 for gold and by ICP 41 for copper and a suite of 41 elements. All overlimit copper analyses were performed by gravimetric methods with a error range of 0.01%. Additional details are included in the analytical report included as Plate 3.

Standard QA and QC procedures were implemented by ALS Chemex and the variability of all reported analyses are within acceptable industry standards.

## **12. DATA VERIFICATION**

As noted in Section 8. Exploration the only sampling that was carried out was a verification sampling program designed to confirm that significant copper-gold mineralization is present at the Mineral Hill prospect. The assay results of twelve grab and select samples carried out from within the reported mineralized zone are listed in Table 2.

Details of this sampling program are included in Section 8. Sample preparation and sample analysis procedures are described in the preceding Section 11.

The geochemical survey completed by Texas Gulf has not been verified.

The results of the orientation induced polarization survey by Texas Gulf have also not been confirmed.

### **13. ADJACENT PROPERTIES**

There are no adjacent properties of interest.

### **14. MINERAL PROCESSING AND METALLURGICAL TESTING**

There is no mineral processing or metallurgical testing data from the project.

### **15. MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES**

There is no mineral resource compliant with CIM Standards on Mineral Resources and Reserves (CIM, 2000) and therefore no NI 43-101 compliant resource for the property.

### **16. OTHER RELEVANT DATA AND INFORMATION**

There is no other relevant data or information concerning the property.

### **17. INTERPRETATION AND CONCLUSIONS**

The geological maps published by the BC Ministry of Energy and Mines confirm that the Ketchum Lake Property is crosscut by north northwest and north east trending fault zones and is underlain by Triassic aged volcanics and late Triassic to early Jurassic aged syenitic intrusives. This geological setting is an important host for porphyry copper-gold mineralization in the Stikine area of north western British Columbia.

Geochemical surveys and geophysical surveys completed by Texas Gulf in the early 1970's partially defined an area of elevated copper values in soils and reportedly identified a zone of copper mineralization in the northern part of the survey grid.

The technical reports published by Texas Gulf and the verification sampling program carried out by the author confirm that there is a significant zone of copper-gold mineralization present on the Ketchum Lake Property. Potential extensions of the known mineralized areas are either masked by recent volcanics or by overburden cover. Additional detailed sampling will be required to delineate potential extensions of this zone. Additional sampling is also required to assess potential south and southeast extensions of the geochemical anomalies identified by Texas Gulf.

Results of the airborne geophysical survey and verification sampling completed by Panorama confirm that there is potential to expand the known mineralization and potential to identify additional mineralized zones.

## 18. RECOMMENDATIONS AND COST ESTIMATE

A three Stage exploration program is recommended. In order to conduct an effective exploration program a temporary tent camp may need to be constructed on the property. The costs of constructing a camp are included in Stage 1. . Alternatively, in the event that a charter helicopter is available in Telegraph Creek at the time the project is completed field crews can access the property via helicopter for comparable costs.

Stage 1 should consist of detailed geological mapping, geochemical surveys and hand trenching. Two main grid areas are proposed. The North Grid will cover potential north extensions of the Mineral Hill prospect and will consist of approximately 800 samples. The South Grid is designed to test for potential south and south east extensions of the soil anomaly identified by Texas Gulf. The South Grid will consist of approximately 1200 samples. The proposed grid areas are clearly shown in Figure no.7. The estimated cost of Stage 1 is \$215,000.

### Stage 1

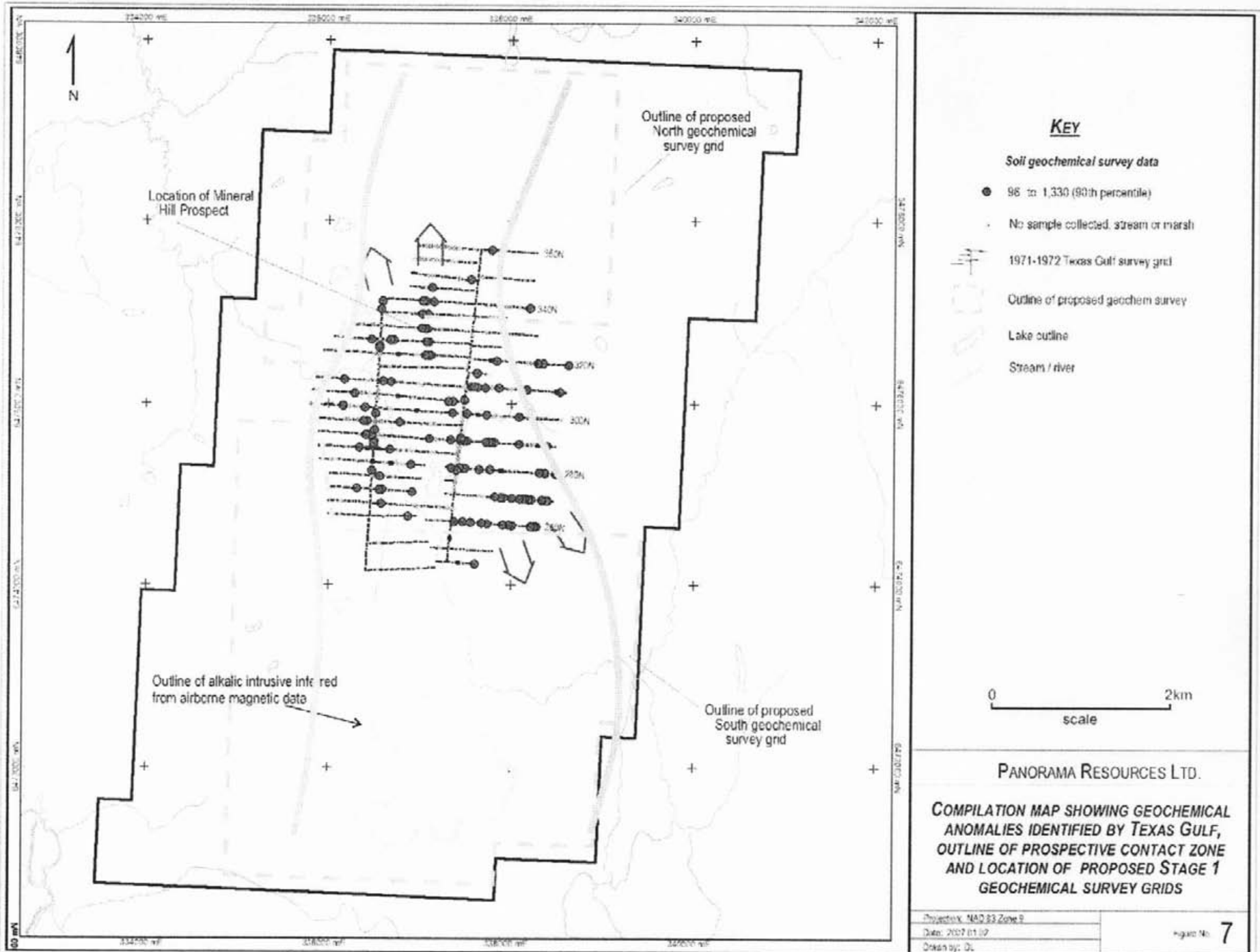
Engineering and supervision	\$ 20,000
Crew and camp mobilization	25,000
Camp supply and construction	50,000
Geochemical surveys	75,000
Assays and technical reports	25,000
Contingency @ %10%	20,000
Total	<u>\$215,000</u>

