Technical Report On the Surprise Lake Property Red Lake District Northwestern Ontario

# Prepared for Brigadier Exploration Corp.

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This report titled "Technical Report on the Surprise Lake Property, Red Lake District, Northwestern Ontario", and dated June 1<sup>st</sup>, 2015 was prepared and signed by the following authors:

Dated at Thunder Bay, Ontario June 1<sup>st</sup>, 2015

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### ITEM 1: SUMMARY

Clark Expl. Consulting Inc. was contracted by Brigadier Exploration Corp. ("Brigadier") of Vancouver, British Columbia, to review historic data for the Surprise Lake Property (the "Property"), identify its merits, propose an appropriate exploration program and budget for gold exploration on the property, and prepare a Technical Report compliant with NI 43-101 for the purposes of an Initial Public Offering on the Canadian Securities Exchange. The report was written and edited by both authors. The illustrations were completed by S. Siemieniuk and edited by D. Cullen.

The Property lies approximately ~60 kilometres east of the town of Red Lake, Ontario. Access to the Property can also be gained by way of logging roads leading northeast off Highway 105 at Ear Falls. These logging roads provide access directly to the Property.

The claims straddle the township boundary between Corless and Dent Townships, with the claims being registered as being in Dent Township (G-3737), in the Red Lake Mining Division. The approximate centre of the Property is UTM co-ordinates 514000e, 5666000n (NAD 83, Zone 15U). The Property consists of two unpatented mining claims totalling 32 units, or approximately 256 hectares in size.

The claims are held in good standing by Jerrold Williamson (Optionor). Under an option agreement with the Optionor, Voltaire Services Corp. ("Voltaire") can earn a 100% interest in the Property by making staged payments of CDN \$96,000 to the Optionor over a period of 4 years. This agreement is also subject to a 2% NSR to the Optionor, with an optional buyout of 50% of the royalty (1%) for a one million dollar cash payment. In a separate option agreement with Voltaire, Brigadier can earn Voltaire's 100% interest in the Property by making staged payments of CDN \$50,000 and 500,000 shares over 5 years.

The Property area lies within the Archean Birch-Uchi Greenstone Belt of the western Uchi Subprovince of Northwestern Ontario. This belt records a stratigraphic history that spans approximately 290 Ma, involving repeated episodes of rifting, and associated sedimentary and volcanic depositional and magmatic phases. Unconformity-bounded sequences of mafic to felsic volcanic strata and primarily clastic sedimentary strata accumulated between ca. 2992 Ma and 2700 Ma upon a complex extensional architecture, which largely formed the template upon which later compressional structures were superimposed.

The geology of the Corless Property area consists of a north-northwest-trending, steeply east-northeast-dipping sequence of dominantly intermediate volcanic flows, pyroclastics and epiclastic rocks. Intruding this sequence are several splays of a multi-phase, possibly synvolcanic, intermediate intrusive in an east-west direction. Texturally the phases vary from ultra-fine-grained to almost

coarse-grained, and compositionally the coarser-grained phases contain a few percent more quartz and feldspar, as well as accessories (including much of the sulphide and gold).

Associated with the intrusive is a quartz vein/stringer network consisting of narrow, medium and wide veins (defined by Howard as under 1 inch, under 1 foot and over 1 foot respectively) of quartz, often with accompanying sulphides; most commonly pyrite but on occasion with minor amounts of chalcopyrite, sphalerite and particularly galena. Also associated with the intrusive and peripheral to it is a zone of silicification characterized by a massive, fine-grained, cherty, light buff-grey rock.

The following description of the mineralization on the Property is taken from Parker and Atkinson (1992).

"Gold-bearing quartz veins are situated within narrow, east- and north-trending shear and fracture zones dominantly hosted by magnetite-bearing, gabbroic to dioritic sills and dikes. Sheared wall rocks are variably iron carbonatized, chloritized, sericitized and talcose. A stockwork of numerous, narrow quartz veins in a west-northwest-trending shear zone (Fyon and O'Donnell 1986) are hosted by a carbonatized, dioritic sill or dike at the Number 1 or A showing (the SLNE). Quartz veins contain disseminated pyrite, minor chalcopyrite and visible gold. Altered wall rocks adjacent to the quartz veins contain disseminated pyrite and minor tourmaline.

At the B showing (SLNW), a quartz vein trending 050-085/80SE has been trenched and exposed for a strike length of 200 feet. The vein was traced inland from the west shore of Surprise Lake. The quartz vein is 1 to 3 feet wide and contains local concentrations of massive pyrite with minor galena, sphalerite and chalcopyrite. The quartz vein is hosted by a felsite dike; chloritized, tuffaceous metavolcanic rocks; and mafic metavolcanic flows."

