## REPORT OF GEOCHEMICAL SAMPLING

**PALM SPRINGS PROPERTY** 

**LIARD MINING DIVISION** 

**BRITISH COLUMBIA, CANADA** 

NTS Map 104B/09W

BCGS Map 104B/068

56° 42' 00" North, 130° 27' 30" West

**UTM ZONE 9 (NAD 83)**,

410000E, 6280000N

Report prepared by: Erik Ostensoe, P. Geo.

**Anke Woodworth** 

BC Geological Survey Assessment Report

34588

Report prepared for: FARSHAD SHIRVANI

Date of report: February 24, 2014.

Report submitted in fulfillment of SOW – Events No. 5405647, 5416315, 5491068, 5493086.

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#### 1.0 **SUMMARY**

The Palm Springs mineral tenures, as listed in Table 1 and illustrated in Figures 1 and 2, are located on and in proximity to the Prout Plateau between the Unuk and Iskut Rivers of northwestern British Columbia, Canada. The property comprises several clusters of titles: this report applies to a program of geochemical soil sampling completed in the period September 25, 2012, and October 6, 2012. The 20 mineral tenures with area 3358.01 hectares as listed in Table 1. Access is from Bob Quinn station on Highway 37 by way of the Bob Quinn to Eskay Mine road.

The Prout Plateau and vicinity has attracted prospecting interest at intervals since the 1930s era and from 1995 to 2008 was the site of one of the world's richest gold-silver mines: the Eskay mine produced 3.2 million ounces of gold and 159 million ounces of silver from 2,180,363 tonnes. It is currently in reclamation mode but exploration and research related to its apparently unique genesis is on-going. The massive Seabridge-Pretium gold-coppermolybdenum deposits at Sulphurets and Mitchell Creeks are 26 km southeast of the Palm Springs tenures.

A photogrammetric structural analysis of the tenures and surrounding areas was completed in early 2012 (Event No. 5200049) as an aid to planning fieldwork. The structural analysis identified strong patterns with orientation northeasterly and northerly that are divergent from the major northwesterly Cordilleran trend. It is believed that the pattern is partly formational: a pillow lava unit that has been mapped discontinuously from Anyox in the south to Forrest Kerr Creek in the north exhibits distribution close to the northerly linears. The secondary pattern may be related to a regional structure that passes northeasterly through the valley of Unuk River.

### 2.0 INTRODUCTION

The Palm Springs mineral tenures that are the subject of this report are listed in Table 1 and illustrated in Figures 1 and 2 of this report. Farshad Shirvani and Peter Burjoski are owners of the tenures; total area is 3358.01 hectares. This report presents details of a program of geochemical soil sampling that was completed on the tenures in September and October, 2012. 132 MMI-type (Mobile Metal Ion) soil samples were obtained as part of early stage exploration of the tenures. Costs incurred in completion of the sampling program have been applied as assessment work to maintain the mineral titles in good standing. Statements of Work have been filed as follows: Event No. 5405647 in the amount of \$600, Event No. 5416315 in the amount of \$24,999 plus PAC withdrawal of \$7497.51, Event No. 5491068 in the amount of \$3429 plus \$85.71 PAC withdrawal and Event no.5493086 in the amount of \$2,947.60 plus \$441.17 PAC withdrawal.

This report is in support of the SOWs and includes a description of the programs of work, a brief summary of MMI geochemical analytical theory and methods, and a Statement of Expenditures. Much of the information that follows is also included in the March 21, 2012 assessment report.

The Palm Springs property is located on and in proximity to the Prout Plateau, a high elevation part of the Coast Mountains physiographic division of the Canadian Cordillera, very close to the southernmost extent of the Klastline Plateau subdivision of the Intermontane Belt (Bostock, 1947) (Figures 1 and 2). Nearest settlements are Bob Quinn highway maintenance camp, 35 km north northeast, and Bell II resort and travelers service, 40 km east, is situated on Highway 37, the Stewart-Cassiar Highway and the port town of Stewart, B. C. is 90 km south. Access to the tenures from Highway 37 is by helicopter and from the restricted-access mine road that services the Eskay mine site and crosses parts of the Palm Springs property. Float-equipped 'planes can land on nearby Tom Mackay Lake but the open-water season is short, often from August to October. The September 2012 work crew, by arrangement with Barrick Gold Corp., owners of the now-decommissioned Eskay mine property, were given permission to use the access road and were provided accommodation at the Eskay mine camp.

The Palm Springs area has a relatively short history of mineral exploration: TS Mackay in 1932 organized a prospecting syndicate at the Premier mine, near Stewart, and supported a small party of prospectors, many of whom, along with Mackay, are commemorated in place names (i.e. Prout Plateau, Harry Melville Creek, Tom Mackay Lake).

When the prospectors reported the discovery of gold values in several structures, the Premier Gold Mining Company provided a follow-up program of trenching. In 1946, Mackay personally directed a winter operation of underground development of a gold-bearing quartz vein. When results were inconclusive the properties languished until 1967 when TS Mackay and T. J. MacQuillan organized a public company, Stikine Silver Company (later Consolidated Stikine Silver Ltd.), and drove a short (180 metre) tunnel on the Emma, a vein structure that, although richly endowed with argentiferous tetrahedrite, was truncated by a fault. That company retained its core mineral claims for several years until the discovery in 1987 of what became the Eskay high-grade silver-gold mine, a short distance east of Trench 22. Neither Mackay nor McQuillan enjoyed the rewards of that discovery.

The discovery and development of the Eskay mine resulted in a highly charged rush of prospecting and related activity in the region, including geological investigations by federal and provincial geoscientists and MDRU, a broad-based research group. Many claims were staked and new geologic models were developed to explain the previously unrecognized "Subaqueous Hot-Spring" type of mineral deposit. Much of the geologic effort was in search of Eskay look-alike occurrences. The Eskay mine, variously defined as a "...volcanic-hosted massive sulphide deposit" (Roth, 1999), "...a subaqueous hot-spring deposit..." and "a hybrid of VMS and epithermal-style gold mineralization in an unusually shallow submarine volcanic succession" (Hannington, 1999), operated from 1995 to 2008 and produced 3,268,279 oz gold and 158,889,701 oz silver plus minor amounts of zinc and lead from 2,180,363 tonnes (data from Minfile).

The geographic location of the Palm Springs tenures and the Eskay mine is at the transition between the Coast and Intermontane physiographic belts of the Canadian Cordillera. An understanding of the geologic setting is thwarted by a different transition, one that involves overlapping terminologies: geologists working from south to north into the area, mostly provincial survey personnel, (i.e. Grove, 1986, Alldrick and Britton, 1988), have carried Stewart area terminology, whereas those working from the north, essentially from the Stikine District and strongly representing the federal survey, (i.e. Monger, 1977, 1980, Anderson, 1989, 1993) have applied that area's concepts and definitions. The sparse fossil record and geochronology have compounded the enigma with the result that the geologic column (Figure 3a) is excessively populated with coeval subdivisions. Briefly stated, the Palm Springs - Eskay mine area is situated in the upper part of the Stikine Terrane, an assemblage of Paleozoic to Upper Jurassic strata comprising: "Paleozoic Stikine Group arc rocks, Triassic and Jurassic arc-related volcanic and sedimentary sequences of the Stuhini and Hazelton Groups, and Middle and Upper Jurassic clastic strata of the Bowser Lake Group" (Lewis, 1999). The Eskay mine lies in bimodal volcanic Hazelton Group rhyodacite to rhyolite flows and tuffs, tuffaceous sedimentary rocks and pillowed to massive basalt flows in which occur intercalated sedimentary intervals. Intrusive bodies are represented by an enigmatic and possibly unique rhyolite flow-dome complex and by porphyritic monzodiorite to diorite dikes and sills. Dominant structural features are the northeast-trending Eskay Anticline and a sub-parallel northeast-striking fault that limits the sedimentary basin that is host to the mineralization. Two periods of folding were reported by Cunningham-Dunlop in ARIS #25778: the first attributed to "...a mid-Cretaceous orogenic shortening event centered on a northwesterly compressive axis..." and the second period of folding with northerly and northeasterly trending faulting, described as "Many of these faults developed during a second period of deformation with a northeast compressive axis" (Cunningham-Dunlop, 1998). The possible relationship of the mineral zones to deep penetrating faults that tapped undifferentiated mafic magma of the upper mantle was suggested by Barrett and Sherlock (1996). High grade gold-silver mineralization favours interflow mudstone, carbonaceous mudstone and mudstone-rhyolite breccias in proximity to rhyolite breccias. Principal minerals associated with ores include sphalerite, tetrahedrite, pyrite, stibnite, galena, barite, arsenopyrite, cinnabar, realgar and orpiment. A prevalent alteration assemblage is quartz-sericite-pyrite+/- chlorite (Barrett and Sherlock, 1996, quoted by Hannington, 1999).

Published maps of the area (Figure 3a) show that the Eskay property and the Palm Springs tenures lie close to the southeast and northwest sides respectively of a tongue of Bowser Lake Group "Facies A" terrestrial sediments that appears to occupy a synclinal (?) trough aligned northeasterly between the Eskay Anticline (Lewis' terminology) to the southeast and a less well defined antiform to the northwest. The thickness of the Bowser Lake Group cannot be determined with any assurance but, intuitively, is likely to be relatively thin.