Stage 2, contingent on the results of Stage 1, should consist of detailed induced polarization geophysical surveys to delineate potential drill targets. Allowance is made for a total of up to 100 line kilometres of induced polarization survey.

### Stage 2

Engineering and supervision	\$ 37,500
Support crew and geophysical crew mobilization	25,000
Camp supply	25,000
Geophysical surveys	125,000
Trenching and sampling target areas	25,000
Interpretation and technical reports	12,500
Contingency @ %10%	25,000
Total	<u>\$275,000</u>

The estimated cost of detailed geophysical surveys is estimated at \$275,000.



**KEY**

**Soil geochemical survey data**

- 96 to 1,330 (90th percentile)
- ⊕ No sample collected, stream or marsh
- 1971-1972 Texas Gulf survey grid
- Outline of proposed geochem survey
- Lake outline
- Stream / river



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**COMPILATION MAP SHOWING GEOCHEMICAL ANOMALIES IDENTIFIED BY TEXAS GULF, OUTLINE OF PROSPECTIVE CONTACT ZONE AND LOCATION OF PROPOSED STAGE 1 GEOCHEMICAL SURVEY GRIDS**

Project: MAD 83 Zone 9	Figure No. <b>7</b>
Date: 2007 01 02	
Drawn by: DL	

### Stage 3

In the event that co-incident geochemical and geophysical targets are defined in Stage 1 and 2 a program of diamond drill testing would be warranted,

Stage 3 should consist of a minimum 2,000 meter drill program to test any co-incident geochemical and induced polarization geophysical anomalies

### Stage 3

Engineering and supervision	\$ 50,000
Support crew and drill crew and equipment mobilization	50,000
Camp supply	75,000
Diamond drilling (2,000 meters @ \$125)	250,000
Assays and technical report	25,000
Contingency @ %10%	45,000
Total	<u>\$495,000</u>

The estimated cost of an initial drill program is estimated is estimated at \$495,000.

## 19. SOURCES OF INFORMATION

### Publications

Newell, J.M., Delancy, P.R., 1972, ARIS Assessment Report No. 3695: Geological and Geochemical Report on the Pet Mineral Claims., January, 1972. Texas Gulf Sulfur Company

Newell, J.M., Podolsky, G., and Deighton, J.R., 1972, ARIS Assessment Report No. 4095: Geological and Geophysical Report on the Pet Mineral Claims., January, 1973. Texas Gulf Inc.

Travis, A., Keewatin Consultants, ARIS Assessment Report No. 27,435: Geochemical and Geophysical Report on the Copper Creek Property, dated March 31, 2004

### Internet Sites

Note: all data from BC Ministry of Mines downloaded from:  
<http://www.em.gov.bc.ca/Mining/Geolsurv/MapPlace/geoData.htm>

## 20. CERTIFICATE OF QUALIFICATION

I, Carl von Einsiedel, 8888 Shook Rd., Mission, British Columbia, V2V-7N1, hereby certify that:

- 1) I am a consulting geologist with an office at 1124-470 Granville Street, Vancouver, British Columbia, V6C 1V5
- 2) This certificate applies to the Technical Report on the Ketchum Lake Property north western British Columbia dated January 30, 2007 prepared for Panorama Resources Ltd., Vancouver, B.C.
- 3) I am a graduate of Carleton University in Ottawa, Ontario, Canada in 1987 with a BSc. in Geology. I am a member in good standing of the Association of Professional Engineers and Geoscientists of the Province of British Columbia. I have practiced my profession as a geologist throughout the world continuously since 1987.
- 4) I visited the Ketchum Lake Property from October 16 to 18, 2006 for a total of three days. I personally supervised all of the exploration work carried out by Panorama Resources Ltd. between September 15, 2006 and December 30, 2006.
- 5) In the Independent Report titled "Review of Technical Information and Proposed Exploration Program on the Ketchum Lake Property", I am responsible for all sections of the report.
- 6) I have read the definition of "qualified person" set out in National Instrument 43-101 and certify that by reason of education, experience, independence and affiliation with a professional association, I meet the requirements of an Independent Qualified Person as defined in National Policy 43-101.
- 7) I have had no prior involvement with the Property that is the subject of this report.
- 8) I am not aware of any material fact or material change with respect to the subject matter of the technical report that is not reflected in the Technical Report.
- 9) I have read National Instrument 43-101, Standards for Disclosure of Mineral Properties. This Technical Report has been prepared in compliance with National Instrument 43-101.
- 10) As of the date of this certificate, to my the best of my qualified knowledge, information and belief, this technical report contains all the scientific and technical information that is required to be disclosed to make the report not misleading.
- 11) I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public files on their websites accessible by the public.

Dated this 30<sup>th</sup> day of January, 2007

---

Carl von Einsiedel, P.Geo.



