

**Air Photo Study
of Surficial Geology of the Southern Access Route for the
Carmacks Copper Project**

Whitehorse Mining District
Yukon Territory
NTS 115I/07
Latitude: 62° 21'
Longitude: 136° 41'

Quartz Claims:

Claim	Grant #
BOY 20	Y 51118
BOY 51	Y 51149
BOY 52	Y 51150
BOY 53	Y 51151
BOY 54	Y 51152
BOY 83	Y 51181
WAR 22	Y 59373
DUN 1	Y 59382
W 1 - 37	YB26708 - 44
W 41 - 43	YB26748 - 50
WAR 23 - 31	YB36240 - 48
W 50 - 53	YB36249 - 52
W 55	YB36254
W 57	YB36256
WAR 32 - 37	YB36446 - 51
WC 5 - 18	YB36693 - 706
WC 23 - 36	YB36711 - 724
WC 40	YB36728
WC 41 - 54	YB36729 - 42

Claim	Grant #
WC 57 - 72	YB36745 - 60
WAR 38 - 50	YB36765 - 77
X 3 - 4	YB36898 - 99
W 91 - 93	YB36929 - 31
W 95	YB36933
X 5 - 7	YB36962 - 64
VW 11	YB96620
VW 13	YB96622
VW 17 - 21	YB96626 - 30
VW 23	YB96632
VW 25	YB96634
VW 27 - 38	YB96636 - 47
VW 40 - 50, 60, 61	YB96986 - 98
TT 1	YB97068
TT 2	YB97251
REM 1 - 35	YC39221 - 54
WCC 1 - 40	YC60381 - 420
GAP 1 - 5	YC65320 - 24
HIP 1 - 27	YC65320 - 80
JIM 1 - 30	YC66844 - 73

By:

S. G. Casselman, B.Sc., P. Geo.
33 Firth Road, Whitehorse, Yukon, Y1A 4R5

For:

Western Copper Corporation
2050 - 1111 West Georgia Street
Vancouver, BC, V6E 4M3

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SUMMARY

In 2008, Western Copper Corporation contracted Access Consulting Group to perform an air photo interpretation study of the southern part of the Carmacks Copper claim group to identify possible sources of aggregate to be used for access road construction and mine development work at the site. The property is located on Williams Creek, 200 km north of Whitehorse, or 38 km north, northwest of Carmacks, Yukon. It is accessible by 4x4 vehicles via the Freegold Road and the Carmacks Copper access road. The property consists of 318 Quartz Claims and 20 Mining Leases owned 100% by Carmacks Copper Corporation, a subsidiary of Western Copper Corporation.

The air photo interpretation study used 1:10,000 scale air photos collected by a Government of Canada survey in 1994, and surficial geology maps at a scale of 1:100,000, published by the Geological Survey of Canada. The photos and geology maps were scanned and georeferenced in ArcGIS software. The overlapping images were then compared to delineate surficial units as potential sources of granular aggregate. Granular deposits were delineated by outlining areas of exposed soils which intersected surficial units suitable for bulk fill and aggregate. These findings were enhanced by a very limited amount of surficial geological observations made in the field and from overburden encountered in drill cores during exploration drilling.

The study identified a number of potential sources of low permeability bulk fill, clay and silt from glacial till units and sources of sand, gravel and cobbles from alluvial and glaciofluvial deposits. The till units blanket much of the property area, while the alluvial and glaciofluvial deposits generally occur in the valley bottom or paleo-outwash channels. These sources, however, will require proper geotechnical investigation to confirm the quality and quantity of granular resource.

Recommendations for further assessment of the aggregate sources on the property are to determine the quantity and quality of the sand and gravel sources already identified on the property. Additional sources may also be identified in close proximity to the proposed mine access road, the proposed camp, plant location, heap and waste rock storage areas. A 10 day to two week mapping and assessment program with the assistance of an excavator is recommended for evaluating existing sources and to look for any additional sources.

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1.0 INTRODUCTION

In the summer of 2008, Western Copper Corporation initiated a study to identify sources of granular aggregate in preparation for road construction and mine development work at the Carmacks Copper site. Western Copper contracted Access Consulting Group of Whitehorse, Yukon to perform an air photo interpretation study to locate and identify surficial deposits suitable for aggregate in southern part of the property, which includes the mine site and mine access road. This study was enhanced by a very limited amount of cursory surficial geological observations made in the field by the author and by observations of overburden where recovered from drilling during exploration programs in 2006, 2007 and 2008.

This report was prepared by Scott Casselman, B.SC, P.Geo, of Casselman Geological Services Ltd. of Whitehorse, Yukon. The report incorporates the results of the air photo interpretation and the resultant map prepared by Access Consulting Group with the observations of the author.

2.0 LOCATION AND ACCESS

The Carmacks Copper Property is located on Williams Creek in the Dawson Range Mountains, 200 km north of Whitehorse, or 38 km north, northwest of Carmacks, Yukon (Figure 1). It is located on NTS map sheet 115I/07 and is centered at latitude 62° 21' N and longitude 136° 41' W.

Access to the property is by way of the Freegold Road northwest of Carmacks for 34 km then by the Carmacks Copper access road for 13 km to the property. The Freegold Road is a narrow, twisty gravel road that is maintained by the Yukon Government in the spring through fall, but generally not in the winter at this time. The property access road is narrow and rough with steep sections and requires 4x4 capabilities in inclement weather conditions.

3.0 CLAIM INFORMATION

The Carmacks Copper Property is in the Whitehorse Mining District and consists of 318 Quartz Claims and 20 Mining Leases acquired in accordance with the Yukon Quartz Mining Act. The claims are register in the name of, and owned 100% by Carmacks Copper Corporation, a subsidiary of Western Copper Corporation. The claim location map is included in Figure 2 (in the map pocket). A list of claim and lease information is provided in Appendix II.



WESTERN COPPER CORPORATION
CARMACKS COPPER PROPERTY
 Figure 1 Property Location Map

4.0 PHYSIOGRAPHY AND CLIMATE

The property is located in the Dawson Range Mountains. The area is characterized by gently rolling hills that are generally less than 1800 m elevation and are covered by black spruce, white spruce, pine, poplar, birch and alder trees at lower elevations and alpine grasses and scrub willows at higher elevations and in the alpine terrain.

North facing slopes are generally underlain by permafrost and are generally swampy or boggy with much less tree growth and thick sphagnum moss cover. South facing slopes are generally drier and, in some locations, are free of permafrost.

The climate of the property area is generally fairly dry in the summer months with most precipitation occurring in July and early August. In the winter months snow accumulation is generally less than 2 m. Temperatures generally range from -40° C in the winter to 30° C in the summer. Snow begins accumulating in mid to late September and is mostly melted by mid to late May.

5.0 PROPERTY HISTORY

The exploration history of the region dates back to the Klondike Gold Rush of 1898, when placer miners traveling the Yukon River started prospecting along the route. The first claims staked in the region were staked west of the Yukon River on Nancy Lee Creek, where miners high-graded copper mineralization from quartz veins from a number of small adits. These claims are now Crown Grants.

In 1969, the Casino Porphyry Deposit was discovered, which prompted a staking rush in the region. In March of 1970, the Boy Claims were staked forming the core of the Carmacks Copper Property. The property was optioned to the Dawson Range Joint Venture (DRJV), later that year. The DRJV consisted of Straus Exploration Inc., Great Plains Development of Canada Ltd., Trojan Consolidated Minerals Ltd. and Molybdenum Corporation of America.