Previous work on the Surprise Lake Property of Brigadier Exploration Corp. has indicated the presence of significant gold mineralization associated with quartz (+/- carbonate) veins in or around intermediate to felsic intrusives. These veins occur in sets at various orientations and as far as the authors could ascertain, no effort has been made to determine if the gold is preferentially located in one vein/fracture set rather than the another. Determining this would affect any decision on which way to drill the showing.

It is recommended that a Phase 1 exploration program be conducted consisting of relocating the old trenches, beginning with the SLNW showing and then moving on to the others as time and budget allows, and cleaning them out with a water pump and hose. This would be followed up with mapping and channel sampling of the veins, being careful to sample the veins individually based on their orientation, so as to determine if the gold is preferentially located in vein sets of one orientation over another. The estimated cost of Phase 1 is \$69,175.

Upon completion of the Phase 1 program, the results should be evaluated and if it can be determined that a particular set of veins appear to be hosting the gold, a Phase 2 exploration program should be undertaken consisting of about 1000 metres of diamond drilling. The location, depth and orientation of the holes would be determined based on the results of Phase 1. The estimated cost of Phase 2 is \$241,000, for a total of \$310,175 for the two Phases.

# **ITEM 2: INTRODUCTION**

Clark Expl. Consulting Inc. was contracted by Brigadier Exploration Corp. ("Brigadier") of Vancouver, British Columbia, to review historic data for the Surprise Lake Property (the "Property"), identify its merits, propose an appropriate exploration program and budget for gold exploration on the property, and prepare a Technical Report compliant with NI 43-101 for the purposes of an Initial Public Offering on the Canadian Securities Exchange. The report was written and edited by both authors. The illustrations were completed by S. Siemieniuk and edited by D. Cullen. The report and recommendations are based on:

- Public data archived in the assessment files at the Ontario Ministry of Development and Mines on the "Geology Ontario" website (www.geologyontario.mndm.gov.on.ca/). The assessment files used in the completion of this report are demarked in Section 21.0 References.
- 2. A personal site visit by D. Cullen to the property on August 16<sup>th</sup>, 2014.

# **ITEM 3: RELIANCE ON OTHER EXPERTS**

The authors have relied on previous exploration reports as referenced in Section 23.0 References. These reports may or may not have been completed by qualified persons as defined by NI 43-101. After reviewing the reports and associated data the authors are satisfied the data presented is accurate.

For the purposes of this report the author has relied on ownership information provided by Brigadier, as well as claim information taken from the web site of the Ontario Ministry of Northern Development and Mines. The author has not researched property title or mineral rights for the property and expresses no opinion as to the ownership status of the property. The author did research the Mining Claims Information and Client Reports on the MNDM web site and verified the information concerning the staked (unpatented) claims.

# **ITEM 4: PROPERTY DESCRIPTION AND LOCATION**

The Property lies approximately 60 km north-northeast of Ear Falls in northwestern Ontario (see Figure 1). The claims straddle the township boundary between Corless and Dent Townships, with the claims being registered as being in Dent Township (G-3737), in the Red Lake Mining Division. The approximate centre of the Property is UTM co-ordinates 514000e, 5666000n (NAD 83, Zone 15U). The Property consists of two unpatented mining claims totalling 32 units, or approximately 256 hectares in size. The claim dispositions are listed in Table 1 below, and are shown in Figure 2.

### Table 1. Surprise Lake Property Claims

Claim No.	Township	Date Recorded	Due Date	Work Required (\$)	Unit Size
4241206	Dent	Oct 30, 2008	Oct 30, 2016	6,400	16
4241207	Dent	Oct 30, 2008	Oct 30, 2016	6,400	16

The claims are held in good standing by Jerrold Williamson (Optionor). Under an option agreement with the Optionor, Voltaire Services Corp. ("Voltaire") can earn a 100% interest in the Property by making staged payments of CDN \$96,000 to Rubicon over a period of 4 years. This agreement is also subject to a 2% NSR to Rubicon, with an optional buyout of 50% of the royalty (1%) for a one million dollar cash payment. In a separate option agreement with Voltaire, Brigadier can earn Voltaire's 100% interest in the Property by making staged payments of CDN \$50,000 and 500,000 shares over 4 years.

The Ontario Mining Act requires Exploration Permit or Plans for exploration on Crown Lands. The permit and plans are obtained from the MNDM. The processing periods are 50 days for a permit and 30 days for a plan while the documents are reviewed by MNDM and presented to the Aboriginal communities whose traditional lands will be impacted by the work. The authors recommend the company discuss the recommended exploration with the MNDM to determine the plan and/or permit required as well as the Aboriginal communities to consult. The Lac Seul and Wabauskang First Nations are the identified communities.