## STATEMENT OF EXPENSES

Ketchum Lake Project, Northwestern British Columbia  
Expenditures for the period September 20 to December 30, 2006

Geological Consulting Fees for the period September 20 to October 14, 2006

Fees charges for the period September 20 to October 15, 2006: project planning, liason with Fugro Airborne Surveys, Spectrum Mapping Corp., Ministry of Mines, Pacific Western Helicopters, research, acquisition and review of historic database

Carl von Einsiedel, BSc.: 13 days @ \$600.00 \$ 7,800.00

Charges for GIS and database compilation for the period September 20 to December 30, 2006, large format plotting services, computer technical support, geo-referencing and preparation of field maps for verification of mineralization reported by Texas Gulf, digitizing UTM locations for copper and zinc geochemical survey database, manual input copper and zinc assay data.

Charges for geo-referencing Texas Gulf technical drawings  
-39 hours @ \$65 \$ 2,535.00

Charges for large format colour plotting  
-printing of 26 24"x36" colour plots @ \$50 each 1,280.00

Charges for digitizing copper and zinc geochemical survey database, 1193 samples from Texas Gulf technical reports, re-contouring and data base review in Map Info Discover format  
-112 hours @ \$65 7,280.00

Travel and field expenses

-Vancouver to Smithers \$ 687.93  
-Smithers to Dease Lake 408.23  
-Dease lake to Smithers 640.11  
-Dease Lake hotel, meals 342.49  
-long distance, cellular charges 230.00

Sub-total \$ 2,308.76

Charges for preparation of detailed topographic mapping from existing aerial photography (Spectrum Mapping Corp.)

-aerial photography and related materials \$ 2,411.78  
-TRIM mapping triangulation 632.50  
-preparation of 5m elevation model from low level aerial photography 5,238.25

Sub-total \$ 8,282.53

Charges for helicopter charter in Dease Lake (Pacific Western Helicopters)

-charter hours as per flight report 1.9 hours \$ 2,208.76

Geological Consulting Fees for the period October 15 to December 30, 2006

Fees charges for the period October 15 to December 30, 2006: travel to Ketchum lake project site, field examinations, ongoing project review and logistics with Fugro Airborne Surveys, co-ordinate GIS database compilation, rock sample descriptions and liason with ALS Chemex, review and co-ordinate geo-referencing of large format drawings from assessment report numbers 3095, 4096

Carl von Einsiedel: 15 days @ \$600.00 \$ 9,000.00

Charges for geochemical analyses at ALS Chemex

-rock sample analyses at ALS Chemex Vancouver \$ 944.14

Charges for airborne magnetic survey, survey mobilization including fuel placement and weather standby time - Fugro Airborne Surveys – charges for magnetic survey as per Contract No: 06081-2

Airborne magnetic survey 347.40 line kilometers \$45,943.64

Pro-rated survey mobilization charges 10,925.00

Pro-rated standby charges 5,175.00

Sub-total \$62,043.64

Total expenditures for the period September 15 to December 30, 2006 103,682.83

Appendix 1: ALS Chemex assay report No: VA06106573  
(for verification samples collected from the Mineral Hill Prospect)



# ALS Chemex

EXCELLENCE IN ANALYTICAL CHEMISTRY

ALS Canada Ltd.

212 Brooksbank Avenue

North Vancouver BC V7J 2C1

Phone: 604 984 0221 Fax: 604 984 0218 www.alschemex.com

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8888 SHOOK ROAD  
MISSION BC V2V 7N1

Page: 1  
Finalized Date: 31-OCT-2006  
Account: PJA

## CERTIFICATE VA06106573

Project: Pet

P.O. No.:

This report is for 12 Rock samples submitted to our lab in Vancouver, BC, Canada on 23-OCT-2006.

The following have access to data associated with this certificate:

CARL VON EINSIEDEL

## SAMPLE PREPARATION

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

## ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
ME-ICP41	34 Element Aqua Regia ICP-AES	ICP-AES
Cu-AA46	Ore grade Cu - aqua regia/AA	AAS
Zn-AA46	Ore grade Zn - aqua regia/AA	AAS
Au-AA23	Au 30g FA-AA finish	AAS

To: RAM EXPLORATION LTD.  
ATTN: CARL VON EINSIEDEL  
8888 SHOOK ROAD  
MISSION BC V2V 7N1

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

Signature:

Keith Rogers, Executive Manager Vancouver Laboratory



# ALS Chemex

EXCELLENCE IN ANALYTICAL CHEMISTRY

ALS Canada Ltd.

212 Brooksbank Avenue  
North Vancouver BC V7J 2C1

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Page: 2 - A  
Total # Pages: 2 (A - C)  
Finalized Date: 31-OCT-2006  
Account: PJA

Project: Pet

## CERTIFICATE OF ANALYSIS VA06106573

Sample Description	Method Analyte Units LOR	WEI-21	Au-AA23	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	
		Recvd Wt. kg	Au ppm	Ag ppm	Al %	As ppm	B ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %
		0.02	0.005	0.2	0.01	2	10	10	0.5	2	0.01	0.5	1	1	1	0.01
TR001-01		1.14	0.343	6.7	0.28	2150	<10	50	0.8	<2	0.30	<0.5	84	2	>10000	14.90
TR001-02		0.84	0.126	5.3	0.19	741	<10	50	0.8	5	3.68	<0.5	158	2	>10000	12.20
TR001-03		0.66	0.387	6.4	0.23	1760	<10	80	0.7	8	0.11	<0.5	97	<1	>10000	20.1
TR001-04		0.38	0.175	6.0	0.27	1260	<10	40	0.7	12	0.28	<0.5	241	3	>10000	12.25
TR001-05		0.48	0.539	20.7	0.16	634	<10	20	<0.5	<2	0.01	<0.5	260	<1	>10000	28.6
TR001-06		0.66	0.047	2.0	0.10	416	<10	170	1.3	<2	0.56	<0.5	50	<1	>10000	30.4
TR001-07		0.90	0.360	5.7	0.26	2620	<10	20	0.5	7	0.10	<0.5	57	2	>10000	12.30
TR001-08		0.88	0.081	1.8	0.30	1020	<10	170	0.6	13	0.97	<0.5	28	7	>10000	6.87
TR002-01		0.52	0.055	0.9	0.41	751	<10	140	1.3	<2	0.43	2.7	167	3	>10000	12.75
TR002-02		0.50	0.283	8.5	0.43	1510	20	520	2.2	31	0.15	49.8	275	4	8580	17.3
TR002-03		0.88	0.066	1.0	0.43	928	<10	320	1.3	<2	0.46	5.5	167	4	>10000	14.3
TR002-04		1.32	0.090	2.6	0.50	588	10	140	1.0	<2	0.65	2.8	504	2	>10000	12.55