The DRJV conducted a program of prospecting and geochemical sampling in the summer of 1970 and discovered two outcrops with copper oxide mineralization; the No. 1 and No. 2 zones. From 1970 through 1972, the DRJV evaluated the property with bulldozer trenching, soil geochemistry, VLF-EM geophysical surveying, geological mapping, an airphoto survey and 7,135 m of diamond drilling in 35 holes.

In 1982, the DRJV sold its' interest in the property to Archer, Cathro & Associates Ltd. In 1989, Archer, Cathro optioned the property to Western Copper Holdings Ltd. and Thermal Exploration Company. Western Copper and Thermal conducted metallurgical test work later that year.

From 1990 through 1992, Western Copper and Thermal upgraded the access road to the property, drilled 4,950 m in 50 diamond drill holes, 856 m in 11 Reverse Circulation holes, dug 22 trenches, conducted magnetic and VLF-EM geophysical surveys. The program was

successful in delineating and expanding the area of mineralization in Zone 1 and identifying additional copper oxide mineralization in Zone 4.

The companies also initiated baseline environmental studies, conducted additional metallurgical test work, a biophysical assessment of the area and contracted Knight Piesold Ltd to conduct geotechnical studies on the deposit consisting of test pit excavation, overburden sampling, oriented diamond drill core logging and geologic mapping.

In 1994, the companies expanded the grid on the property and conducted further magnetic and VLF-EM surveying, soil sampling and prospecting. Also in 1994, a Feasibility Study was prepared indicating that, based on the copper price at the time, the project was viable using open pit mining methods and solvent extraction-electrowinning.

In 1995, the company prepared a preliminary mine design and initiated clearing and grubbing of a site access road and leach pad area. The company submitted a mine permit application later that year.

The mining permit was not forthcoming and, due to changing market conditions the company withdrew the permit application. The property sat dormant until the re-initiation of permitting in 2005 and exploration in 2006. During this time the property was consolidated into a single company and it changed its' name to Western Silver Corporation.

In February, 2006 Western Silver Corporation was taken over by Glamis Gold and a new company, Western Copper Corporation, was formed. The Carmacks Copper Property was spun off to Western Copper as part of the arrangement.

From 2006 through 2007, Western Copper conducted an exploration program that consisted of 24,929 m of diamond drilling in 157 holes, 1,201 m of Rotary Air Blast (RAB) drilling in 61 holes, IP geophysical surveying, prospecting, access road upgrade work, line-cutting, 790 m of drilling in 33 overburden geotechnical holes and 55 m in one hydro-geological monitoring well, environmental baseline studies, surveying of drill hole collars and claim posts and re-initiation of the mine permitting process.

In December of 2007, Western Copper contracted Wardrop Engineering to calculate a resource estimate for the No 1, 4 and 7 zones. Wardrop calculated that the Carmacks deposit contained approximately 10 million tonnes of oxide resources in the combined measured plus indicated categories, grading 0.96% Cu as oxide, 0.17% Cu as sulphide, 0.519 g/t Au, and 4.938 g/t Ag. The deposit contains an additional 5.7 million tonnes of sulphide resources in the combined measured plus indicated categories grading 0.05% Cu as oxide, 0.71% Cu as sulphide, 0.227 g/t Au, and 2.244 g/t Ag. The mineral resources were reported at 0.25% total copper cutoff grade.

6.0 GEOLOGY

6.1 REGIONAL BEDROCK GEOLOGY

The regional geology was described by Bostock in 1936 and more recently by Tempelman-Kluit in 1975, 1980 and 1985 and is shown in Figure 3. Much of the regional geology is taken from Cavey, et. al. (2006).

The Carmacks region lies within the Intermontane Belt, which in the Carmacks map-area is divisible into the Yukon Cataclastic Terrane, Yukon Crystalline Terrane and Whitehorse Trough.

The Whitehorse Trough lies to the east of the Hoochekoo Fault, east of the Carmacks Copper Project. The Whitehorse Trough comprises Upper Triassic intermediate to basic volcanic capped by carbonate reefs (Povoas Formation) and Lower Jurassic greywacke, shale and conglomerate, derived from the underlying Upper Triassic granitic rocks (Laberge Group).

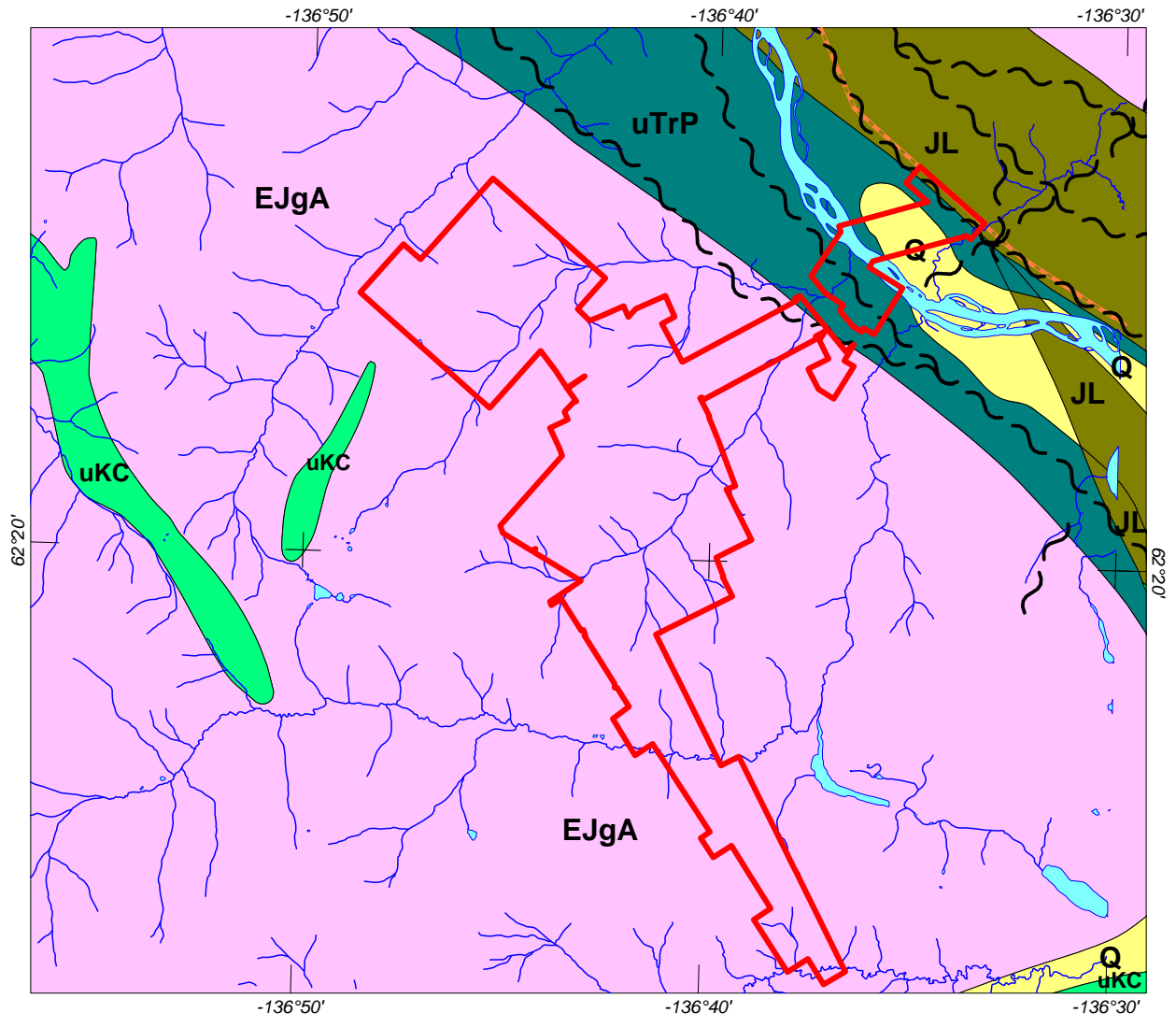
The Yukon Cataclastic Terrane includes hornblende-biotite-chlorite gneiss with interfoliated biotite granite gneiss, Permian Selwyn Gneiss, intruded by Early Jurassic Aishihik Suite Granite Mountain Batholith. Weakly foliated, mesocratic, biotite-hornblende, Granite Mountain granodiorite contains screens or pendants of strongly foliated feldspar-biotite-hornblende-quartz gneisses that host the Carmacks Copper deposit.