The government of Ontario requires expenditures of \$400 per year per unit for staked claims, prior to expiry, to keep the claims in good standing for the following year. The report must be submitted by the expiry date.

No mineral resources, reserves or mine existing prior to the mineralization described in this report are known by the author to occur on the Property.



Figure 1. Surprise Lake Location Map



Figure 2. Surprise Lake Claims

#### ITEM 5: ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

The Property lies approximately ~60 kilometres east of the town of Red Lake, Ontario (see Figure 1). Access to the Property can also be gained by way of logging roads leading northeast off Highway 105 at Ear Falls. These logging roads provide access directly to the Property.

Topography is generally gentle with elevations ranging from 390 to 420 metres above sea level. A mixed forest of mostly spruce, balsam, poplar and birch covers the claims, with swampy vegetation in low-lying areas and local areas of forest blow-down.

Temperatures range from highs of  $35^{\circ}$  C in summer to lows of  $-30^{\circ}$  C in winter, with snow cover between November and May. The best season for exploration is between June and October, although in lake covered or swampy areas exploration activities such as geophysical surveys and diamond drilling might best be conducted after winter freeze up.

The Red Lake Mining Community, population 4,700, is located at the end of Highway #105 which is 175 km north of Kenora on the Trans-Canada Highway. The town is serviced by regular air flights from Thunder Bay and Winnipeg, seven days a week. The local population includes skilled tradesmen and experienced underground miners. All necessary supplies are available locally or in Winnipeg and Thunder Bay. Water is abundant in the area of the claims and a hydro electric generating station is located 50 kilometres to the southwest in Ear Falls.

The Property is comprised of ~256 hectares of unpatented mining claims that could be leased from the Ontario Government under the provisions of the Mining Act. These lands when leased, in the authors' opinion, should be sufficient in size to support all infrastructure required for a mine and mill complex.

There are no known environmental liabilities associated with the Property. The Property is subject to the guidelines and policies of and legislation administered by MNDM, Ontario Ministry of Natural Resources and Federal Department of Fisheries and Oceans regarding surface exploration, stream crossings, and work being carried out near rivers and bodies of water, drilling and sludge disposal, drill casings, capping of holes, storage of core, trenching, road construction, waste and garbage disposal. The Ontario Mining Act requires Exploration Permit or Plans for exploration on Crown Lands. The permit and plans are obtained from the MNDM. The processing periods are 50 days for a permit and 30 days for a plan while the documents are reviewed by the Ministry and presented to the Aboriginal communities whose traditional lands will be impacted by the work. The Lac Seul and Wabauskang First Nations are the identified communities.

# ITEM 6: HISTORY

The current Surprise Lake Property has seen sporadic exploration since around 1927, when gold was first discovered in the area following the discovery at Red Lake.

- 1927: Claims were staked but were allowed to lapse.
- 1934 1936: The Surprise Lake Exploration Syndicate Ltd. held 24 mining claims in the vicinity of Surprise Lake; two mineralized zones were discovered west and northeast of the north end of Surprise Lake during a program of trenching, stripping and sampling. These zones are referred to in this report as the Surprise Lake Northwest showing (the "SLNW" showing) and the Surprise Lake Northeast showing ("SLNE"). Three diamond drill holes tested a quartz vein on mining claim KRL 12156 west of the north end of Surprise Lake Parker and Atkinson 1992).

The significant assays from the three drill holes were reported to be from a low of 0.06 ounces per ton over 48 inches to a high of 2.48 ounces over 27 inches (McCannell 1980). It is not known whether these lengths represent true widths or core lengths, and no assay certificates or logs have been seen to confirm these numbers.

- 1939: J. Hodgson diamond drilled three holes totalling 500 feet, north of Surprise Lake on claim 41981 (Parker and Atkinson 1992). No assays or logs could be found from this drilling, however McCannell (1980) refers to a report from the Surprise Lake Exploration Syndicate dated March 29, 1939 that discusses the same three holes that are mentioned above, and the authors assume that there is some confusion here in the old records, and that they are the same three holes.
- 1946: Claims were restaked by J. Hodgson
- 1969: C.C. Huston and Associates conducted airborne magnetic and electromagnetic surveys over the area of the current Property (Parker and Atkinson 1992).
- 1981: R. Knappett (for Aladin Minerals Ltd.) diamond drilled twelve holes totalling 1931 feet on mining claims KRL526579, 526581 and 526582 at the north end of Surprise Lake. Ten of these holes drilled in the area of the SLNW showing (see Figure4), and tested the zone for a strike length of 350 feet (Burr 1982). The best intersection was reported to be in hole 81-1, which returned an assay of 0.60 oz/ton Au over a core length of 0.7 feet. Two of the holes were drilled on the Surprise Lake Northeast ("SLNE") showing, with the best assay being 0.055 oz/ton Au over 5 feet. In total 21 samples were taken from the twelve holes, with 3 assaying over 0.1 oz/t and 18

assaying less than 0.1 oz/t. The assessment files for this drilling do not include the assay certificates.