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Total # Pages: 2 (A - C)

Finalized Date: 31-OCT-2006

Account: PJA

Project: Pet

## CERTIFICATE OF ANALYSIS VA06106573

Sample Description	Method	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	
	Analyte	Ga	Hg	K	La	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sc	Sr
Units		ppm	ppm	%	ppm	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm
LOR		10	1	0.01	10	0.01	5	1	0.01	1	10	2	0.01	2	1	1
TR001-01		<10	1	0.03	<10	0.07	382	7	<0.01	16	560	5	4.17	13	9	7
TR001-02		<10	2	0.03	<10	1.45	571	3	0.01	13	540	17	2.85	20	7	52
TR001-03		<10	1	0.02	<10	0.03	188	4	<0.01	2	540	16	1.89	26	9	8
TR001-04		<10	<1	0.03	<10	0.08	309	2	0.01	20	480	10	3.79	12	4	9
TR001-05		<10	2	0.02	<10	<0.01	70	5	<0.01	22	120	91	4.63	11	4	8
TR001-06		<10	<1	<0.01	<10	0.05	312	3	<0.01	<1	60	40	0.87	18	8	8
TR001-07		<10	3	0.02	<10	0.02	238	5	<0.01	11	430	9	3.42	37	6	5
TR001-08		<10	2	0.05	<10	0.17	463	5	0.02	11	950	4	1.59	24	5	12
TR002-01		<10	1	0.03	10	0.91	465	3	0.02	16	670	30	1.06	13	7	20
TR002-02		10	2	0.04	<10	0.10	460	11	0.01	13	520	728	0.46	36	7	23
TR002-03		10	1	0.03	10	0.73	465	3	0.02	17	700	35	1.06	11	7	24
TR002-04		<10	<1	0.03	<10	0.59	418	8	0.03	13	710	51	2.33	6	4	24



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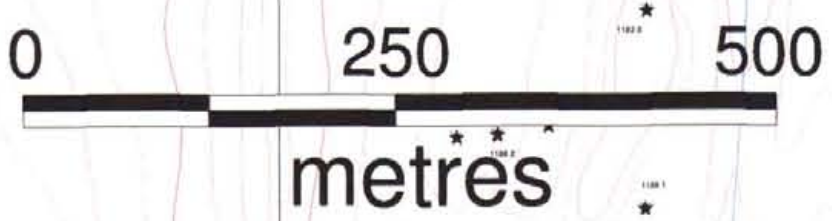
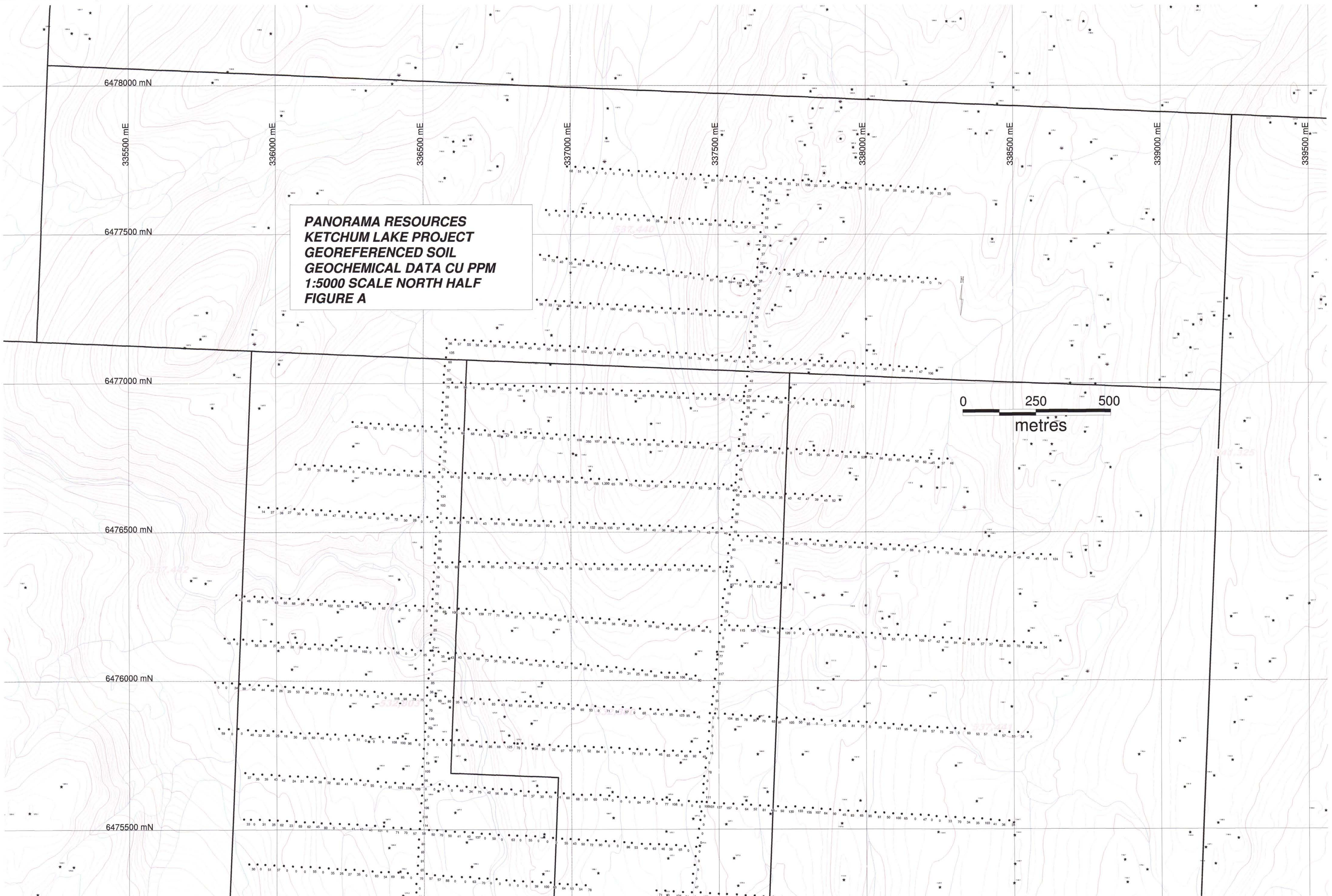
## CERTIFICATE OF ANALYSIS VA06106573