### 3.0 PALM SPRINGS TENURES

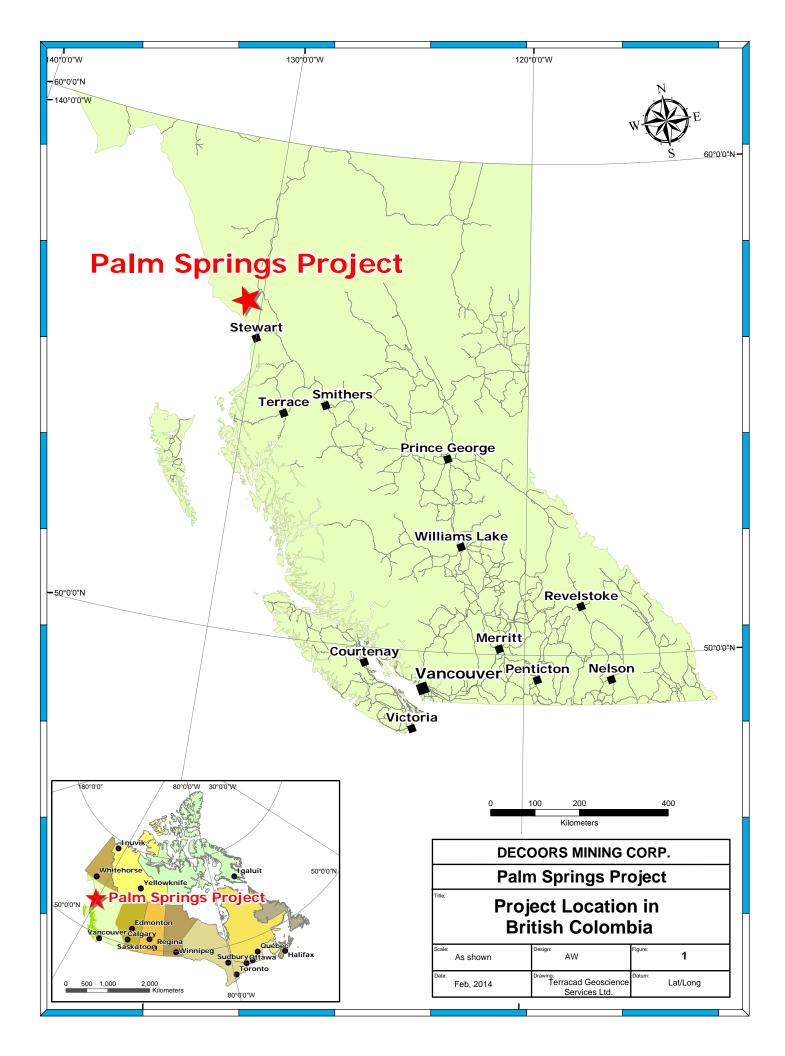
The twenty mineral tenures that comprise the Palm Springs property are listed in Table 1 and illustrated in Figure 2. Total area is 3358.01 hectares. The technical report of a photogrammetric structural study, dated March 21, 2012, filed as an assessment report, encompassed an area larger than the Palm Springs tenures whereas the September 2012 field work was more focused and comprised 132 MMI-type soil samples (see Figure 4). The intent of the MMI soil geochemical survey was to determine if a metals-in-soil signature, similar to that which defines the Eskay mine, is present. If identified, such a pattern could be used as a guide for further technical surveys, possibly followed by drilling.

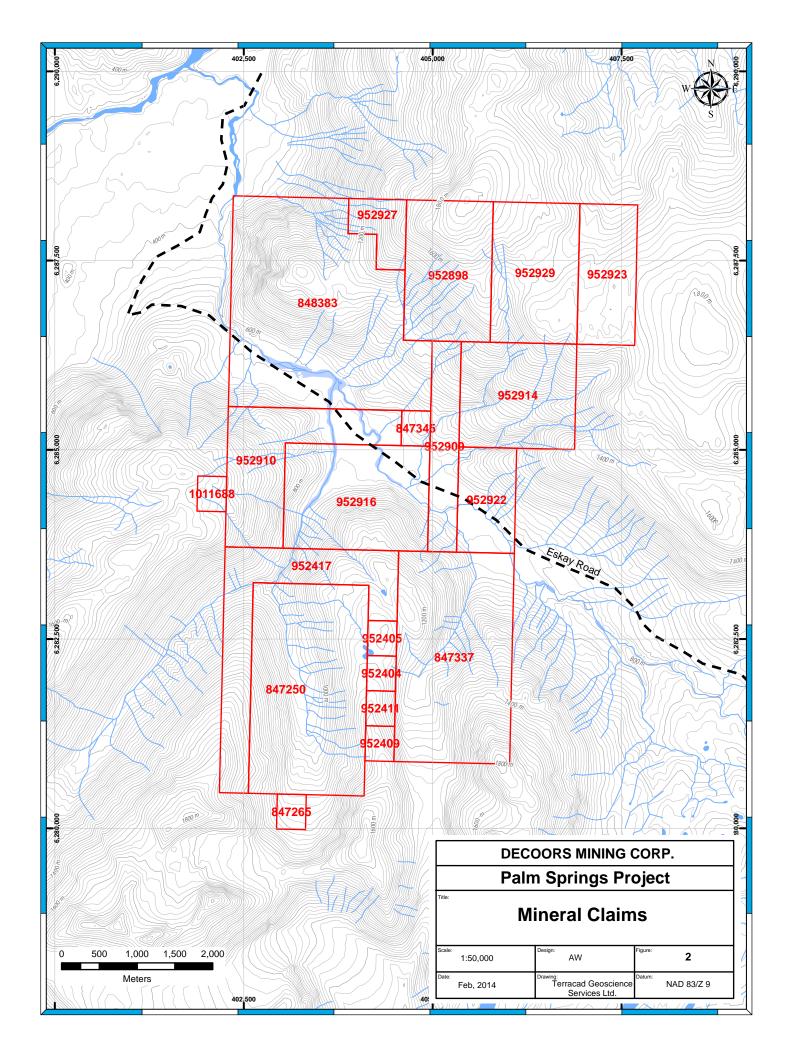
The Palm Springs mineral tenures are located near treeline and feature contrasting post-glaciation areas of barren rock where vegetation has not been re-established following glacial retreat, scrubby alpine evergreen trees, and areas of mature forest. Soils vary from thin and immature with much gravel, to more normal, mature podsols with defined soil horizons.

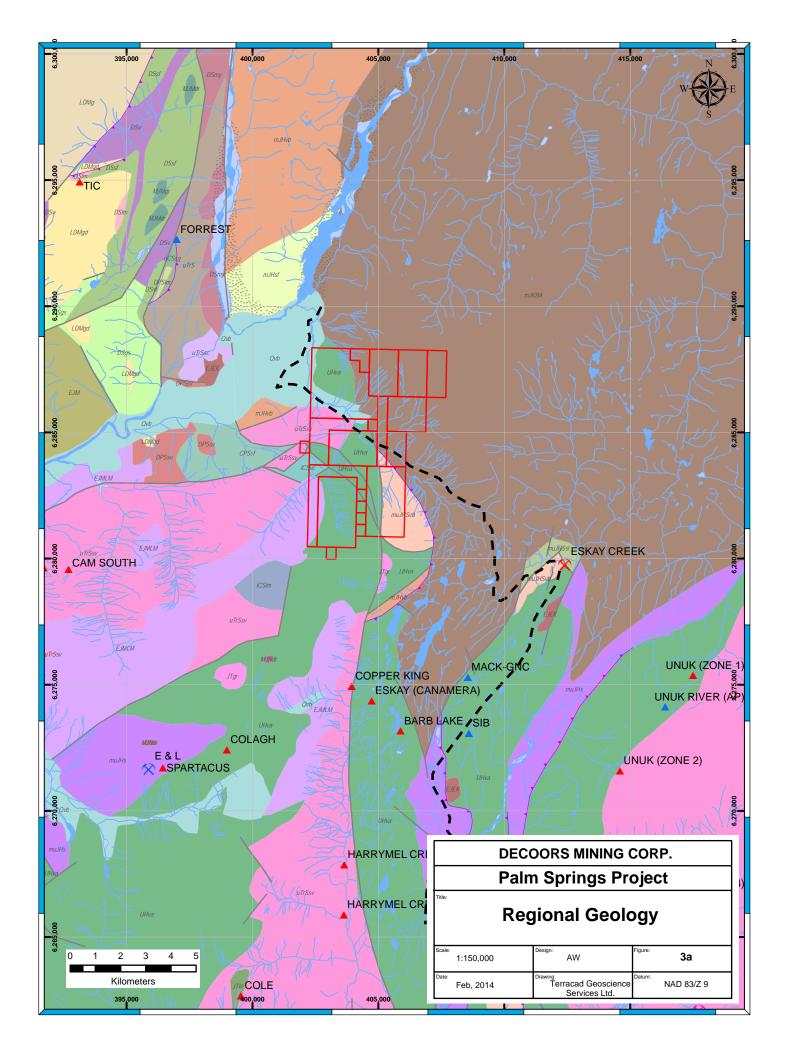
The Eskay mine area is marked on a regional scale by complex copper, zinc, lead, gold and silver geochemical anomalies that suggest base metal massive sulphide potential but also by gold, silver, arsenic, antimony, and mercury geochemical anomalies more characteristic of epithermal deposits (Massey, 1999).

Table 1. Palm Springs Mineral Tenures

Tenure No.	Name	Owner	Issued	Good to	Area (hec.)
847250	Gold 1	F. Shirvani	Febr. 23/11	Mar/15/15	426.71
847265	Little T	F. Shirvani	Febr. 23/11	Mar/15/15	17.79
847337	Volcanic Creek	F. Shirvani	Febr. 24/11	Mar/15/15	426.66
847345	Volcanic3	F. Shirvani	Febr. 24/11	Mar/15/15	17.77
848383	Palm Springs	F. Shirvani	Mar. 08/11	Mar/15/15	621.55
952404	Palm 102	P. Burjoski	Febr. 24/12	Mar/15/15	17.78
952405	Palm 103	P. Burjoski	Febr. 24/12	Mar/15/15	17.78
952409	Palm 104	P. Burjoski	Febr. 24/12	Mar/15/15	17.78
952411	Palm 105	P. Burjoski	Febr. 24/12	Mar/15/15	17.78
952417	Palm 101	P. Burjoski	Febr. 24/12	Mar/15/15	231.09
952898	Palm 106	P. Burjoski	Febr. 25/12	Mar/15/15	213.07
952900	Palm 108	P. Burjoski	Febr. 25/12	Mar/15/15	106.60
952910	Palm 112	P. Burjoski	Febr. 25/12	Mar/15/15	213.20
952914	Palm 107	P. Burjoski	Febr. 25/12	Mar/15/15	213.16
952916	Palm 111	P. Burjoski	Febr. 25/12	Mar/15/15	266.53
952922	Palm 108	P. Burjoski	Febr. 25/12	Mar/15/15	106.61
952923	Palm 109	P. Burjoski	Febr. 25/12	Mar/15/15	142.05
952927	Palm 110	P. Burjoski	Febr. 25/12	Mar/15/15	53.26
952929	Palm 112	P. Burjoski	Febr. 25/12	Mar/15/15	213.07
1011688	Palm Cell	P. Burjoski	Aug. 01/12	Mar/15/15	17.77
				Total Area	3358.01