Younger plutonic rocks intrude all three divisions of the Intermontane Belt and the contacts between them. Carmacks Group and Mount Nansen volcanic rocks overlie portions of all older rocks, suggesting that they should not be classified in the Yukon Crystalline Terrane, but are younger rocks that obscure relationships between the older terrane rocks. Tempelman-Kluit (1985) has included the Carmacks Group in the Yukon Crystalline Terrane.

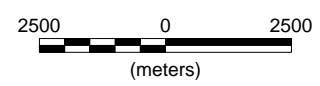
Mesozoic strata of the Whitehorse Trough are only exposed in fault contact with the Yukon Crystalline Terrane and Yukon Cataclastic Terrane, but may rest depositionally on them or certain of their strata. The relationship between the Yukon Crystalline Terrane and Yukon Cataclastic Terrane is unknown.

The predominant northwest structural trend is represented by the major Hoochekoo, Tatchun and Teslin faults to the east of the Carmacks Copper Project and the Big Creek Fault to the west.

East to northeast younger faulting is represented by the major Miller Fault to the south of the Carmacks Copper Project.



- Q** Quaternary - sand and gravel
- uKC** upper Cretaceous - Carmacks Group volcanics
- JL** Jurassic - Laberge Group sediments
- EJgA** Early Jurassic - Aishihik Suite granodiorite
- uTrP** upper Triassic - Povoas Group volcanics and sediments
- Carmacks Copper Property Boundary



WESTERN COPPER CORPORATION
CARMACKS COPPER PROPERTY
 Figure 3 - REGIONAL GEOLOGY MAP

6.2 PROPERTY BEDROCK GEOLOGY

The Carmacks Copper Property lies within the Yukon Cataclastic Terrane. The deposit is hosted by variably metamorphosed volcanic to volcano-sedimentary rocks that form roof pendants and large xenoliths within Jurassic hornblende-biotite granodiorite of the Granite Mountain (Aishihik Suite) Batholith (Figure 4).

The host rocks generally lack or have very low quartz content and high mafic content. An andesitic to basaltic pyroclastic volcanic, probably tuffaceous, agglomerate or breccia precursor rock is considered the most likely source. In some locations, where the degree of metamorphism is low, arkosic sediments, believed to be derived from a basic volcanic or plutonic regime, are observed intermixed with the volcanoclastic rocks. The host rocks are believed to have originated from the upper Triassic Povoas Formation and have been consumed by later intrusions of the Granite Mountain Batholith. The host rocks vary from relatively unmetamorphosed; to slightly metamorphosed; to amphibolites gneiss; to completely re-crystallized hornblende.

The Granite Mountain granodiorite is generally massive in appearance, medium to coarse grained to mega-crystic porphyritic. It occasionally develops a weak foliation near contacts with the meta-volcanic / gneiss units, where the flow has been restricted by the xenoliths. The granodiorite has been separated into five divisions; four based on quartz, biotite, hornblende and K-feldspar contents and a fifth based on assimilated gneiss.

Post mineralization aplite and pegmatites are common. They range in thickness from a few centimetres up to three metres. Quartz veins are uncommon and average two to ten centimetres in thickness. Thin mafic dykes that were feeders for Carmacks Group volcanic are also uncommon. The only copper mineralization in these dykes and veins is non-sulphide secondary copper in aplite and pegmatite.

There are 16 identified zones containing copper mineralization known on or in the immediate vicinity of the property (Figure 4). All of the estimated resources are contained in the No. 1, No. 4 and No. 7 Zones which extend over a 1000 m strike length and at least 450 m down dip. The deposit is open at depth and is oxidized to 250 meters in depth. Copper-gold mineralization at Carmacks Copper is hosted primarily in the meta-volcanic rocks, although some copper oxide minerals have "bled out" into fractures in the adjacent granodiorite. In a few instances this "bleeding out" has occurred up to 50 m away from the meta-volcanic source.

The copper mineralization in the upper, oxidized, portion of the No.1 Zone consists of malachite>tenorite>azurite and lesser chalcopyrite, bornite, covellite and cuprite. The boundary between oxidized and un-oxidized mineralization is generally sharp and undulating at approximately 250 m vertically below surface. In the transition zone, chalcopyrite and bornite content increase. In the sulphide zone chalcopyrite is the dominant copper mineral. The deposit and encompassing granodiorite contains very little non-copper bearing sulphide minerals, including pyrite, which is estimate at less than 0.5%. Native copper is occasionally observed as dendritic fracture filling in the meta-volcanic and in the granodiorite.

The character of the deposit changes along strike leading to a division into northern and southern halves. The northern half is more regular in thickness, dip angle, width and down dip characteristics. The southern half splays into irregular intercalations, terminating against subparallel faults down dip. Both the north and south ends of the deposit are offset by cross-cutting faults. The No. 7, 7A and 4 zones are interpreted as separate rafts or pull-aparts of a larger raft of meta-volcanic.

In the northern half of the No. 1 Zone, copper grades are higher in the footwall relative to the hanging wall. Oxide copper grades increase with depth in both the footwall and hanging wall. There is no association of copper values with rock type, mafic mineral content or grain size. Gold values are higher in the north half of the deposit. They average 0.75 g/t compared with 0.27 g/t in the south half. There is no apparent increase in values with depth and the highest grade gold values are not associated with the highest copper values; however, gold values in the northern half are higher in the footwall section. This lack of increase in gold values with depth suggests that the gold distribution reflects a primary distribution rather than a secondary distribution such as oxide copper values. As with oxide copper, gold content does not correlate with rock type, mafic constituents or grain size.

6.3 PROPERTY SURFICIAL GEOLOGY

The glacial history of Yukon Territory is unique in Canada (Fuller, et. al, 2009). The most recent ice age, the Late Wisconsin, occurred between 25,000 to 10,000 years before present (B.P.) and, while the rest of Canada was almost entirely covered by glacial ice during this ice age, a region extending from the central and northern Yukon across Alaska and westward to northern Asia was a vast ice-free region. The Carmacks region was at the transition zone at the far northern-western extent of the Late Wisconsin ice age and was partially affected by the McConnell Glaciation of the Late Wisconsin ice age.

During Pleistocene time (1.65 M to 10,000 B.P) the Carmacks region had been partly or extensively glaciated a minimum of four times (Jackson, 2000). The two oldest glacial events are both referred to as pre-Reid glaciations; these were followed by the Reid Glaciation then the McConnell Glaciation. The oldest pre-Reid Glaciation occurred between 1.5 and 1.1 million years ago; the youngest pre-Reid Glaciation occurred between 0.99 and 0.78 million year ago; the age of the Reid Glaciation is not clearly defined, but it probably occurred between approximately 190 ka and 30 ka; and the McConnell Glaciation was between approximately 25 ka and 12.5 ka B.P..

There is little evidence of the pre-Reid glaciations in the Carmacks Copper Property area. However, west of the property, in the Hayes Creek area, there is evidence that extensive ice sheets reached at least 550 m thick. There is also evidence from throughout the Yukon that the pre-Reid glaciations covered a dramatically greater extent than the Reid or McConnell glaciations.