Sample Description	Method Analyte Units LOR	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	Cu-AA46	Zn-AA46
		Ti	Ti	U	V	W	Zn	Cu	Zn
		%	ppm	ppm	ppm	ppm	ppm	%	%
		0.01	10	10	1	10	2	0.01	0.01
TR001-01		<0.01	<10	<10	64	50	32	8.68	
TR001-02		0.01	<10	<10	101	90	38	3.69	
TR001-03		0.01	<10	<10	168	200	37	3.02	
TR001-04		0.01	<10	<10	57	30	40	5.03	
TR001-05		0.03	<10	<10	101	190	51	4.04	
TR001-06		0.03	<10	<10	122	190	38	1.72	
TR001-07		<0.01	<10	<10	43	20	27	8.58	
TR001-08		<0.01	<10	<10	58	10	31	2.80	
TR002-01		0.04	<10	<10	98	20	591	1.10	
TR002-02		0.03	<10	<10	90	30	>10000		1.10
TR002-03		0.05	<10	<10	106	40	718	1.35	
TR002-04		0.06	<10	<10	60	20	605	1.64	

Appendix 3: Copy of helicopter Borne Stinger Mounted magnetic Survey for  
Panorama Resources Ltd. Ketchum Lake Project,  
dated January 11, 2007



**PANORAMA RESOURCES  
KETCHUM LAKE PROJECT  
GEOREFERENCED SOIL  
GEOCHEMICAL DATA CU PPM  
1:5000 SCALE NORTH HALF  
FIGURE A**