- 1982: Aladin Minerals Ltd. conducted a self potential geophysical survey, geological mapping, sampling and diamond drilling consisting of seven holes totalling 1500 feet. The holes were drilled mainly on the ground to the west of Surprise Lake, with one hole each on the SLNW and SLNE showings. The holes were located primarily to test anomalies defined by the self potential survey, and the best assay came from hole 81-7 in the area of the SLNE showing, which ran only 0.048 oz/t gold over 5 feet (Burr 1982b)
- 1983 1984: Sherritt Gordon Mines Ltd. performed reconnaissance mapping and lithogeochemical sampling over four claim groups in the Woman Lake area, part of which covered the eastern and southern portions of the current Property. The work revealed no significant results from the Property, and after an in-depth interpretation of the data was done in 1985, no further work was recommended (Amor 1985).
- 1985: Dome Exploration (Canada) Ltd. Conducted magnetic and electromagnetic surveys on a portion of their property that covered the northern half of claim 4241206 of the current Property. No significant anomalies or conductors were noted on the current Property (Racic 1985).
- 1986: Dome Exploration (Canada) Ltd. conducted magnetic and electromagnetic surveys on a portion of their property that covered much of the lower half of the current property. Only one small conductor was identified that would lie on the current Property at the north shore of Spot Lake (Racic 1986).
- 1987: Dome Exploration (Canada) Ltd. conducted magnetic and electromagnetic surveys on a portion of their property that covers almost all of Surprise Lake and the area to the west of it on the current property. Racic (1987) reported that no conductors were located, and no further drilling was recommended.
- 1987 1989: Placer Dome Inc. diamond drilled 30 holes totalling 4170.7 metres on their claims both at the south and north end of Surprise Lake between summer 1987 and winter 1989 (see Figure 4). Only some of the logs in the assessment files contain any assays, with the best assay coming from hole 242-19 on the lake in the northeast part on Surprise Lake (the SLNE showing) which ran 29.18 g/t over 1m in 3 quartz-carbonate veins with trace pyrite. The vast majority of the other assays that were in the logs were insignificant, and the authors counted only nine assays over 1 g/T. Over half of the logs had no assays given, and no assay certificates were included in the files.
- 2002: Fronteer Development Group Inc. conducted geological mapping and sampling, soil sampling and airborne magnetic and electromagnetic surveys

on their Balmer Property, which covers the entire current Property. All of the soil sampling was down on the southeast portion of their property, off of the current Property, and it appears only six samples were taken on the current Property. Of these six samples, four were taken in the area of the SLSE, and ran 11.68, 2.10, 4.28 and 0.03 g/T Au (Falls 2002). A sample taken in the area of the SLNW showing ran 0.71 g/T Au and one in the area of the SLNE showing ran <0.01 g/T Au . Assay certificates are present in these assessment files.

The extensive airborne geophysics covered the entire Property, though the anomalies were described as being mostly moderately weak and poorly defined, and further surface investigation and data processing was recommended (Stephens 2002); there is no indication that this was ever done on the current Property.



Figure 3. Regional Geology



Figure 4. Surprise Lake Compilation and Property Geology

# ITEM 7: GEOLOGICAL SETTING AND MINERALIZATION

### **Regional Geology**

The following geological summary is provided by Montgomery (2001) and Mark O'Dea of Fronteer Development Group Inc, and is based on their personal knowledge of the geology of the area as well as on reports by Stott & Corfu 1992 and Thurston 1985. The regional geology is shown in Figure 3.

The Property area lies within the Archean Birch-Uchi Greenstone Belt of the western Uchi Subprovince of Northwestern Ontario. This belt records a stratigraphic history that spans approximately 290 Ma, involving repeated episodes of rifting, and associated sedimentary and volcanic depositional and magmatic phases. Unconformity-bounded sequences of mafic to felsic volcanic strata and primarily clastic sedimentary strata accumulated between ca. 2992 Ma and 2700 Ma upon a complex extensional architecture, which largely formed the template upon which later compressional structures were superimposed.