Effects of the Reid Glaciation is most evident in the property area. Ice flow patterns during the Reid Glaciation were from the east, southeast and south. Importantly, from the

perspective of sources of aggregate, meltwaters from the ice sheet spilled across passes between Crossing Creek, at the south end of the property, and through a divide between Merrice Creek and Hoochekoo Creek.

The limit of the McConnell Glaciation in the area can be seen at the southeastern corner of the property, near the Freegold Road on Figure 5.

The surficial geology of the property is dominated by three till/colluvial veneer units; unit **MvR** covers 90 % of the northern half of the property and a large portion between Merrice Creek and the Freegold Road; unit **Cv** covers much of the central portion of the property, including the area of the deposit and proposed infrastructure; and unit **Mb** occurs along the southern edge of the property at the Freegold Road. Unit **MvR** is an extensive, < 1 m thick, till veneer of diamicton with a stony, silty and sandy matrix. Unit **Cv** is a discontinuous colluvial veneer overlying bedrock that is generally < 1 m thick and is comprised of a stony diamicton with a sandy matrix. Unit **Mb** is comprised of till diamicton which is stony with a silty-sandy matrix, it is massive to crudely stratified and 1 to 5 m thick.

Overlying the till/colluvial veneer units are alluvial complex sediments (unit **AxPM**) in many of the valley bottoms, two glaciofluvial deposits in the northwest (units **GpR** and **GtR**) and two glaciofluvial ice stagnation complexes (units **Gx** and **GxR**) near Merrice Lake. Unit **AxPM** consists of poorly to moderately sorted gravel and sand that is interstratified with diamicton and is thin to thick bedded. It contains loess, peat and woody detritus and may exceed 10 m in thickness. Unit **GpR** is a glaciofluvial plane sediment and consists of moderately to well sorted, thick bedded to massive gravel and sand that is between 1 to 10 m thick. Unit **GtR** is glaciofluvial terrace sediments consisting of massive to thick bedded, pebble to cobble gravel that is 1 to > 10 m thick. Units **Gx** and **GxR** are glaciofluvial ice stagnation complexes that consist of poorly to moderately sorted gravel, sand and diamicton with minor silt and clay.

At the far eastern part of the property, in the Yukon River valley, is another large deposit of unit **GpR** that is overlain by younger alluvial deposits **Af**, **At**, and **Ap**. Unit **Af** is an alluvial fan sediment and consists of massive to thick bedded gravel, sand, silt and diamicton that is poorly sorted and can exceed 10 m thick. Unit **At** consists of alluvial terrace sediments that are up to 10 m thick, massive to thick bedded gravel, cobbles and pebbles in a sandy matrix and are capped by sands and silts. Unit **Ap** is floodplain sediments that are similar composition to unit **At** and 1 to 5 m thick.

The youngest unit on the property are peat and muck deposits formed by the accumulation of vegetative materials in bogs, fens and swamps (unit **O**). These organic deposits are < 1 to 10 m thick and commonly have permafrost ice within 1 m of surface.

7.0 AIR PHOTO INTERPRETATION METHODOLOGY

The methodology for the image acquisition and air photo study was provided by Access Consulting Group. The study was performed by geologist Ryan Gould of Access. The following is the process description provided Access:

“The area analysed for the purposes of granular deposit delineation is contained on NTS Sheets 115I02 and 115I07. Surficial geology maps published by the Geological Survey of Canada (GSC) were downloaded in PDF form and georeferenced using 1:50,000 scale topographic GIS data downloaded from Natural Resources Canada.

Air photos taken in autumn 1994 were borrowed from the Yukon Government Mineral Resources Library and scanned to JPEG image format at a resolution of 600 dpi. These photos were then georeferenced to the above topographic data at a scale of 1:10,000 using ESRI ArcGIS 9.x software.

Using ArcGIS the georeferenced photos were then overlaid with the GSC maps. A 50% transparency was applied to the maps to allow the underlying air photo to be visible. Granular deposits were delineated by outlining areas of exposed soils which intersected GSC surficial units described as containing gravels. Stands of aspen, which typically grow in well drained soils and appear as lighter shades in the photos, were also delineated as potential gravel deposits.

The areas delineated were then mapped as potential targets for gravel extraction. Each area shown on the map will require proper geotechnical investigation to confirm the quality and quantity of granular resource present.”

In the process of conducting mineral exploration work on the property in 2006, 2007 and 2008, the author made a few cursory observations of surficial geological features in the area of the proposed mine development, specifically the proposed heap leach pad area, and at a few locations along the existing exploration road and the proposed mine access road. These observations are incorporated with the study by Mr. Gould and are included in this report.

8.0 RESULTS

The air photo interpretation of the southern portion of the Carmacks Copper Property was able to identify what appear to be near surface exposures of till at the southern limit of the property and on the north and south slopes of the Merrice Creek valley. These units are possible sources of bulk fill which may be useful for construction of the road bed and infrastructure. Figure 6 shows the near surface exposures that appear to coincide with boundaries identified by Jackson (2000). These units were recognized as being sources of bulk fill, providing they did not contain an abundance of permafrost ice.

Field observations by the author has located two sources of moderately sorted, washed cobble and gravel eskers at the southern part of the property. One source is on the existing access road 500 m south of Merrice Creek and the second is on the proposed future mine

access road about 1 km south of Merrice Creek. Both sources would make for good road surfacing material although they would require sorting and possibly crushing.

A third location of well sorted sand, gravel and diamicton is immediate north of Williams Creek, on the slope north of the exploration camp. This material has been used for some of the road and drill pad work during the exploration phase. There appears to be a substantial volume of material here, but it has not been measured.

Another source of aggregate has been observed on the eastern side of the proposed heap leach pad. The material is a veneer of granodiorite that is homogeneously weathered to a coarse granular gravel. It is weathered to 2 to 3 m deep and appears to cover much of the southeast facing slope. This material has proven to be a good road surfacing material that has been used on some of the exploration roads in the area.

9.0 CONCLUSIONS AND RECOMENDATIONS

Glacial till units **Mb** and **MvR** are the most widespread sediment on the property and are easily exploited as a source for low permeability bulk fill (Jackson , 2000). These units have been widely used as fills and surface material in the construction of the Robert Campbell and the Klondike highways. However, according to Jackson, where segregated ice lenses are present, moisture contents upon thawing are well in excess of the liquid limit and the till will flow on gradients as low as 4°.

Sand and gravel are plentiful throughout the property area. Alluvial and glaciofluvial units **AxPM**, **GpR**, **GtR**, **Gx** and **GxR** are good potential sources and they are widely distributed throughout the property. The alluvial deposits may be capped with organic material, but are typically well drained and contain poorly sorted debris flow diamicton (Jackson, 2000). The glaciofluvial deposits are highly variable in texture and sorting over short distances both laterally and vertically and may contain variable amounts of diamicton.

Field observations along the access roads and in the proposed heap leach pad area have found a number of good sources of sand, gravel and other aggregate material. These sources have not been measured volumetrically, nor have they been evaluated in detail.

Recommendations for further assessment of the aggregate sources on the property are to determine the quantity and quality of the sand and gravel sources already identified. Additional sources may also be identified in close proximity to the proposed mine access road, camp, plant location, heap and waste rock storage areas. A 10 day to two week mapping and assessment program with the assistance of an excavator is recommended for evaluating existing sources and to look for any additional sources.

Respectfully Submitted

Scott Casselman, BSc., PGeo.