6478000 mN

335500 mE

336000 mE

336500 mE

337000 mE

337500 mE

338000 mE

338500 mE

339000 mE

339500 mE

6477500 mN

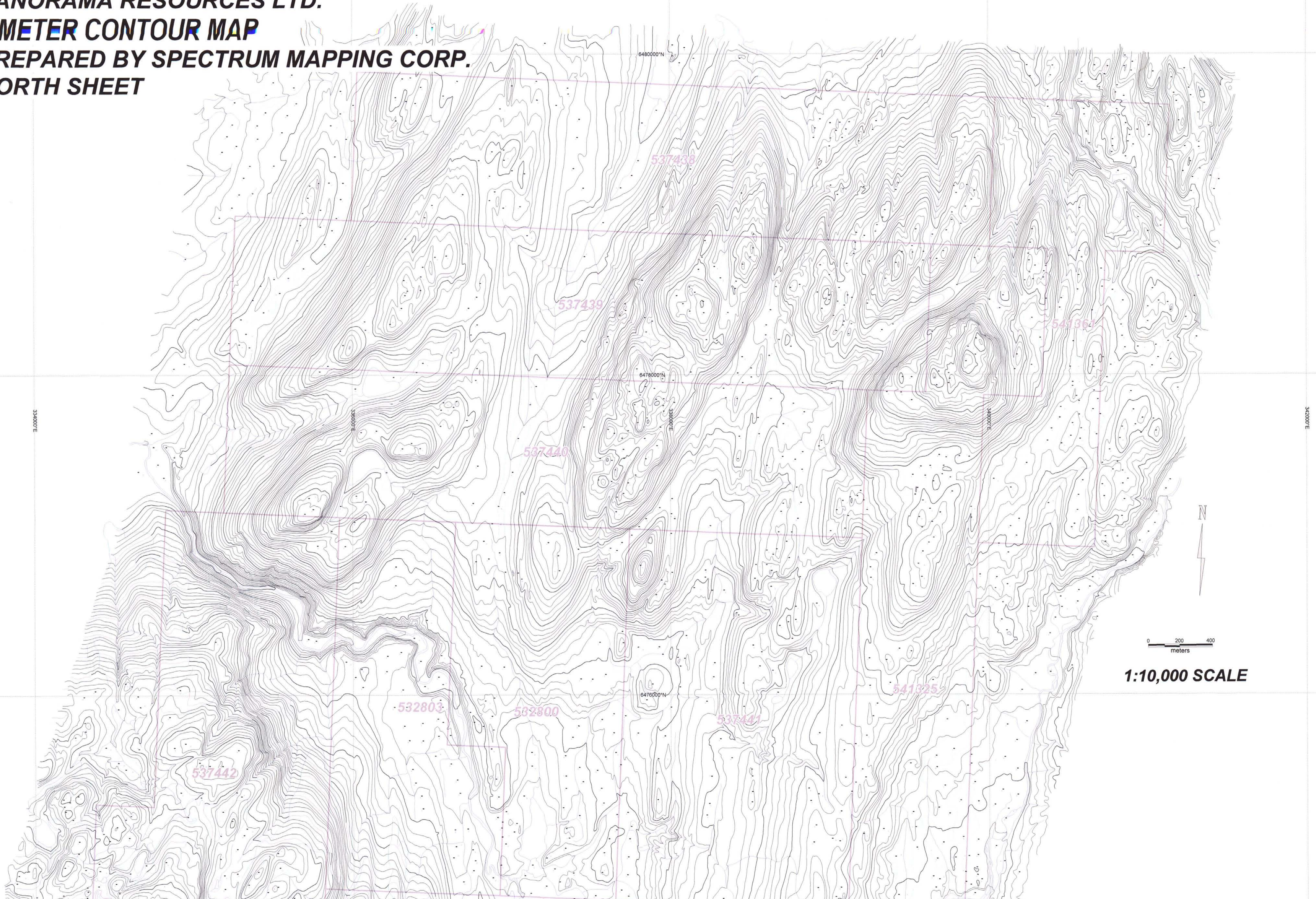
6477000 mN

6476500 mN

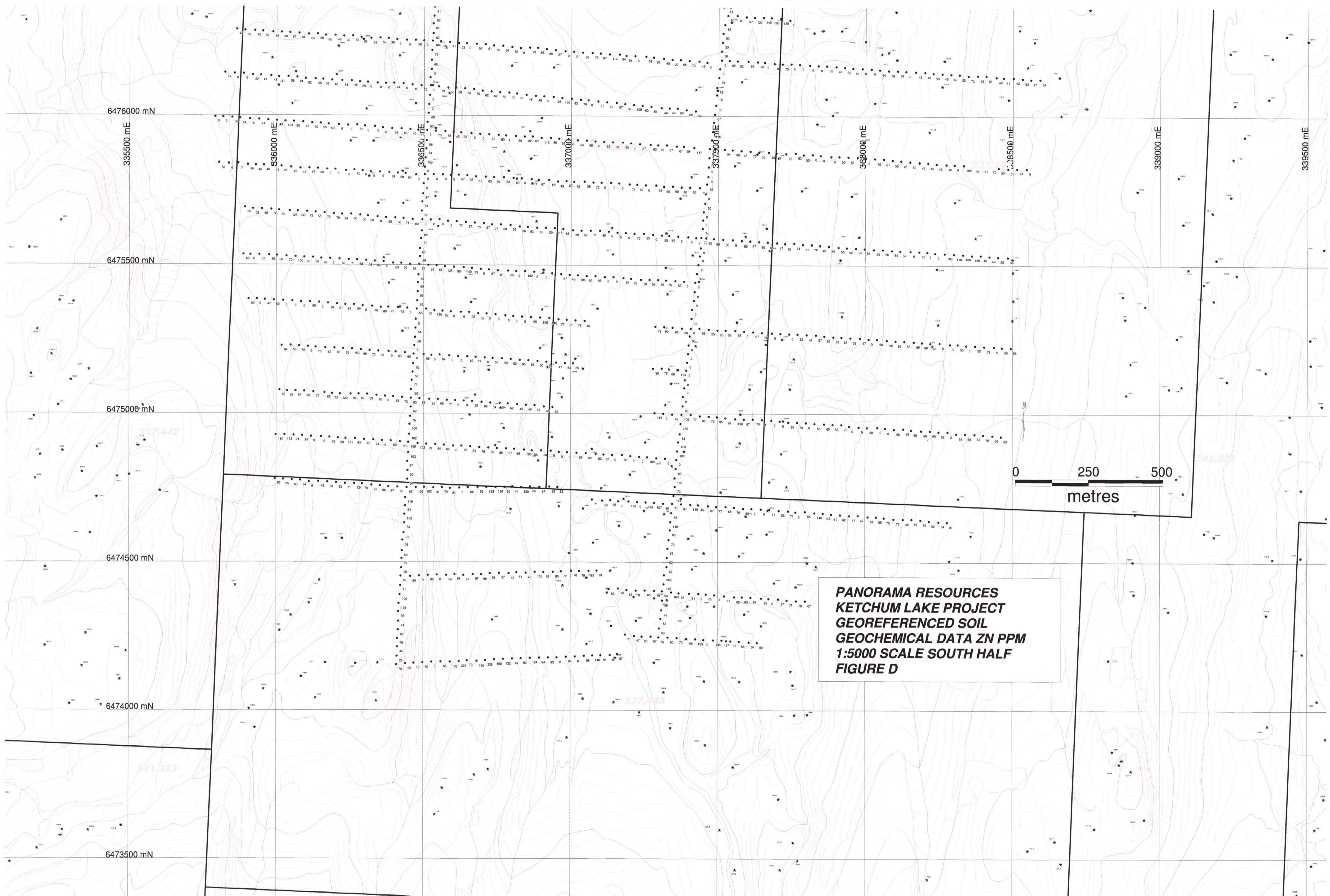
6476000 mN

6475500 mN

**PANORAMA RESOURCES LTD.  
5 METER CONTOUR MAP  
PREPARED BY SPECTRUM MAPPING CORP.  
NORTH SHEET**



**1:10,000 SCALE**



6478000 mN

335500 mE

336000 mE

336500 mE

337000 mE

337500 mE

338000 mE

338500 mE

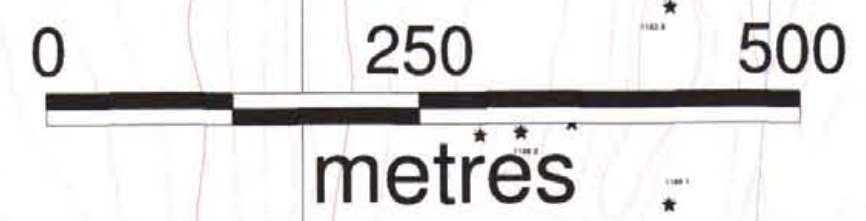
339000 mE

339500 mE

6477500 mN

**PANORAMA RESOURCES  
 KETCHUM LAKE PROJECT  
 GEOREFERENCED SOIL  
 GEOCHEMICAL DATA ZN  
 1:5000 SCALE NORTH HALF  
 FIGURE C**