#### Legend Geology Project Claims Eskay Road AGECODE, UNIT Extension Faul 10100, Qvb - QUATERNARY - unnamed basaltic volcanic rocks Fault 10500, ETS - EARLY TERTIARY - SADDLE LAKE PLUTON quartz monzonitic intrusive rocks Normal Fault 10542, ECPq - EOCENE - COAST PLUTONIC COMPLEX(?) intrusive rocks, undivided Thrust 10542, ECPqm - EOCENE - COAST PLUTONIC COMPLEX(?) quartz monzonitic intrusive rocks Minfile 20230, IKSM - LOWER CRETACEOUS - SKEENA GROUP - MCEVOY FORMATION mudstone, siltstone, shale fine clastic sedimentary rocks 20300, JTH - JURASSIC TO TERTIARY - HAWILSON MONZONITE quartz monzonitic intrusive rocks Anomaly 20300, JTgr - JURASSIC TO TERTIARY - unnamed granite, alkali feldspar granite intrusive rocks Developed Prospect 20300, JTqp - JURASSIC TO TERTIARY - unnamed high level quartz phyric, felsitic intrusive rocks Past Producer 20420, mJKBA - MIDDLE JURASSIC TO LATE CRETACEOUS - BOWSER LAKE GROUP - FACIES A mudstone, siltstone, shale fine clastic sedimentary rocks 20420, mJKBP - MIDDLE JURASSIC TO LATE CRETACEOUS - BOWSER LAKE GROUP - FACIES P mudstone, siltstone, shale fine clastic sedimentary rocks Producer 20420, mJKBcg - MIDDLE JURASSIC TO LATE CRETACEOUS - BOWSER LAKE GROUP conglomerate, coarse clastic sedimentary rocks Prospect 20520, muJBsc - MIDDLE JURASSIC TO UPPER JURASSIC - BOWSER LAKE GROUP coarse clastic sedimentary rocks Showing 20520, muJBsf - MIDDLE JURASSIC TO UPPER JURASSIC - BOWSER LAKE GROUP mudstone, siltstone, shale fine clastic sedimentary rocks 20520, muJHM - MIDDLE JURASSIC TO UPPER JURASSIC - HAZELTON GROUP - MOUNT DIJ WORTH FORMATION calc-alkaline volcanic rocks 20520, muJHSsf - MIDDLE JURASSIC TO UPPER JURASSIC - HAZELTON GROUP - SALMON RIVER FORMATION mudstone, siltstone, shale fine clastic sedimentary rocks 20520, muJHSvb - MIDDLE JURASSIC TO UPPER JURASSIC - HAZELTON GROUP - SALMON RIVER FORMATION basaltic volcanic rocks 20520, muJHs - MIDDLE JURASSIC TO UPPER JURASSIC - HAZELTON GROUP undivided sedimentary rocks 20530, MJMdr - MIDDLE JURASSIC - MOUNT CHOQUETTE PLUTON dioritic to gabbroic intrusive rocks 20530, MJNdr - MIDDLE JURASSIC - NICKEL MOUNTAIN OR COPPER KING GABBRO dioritic to gabbroic intrusive rocks 20530, mJHsf - MIDDLE JURASSIC - HAZELTON GROUP mudstone, siltstone, shale fine clastic sedimentary rocks 20530, mJHvb - MIDDLE JURASSIC - HAZELTON GROUP basaltic volcanic rocks 20540, ImJH - LOWER JURASSIC TO MIDDLE JURASSIC - HAZELTON GROUP undivided volcanic rocks 20540, ImJHsf - LOWER JURASSIC TO MIDDLE JURASSIC - HAZELTON GROUP mudstone, siltstone, shale fine clastic sedimentary rocks 20540, ImJHvf - LOWER JURASSIC TO MIDDLE JURASSIC - HAZELTON GROUP rhyolite, felsic volcanic rocks 20550, EJEK - EARLY JURASSIC - ESKAY PORPHYRY OR KNIPPLE PORPHYRY OR INEL STOCK feldspar porphyritic intrusive rocks 20550, EJM - EARLY JURASSIC - MCCLYMONT CREEK PLUTON quartz monzonitic intrusive rocks 20550, EJMLM - EARLY JURASSIC - MELVILLE, LEHTO OR MITCHELL PLUTON SUITE, RED BLUFF PORPHYRY STOCK monzodioritic to gabbroic intrusive rocks 20550, EJTCqd - EARLY JURASSIC - TEXAS CREEK PLUTONIC SUITE quartz dioritic intrusive rocks 20550, EJZ - EARLY JURASSIC - ZIPPA MOUNTAIN PLUTONIC COMPLEX dioritic to gabbroic intrusive rocks 20550, IJHB - LOWER JURASSIC - HAZELTON GROUP - BETTY CREEK FORMATION volcaniclastic rocks 20550, JJHU - LOWER JURASSIC - HAZELTON GROUP - UNUK RIVER FORMATION andesitic volcanic rocks 20550, IJHsf - LOWER JURASSIC - HAZELTON GROUP mudstone, siltstone, shale fine clastic sedimentary rocks 20550, UHva - LOWER JURASSIC - HAZELTON GROUP andesitic volcanic rocks 20800, TrJJ - TRIASSIC TO JURASSIC - JOHN PEAKS STOCK OR UNUK META-DIORITE dioritic to gabbroic intrusive rocks 20800, TrJg - TRIASSIC TO JURASSIC - unnamed intrusive rocks, undivided 20800, TrJqm - TRIASSIC TO JURASSIC - unnamed quartz monzonitic intrusive rocks 20900, Trv - TRIASSIC - unnamed undivided volcanic rocks 20910, LTrSMK - LATE TRIASSIC - STIKINE, MCQUILLAN OR KATETE MOUNTAIN PLUTONIC SUITES dioritic to gabbroic intrusive rocks 20910, uTrS - UPPER TRIASSIC - STUHINI GROUP undivided volcanic rocks 20910, uTrSsc - UPPER TRIASSIC - STUHINI GROUP coarse clastic sedimentary rocks 20910, uTrSsv - UPPER TRIASSIC - STUHINI GROUP marine sedimentary and volcanic rocks 20914, uTrSs - UPPER TRIASSIC - STUHINI GROUP undivided sedimentary rocks 20914, uTrSst - UPPER TRIASSIC - STUHINI GROUP argillite, greywacke, wacke, conglomerate turbidites 20914, uTrSvc - UPPER TRIASSIC - STUHINI GROUP volcaniclastic rocks 30800, CPSNIm - CARBONIFEROUS TO PERMIAN - STIKINE ASSEMBLAGE - NEWMONT LAKE FORMATION limestone, marble, calcareous sedimentary rocks 30800, CPSNva - CARBONIFEROUS TO PERMIAN - STIKINE ASSEMBLAGE - NEWMONT LAKE FORMATION andesitic volcanic rocks $30800, CPSsf-CARBONIFEROUS\ TO\ PERMIAN-STIKINE\ ASSEMBLAGE\ mudstone,\ shale\ fine\ clastic\ sedimentary\ rocks$ 30910, uCScq - UPPER CARBONIFEROUS - STIKINE ASSEMBLAGE conglomerate, coarse clastic sedimentary rocks 30910, uCSIm - UPPER CARBONIFEROUS - STIKINE ASSEMBLAGE limestone, marble, calcareous sedimentary rocks 30910. uCSsf - UPPER CARBONIFEROUS - STIKINE ASSEMBLAGE mudstone, siltstone, shale fine clastic sedimentary rocks 30910, uCSvc - UPPER CARBONIFEROUS - STIKINE ASSEMBLAGE volcaniclastic rocks 30930, ICSIm - LOWER CARBONIFEROUS - STIKINE ASSEMBLAGE limestone, marble, calcareous sedimentary rocks 30930, ICSvc - LOWER CARBONIFEROUS - STIKINE ASSEMBLAGE volcaniclastic rocks 31300, DPSIm - DEVONIAN TO PERMIAN - STIKINE ASSEMBLAGE limestone, marble, calcareous sedimentary rocks 31300, DPSsy - DEVONIAN TO PERMIAN - STIKINE ASSEMBLAGE marine sedimentary and volcanic rocks **DECOORS MINING CORP.** 31500, DSgs - DEVONIAN - STIKINE ASSEMBLAGE greenstone, greenschist metamorphic rocks 31500, DSIm - DEVONIAN - STIKINE ASSEMBLAGE limestone, marble, calcareous sedimentary rocks Palm Springs Project 31500, DSmy - DEVONIAN - STIKINE ASSEMBLAGE mylonitic metamorphic rocks 31500, DSsf - DEVONIAN - STIKINE ASSEMBLAGE mudstone, siltstone, shale fine clastic sedimentary rocks Regional Geology 31500, DSv - DEVONIAN - STIKINE ASSEMBLAGE undivided volcanic rocks

31500. DSvb - DEVONIAN - STIKINE ASSEMBLAGE basaltic volcanic rocks Legend 31510. LDMdr - LATE DEVONIAN - MCCLYMONT PLUTONIC SUITE dioritic to gabbroic intrusive rocks 31510, LDMg - LATE DEVONIAN - MCCLYMONT PLUTONIC SUITE intrusive rocks, undivided AW 3h 31510, LDMgd - LATE DEVONIAN - MCCLYMONT PLUTONIC SUITE quartz dioritic intrusive rocks 31510, LDMqm - LATE DEVONIAN - MCCLYMONT PLUTONIC SUITE quartz monzonitic intrusive rocks Terracad Geoscienc Feb, 2014 Services Ltd

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#### 4.0 HISTORIC GEOCHEMISTRY

As recorded in ARIS report #20614 (Collins, 1990), the area presently covered by the Palm Springs mineral tenures were surveyed by Hi-Tech Consultants whose work included 232 rock samples, 27 silt samples and 9 soil samples. Collins reported Middle Triassic volcanic formations west of Palmiere Creek and Middle to Upper Jurassic sedimentary formations east of that stream. Geochemically anomalous mercury, antimony, arsenic, barium, gold, copper and zinc values were reported from stream samples, with mercury values as high as 3600 ppb and gold, to 545 ppb. Lead and zinc sulphides were found in "float", along with barium and antimony values.

#### 5.0 DISCUSSION OF STRUCTURAL STUDY

A structural study using satellite imagery and computer methods was undertaken in order to better define patterns of fracturing in the general Prout Plateau area and, possibly, to relate regional geochemical data to those patterns. The fracture analysis was completed by Farshad Shirvani, MSc., a GIS specialist, who utilized ArcGIS and AutoCAD programs, and was described in a technical report dated March 21, 2012 that was filed with the Mineral Titles Branch. The study area was outlined and sub-divided into sub-areas, each of which was then inspected in cursory fashion, followed by detailed identification of fracture features. Where structures or possible structures were selected, a further test was applied by application of an inclined moveable light source that illuminated the structure from several aspects: 000°, 045°, 090°, 135°, 180°. Similarly, areas that seemed to lack textures and/or fractures were also viewed from various directions and linear features that otherwise would have gone unnoticed were then selected. Many satellite image features that at first glance appeared to be linears did not qualify for inclusion in the study.