10.0 STATEMENT OF EXPENDITURES

Access Consulting Group

Dan Corett	Project Management	5 hours @ \$147 / hour	\$ 735.00
Nichole Speiss	File Management	8 hours @ \$99.75 / hour	\$ 798.00
Ryan Gould	Air Photo Interpretation	35 hours @ \$99.75 / hour	\$ 3,491.25
H. Damarais	Map Edits	3 hours @ \$99.75 / hour	\$ 267.75
Administrative Charges			\$ 204.75
Expenses			\$ 283.00
Plotting Fees			\$ 100.00

Casselmann Geological Services Ltd

Report Writing and reproduction costs	<u>2,500.00</u>
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Total	<u>\$ 8,379.75</u>
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11.0 REFERENCES

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APPENDIX I
STATEMENT OF QUALIFICATIONS

Statement of Qualifications

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

1. I am a geologist employed by Casselman Geological Services Ltd. and reside at 33 Firth Road, Whitehorse, Yukon Territory, Y1A 4R5.
2. I graduated from Carleton University in Ottawa, Ontario with a Bachelor of Science Degree in Geology in 1985 and have worked as a geologist since that time.
3. I am a member of the Association of Professional Engineers and Geoscientists of British Columbia, Registration No. 20032.
4. I prepared this report titled "Air Photo Study of Surficial Geology of the Southern Access Route for the Carmacks Copper Project" based on the map and data provided by Access Consulting Group.

Dated this ___day of _____, 2009, at Whitehorse, Yukon Territory.

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

Appendix II

**CARMACKS COPPER PROPERTY
QUARTZ CLAIMS and MINING LEASES**

CARMACKS COPPER PROPERTY CLAIMS AND LEASES

Grant Number	Claim Name	Expiry Date
Y 51118	BOY 20	09/03/2012
Y 51149	BOY 51	09/03/2012
Y 51150	BOY 52	09/03/2014
Y 51151	BOY 53	09/03/2012
Y 51152	BOY 54	09/03/2014
Y 51181	BOY 83	09/03/2012
Y 59373	WAR 22	09/03/2016
Y 59382	DUN 1	09/03/2012
YB26708	W 1	09/03/2012
YB26709	W 2	09/03/2012
YB26710	W 3	09/03/2012
YB26711	W 4	09/03/2012
YB26712	W 5	09/03/2012
YB26713	W 6	09/03/2012
YB26714	W 7	09/03/2015
YB26715	W 8	09/03/2015
YB26716	W 9	09/03/2015
YB26717	W 10	09/03/2015
YB26718	W 11	09/03/2012
YB26719	W 12	09/03/2013
YB26720	W 13	09/03/2012
YB26721	W 14	09/03/2013
YB26722	W 15	09/03/2012
YB26723	W 16	09/03/2013
YB26724	W 17	09/03/2012
YB26725	W 18	09/03/2013
YB26726	W 19	09/03/2012
YB26727	W 20	09/03/2012
YB26728	W 21	09/03/2015
YB26729	W 22	09/03/2015
YB26730	W 23	09/03/2015
YB26731	W 24	09/03/2015
YB26732	W 25	09/03/2013
YB26733	W 26	09/03/2013
YB26734	W 27	09/03/2013
YB26735	W 28	09/03/2013
YB26736	W 29	09/03/2012
YB26737	W 30	09/03/2012
YB26738	W 31	09/03/2015
YB26739	W 32	09/03/2015
YB26740	W 33	09/03/2015
YB26741	W 34	09/03/2015
YB26742	W 35	09/03/2015
YB26743	W 36	09/03/2015
YB26744	W 37	09/03/2015
YB26748	W 41	09/03/2013
YB26749	W 42	09/03/2013
YB26750	W 43	09/03/2013

Grant Number	Claim Name	Expiry Date
YB36240	WAR 23	09/03/2015
YB36241	WAR 24	09/03/2015
YB36242	WAR 25	09/03/2015
YB36243	WAR 26	09/03/2015
YB36244	WAR 27	09/03/2015
YB36245	WAR 28	09/03/2015
YB36246	WAR 29	09/03/2015
YB36247	WAR 30	09/03/2012
YB36248	WAR 31	09/03/2012
YB36249	W 50	09/03/2015
YB36250	W 51	09/03/2015
YB36251	W 52	09/03/2015
YB36252	W 53	09/03/2015
YB36254	W 55	09/03/2013
YB36256	W 57	09/03/2013
YB36446	WAR 32	09/03/2015
YB36447	WAR 33	09/03/2015
YB36448	WAR 34	09/03/2015
YB36449	WAR 35	09/03/2015
YB36450	WAR 36	09/03/2015
YB36451	WAR 37	09/03/2015
YB36693	WC 5	09/03/2012
YB36694	WC 6	09/03/2012
YB36695	WC 7	09/03/2012
YB36696	WC 8	09/03/2012
YB36697	WC 9	09/03/2012
YB36698	WC 10	09/03/2012
YB36699	WC 11	09/03/2012
YB36700	WC 12	09/03/2012
YB36701	WC 13	09/03/2012
YB36702	WC 14	09/03/2012
YB36703	WC 15	09/03/2012
YB36704	WC 16	09/03/2012
YB36705	WC 17	09/03/2012
YB36706	WC 18	09/03/2012
YB36711	WC 23	09/03/2012
YB36712	WC 24	09/03/2012
YB36713	WC 25	09/03/2012
YB36714	WC 26	09/03/2012
YB36715	WC 27	09/03/2012
YB36716	WC 28	09/03/2012
YB36717	WC 29	09/03/2012
YB36718	WC 30	09/03/2012
YB36719	WC 31	09/03/2012
YB36720	WC 32	09/03/2012
YB36721	WC 33	09/03/2012
YB36722	WC 34	09/03/2012
YB36723	WC 35	09/03/2012

CARMACKS COPPER PROPERTY CLAIMS AND LEASES

Grant Number	Claim Name	Expiry Date
YB36724	WC 36	09/03/2012
YB36728	WC 40	09/03/2012
YB36729	WC 41	09/03/2012
YB36730	WC 42	09/03/2012
YB36731	WC 43	09/03/2012
YB36732	WC 44	09/03/2012
YB36733	WC 45	09/03/2012
YB36734	WC 46	09/03/2012
YB36735	WC 47	09/03/2012
YB36736	WC 48	09/03/2012
YB36737	WC 49	09/03/2012
YB36738	WC 50	09/03/2012
YB36739	WC 51	09/03/2012
YB36740	WC 52	09/03/2012
YB36741	WC 53	09/03/2012
YB36742	WC 54	09/03/2012
YB36745	WC 57	09/03/2012
YB36746	WC 58	09/03/2012
YB36747	WC 59	09/03/2012
YB36748	WC 60	09/03/2012
YB36749	WC 61	09/03/2012
YB36750	WC 62	09/03/2012
YB36751	WC 63	09/03/2012
YB36752	WC 64	09/03/2012
YB36753	WC 65	09/03/2012
YB36754	WC 66	09/03/2012
YB36755	WC 67	09/03/2012
YB36756	WC 68	09/03/2012
YB36757	WC 69	09/03/2012
YB36758	WC 70	09/03/2012
YB36759	WC 71	09/03/2012
YB36760	WC 72	09/03/2012
YB36765	WAR 38	09/03/2015
YB36766	WAR 39	09/03/2015
YB36767	WAR 40	09/03/2015
YB36768	WAR 41	09/03/2015
YB36769	WAR 42	09/03/2015
YB36770	WAR 43	09/03/2015
YB36771	WAR 44	09/03/2015
YB36772	WAR 45	09/03/2012
YB36773	WAR 46	09/03/2015
YB36774	WAR 47	09/03/2012
YB36775	WAR 48	09/03/2012
YB36776	WAR 49	09/03/2012
YB36777	WAR 50	09/03/2012
YB36898	X 3	09/03/2015
YB36899	X 4	09/03/2015
YB36929	W 91	09/03/2015