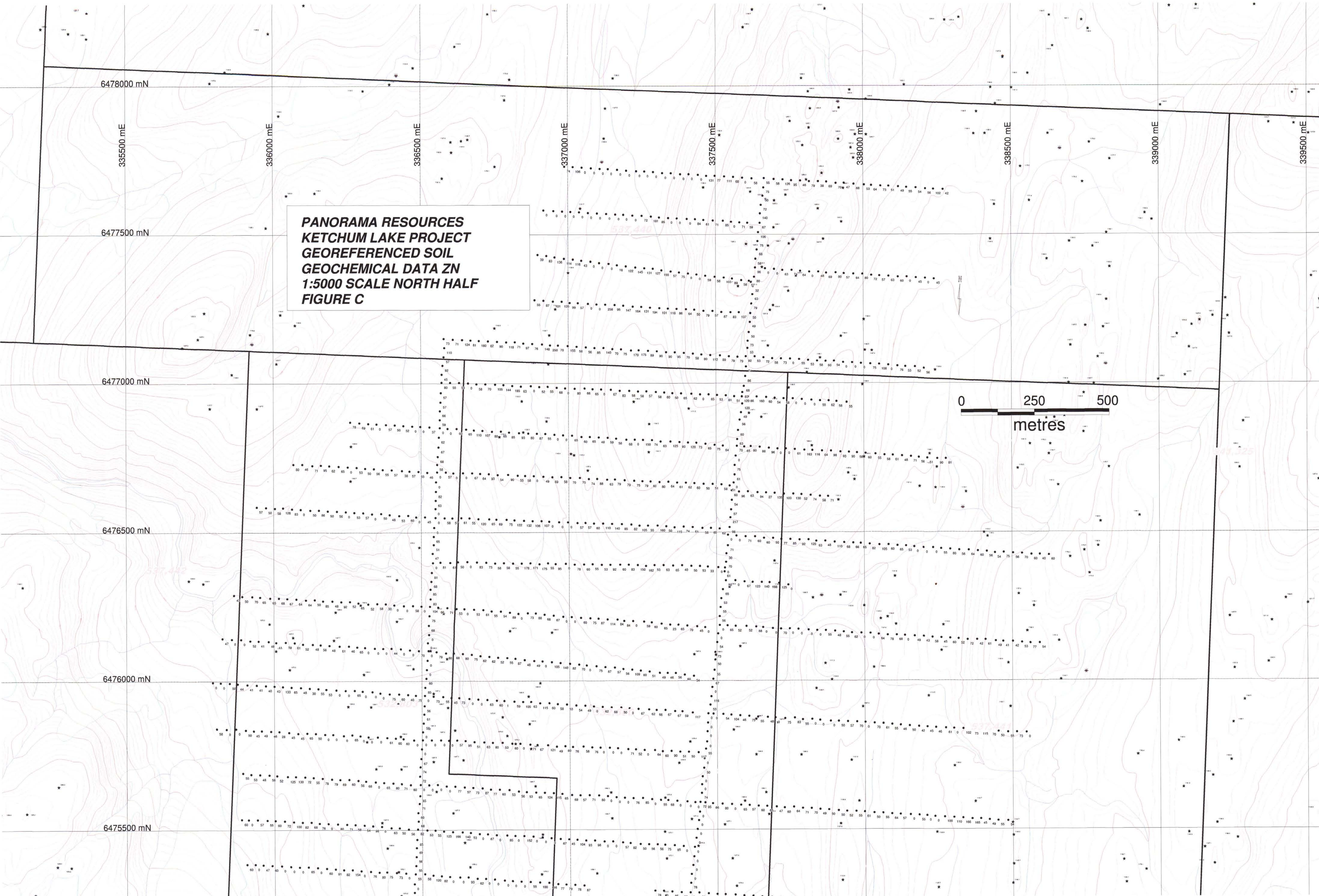
6477000 mN

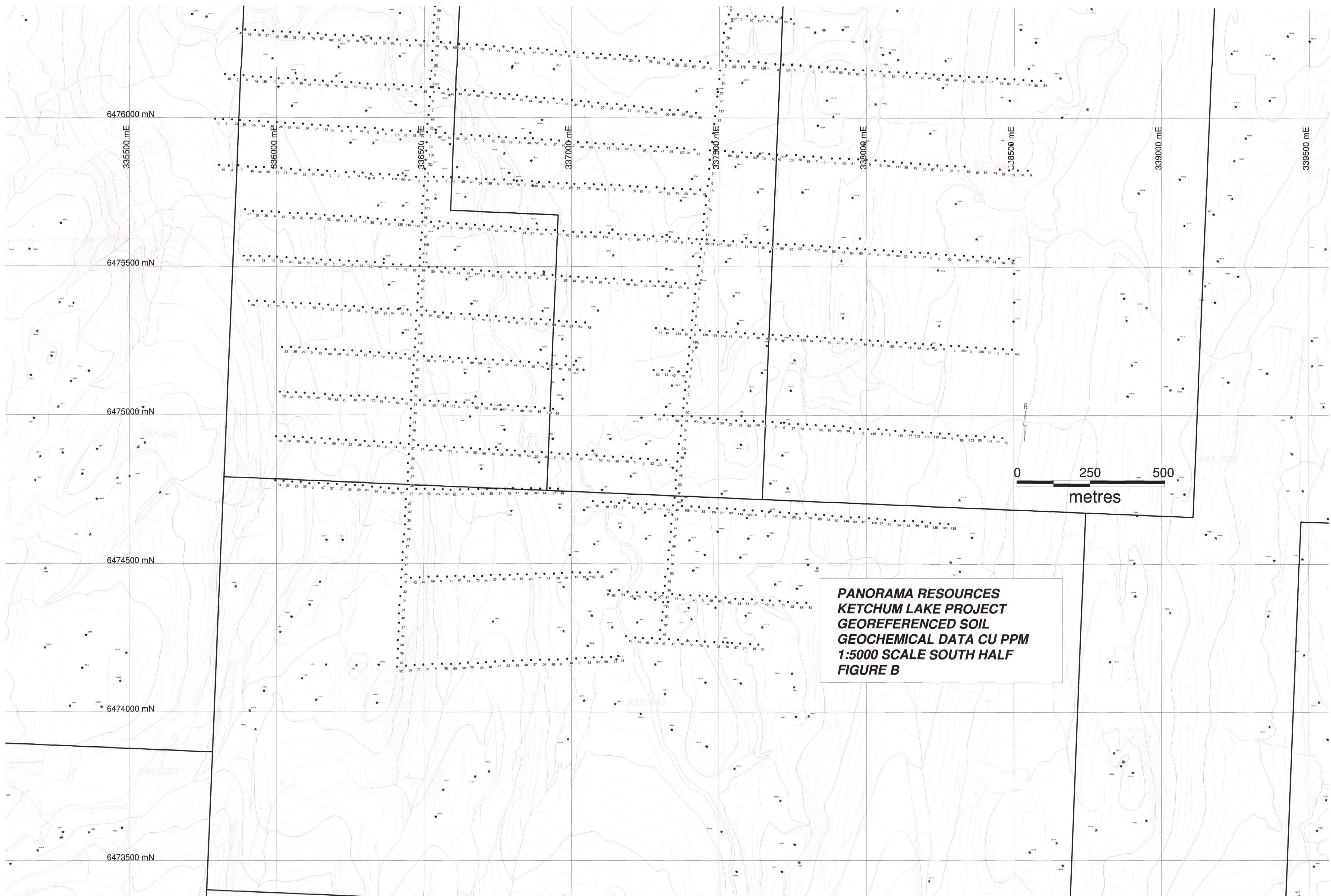


6476500 mN

6476000 mN

6475500 mN





6476000 mN

335500 mE

6475500 mN

6475000 mN

6474500 mN

6474000 mN

6473500 mN

336000 mE

336500 mE

337000 mE

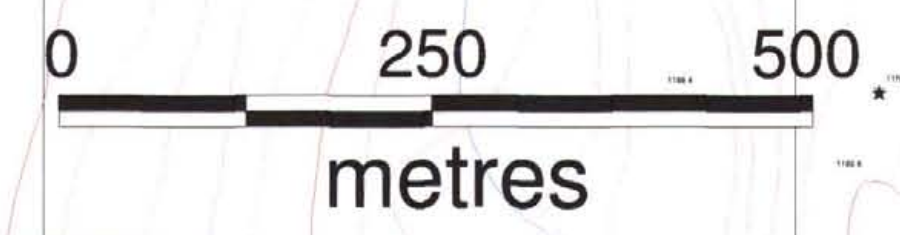
337500 mE

338000 mE

338500 mE

339000 mE

339500 mE