Supracrustal strata in the belt have been subdivided into 3 volcano-sedimentary mega-cycles (Stott & Corfu 1992, Thurston 1985) each comprising variably mafic to felsic volcanic strata and subordinate clastic sedimentary strata. From oldest to youngest these mega-cycles are comprised of the following assemblages:

- The Balmer Assemblage (2987 Ma) is primarily an Fe-tholeiitic sequence of mafic volcanic strata, with minor interbeds of banded iron formation. The distribution of this assemblage is restricted to the extreme western edge of the Birch-Uchi Belt immediately adjacent to the Trout Lake Batholith.
- The Woman Assemblage (2858 Ma) is also primarily an Fe-tholeiitic sequence of mafic volcanic strata, with minor interbeds of banded chemical sediments and pyritic siltstones and shales. This assemblage is unconformable or paraconformable on the Balmer assemblage and occurs along the western edge of the Birch-Uchi Belt stratigraphically above the Balmer Assemblage.
- The Confederation Lake Assemblage (2750-2700Ma) is by far the most aerially extensive assemblage in the belt. It comprises an assemblage of intermediate to felsic flows and pyroclastic strata, which are unconformably overlain by conglomeratic to argillaceous rift-related sediments. The Confederation Lake Assemblage also has minor interbeds or banded iron formation.

At least 3 phases of regional deformation affected the area resulting in the widespread development of folds, axial planar fabrics, and ductile shear zones.

D1 deformation involved NW-SE shortening, the development of NE to N-striking folds and faults. Evidence for this D1 event is best preserved in the southern part of the belt in the Confederation Lakes area. D2 deformation involved NE-SW to N-S shortening and the development of ~E-W to WNWESE striking regional folds, faults and fabrics. This event is manifested to varying degrees throughout the belt from the Casummit Lake area in the north to the Slate Lake area in the south. D3 deformation appears to have involved renewed E-W shortening and is restricted to the northern part of the belt in the Mink Lake/Casummit Lake area. This shortening event resulted in the buckling of the regional S2 foliation into N-S folds. This event was accompanied by N-S striking S3 crenulation cleavage and ENE plunging F3 fold development.

### **Property Geology**

The following description of the property geology is largely taken from Howard (1982). Refer to Figure 4.

The geology of the Corless Property area consists of a north-northwest-trending, steeply east-northeast-dipping sequence of dominantly intermediate volcanic flows, pyroclastics and epiclastic rocks. Block and ash flows (lapilli tuff) commonly occur, consisting of less mafic (and/or bleached) fragments in an intermediate matrix of ash and smaller fragments (+/- feldspar crystals). Fragments vary from angular and undeformed to rounded and flattened, and from pumaceous to porphyritic, depending on the individual flow and the position of the outcrop within it. Many flows are massive and fine-grained, lacking any distinguishing features. Epiclastic units (debris flows/greywacke) occur intermittently, and one outcrop of hyaloclastite was also observed. Pillows have also been observed.

Intruding this sequence are several splays of a multi-phase, possibly synvolcanic, intermediate intrusive in an east-west direction. Texturally the phases vary from ultra-fine-grained to almost coarse-grained, and compositionally the coarser-grained phases contain a few percent more quartz and feldspar, as well as accessories (including much of the sulphide and gold). The intrusive is pre-metamorphic and has the same structural/metamorphic overprint as the volcanic and when combined with a similar chemistry make the two difficult to distinguish on occasion, particularly near contacts where both are massive and fine-grained.

Associated with the intrusive is a quartz vein/stringer network consisting of narrow, medium and wide veins (defined by Howard as under 1 inch, under 1 foot and over 1 foot respectively) of quartz, often with accompanying sulphides; most commonly pyrite but on occasion with minor amounts of chalcopyrite, sphalerite and particularly galena. Also associated with the intrusive and peripheral to it is a zone of silicification characterized by a massive, fine-grained, cherty, light buff-grey rock. The main exposures of this zone are to the south of the main body of the intrusive at the north end of Surprise Lake, but narrower exposures are seen elsewhere. The Ontario Geological Survey has classified this main exposure as a late felsic dyke, but due to its lack of igneous texture, siliceous composition, and juxtaposition with the intrusive at several locations it is considered to represent a zone of silicification surrounding the intrusive (Howard 1982).

#### Mineralization

The work done on the property in the past has identified three main areas of gold mineralization. For the purposes of this report, the three main mineralized zones are referred to as the Surprise Lake Northwest ("SLNW"), Surprise Lake Northeast ("SLNE") and Surprise Lake Southeast ("SLSE") showings.

The following description of the mineralization on the Property is taken from Parker and Atkinson (1992).