Grant Number	Claim Name	Expiry Date
YB36930	W 92	09/03/2015
YB36931	W 93	09/03/2015
YB36933	W 95	09/03/2015
YB36962	X 5	09/03/2015
YB36963	X 6	09/03/2015
YB36964	X 7	09/03/2015
YB96620	VW 11	09/03/2011
YB96622	VW 13	09/03/2011
YB96626	VW 17	09/03/2015
YB96627	VW 18	09/03/2015
YB96628	VW 19	09/03/2016
YB96629	VW 20	09/03/2016
YB96630	VW 21	09/03/2016
YB96632	VW 23	09/03/2015
YB96634	VW 25	09/03/2015
YB96636	VW 27	09/03/2015
YB96637	VW 28	09/03/2015
YB96638	VW 29	09/03/2015
YB96639	VW 30	09/03/2015
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YB96647	VW 38	09/03/2015
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YB96992	VW 46	09/03/2011
YB96993	VW 47	09/03/2011
YB96994	VW 48	09/03/2011
YB96995	VW 49	09/03/2011
YB96996	VW 50	09/03/2011
YB96997	VW 60	09/03/2015
YB96998	VW 61	09/03/2015
YB97068	TT 1	09/03/2015
YB97251	TT 2	09/03/2011
YC39221	REM 1	11/04/2009
YC39222	REM 2	11/04/2009
YC39223	REM 3	11/04/2009
YC39224	REM 4	11/04/2009
YC39225	REM 5	11/04/2009
YC39226	REM 6	11/04/2009

CARMACKS COPPER PROPERTY CLAIMS AND LEASES

Grant Number	Claim Name	Expiry Date
YC39227	REM 7	11/04/2009
YC39228	REM 8	11/04/2009
YC39229	REM 9	11/04/2009
YC39230	REM 10	11/04/2009
YC39231	REM 11	11/04/2009
YC39232	REM 12	11/04/2009
YC39233	REM 13	11/04/2009
YC39234	REM 14	11/04/2009
YC39239	REM 19	11/04/2012
YC39240	REM 20	11/04/2012
YC39241	REM 21	11/04/2012
YC39242	REM 22	11/04/2012
YC39243	REM 23	11/04/2012
YC39244	REM 24	11/04/2012
YC39245	REM 25	11/04/2012
YC39246	REM 26	11/04/2012
YC39247	REM 27	11/04/2012
YC39248	REM 28	11/04/2012
YC39249	REM 29	11/04/2012
YC39250	REM 30	11/04/2012
YC39251	REM 32	11/04/2009
YC39252	REM 33	11/04/2009
YC39253	REM 34	11/04/2009
YC39254	REM 35	11/04/2009
YC60381	WCC FR. 1	09/03/2013
YC60382	WCC FR. 2	09/03/2013
YC60383	WCC FR. 3	09/03/2013
YC60384	WCC FR. 4	09/03/2013
YC60385	WCC FR. 5	09/03/2013
YC60386	WCC FR. 6	09/03/2013
YC60387	WCC FR. 7	09/03/2013
YC60388	WCC FR. 8	09/03/2013
YC60389	WCC FR. 9	09/03/2013
YC60390	WCC 10	09/03/2013
YC60391	WCC 11	09/03/2013
YC60392	WCC 12	09/03/2013
YC60393	WCC 13	09/03/2013
YC60394	WCC 14	09/03/2013
YC60395	WCC 15	09/03/2013
YC60396	WCC 16	09/03/2013
YC60397	WCC 17	09/03/2013
YC60398	WCC 18	09/03/2013
YC60399	WCC 19	09/03/2013
YC60400	WCC FR. 20	09/03/2013
YC60401	WCC 21	09/03/2013
YC60402	WCC FR. 22	09/03/2013
YC60403	WCC 23	09/03/2013
YC60404	WCC 24	09/03/2013

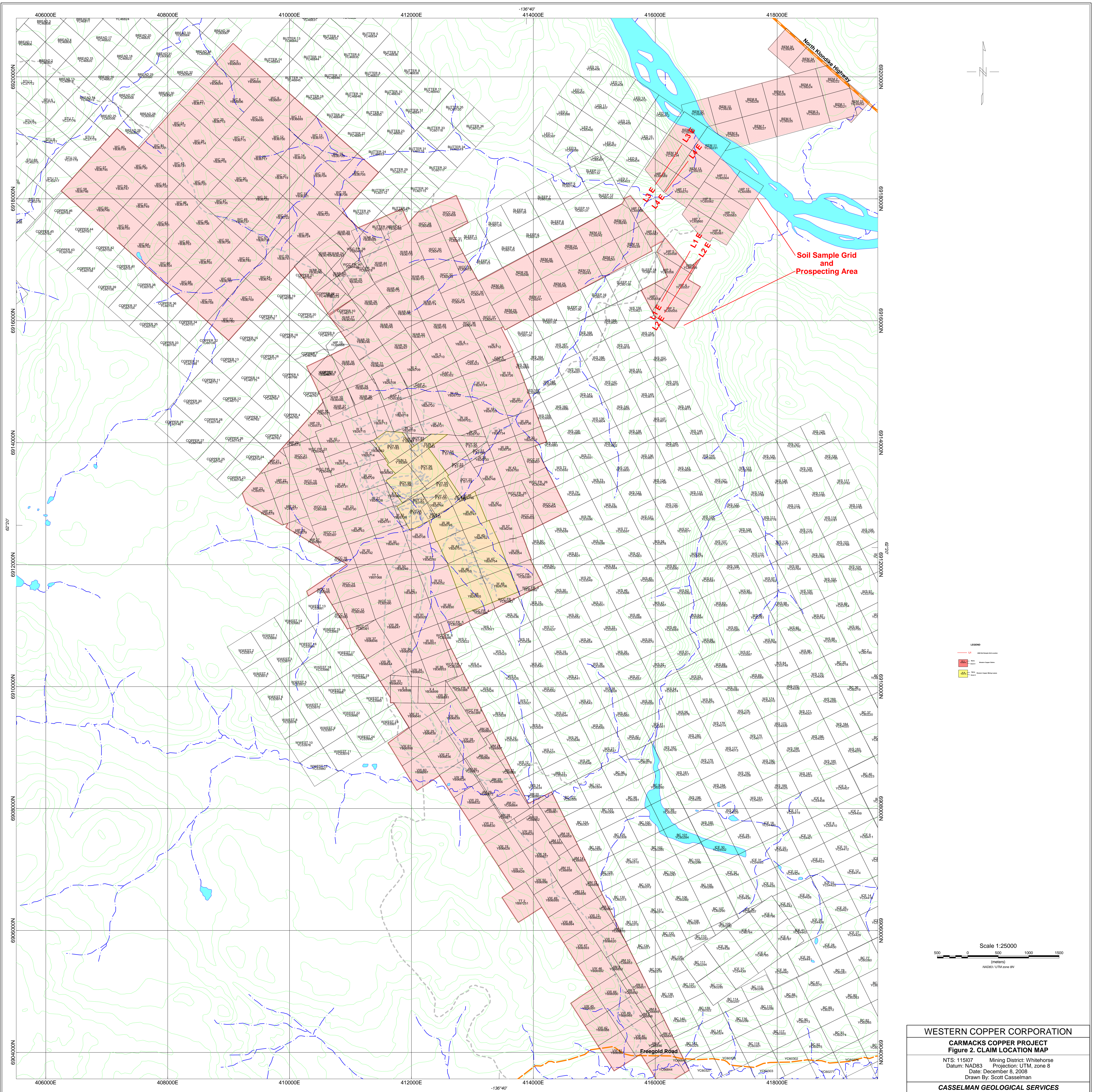
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YC60405	WCC FR. 25	09/03/2013
YC60406	WCC FR. 26	09/03/2013
YC60407	WCC 27	09/03/2013
YC60408	WCC 28	10/05/2013
YC60409	WCC 29	10/05/2013
YC60410	WCC 30	10/05/2013
YC60411	WCC 31	10/05/2013
YC60412	WCC 32	10/05/2013
YC60413	WCC 33	10/05/2013
YC60414	WCC 34	10/05/2013
YC60415	WCC 35	10/05/2013
YC60416	WCC 36	10/05/2013
YC60417	WCC 37	09/03/2013
YC60418	WCC FR. 38	09/03/2013
YC60419	WCC FR. 39	09/03/2013
YC60420	WCC FR. 40	09/03/2013
YC65320	GAP 1	09/03/2013
YC65321	GAP 2	09/03/2013
YC65322	GAP 3	09/03/2013
YC65323	GAP 4	09/03/2013
YC65324	GAP 5	09/03/2013
YC65554	HIP 1	14/08/2008
YC65555	HIP 2	14/08/2008
YC65556	HIP 3	14/08/2008
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YC65565	HIP 12	14/08/2008
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YC65574	HIP 21	09/03/2013
YC65575	HIP 22	09/03/2013
YC65576	HIP 23	09/03/2013
YC65577	HIP 24	09/03/2013
YC65578	HIP 25	09/03/2013
YC65579	HIP 26	09/03/2013
YC65580	HIP 27	09/03/2013