Approximately 1300 linear features were aggregated into rose diagrams that summarized fractures by length and orientation, average length, and orientation, and by total count and orientation. A very strong clustering of north aligned lineaments was biased by a very strong through-going fracture that can be traced from South Unuk River in the south, thence northerly following Harrymel Creek and on a sinistral offset across the valley of Iskut River to Forrest Kerr Creek. Speculatively, the feature may be a remnant subduction front. It may be significant that a distinctive pillow lava unit that is found as far south as Anyox, B. C., near Granduc Mine, at the confluence of Sulphurets Creek and Unuk River, and east of Forrest Kerr Creek, but is not found west of that line, is everywhere proximal to the lineament, but was not identified at Palmiere Creek by Collins (1990, op cit.). An east-west aligned fracture pattern (actually 080° to 100°) is, if one discounts the above-referenced feature, equally strong. It appears to be related in part to the above-noted offset of the subduction (?) feature but also is present elsewhere.

Three principal axes of lineaments were identified: in decreasing order: 030°-050°, 350°-000°, and 080°-090°. The strength of northeast numbers appears to relate to strong lineations in the Prout Plateau area that includes the Eskay silver-gold deposit and, within that area, to the axis of the Eskay Anticline. The area lies east of, and may have been distorted by movement on, the Harrymel-Forrest Kerr fault(?) structure (see above). Strong east-west fracturing is manifest north of Eskay Mine and less obviously in several stream valleys, including, from south to north, Sulphurets Creek, Upper Unuk River, lower Iskut River below Forrest Kerr Creek, and lowermost Ningunsaw River. This feature has not been related to any particular geologic constraint. The September 2012 MMI sampling program was located close to the strong northerly fracturing and the analyses may enable outlining areas with chemistry similar to that found close to the Eskay mine.

### 6.0 SEPTEMBER 2012 PROGRAM OF MMI SOIL SAMPLING

A small (132 sample) program of MMI soil geochemical sampling was completed on the Palm Springs mineral tenures in September 26 to October 6, 2012. Samples were analysed in 2013 (Appendix 1). Figure 5 of this report shows MMI values in ppb for silver and gold; Figure 6, for copper and zinc.

MMI samples were taken in three areas: (1) south of Eskay mine access road, (2) east of that road and (3) from mineral tenure 952910, north of the road. The locations of sample sites were in part determined by terrain and availability of suitable soils and the resulting patterns of sampling are somewhat irregular. Of concern was the proximity to the Eskay mine access road, over which had passed many rock and concentrate trucks carrying mine products and possible contamination due to losses from both loaded and unloaded trucks. The resulting MMI samples do not show any such effects, possibly due to the depth of samples: surface materials may have shown a different pattern.

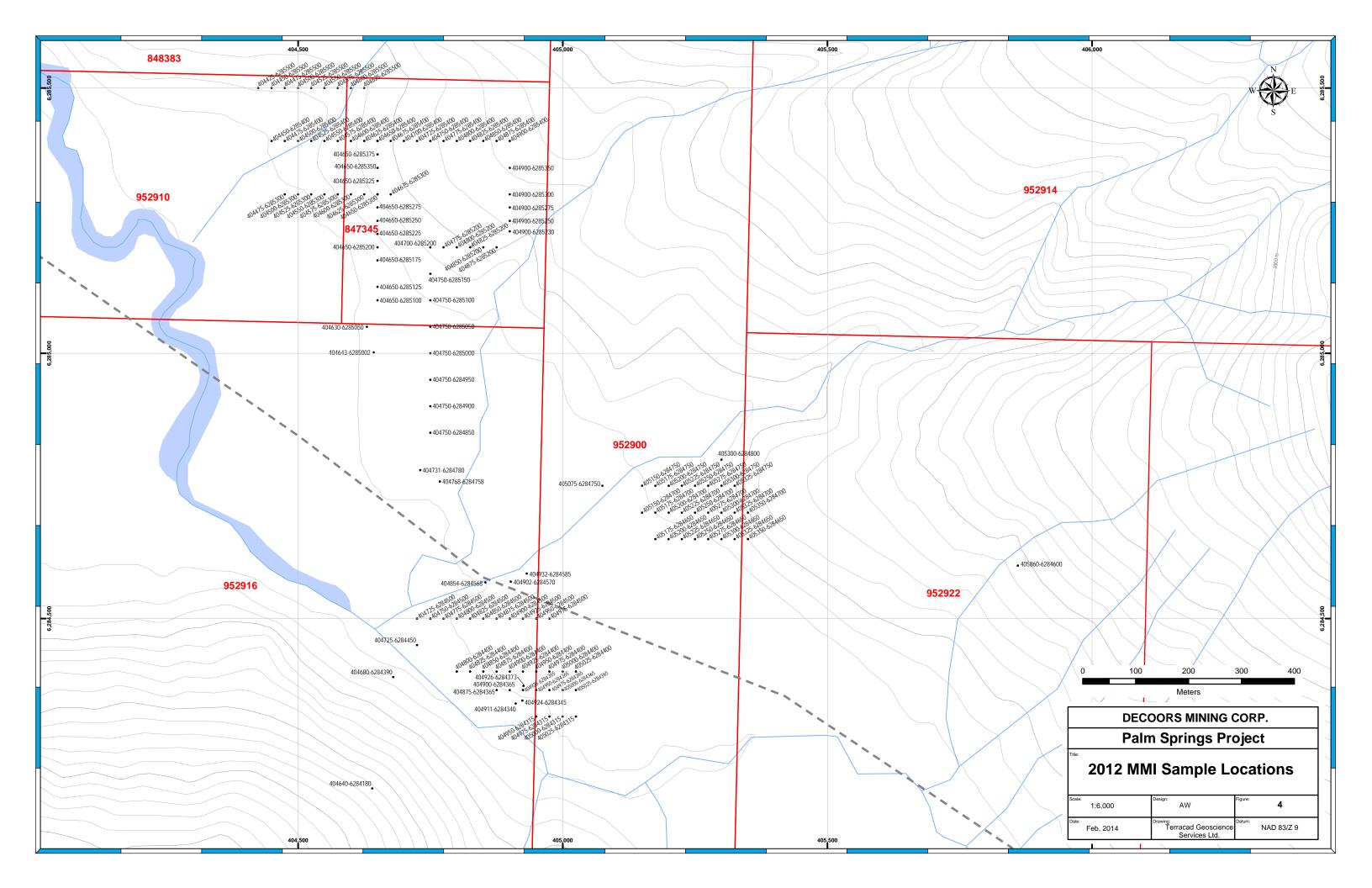
### 7.0 INTERPRETATION

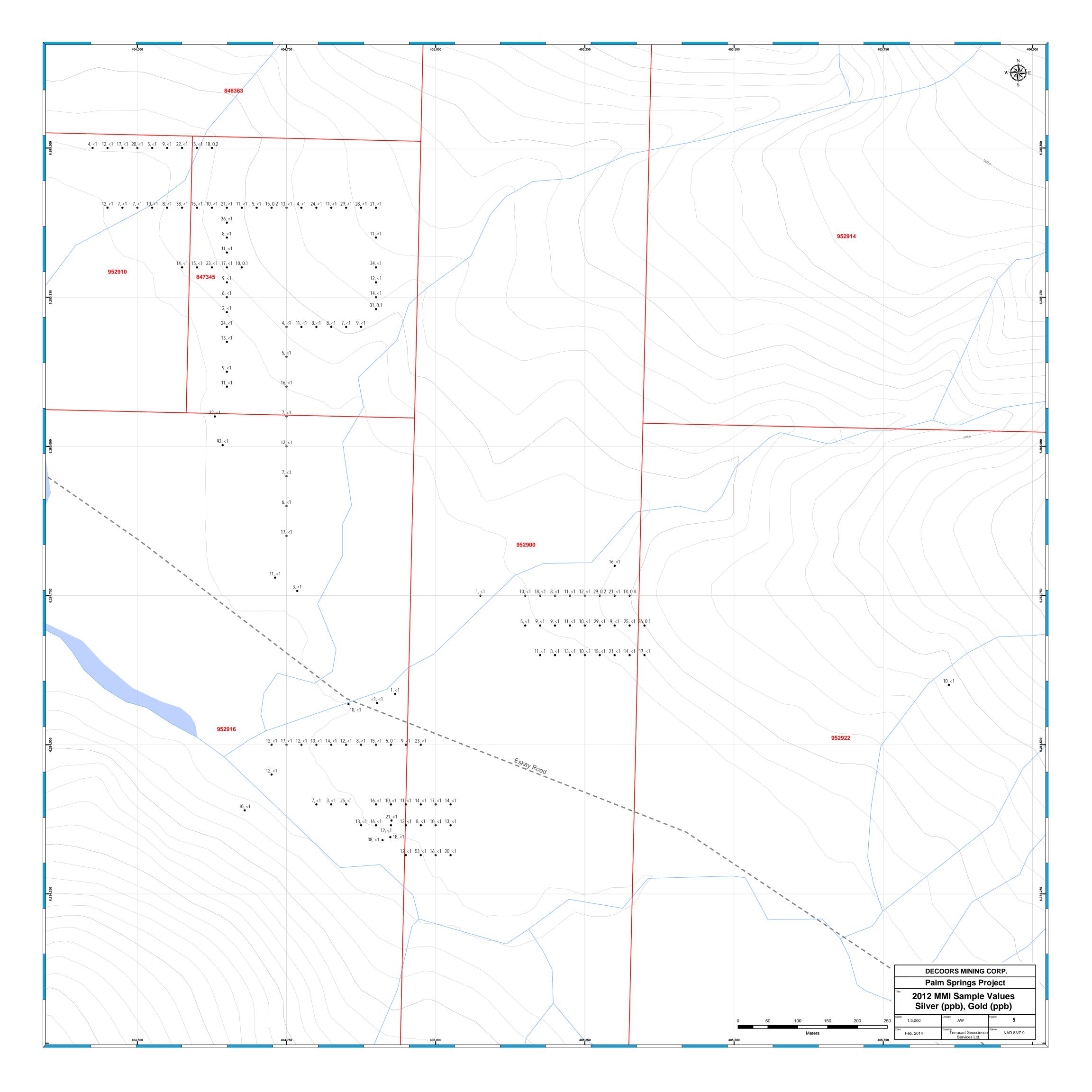
The main block of Palm Springs mineral tenures lies directly on the Harrymel-Forrest Kerr structure, in particular on that section of the structure that has been warped from north-south to northwest orientation and in which a large sinistral offset, estimated at 6.5 km, has distorted its otherwise strong linear expression. Geological information from Map Place and other sources, including ARIS reports and MDRU studies, and satellite imagery indicate that the offset is related to northeasterly-directed thrusting of terrain lying between Prout Plateau and the Iskut River valley. The intensity of fracturing north of the fault mimics that found at the Eskay Mine and nearby areas.