"Gold-bearing quartz veins are situated within narrow, east- and north-trending shear and fracture zones dominantly hosted by magnetite-bearing, gabbroic to dioritic sills and dikes. Sheared wall rocks are variably iron carbonatized, chloritized, sericitized and talcose. A stockwork of numerous, narrow quartz veins in a west-northwest-trending shear zone (Fyon and O'Donnell 1986) are hosted by a carbonatized, dioritic sill or dike at the Number 1 or A showing (the SLNE). Quartz veins strike 015°, 080° and 340° with variable dips and range from less than 1 inch to 3 feet in width. Quartz veins contain disseminated pyrite, minor chalcopyrite and visible gold. Altered wall rocks adjacent to the quartz veins contain disseminated pyrite and minor tourmaline.

At the B showing (SLNW), a quartz vein trending 050-085/80SE has been trenched and exposed for a strike length of 200 feet. The vein was traced inland from the west shore of Surprise Lake. The quartz vein is 1 to 3 feet wide and contains local concentrations of massive pyrite with minor galena, sphalerite and chalcopyrite. The quartz vein is hosted by a felsite dike; chloritized, tuffaceous metavolcanic rocks; and mafic metavolcanic flows."

#### **ITEM 8: DEPOSIT TYPES**

The deposit type that Brigadier will be targeting on the Surprise Lake Property is primarily the greenstone-hosted quartz-carbonate vein deposit, as defined by Robert et al. (1997), and summarized below.

Deposits of this type consist of quartz-carbonate veins in moderately to steeply dipping brittle-ductile shear zones and locally in related shallow-dipping extensional fractures. They are commonly distributed along major fault zones in deformed greenstone terranes of all ages. Veins have strike- and dip-lengths of 100 to 1000m either singly or, more typically, in complex vein networks. They are

hosted by a wide variety of lithologies but there are district-specific lithological associations.

The veins are dominated by quartz and carbonate, with lesser amounts of chlorite, scheelite, tourmaline and native gold; pyrite, chalcopyrite and pyrrhotite comprise less than 10 vol. % of the veins. The ores are gold-rich (Au: Ag = 5:1 to 10:1) and have elevated concentrations of As, W, B, and Mo, with very low base metal concentrations. Despite their significant vertical extent (commonly >1km), the deposits lack any clear vertical mineral zoning. Wall rock alteration haloes are zoned and consist of carbonatization, sericitization and pyritization. Halo dimensions vary with the composition of the host lithologies and may envelop entire deposits in mafic and ultramafic rocks.

# **ITEM 9: EXPLORATION**

Brigadier has not yet performed any exploration on its Surprise Lake Property. For a description of the work performed by previous operators on the Property, see "Item 6: History".

# ITEM 10: DRILLING

Brigadier has not yet performed any drilling on its Surprise Lake Property. For a description of the drilling performed by previous operators on the Property, see "Item 6: History".

### ITEM 11: SAMPLE PREPARATION, ANALYSIS AND SECURITY

Brigadier has not yet performed any exploration on its Surprise Lake Property. The work performed by the previous holders on the property predates N.I. 43-101, and generally does not include a detailed description of sampling protocols.

# ITEM 12: DATA VERIFICATION

The data presented in this Report has come primarily from numerous reports archived in the assessment files at the Ontario Ministry of Development and Mines on the "Geology Ontario" website (www.geologyontario.mndm.gov.on.ca/). The author has reviewed the historical data, and can verify that the information has been presented accurately as it exists in those files and reports to the best of his ability. Those reports, and the assessment files, contain the assay certificates and other supporting documentation for the data presented for the most recent work on the Property. The author visited the property on August 16<sup>th</sup>, 2014, and examined a number of outcrops in the area where the old trench was supposed

to be located. The trench itself and the old drill collars were not found (possibly due to the fact that the area has been extensively logged in the last few years) but he was able to confirm the geology in the area.

#### ITEM 13: MINERAL PROCESSING AND METALLURGICAL TESTING

There has been no mineral processing or metallurgical testing of any samples.

#### ITEM 14: MINERAL RESOURCE

There is no mineral resource yet defined on the Property.

#### ITEM 15: MINERAL RESERVE ESTIMATES

There are no mineral reserve estimates to date on the Property.

#### **ITEM 16: MINING METHODS**

Not applicable

#### **ITEM 17: RECOVERY METHJODS**

Not applicable

#### **ITEM 18: PROJECT INFRASTRUCTURE**

Not applicable

### ITEM 19: MARKET STUDIES AND CONTRACTS

Not applicable

#### ITEM 20: ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT

Not applicable

# ITEM 21: CAPITAL AND OPERATING COSTS

Not applicable

### ITEM 22: ECONOMIC ANALYSIS

Not applicable

### **ITEM 23: ADJACENT PROPERTIES**

There are no adjacent properties to the Surprise Lake Property with significant mineralization that are relevant to this report.