CARMACKS COPPER PROPERTY CLAIMS AND LEASES

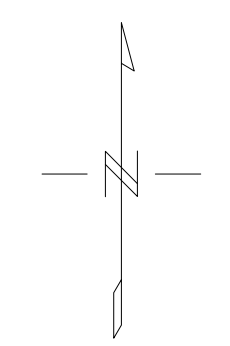
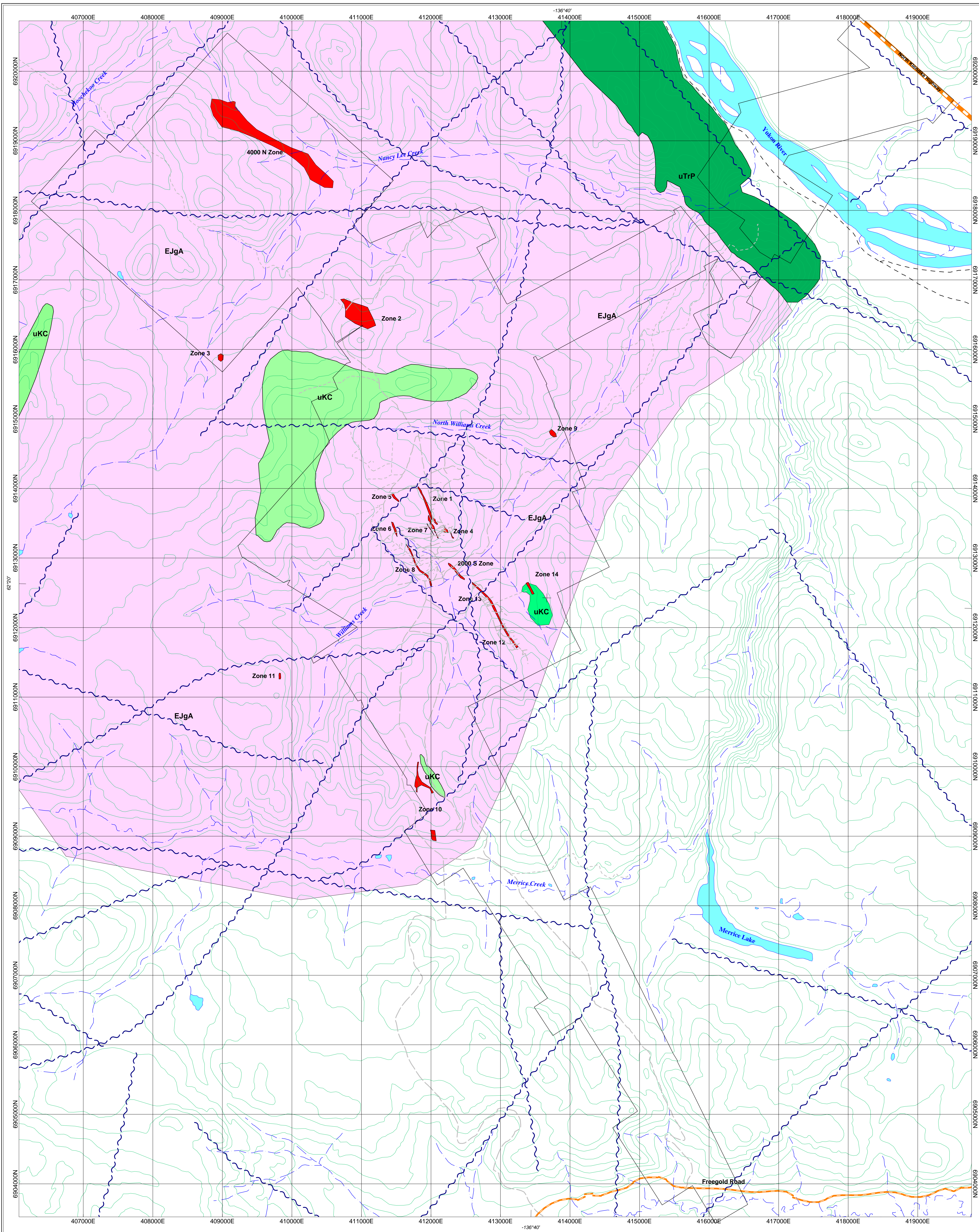
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YC66844	JIM 1	10/03/2009
YC66845	JIM 2	10/03/2009
YC66846	JIM 3	10/03/2009
YC66847	JIM 4	10/03/2009
YC66848	JIM 5	10/03/2009
YC66849	JIM 6	10/03/2009
YC66850	JIM 7	10/03/2009
YC66851	JIM 8	10/03/2009
YC66852	JIM 9	10/03/2009
YC66853	JIM 10	10/03/2009
YC66854	JIM 11	10/03/2009
YC66855	JIM 12	10/03/2009
YC66856	JIM 13	10/03/2009
YC66857	JIM 14	10/03/2009
YC66858	JIM 15	10/03/2009

Grant Number	Claim Name	Expiry Date
YC66859	JIM 16	10/03/2009
YC66860	JIM 17	10/03/2009
YC66861	JIM 18	10/03/2009
YC66862	JIM 19	10/03/2009
YC66863	JIM 20	10/03/2009
YC66864	JIM 21	10/03/2009
YC66865	JIM 22	10/03/2009
YC66866	JIM 23	10/03/2009
YC66867	JIM 24	10/03/2009
YC66868	JIM 25	10/03/2009
YC66869	JIM F 26	10/03/2009
YC66870	JIM F 27	10/03/2009
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YC66872	JIM 29	10/03/2009
YC66873	JIM 30	10/03/2009