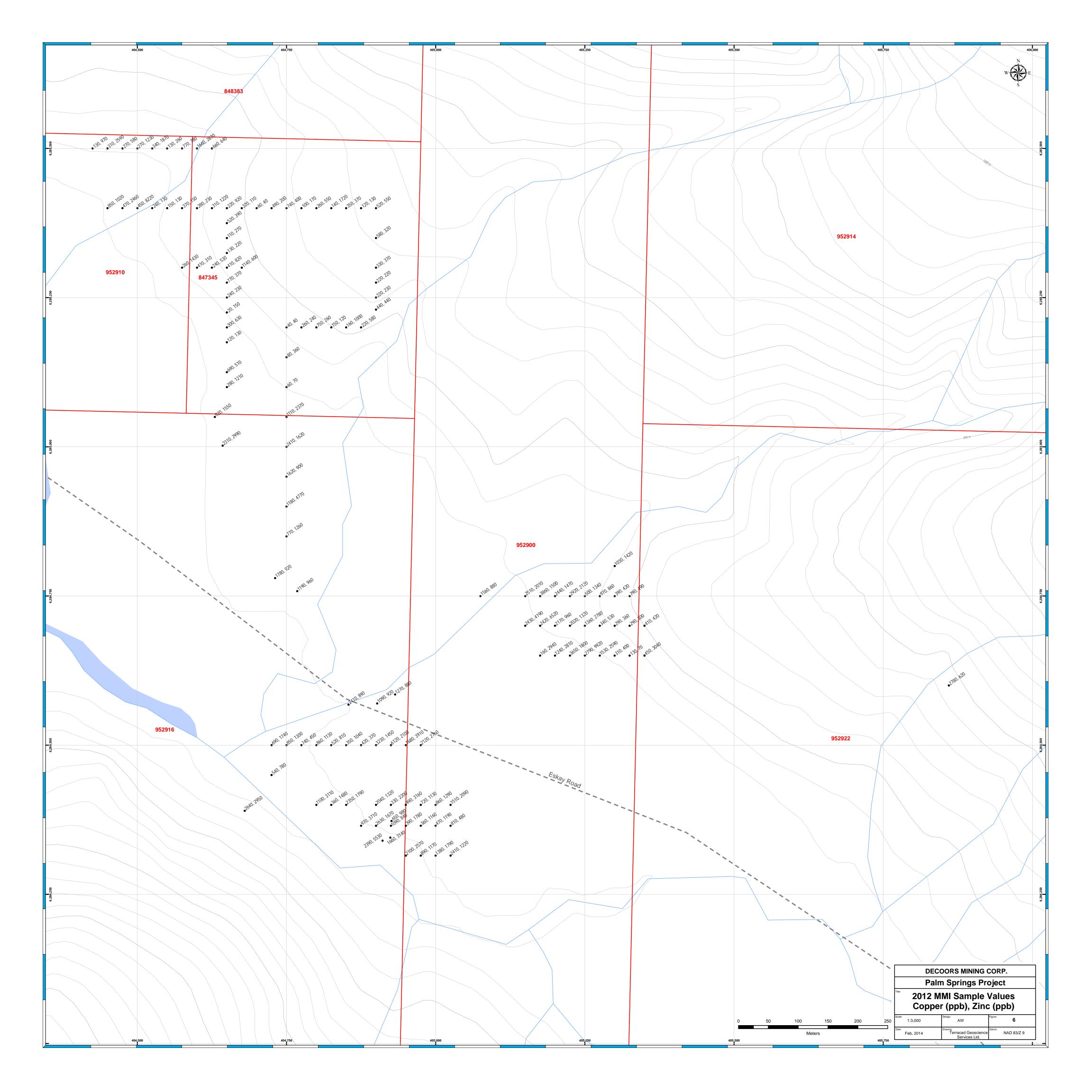
Figures 5 and 6 of this report illustrate silver/gold and copper/zinc values respectively. MMI soil geochemical values for gold are uniformly very low (<0.1 ppb Au), the highest value is 0.4 ppb Au and is of no consequence. MMI silver values fail to show any distinct pattern: south of Eskay road silver values are as high as 53 ppb; east of Eskay road highest Ag values were found at the east end of grid lines, as high as 36 ppb Ag; the irregularly spaced samples from tenure 847345 and the north edge of 952916 had MMI values of 93 and 22 ppb Ag. South of Eskay road, numerous MMI copper values are in excess of 1500 ppb, and zinc, in excess of 2000 ppb, without any readily discernable pattern. A small bedrock orientation sampling program may help determine if the erratic distribution of values in the samples is due to metal content of the underlying rock formations, particularly black shales.

East of Eskay road on tenure #952900, several MMI copper values exceed 2000 ppb Cu over a width of 200 metres; highest zinc value is 9920 ppb Zn. No distinct pattern of copper-zinc distribution is present but the area is of continuing interest and warrants further sampling and a small bedrock orientation sampling program.

Analyses from the northmost sampling grid on tenures #847345 and #952900 showed erratic elevated silver values, but only to 34 ppb Ag, and one gold value of 0.2 ppb Au; zinc values of 8220 and 2460 ppb Zn that adjoin one another, and apparently elevated copper-zinc values at 404643E, 6285000N (2310 ppb Cu, 2990 ppb Zn) and 404750E, 6285000N (2410 ppb Cu, 1620 ppb Zn) are of interest and should be further investigated in any future programs of work.







### 8.0 RECOMMENDATIONS

Exploration of the various Palm Springs mineral tenures should be guided by recognition that the area was the subject of much investigation following the discovery in 1987 of the nearby Eskay silver-gold mine. Several programs of conventional soil sampling surveys combined with prospecting and geological reconnaissance were directed to parts of the present tenures and the data were submitted in assessment reports (ARIS).

The 132 MMI soil geochemical samples that were stored initially at the SGS Minerals facility in Toronto, Ontario and then processed in 2013 (SGS Certificates of Analysis VC132590-0000003523; VC132593-0000003636; VC132592-0000003651; VC132591-0000005823) failed to demonstrate that an Eskay mine-type pattern is present. It appears, however, that elevated metal values are present in parts of the areas covered by the MMI sampling. Much of the Palm Springs property remains to be investigated. Further field work, including prospecting and geological reconnaissance, particularly in areas recently exposed by ablation of glaciers, with rock chip sampling of representative formations and any zones of metallic mineralization, is warranted.

The rewards accruing from discovery of an Eskay-type deposit potentially are huge.

### 9.0 REFERENCES

The following sources of information were consulted in preparation of the accompanying report:

Alldrick, D. J., 1986, Stratigraphy and Structure in the Anyox Area (103P/5); in Geol. Fieldwork 1985; Brit. Col. Min. Of Energy, Mines and Petroleum Resources, Paper 1986-1, p. 211-216

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Barrett, T. J. and Sherlock, R. L, 1996, Geology, Lithogeochemistry and Volcanic Setting of the Eskay Creek Au-Ag-Cu-Zn Deposit, Northwestern British Columbia, (abstract), originally published in Explor. Mining Geol. Vol. 5, No. 4, Can. Inst. of Mining, Metallurgy and Petroleum

Bartsch, R. D., 1993, A rhyolite flow dome in the upper Hazelton Group, Eskay Creek area (104B/9W), in Geol. Fieldwork, 1992; Brit. Col. Ministry of Energy, Mines and Petroleum Resources, Paper 1993-1, p. 331-334

Bostock, H. S., 1947, Physiography of the Canadian Cordillera, Geol. Surv. Canada, Memoir 247.

Collins, D. A., 1990, Geological, Geochemical and Geophysical Report on the Arc Claims, report submitted to the Ministry of Energy, Mines and Petroleum Resources, ARIS #20614

Cunningham-Dunlop, Ian, 1998, Assessment Report of the 1998 Diamond Drilling Program on the Eskay Creek Project, report submitted to the Ministry of Energy, Mines and Petroleum Resources, ARIS #25778

Grove, E. W., 1986, Geology and Mineral Deposits of the Stewart Area, British Columbia, B.C. Min. Of Energy, Mines and Pet. Res., Bull 58

Hannington, Mark, 1999, Subaqueous Hot-Spring Deposits, A Global Overview, keynote presentation to Eskay Creek-type & Subaqueous Hot-Spring Deposits Workshop, sponsored by MEG – Vancouver, BC & Yukon Ch. of Mines and Brit. Col. Geol. Surv. Branch, November, 1999

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Kuran, David, Kaip, Andrew and Patterson, Keith M.,1994, Geological and Geochemical Report on the Bonsai Claims, report submitted to the Ministry of Energy, Mines and Petroleum Resources, ARIS #23718

Lewis, Peter D., 1999, Geological Setting of the Eskay Creek Area, contribution to Abstract volume, Eskay Creek-type & Subaqueous Hot-Spring Deposits Workshop, sponsored by MEG – Vancouver, BC & Yukon Ch. of Mines and Brit. Col. Geol. Surv. Branch, November, 1999

Roth, Tina, 1999, The Eskay Creek Mine: Complex Mineralization in a Precious-Metal Rich VHMS Deposit, contribution to Abstracts volume, Eskay Creek-type & Subaqueous Hot-Spring Deposits Workshop, sponsored by MEG – Vancouver, BC & Yukon Ch. of Mines and Brit. Col. Geol. Surv. Branch, November, 1999

### 10.0 STATEMENT OF QUALIFICATIONS

### Erik Ostensoe, P. Geo.

Consulting geologist. BSc. (Hons.) University of British Columbia. More than 40 years experience in mineral exploration in British Columbia and elsewhere.

#### Anke Woodworth, GIS specialist

GIS specialist employed by Terracad Geoscience Services Ltd.; is a computer hardware and software specialist, with special skills in data acquisition, compilation and processing, AutoCAD systems, modeling, graphic presentations and photographic and satellite imaging.