### **ITEM 24: OTHER RELEVANT DATA AND INFORMATION**

The authors are unaware of any further data or relevant information that could be considered of any practical use in this report. The author is not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.

### **ITEM 25: INTERPRETATION AND CONCLUSIONS**

Previous work on the Surprise Lake Property of Brigadier Exploration Corp. has indicated the presence of significant gold mineralization associated with quartz (+/- carbonate) veins in or around intermediate to felsic intrusives. These veins occur in sets at various orientations (see "Property Geology" and "Mineralization" in Item 7: Geological Setting and Mineralization), and as far as the authors could ascertain, no effort has been made to determine if the gold is preferentially located in one vein/fracture set rather than the another. Determining this would affect any decision on which way to drill the showing.

### **ITEM 26: RECOMMENDATIONS**

It is recommended that a Phase 1 exploration program be conducted consisting of relocating the old trenches, beginning with the SLNW showing and then moving on to the others as time and budget allows, and cleaning them out with a water pump and hose. This would be followed up with mapping and channel sampling of the veins, being careful to sample the veins individually based on their orientation, so as to determine if the gold is preferentially located in vein sets of one orientation over another. The estimated cost of Phase 1 is \$69,175.

Upon completion of the Phase 1 program, the results should be evaluated and if it can be determined that a particular set of veins appear to be hosting the gold, a Phase 2 exploration program should be undertaken consisting of about 1000 metres of diamond drilling. The location, depth and orientation of the holes would be determined based on the results of Phase 1. The estimated cost of Phase 2 is \$241,000, for a total of \$310,175 for the two Phases.

# 26.1 PROPOSED BUDGET

# <u>Phase 1</u>

Stripping, mapping and sampling	
1 Geologist @ \$700/day for 21 days	14,700
2 Technician @ \$450/day for 21 days	
Trucks	6,000
Quad rental (21 days @ \$75/day)	1,575
Pump, hose and saw rental	
Room, Board	
Assays 200 @ \$20 / sample	
Supplies	2,000
Report and Maps	5,000
Contingencies	5 000
	<u>3,000</u>
Total Phase 1	\$69,175
Phase 2	
Diamond Drilling (1,000 metres@ \$200 /metre all inclusive)	
Assaying, Analyses (200 samples @ \$30)	6,000
Report and Sections	
Contingency	
Contingency	30,000 <b>\$241,000</b>

### ITEM 27: REFERENCES

- **Note:** Notations listed in the references below in the format "AFRI 52N02NW0044" refer to assessment files archived with the Ontario Ministry of Northern Development and Mines on the MNDM website (www.geologyontario.mndm.gov.on.ca/).
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- Falls, R., 2002: Geological, Geochemical, and Geophysical Report; Balmer Property, Birch-Uchi Greenstone Belt; Corless, Dent, Mitchell and Knott Townships, Red Lake Mining Division, NW Ontario; *for* Fronteer Development Group Inc. AFRI 52N02NW2001
- Fyon, A.J., and O'Donnell, L., 1986: Regional Strain State and Alteration Patterns Related to Gold Mineralization in the Uchi-Confederation-Woman Lakes area; in Summary of Field Work and Other Activities 1986, Ontario Geological Survey, Miscellaneous Paper 132, p. 266-275.
- Howard, A.E., 1982: Field Report on the Geology of the Corless Property, Corless Township, Ontario; *for* Aladin Minerals Ltd. AFRI 52N02NW0043
- McCannell, J.D., 1980: Aladin Minerals Limited, Corless Township, Red Lake Mining Division, Ontario. AFRI 52N02NW0044
- Montgomery, A.T., 2001: Geological and Geochemical Report on the Birch Lake Project, prepared for Fronteer Development Group Inc.
- Parker, J.R. and Atkinson, B.T., 1992: Gold occurrences, prospects and pastproducing mines of the Birch-Confederation Lakes area; Ontario Geological Survey, Open File Report 5835, 332p.
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- Placer Dome Inc., 1988c: Diamond drill logs and location maps. AFRI 52N02NW0060
- Placer Dome Inc., 1988d: Diamond drill logs and location maps. AFRI 52N02NW0065
- Racic, L., 1985: Electromagnetic and Magnetic Survey for Dome Exploration (Canada) Limited on Project 242, Corless Township, Ontario. AFRI 52N02NW0037
- Racic, L., 1986: Assessment submission for Dome Exploration (Canada) Ltd. magnetic and electromagnetic surveys in Corless and Dent Townships. AFRI 52N02NE0093
- Racic, L., 1985: Electromagnetic and Magnetic Survey for Dome Exploration (Canada) Limited on Project 313, Corless and Dent Townships, Ontario AFRI 52N02NW0056
- Robert, F., Poulsen, K.H., and Dubé, B., 1997. Gold Deposits and Their Geological Classification; *in* "Proceedings of Exploration 97: Fourth Decennial International Conference on Mineral Exploration" edited by A.G. Gubins, 1997, p. 209-220
- Stephens, M., 2002: Dighem Survey for Fronteer Development Group Inc., Balmer, Portage and Sandy Point Areas, Red Lake, Ontario, NTS 52N/2,8 AFRI 52N02NW2001
- Stott, G.M. and Corfu, F. 1992: Uchi Subprovince, Chapter 6 in Geology of Ontario, Special Volume 4, Part 1, pp. 145 – 238; Ontario Ministry of Northern Development and Mines.
- Thurston, P.C. 1985: Physical Volcanology and Stratigraphy of the Confederation Lake Area, District of Kenora (Patricia Portion); Ontario Geological Survey, Report 236, 117p. Accompanied by Map 2498.