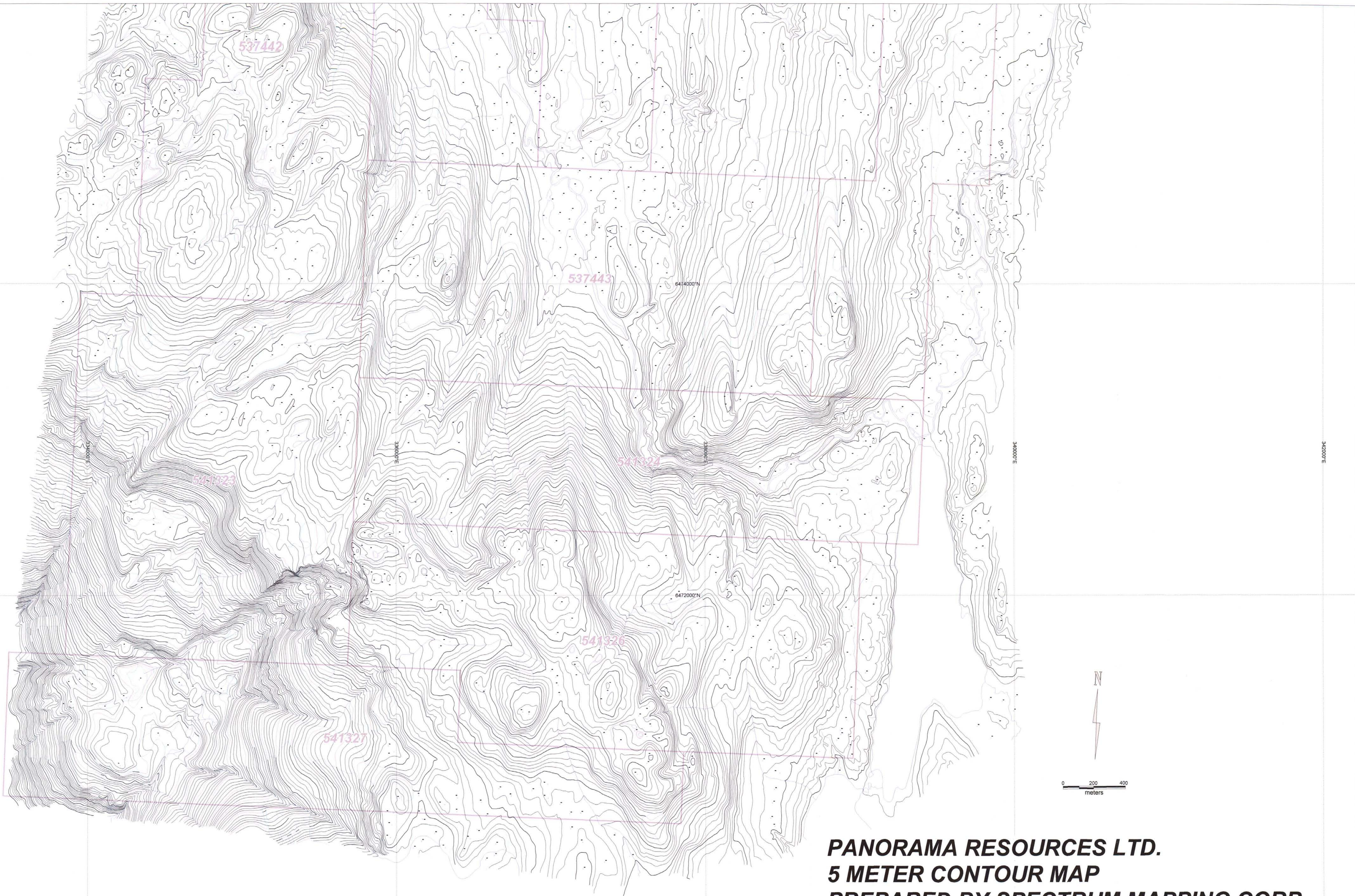
**PANORAMA RESOURCES  
KETCHUM LAKE PROJECT  
GEOREFERENCED SOIL  
GEOCHEMICAL DATA CU PPM  
1:5000 SCALE SOUTH HALF  
FIGURE B**

537,442

541,325

537,443

541,325



**PANORAMA RESOURCES LTD.**  
**5 METER CONTOUR MAP**  
**PREPARED BY SPECTRUM MAPPING CORP.**  
**SOUTH SHEET**

**1:10,000 SCALE**