### 11.0 STATEMENT OF EXPENDITURES

The following expenditures were incurred in completion of the field work that is described in the accompanying technical report (prepared from Terracad Geoscience accounting and personnel records):

SGS Canada Inc. – MMI analyses – 132 samples @ \$29.55/sample -	\$ 3,900.60
Preparation of Illustrations and Formatting – A. Woodworth, GIS specialist, 1.2 days @ \$480/day	\$ 576.00
Research and Preparation of text – E. Ostensoe, P. Geo., 3 days @ \$600/day	\$ 1,800.00
Charge for computers, printers, software programs, allow	\$ 100.00
Total – Terracad Geoscience Services Ltd.	\$6,376.60
Previously filed 2014/Feb/14 Statement of Expenditures per Event No. 5491068 -	\$3,429.00
Balance – filed 2014/Mar/04 as Event No. 5493086 -	\$2,947.60

### **APPENDIX 1**

# **Assay Certificates**



### **Certificate of Analysis**

Work Order : VC132590 [Report File No.: 0000003523]

To: FARSHAD SHIRVANI

TERRACAD GEOSCIENCE SERVICES LTD 675 HASTINGS ST WEST SUITE 310 VANCOUVER BC V6B 1N2

P.O. No. : MMI samples

Project No. : -No. Of Samples : 52

Date Submitted : Apr 04, 2013 Report Comprises : Pages 1 to 3

(Inclusive of Cover Sheet)

Distribution of unused material:

Active files:

Certified By:
Satpaul Gill
QAQC Chemist

Date:

Sep 20, 2013

SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at http://www.scc.ca/en/search/palcan/sgs

Report Footer: L.N.R. = Listed not received

I.S. = Insufficient Sample -- = No result

n.a. = Not applicable -- =

\*INF = Composition of this sample makes detection impossible by this method  $\it M$  after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. \*NAA08V) were subcontracted

Elements marked with the @ symbol (e.g. @Cu) denote assays performed using accredited test methods

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Report File No : 0000003523

Element	WtKg	Ag	As	Au	Cu	Mn	Мо	Pd	Zn
Method	WGH79	MMI-M	MMI-M	MMI-M	MMI-M	MMI-M	MMI-M	MMI-M	MMI-M
Det.Lim.	0.001	1 nnh	10	0.1	10	10	5	nnh	20
Units	kg	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
421200-6126000	0.540	3	<10	<0.1	480	2040	7	<1	70
421200-6126150	0.475	<1	<10	<0.1	170	7330	19	<1	600
421600-6126250	0.480	15	<10	0.2	630	1520	5	<1	180
421000-6126000	0.630	5	10	0.2	910	740	5	<1	60
421600-6126100	0.660	14	20	0.5	800	940	10	<1	80
421200-6126250	0.755	6	<10	0.9	2340	1060	<5	<1	20
421400-6126050	0.600	15	<10	0.3	450	3480	9	<1	350
421400-6126200	0.515	2	<10	<0.1	510	4850	6	<1	50
421200-6125750	0.985	2	30	1.0	1800	1890	7	<1	80
421000-6126200	0.480	6	<10	0.4	710	1060	12	<1	50
404640-6284980	0.465	20	40	<0.1	2740	8670	11	<1	2320
421000-6125900	0.615	6	<10	1.0	1820	1570	5	<1	180
421600-6126150	0.605	21	10	0.4	590	3260	9	<1	140
421600-6126350	0.630	25	10	0.2	570	1480	8	<1	80
421200-6125900	0.595	8	10	0.2	490	2850	7	<1	90
421000-6126100	0.395	3	<10	<0.1	500	1210	<5	<1	170
421000-6125800	0.590	3	40	0.5	970	1280	9	<1	190
421600-6126050	0.675	8	10	0.5	1040	820	7	<1	90
421200-6125950	0.600	11	10	0.3	880	4680	<5	<1	370
421200-6125700	0.695	3	20	0.2	810	840	6	<1	220
421000-6126250	0.630	16	<10	0.4	380	2070	<5	<1	150
421200-6125800	0.630	9	<10	0.9	1390	510	15	<1	60
421600-6126300	0.610	13	10	0.2	800	280	7	<1	170
421000-6125950	0.540	20	<10	0.4	410	1090	16	<1	60
421400-6126000	0.560	15	<10	0.8	500	740	13	<1	70
421200-6126100	0.575	<1	<10	<0.1	110	4040	20	<1	50
421200-6125850	0.555	7	10	0.4	750	1210	11	<1	90
421200-6126050	0.505	7	<10	<0.1	540	2530	<5	<1	330
421000-6125700	0.870	5	20	0.4	1170	480	8	<1	60
421000-6125750	0.620	6	20	0.3	680	1590	7	<1	150
421000-6126050	0.560	21	<10	0.4	540	960	11	<1	70
421000-6126150	0.670	14	10	3.3	690	790	15	<1	50
421400-6126100	0.400	<1	<10	<0.1	1190	2580	<5	<1	780
428000-6125000	0.535	4	<10	<0.1	420	2370	<5	<1	190
428000-6124900	0.505	3	<10	<0.1	230	4250	<5	<1	270
428000-6124400	0.570	11	20	0.1	530	11600	6	<1	430
428000-6124550	0.720	5	<10	0.1	970	2240	<5	<1	120
428000-6124300	0.540	21	20	0.2	1070	3270	6	<1	130
428000-6124700	0.650	8	10	0.2	660	2840	7	<1	100
428000-6124350	0.545	14	20	<0.1	460	1600	6	<1	120
428000-6124750	0.575	18	<10	<0.1	490	4330	<5	<1	380
428000-6124450	0.420	10	<10	<0.1	270	1810	<5	<1	460
428000-6124850	0.450	3	<10	<0.1	310	3170	<5	<1	190

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SGS Canada Inc. Mineral Services Suite E - 3260 Production Way Burnaby BC t(604) 638-2349 f(604) 444-5486 www.ca.sgs.com

Page 2 of 3



Report File No.: 0000003523

					_				_
Element	WtKg	Ag	As	Au	Cu	Mn	Мо	Pd	Zn
Method	WGH79	MMI-M							
Det.Lim.	0.001	1	10	0.1	10	10	5	1	20
Units	kg	ppb							
428000-6124650	0.570	6	<10	<0.1	790	2070	<5	<1	40
428000-6124950	0.440	5	<10	<0.1	320	5600	5	<1	1260
428000-6124500	0.455	7	<10	<0.1	520	3990	<5	<1	60
428000-6124800	0.495	4	20	<0.1	440	3550	6	<1	200
404475-6285400	0.855	7	30	<0.1	470	7660	8	<1	2460
404725-6284500	0.600	12	40	<0.1	690	6080	9	<1	1740
404800-6284500	0.760	10	70	<0.1	860	9140	15	<1	1130
404625-6285500	0.555	18	20	0.2	660	5050	7	<1	640
404875-6284500	0.660	8	20	<0.1	420	1170	8	<1	370

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### **Certificate of Analysis**

Work Order : VC132591 [Report File No.: 0000005823]

To: FARSHAD SHIRVANI Date: Feb 19, 2014

TERRACAD GEOSCIENCE SERVICES LTD 675 HASTINGS ST WEST SUITE 310 VANCOUVER BC V6B 1N2

P.O. No. : MMI samples

Project No. : -No. Of Samples : 52

Date Submitted : Apr 04, 2013 Report Comprises : Pages 1 to 5

(Inclusive of Cover Sheet)

Distribution of unused material:

Active files: Comments:

This Report cancels and supersedes the Report No. 003595 dated Sep 24, 2013 issued by SGS Canada (Production Way).

Certified By

Cam Chiang
Assistant Operations Manager

SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at http://www.scc.ca/en/search/palcan/sgs

Report Footer: L.N.R. = Listed not received

I.S. = Insufficient Sample -- = No result

n.a. = Not applicable

-- - 110 16301

\*INF = Composition of this sample makes detection impossible by this method M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. \*NAA08V) were subcontracted

Elements marked with the @ symbol (e.g. @Cu) denote assays performed using accredited test methods

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Penort File No : 0000005823

Report File No.: 000000582	3							
Element Method Det.Lim.	WtKg WGH79 0.001	Ag MMI-M 1	As MMI-M 10	MMI-M	Cu MMI-M 10	Mn MMI-M 10	Mo MMI-M 5	Pd MMI-M 1
Units	kg	ppb	ppb		ppb	ppb	ppb	ppb
404450-6285500	0.495	12	<10	<0.1	310	370	<5	<1
404850-6284500	0.695	12	20		350	1140	7	<1
404725-6284450	0.795	12	50	<0.1	540	8090	12	<1
404525-6285500	0.395	5	<10	<0.1	340	210	<5	<1
404550-6285400	0.720	8	<10	<0.1	150	50	<5	<1
404425-6285500	0.500	4	<10	<0.1	130	110	<5	<1
404450-6285400	0.790	12	40	<0.1	850	5620	8	<1
404600-6285400	0.420	15	<10	<0.1	280	40	<5	<1
404550-6285500	0.325	9	<10	<0.1	130	70	<5	<1
404625-6285300	0.480	23	<10	<0.1	240	540	<5	<1
404625-6285400	0.505	10	<10	<0.1	310	1010	<5	<1
404600-6285300	0.440	15	<10	<0.1	410	530	<5	<1
404600-6285500	0.525	15	10	<0.1	1660	3960	<5	<1
404675-6285300	0.620	10	50	0.1	1140	8370	11	<1
404575-6285300	0.515	14	<10	<0.1	260	6920	<5	<1
404650-6285300	0.470	17	<10	<0.1	410	4750	<5	<1
404950-6284500	0.660	9	20	<0.1	1680	3470	<5	<1
404650-6285400	0.440	21	<10	<0.1	220	430	<5	<1
404500-6285400	0.700	7	<10	<0.1	450	4480	<5	<1
404925-6284500	0.630	6	90	0.1	6120	37500	29	<1
404926-6284373	0.665	21	60	<0.1	650	7410	13	<1
404975-6284400	0.655	14	30	<0.1	720	3970	8	<1
404650-6285275	0.315	9	10	<0.1	770	3340	6	<1
404650-6285250	0.345	6	<10	<0.1	240	420	<5	<1
404525-5285400	0.475	10	<10	<0.1	240	50	<5	<1
404825-6284400	0.530	3	30	<0.1	360	7470	7	<1
404950-6284400	0.540	11	20	<0.1	490	12300	7	<1
404950-6284315	0.855	12	60	<0.1	2100	7380	12	<1
404925-6284400	0.670	10	30	<0.1	330	10100	7	<1
404775-6284500	0.720	12	40	<0.1	740	7920	13	<1
405000-6284400	0.745	17	70	<0.1	860	11900	14	<1
404900-6284400	0.630	16	20	<0.1	2040	3690	<5	<1
404900-6284500	0.640	15	40	<0.1	3230	16700	10	<1
404825-6284500	0.640	14	30	<0.1	520	5110	11	<1
405350-6284700	0.320	36	20	0.1	410	1190	5	<1
404850-6284400	0.655	25	30	<0.1	2350	4140	6	<1
404800-6284400	0.555	7	<10	<0.1	1100	1970	<5	<1
404575-6285500	0.455	22	<10	<0.1	770	1860	<5	<1
404768-6284758	1.260	3	<10	<0.1	1190	3140	23	<1
405200-6284700	0.320	9	20	<0.1	2170	2870	13	<1