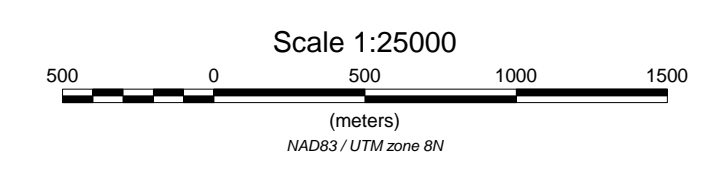
Grant Number	Claim Name	Expiry Date	Lease Number
Y 51120	BOY 22	28/10/2019	OW00061
Y 51122	BOY 24	28/10/2019	OW00062
Y 51153	BOY 55	28/10/2019	OW00063
Y 51154	BOY 56	28/10/2019	OW00064
Y 51155	BOY 57	28/10/2019	OW00065
Y 51156	BOY 58	28/10/2019	OW00066
Y 51183	BOY 85	28/10/2019	OW00067
Y 59383	DUN 2	28/10/2019	OW00068
Y 59384	DUN 3	28/10/2019	OW00069
Y 91722	AC # 2	28/10/2019	OW00070
Y 91723	AC # 3	28/10/2019	OW00071
YB26745	W 38	28/10/2019	OW00072
YB26746	W 39	28/10/2019	OW00073
YB26747	W 40	28/10/2019	OW00074
YB26751	W 44	28/10/2019	OW00075
YB26752	W 45	28/10/2019	OW00076
YB26753	W 46	28/10/2019	OW00077
YB26754	W 47	28/10/2019	OW00078
YB26755	W 48	28/10/2019	OW00079
YB26756	W 49	09/03/2025	OW00080



WESTERN COPPER CORPORATION
CARMACKS COPPER PROJECT
Figure 2. CLAIM LOCATION MAP
 NTS: 115107 Mining District: Whitehorse
 Datum: NAD83 Projection: UTM, zone 8
 Date: December 8, 2008
 Drawn By: Scott Casselman
CASSELMAN GEOLOGICAL SERVICES



- LEGEND**
- uKC
upper Cretaceous
Carmacks Group - intermediate to mafic volcanic flows
 - EJgA
Early Jurassic
Granite Mountain Batholith - granodiorite
 - Upper Triassic (?)
Povoas Group (?) - meta-volcanics and meta-sediments
 - uTrP
Upper Triassic
Povoas Group - mafic volcanics and sediments
 - faults
 - Government maintained roads
 - Property access roads and trails

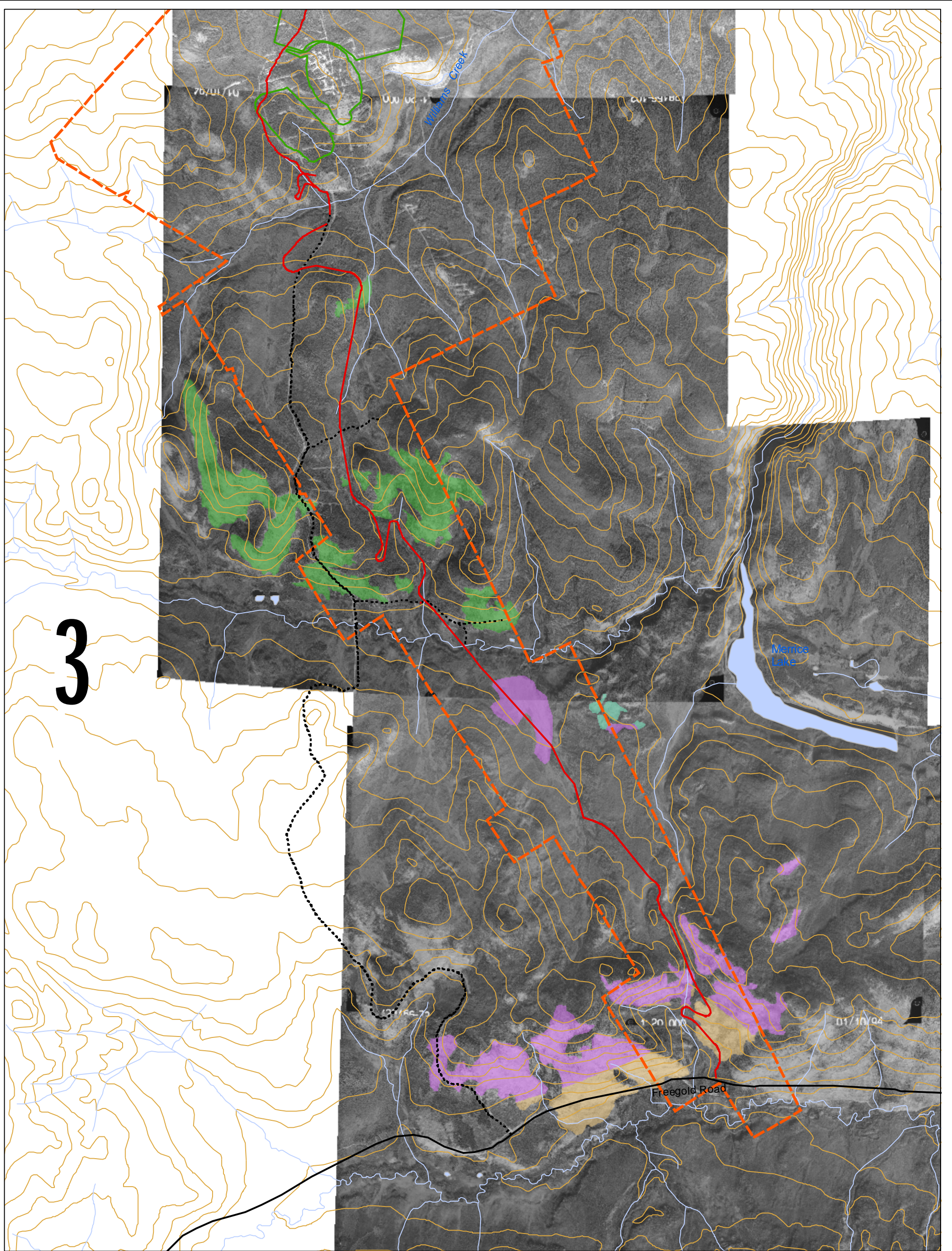


WESTERN COPPER CORPORATION

CARMACKS COPPER PROJECT
Figure 4. PROPERTY GEOLOGY MAP

NTS: 115107 Mining District: Whitehorse
 Datum: NAD83 Projection: UTM, zone 8
 Date: December 8, 2008
 Drawn By: Scott Casselman

CASSELMAN GEOLOGICAL SERVICES LTD.



3

Western Copper Corporation
**Carmacks Copper
 Project Yukon**

- Legend:**
- Ore Deposit
 - Water Course
 - Proposed Access Road
 - Exploration Road
 - Limited-used Road
 - Road
 - Trail
 - Contour
 - Water Body
 - Mine Site Infrastructure Areas

- Till veneer: diamicton, stony, silty sandy matrix; massive; discontinuous and may contain extensive areas of thin (<1m) and patchy colluvium over bedrock.
- Glaciofluvial ice stagnation complex sediments: gravel, sand, diamicton, poorly to moderately sorted, and minor silt and clay; bedding thick to massive and commonly folded and faulted from syndepositional ice meltout; surface consists of hummocks, kettles, esker and crevasse-fill ridges.
- Till blanket: diamicton, stony, silty matrix; massive to crudely stratified; surface conforms to underlying topography; thickness 1 to 5m.
- Till blanket: diamicton, stony, silty matrix; massive; discontinuous and may contain extensive areas of thin (<1m) and patchy colluvium over bedrock.
- Carmacks Copper Property

FIGURE 6

**Access Road Granular Resources
 Airphoto Assessment**

Scale: 1:35,000
 UTM Zone 8 NAD83 Meters



Drawn by: RG/PI | Checked by: NS
 Date: March, 2009

File: D:\Project\AI\Projects\WCH-01\ConstructionSitePlan\2008\Figures\Fig5_GranRes.mxd