# **ITEM 28: CERTIFICATE OF QUALIFICATIONS**

#### Desmond Cullen R.R. #2

K.K. #2 Kaministiquia, Ontario Canada, P0T 1X0 Telephone: 807-933-4689, Fax: 807-622-4156 Email: des.cullen@sympatico.ca

# CERTIFICATE OF QUALIFIED PERSON

- I, Desmond Cullen, P.Geo. (#0164) do hereby certify that:
  - 1. I am a consulting geologist with Clark Exploration of Thunder Bay, Ontario
  - I graduated with the degree of Honours Bachelor of Science (Geology) from Lakehead University, Thunder Bay, in 1988. I have been a consulting geologist since 1988 working extensively in Ontario and also internationally. I have completed all aspect of gold and base metal exploration from prospecting to resource definition drilling.
  - "Technical Report" refers to the report titled "Technical Report on the Surprise Lake Property, Red Lake District, Northwestern Ontario.", and dated effective June 1<sup>st</sup>, 2015.
  - 4. I am a registered Professional Geoscientist with the Association of Professional Geoscientists of Ontario (#0164) and a member Ontario Prospectors Association.
  - 5. I have worked as a Geologist for 26 years since my graduation from university.
  - 6. I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements as a Qualified Person for the purposes of NI 43-101.
  - 7. I visited the Surprise Lake Property on August 16<sup>th</sup>, 2014.
  - 8. I am responsible for the preparation of the entire report.
  - 9. I am independent of the party or parties (the "issuer") involved in the transaction for which the Technical Report is required, other than providing

consulting services, and in the application of all of the tests in section 1.5 of NI 43-101.

- 10.1 have had no prior involvement with the mineral Property that forms the subject of this Technical Report.
- 11.1 have read NI-43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that Instrument and Form.
- 12. As of the date of this certificate, and to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 1<sup>st</sup> day of June, 2015.

### SIGNED and SEALED

"Desmond Cullen"

Desmond Cullen, P.Geo.

#### J. Garry Clark 1000 Alloy Drive Thunder Bay, Ontario Canada, P7B 6A5 Telephone: 807-622-3284, Fax: 807-622-4156 Email: gjclark@tbaytel.net

# **CERTIFICATE OF QUALIFIED PERSON**

I, J. Garry Clark, P. Geo. (#0245), do hereby certify that:

1. I am a consulting geologist with an office at 1000 Alloy Dr., Thunder Bay, Ontario.

2. I graduated with the degree of Honours Bachelor of Science (Geology) from Lakehead University, Thunder Bay, in 1983. I have been a consulting geologist since 1987 working extensively in Ontario and Quebec but also internationally. I have completed all aspect of gold exploration from prospecting to resource definition drilling.

3. "Technical Report" refers to the report titled "Technical Report on the Surprise Lake Property, Red Lake District, Northwestern Ontario, Canada", and dated June 1<sup>st</sup>, 2015.

4. I am a registered Professional Geoscientist with the Association of Professional Geoscientists of Ontario (#0245) and a member Ontario Prospectors Association.

5. I have worked as a Geologist for 29 years since my graduation from university.

6. I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements as a Qualified Person for the purposes of NI 43-101.

7. I am responsible for the entire Technical Report. I directed the creation of the illustrations.

8. I am independent of the party or parties (the "issuer" and "vendor") involved in the transaction for which the Technical Report is required, other than providing consulting services, and in the application of all of the tests in section 1.5 of NI 43-101.

9. I have had no involvement with the mineral Property that forms the subject of this Technical Report.

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10. I have read NI-43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that Instrument and Form.

11. As of the date of this certificate, and to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 1<sup>st</sup> day of June, 2015.

SIGNED

"J. Garry Clark"

J. Garry Clark, P.Geo.