Page 2 of 5

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Report File No.: 0000005823

Neport He No.: 0000003023												
Element	WtKg	Ag	As	Au	Cu	Mn	Mo	Pd				
Method	WGH79	MMI-M										
Det.Lim.	0.001	1	10	0.1	10	10	5	1				
Units	kg	ppb										
405250-6284700	0.305	10	50	<0.1	1360	6550	11	<1				
404924-6284345	0.870	18	60	<0.1	1660	9080	12	<1				
404575-6285400	0.615	38	<10	<0.1	370	350	<5	<1				
404475-6285500	0.395	17	<10	<0.1	270	390	<5	<1				
404475-6284500	0.855	23	100	<0.1	2120	17900	25	<1				
405275-6284650	0.290	15	40	<0.1	1530	6320	10	<1				
404900-6284365	0.825	16	30	<0.1	2630	4860	7	<1				
405025-6284315	0.885	20	30	<0.1	2410	6770	9	<1				
404750-6284500	0.710	17	30	<0.1	850	9360	10	<1				
404500-6285500	0.365	20	<10	<0.1	270	1040	<5	<1				
404911-6284340	0.745	38	40	<0.1	2390	5040	8	<1				
405025-6284340	0.920	14	60	<0.1	1510	11400	12	<1				

Page 3 of 5

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Report File No.: 0000005823

	Element Method	Zn MMI-M
	Det.Lim.	20
	Units	ppb
404450-6285500		2590
404850-6284500		1040
404725-6284450		780
404525-6285500		1870
404550-6285400		130
404425-6285500		970
404450-6285400		1020
404600-6285400		230
404550-6285500		260
404625-6285300		530
404625-6285400		1220
404600-6285300		310
404600-6285500		2870
404675-6285300		600
404575-6285300		1430
404650-6285300		820
404950-6284500		3910
404650-6285400		920
404500-6285400		8220
404925-6284500		2100
404926-6284373		980
404975-6284400		1130
404650-6285275		370
404650-6285250		230
404525-5285400		130
404825-6284400		1480
404950-6284400		3160
404950-6284315		2570
404925-6284400		2200
404775-6284500		450
405000-6284400		1290
404900-6284400		1320
404900-6284500		1450
404825-6284500		810
405350-6284700		420
404850-6284400		1790
404800-6284400		3110
404575-6285500		780
404768-6284758		960
405200-6284700		960

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Page 4 of 5



Report File No.: 0000005823

	Element Method Det.Lim. Units	Zn MMI-M 20 ppb
405250-6284700		2780
404924-6284345		3140
404575-6285400		150
404475-6285500		580
404475-6284500		2760
405275-6284650		2590
404900-6284365		1670
405025-6284315		1220
404750-6284500		1300
404500-6285500		1230
404911-6284340		5530
405025-6284340		2090

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Page 5 of 5



### **Certificate of Analysis**

Work Order : VC132592 [Report File No.: 0000003651]

To: FARSHAD SHIRVANI

TERRACAD GEOSCIENCE SERVICES LTD 675 HASTINGS ST WEST SUITE 310 VANCOUVER BC V6B 1N2

P.O. No. : MMI samples

Project No. : -No. Of Samples : 52

Date Submitted : Apr 04, 2013 Report Comprises : Pages 1 to 3

(Inclusive of Cover Sheet)

Distribution of unused material:

Active files:

Certified By : \_\_\_\_\_Satpaul Gill QAQC Chemist

Date:

Sep 27, 2013

SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at http://www.scc.ca/en/search/palcan/sgs

Report Footer: L.N.R. = Listed not received n.a. = Not applicable

I.S. = Insufficient Sample

-- = No result

\*INF = Composition of this sample makes detection impossible by this method M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. \*NAA08V) were subcontracted

Elements marked with the @ symbol (e.g. @Cu) denote assays performed using accredited test methods

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Report File No.: 0000003651

405860-6284600 404875-6284365 405200-6284650 405000-6284315 405175-6284650 404731-6284780 404825-6285200 405205-6284700 405300-6284870 405075-628475 405225-6284750 40525-6284750 40525-6284750 405175-6284750 405250-6284750 405175-6284750 405350-6284750 405175-6284750 405175-6284750 405175-6284750 405175-6284750 405175-6284750 405175-6284750 405175-6284750 405175-6284750 405175-6284750 405175-6284750 405175-6284750 405175-6284750 405175-6284750 405175-6284750 405175-6284750 405175-6284750 405175-6284750 405175-6284750 405175-6284750	WGH79 0.001 kg 0.780 0.780 0.880 0.350 0.905 0.240 1.115 0.210	MMI-M 1 ppb 12 10 18 8 16	MMI-M 10 ppb 90 30 50 30	MMI-M 0.1 ppb <0.1 <0.1 <0.1	MMI-M 10 ppb 1090 2780	MMI-M 10 ppb 11500 3110	MMI-M 5 ppb	MMI-M 1 ppb	MMI-M 20 ppb
Units 404925-6284365 405860-6284600 404875-6284365 405200-6284650 405000-6284315 405175-6284650 404731-6284780 404825-6285200 405225-6284700 405075-628475 405225-6284750 405225-6284750 405255-6284750 405250-6284750 405175-6284750 405250-6284750 405175-6284750 405250-6284750 405150-6284750 405150-6284750 405250-6284750 405250-6284750 405250-6284750 405250-6284750 405250-6284750 404975-6284365 404975-6284315 405350-6284650 405200-628475	kg 0.780 0.780 0.880 0.350 0.905 0.240 1.115 0.210	12 10 18 8 16	90 30 50 30	ppb <0.1 <0.1	ppb 1090	ppb 11500	ppb		
404925-6284365 405860-6284600 404875-6284365 405200-6284650 405000-6284315 405175-6284650 404731-6284780 404825-6285200 405225-6284700 405300-6284800 404902-6284570 405225-6284750 405225-6284750 405255-6284750 405250-6284750 405250-6284750 405175-6284750 405250-6284750 405150-6284750 405150-6284750 405150-6284750 404975-6284365 404975-6284315 405350-6284650 405200-628475	0.780 0.780 0.880 0.350 0.905 0.240 1.115 0.210	12 10 18 8 16	90 30 50 30	<0.1 <0.1	1090	11500			
405860-6284600 404875-6284365 405200-6284650 405000-6284315 405175-6284650 404731-6284780 404825-6285200 405225-6284700 405206-6284750 405225-6284750 405225-6284750 40525-6284750 405175-6284750 405250-6284750 405175-6284750 405175-6284750 405175-6284750 405175-6284750 405175-6284750 405175-6284750 405175-6284750 405180-6284750 405180-6284750 405250-6284750 404975-6284365 404975-6284315 405350-6284650 405200-628475	0.780 0.880 0.350 0.905 0.240 1.115 0.210	10 18 8 16	30 50 30	<0.1			10	<1	840
404875-6284365 405200-6284650 405000-6284315 405175-6284650 404731-6284780 404825-6285200 405225-6284700 405300-6284800 404902-6284570 405075-628475 405225-6284750 405175-6284700 405250-6284750 405175-6284750 405150-6284750 405150-6284750 405150-6284750 405150-6284750 405250-6284750 405250-6284750 405250-6284750 405250-6284750 405250-6284750 405250-6284750 405350-6284315 405350-6284650 405200-628475	0.880 0.350 0.905 0.240 1.115 0.210	18 8 16	50 30		2700		13	<1	620
405200-6284650 405000-6284315 405175-6284650 404731-6284780 404825-6285200 405225-6284700 405300-6284800 404902-6284570 405075-628475 405225-6284750 405225-6284650 405175-6284700 405250-6284650 405175-6284750 405250-6284750 405250-6284750 405250-6284750 404975-6284365 404975-6284315 405350-6284650 40530-6284650 405200-628475	0.350 0.905 0.240 1.115 0.210	8 16	30	<b>\0.1</b>	970	13800	9	<1	3710
405000-6284315 405175-6284650 404731-6284780 404825-6285200 405225-6284700 405300-6284800 404902-6284570 405075-628475 405225-6284750 405225-6284650 405175-6284700 405250-6284750 405250-6284750 405250-6284750 405250-6284750 405250-6284750 405250-6284750 405250-6284750 405250-6284750 405250-6284750 405250-6284750 405250-6284750	0.905 0.240 1.115 0.210	16		<0.1	1240	5520	7	<1	2810
405175-6284650 404731-6284780 404825-6285200 405225-6284700 405300-6284800 404902-6284570 405075-628475 405225-6284750 405225-6284650 405175-6284700 405250-6284750 405175-6284750 405175-6284750 405175-6284750 405175-6284750 405175-6284750 405175-6284750 405250-6284750 404975-6284315 405350-6284650 405200-628475	0.240 1.115 0.210			<0.1	1380	7970	9	<1	1790
404731-6284780 404825-6285200 405225-6284700 405300-6284800 404902-6284570 405075-628475 405225-6284750 405225-6284650 405175-6284700 405250-6284650 405175-6284750 405175-6284750 405180-6284750 405180-6284750 404975-6284315 405350-6284650 405200-628475	1.115 0.210	1.1	<10	<0.1	160	15900	<5	<1	2940
404825-6285200 405225-6284700 405300-6284800 404902-6284570 405075-628475 405225-6284750 405225-6284650 405175-6284700 405250-6284650 405150-6284750 405250-6284750 405250-6284750 405250-6284750 404975-6284315 405350-6284650 405300-628475 405300-628475	0.210	11	10	<0.1	1780	2260	12	<1	920
405225-6284700 405300-6284800 404902-6284570 405075-628475 405225-6284750 405225-6284650 405175-6284700 405250-6284650 405325-6284750 405150-6284750 405150-6284750 405150-6284750 405250-6284750 404975-6284315 405350-6284650 405200-628475		8	<10	<0.1	150	40	<5	<1	120
405300-6284800 404902-6284570 405075-628475 405225-6284750 405225-6284650 405175-6284700 405250-6284650 405325-6284750 405150-6284750 405150-6284750 405250-6284750 405250-6284750 404975-6284365 404975-6284315 405350-6284650 405200-628475		11	10	<0.1	2020	4470	10	<1	1320
404902-6284570 405075-628475 405225-6284750 405225-6284650 405175-6284700 405250-6284650 405325-6284750 405150-6284750 405250-6284750 404975-6284365 404975-6284315 405350-6284650 405200-628475	0.300	16	20	<0.1	1030	4050	7	<1	1420
405075-628475 405225-6284750 405225-6284650 405175-6284700 405250-6284650 405325-6284750 405150-6284750 405250-6284750 404975-6284365 404975-6284315 405350-6284650 405200-628475	1.265	<1	<10	<0.1	1090	4590	46	<1	920
405225-6284750 405225-6284650 405175-6284700 405250-6284650 405325-6284750 405150-6284750 405250-6284750 404975-6284365 404975-6284315 405350-6284650 405200-628475	0.330	1	<10	<0.1	1560	3680	41	<1	880
405225-6284650 405175-6284700 405250-6284650 405325-6284750 405150-6284750 405250-6284750 404975-6284365 404975-6284315 405350-6284650 405200-628475	0.330	11	20	<0.1	2920	5210	14	<1	2120
405175-6284700 405250-6284650 405325-6284750 405150-6284750 405250-6284750 404975-6284365 404975-6284315 405350-6284650 405200-628475	0.273	13	60	<0.1	3650	12000	12	<1	1800
405250-6284650 405325-6284750 405150-6284750 405250-6284750 404975-6284365 404975-6284315 405350-6284650 405200-628475	0.300	9	20	<0.1	2420	6350	7	<1	6520
405325-6284750 405150-6284750 405250-6284750 404975-6284365 404975-6284315 405350-6284650 405200-628475	0.300	10	<10	<0.1	2790	3470	<5	<1	9920
405150-6284750 405250-6284750 404975-6284365 404975-6284315 405350-6284650 405200-628475	0.275	14	70	0.1	790	2970	12	<1	490
405250-6284750 404975-6284365 404975-6284315 405350-6284650 405200-628475	0.370	10	20	<0.1	2510	4500	16	<1	2010
404975-6284365 404975-6284315 405350-6284650 405200-628475	0.210	12	<10	<0.1	500	580	<5	<1	1340
404975-6284315 405350-6284650 405200-628475	0.765	8	20		360		5	<1	
405350-6284650 405200-628475	1.005	53	50	<0.1 <0.1	890	4550 11600	12	<1	1160 1170
405200-628475	0.305	17	20	<0.1	450	13600	6	<1	3040
	0.305	8	30	<0.1	2440	4840	16	<1	1470
	0.300	9	40	<0.1	290	2210	6	<1	
405300-0264700	0.300	14	<10	<0.1	130	20	<5	<1	360 70
405150-6284700	0.195	5	<10	<0.1	2430	7600	<5	<1	4190
405025-6284365	0.880	13	40	<0.1	810	4690	9	<1	480
405275-6284700	0.295	29	10	<0.1	340	1850	<5	<1	530
405275-6284750	0.293	29	40	0.2	970	2330	8	<1	860
404950-6284365	0.690	12	10	<0.1	390	2260	6	<1	1780
404875-5174400	0.820	17	70	<0.1	1100	10600	15	<1	940
404854-6284560	0.965	10	<10	<0.1	2410	2180	18	<1	890
405325-6284700	0.275	25	10	<0.1	290	330	5	<1	300
404750-6285200	0.275	4	<10	<0.1	40	220	<5	<1	40
404750-6284950	0.255	7	10	<0.1	1620	2780	16	<1	900
404750-6284900	0.300	6	10	<0.1	1180	4930	<5	<1	4770
	0.300		<10	<0.1				<1	420
405300-6284750 404875-6285200	0.240	21 9	<10	<0.1	390 220	370 520	<5 <5	<1	580
404900-6285250	0.245	14	<10	<0.1	220	90	<5 <5	<1	230
404750-6285100	0.205		<10	<0.1	60		<5 <5	<1	70
404750-6285100		16				80 5060	17	<1	1500
	0.330	18	30	<0.1	3860				
405000-6284365 404750-6285150	0.535 0.200	10 5	20 <10	<0.1 <0.1	470 80	3410 70	6 <5	<1 <1	1190 360

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SGS Canada Inc. Mineral Services Suite E - 3260 Production Way Burnaby BC t(604) 638-2349 f(604) 444-5486 www.ca.sgs.com

Page 2 of 3



Report File No.: 0000003651

Element	WtKg	Ag	As	Au	Cu	Mn	Мо	Pd	Zn
Method	WGH79	MMI-M							
Det.Lim.	0.001	1	10	0.1	10	10	5	1	20
Units	kg	ppb							
405300-6284650	0.260	21	<10	<0.1	310	680	<5	<1	400
404775-6285200	0.245	11	<10	<0.1	260	280	<5	<1	240
404932-6284585	1.060	1	<10	<0.1	1270	4410	36	<1	880
404850-6285200	0.250	7	<10	<0.1	160	550	<5	<1	1000
404900-6285275	0.190	12	10	<0.1	220	210	<5	<1	220
404900-6285350	0.250	11	<10	<0.1	580	250	<5	<1	320
404675-6285400	0.265	11	<10	<0.1	320	<10	<5	<1	110
404650-6285175	0.305	13	<10	<0.1	120	380	<5	<1	130
404750-6285000	0.340	12	20	<0.1	2410	4520	11	<1	1620

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SGS Canada Inc. Mineral Services Suite E - 3260 Production Way Burnaby BC t(604) 638-2349 f(604) 444-5486 www.ca.sgs.com

Page 3 of 3



### **Certificate of Analysis**

Work Order: VC132593 [Report File No.: 0000003636]

To: FARSHAD SHIRVANI

TERRACAD GEOSCIENCE SERVICES LTD 675 HASTINGS ST WEST SUITE 310 VANCOUVER BC V6B 1N2

P.O. No. : MMI samples

Project No. : -No. Of Samples : 52

Date Submitted : Apr 04, 2013 Report Comprises : Pages 1 to 3

(Inclusive of Cover Sheet)

Distribution of unused material:

Active files:

Certified By:
Satpaul Gill
QAQC Chemist

Date:

Sep 27, 2013

SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at http://www.scc.ca/en/search/palcan/sgs

Report Footer: L.N.R. = Listed not received

I.S. = Insufficient Sample -- = No result

n.a. = Not applicable

-- - 110 163011

\*INF = Composition of this sample makes detection impossible by this method M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. \*NAA08V) were subcontracted

Elements marked with the @ symbol (e.g. @Cu) denote assays performed using accredited test methods

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Report File No.: 0000003636

Element	WtKg	Ag	As	Au	Cu	Mn	Mo	Pd	Zr
Method	WGH79 0.001	MMI-M 1	MMI-M	MMI-M	MMI-M 10	MMI-M 10	MMI-M 5	MMI-M	MMI-N 20
Det.Lim.		ppb	10 ppb	0.1 ppb	ppb	ppb	ppb	ppb	ppb
Units	kg								
404750-6284850	0.290	17	20	<0.1	770	6530	13	<1	1260
404900-6285300	0.220	34	<10	<0.1	330	690	<5	<1	370
404800-6285400	0.225	24	<10	<0.1	260	300	<5	<1	550
421400-6126150	0.480	2	10	<0.1	960	900	8	<1	180
404900-6285400	0.230	21	<10	<0.1	520	880	<5	<1	550
404825-6285400	0.160	11	<10	<0.1	140	600	<5	<1	1720
404775-6285400	0.250	4	<10	<0.1	100	70	<5	<1	170
404650-6285200	0.285	24	<10	<0.1	200	250	<5	<1	630
404750-6285050	0.450	7	20	<0.1	1110	10500	11	<1	2370
404650-6285225	0.175	2	<10	<0.1	20	370	<5	<1	150
404630-6285050	0.290	22	40	<0.1	920	6140	9	<1	1550
404643-6285000	0.335	93	20	<0.1	2310	5100	<5	<1	2990
464875-6285400	0.175	28	<10	<0.1	120	160	<5	<1	130
404650-6285375	0.230	36	<10	<0.1	520	130	<5	<1	390
404700-6285400	0.255	5	<10	<0.1	60	20	<5	<1	40
404800-6285200	0.335	8	10	<0.1	750	17000	7	<1	260
404900-6285231	0.285	31	<10	0.1	440	690	<5	<1	440
404725-6285400	0.270	15	<10	0.2	490	250	<5	<1	200
404680-6284930	0.405	10	20	<0.1	2640	15200	8	<1	2950
421000-6125850	0.485	5	20	0.4	730	990	5	<1	120
404650-6285325	0.215	11	<10	<0.1	130	480	<5	<1	220
404650-6285100	0.320	11	30	<0.1	280	3090	9	<1	1210
404650-6285350	0.170	8	<10	<0.1	110	<10	<5	<1	270
404650-6285125	0.430	9	30	<0.1	690	6540	9	<1	510
404750-6285400	0.225	13	<10	<0.1	740	1350	<5	<1	400
404850-6285400	0.190	29	<10	<0.1	350	90	<5	<1	370
541100-6066350	0.600	4	<10	<0.1	40	420	<5	<1	110
541100-6066300	0.625	13	50	<0.1	1650	430	11	<1	220
541100-6066400	0.445	6	40	<0.1	560	1340	<5	<1	640
541100-6066200	0.605	18	30	0.1	1270	410	<5	<1	680
541100-6066250	0.430	29	30	<0.1	380	2510	<5	<1	720
541200-6066300	0.655	19	20	<0.1	240	240	<5	<1	170
541000-6066500	0.460	23	30	<0.1	110	450	<5	<1	50
541000-6066350	0.520	13	<10	<0.1	50	390	<5	<1	50
541100-6066150	0.410	6	<10	<0.1	30	1040	<5	<1	340
451200-6066400	0.655	3	30	<0.1	90	270	<5	<1	130
541000-6066250	0.610	8	30	<0.1	110	190	<5	<1	140
541000-6066200	0.545	6	30	<0.1	210	70	5	<1	160
541100-6066500	0.765	26	110	<0.1	1140	400	26	<1	260
541000-6066150	0.550	12	30	<0.1	250	710	<5	<1	580
451000-6066450	0.545	4	10	<0.1	280	190	<5	<1	90
541100-6066100	0.610	3	<10	<0.1	100	530	7	<1	2450

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0.795

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<0.1

870

900

<5

541100-6066000

280

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Element	WtKg	Ag	As	Au	Cu	Mn	Мо	Pd	Zr
Method	WGH79	MMI-M	MMI-N						
Det.Lim.	0.001	1	10	0.1	10	10	5	1	20
Units	kg	ppb							
541200-6066500	0.790	9	100	<0.1	620	3290	17	<1	240
451100-6066450	0.600	6	30	0.1	2010	860	7	<1	230
541000-6066300	0.475	23	50	0.2	570	940	6	<1	400
541100-6066050	0.700	11	<10	<0.1	290	180	<5	<1	220
451200-6066250	0.830	6	40	<0.1	280	990	5	<1	360
451200-6066450	0.605	4	20	<0.1	190	170	<5	<1	140
451200-6066200	0.625	2	10	<0.1	50	590	<5	<1	140
451200-6066350	0.775	81	60	0.1	630	900	8	<1	410
424425-6125200	0.575	6	<10	<0.1	510	6190	<5	<1	550

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