

**FORM 43-101F1**  
**TECHNICAL REPORT**  
**on the**  
**WINTERHILL PROPERTY**  
**CONNAIGRE PENINSULA**  
**NTS 01M/12**  
**NEWFOUNDLAND AND LABRADOR**

**for**

**GFE CAPITAL CORP.**

**and**

**PARAGON MINERALS CORPORATION**

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## 1.0 SUMMARY

This National Instrument 43-101F1 technical report was prepared at the request of GFE Capital Corp. (“GFE Capital”) and Paragon Minerals Corporation (“Paragon”) in May, 2009. The purpose of the report is to provide GFE Capital with a summary of the Winterhill property, including an independent assessment as to the property’s technical merits and to make recommendations regarding the appropriate manner of conducting continuing exploration. This report will be used by GFE Capital for the purpose of a qualifying transaction relating to GFE Capital seeking of a listing on the Toronto Venture Exchange. It is further intended that either GFE Capital or Paragon may use this report for any lawful purpose for which it is suited.

The report covers Paragon’s exploration work and results on the Winterhill property from December 2006 to April 2009, as well as historical programs carried out by Rubicon Minerals Corporation (“Rubicon”), Noranda Exploration Company Ltd. (“Noranda”), Avalon Mines Ltd. and Pickands Mather & Company Limited, among others from 1964 to 2006. Paragon acquired the Winterhill property from Rubicon through a statutory Plan of Arrangement completed by Rubicon on December 8, 2006.

The Winterhill Property is located on NTS map sheet 01M/12 on the Connaigre Peninsula, south coast of Newfoundland, Canada. The coastal town of Harbour Breton is located approximately 25 km south-southwest of the property. The property consists of 7 mineral licences (170 claims) for a total area of 4,250 hectares. Paragon has a 100% interest in the mining and mineral rights to the property, which is subject to a 0.5% Net Smelter Return Royalty.

The property is underlain by a Neoproterozoic (Avalon Zone) volcano-plutonic bimodal arc sequence that is host to at least 10 base-metal volcanogenic massive sulphide occurrences. The occurrences are mainly hosted within the Tickle Point Formation (681±3 Ma) felsic volcanic rocks at or near the contact with overlying Connaigre Bay Group mafic volcanic and marine metasedimentary rocks.

Mineralization in the Winterhill area typically consists of massive, banded and disseminated sphalerite, with lesser pyrite, pyrrhotite, magnetite, galena and chalcopyrite. The mineralization is hosted within a thick, up to 30 metres wide “stratabound” zone of carbonate and calc-silicate altered rocks located along the transition between the felsic volcanic rocks (Tickle Point Fm) and overlying mafic volcanic rocks (Connaigre Bay Group). The mineralized horizon is underlain by felsic volcanic breccias with pyrite and lesser chalcopyrite stringer zones. Significant prospects include the Winterhill prospect, Winterhill East prospect, and Winterhill West prospect in the eastern part of the property and the Frenchman’s Head prospect and Olive Cove prospect in the western part of the property.

The Winterhill Prospects, including Winterhill, Winterhill East and Winterhill West, the primary prospects on the property, were discovered in 1984 by Noranda during anomaly follow-up of an airborne geophysical survey flown over portions of the Connaigre Peninsula. At the Winterhill Prospect, the lead and zinc mineralization is associated with the carbonate calc-silicate horizon, which is underlain by a lower pyritic Cu-rich zone. Highlights from the Winterhill Prospect include 11.0 metres grading 6.17% zinc in drillhole WH-90-11 and 4.0 metres grading 11.07% zinc and 1.16% copper from Trench 4. The Frenchman's Head Prospect discovered in the 1960’s

by NALCO, consists of extensive Zn-rich stringer mineralization hosted in the Tickle Point Formation felsic volcanic rocks. The prospect is located approximately 10 kilometres west of the Winterhill Prospect. Historic assay results from the Frenchman's Head Prospect include 18.6 metres grading 2.2% zinc including 2 metres grading 7.46% zinc.

From December 2006 to February 2009, Paragon completed prospecting, rock sampling, soil sampling and a 708 line kilometres airborne EM and magnetic survey on the property. A total of \$120,708 in eligible exploration expenditures was spent on the Winterhill Property since October 2006. It is the opinion of the Independent qualified person that the expenditures as reported are reasonable for the work performed.

Historic diamond drilling on the Winterhill Property focussed on 3 prospects, Winterhill, Winterhill East and Frenchman's Head, with only minor reconnaissance drill testing of prospects outside these areas. Highlights from the drilling at the Winterhill prospect include assay results from drillhole WH-90-11 where 6.17% zinc over 11.0 metres including 10.1 % zinc over 4 metres were reported. The best intersection of the footwall Cu-rich zone is 1.41% copper over 6 metres from drillhole WH-85-3. At Winterhill East, drilling intersected massive bedded pyrite containing elevated lead (up to 278 ppm Pb), zinc (up to 305 ppm Zn) and silver (up to 5.5 oz./ton Ag) over 9.8 metres in drillhole WHE-86-08. The mineralization is hosted within calc-silicate and felsic volcanic rocks that are overlain by a section of mafic tuff and mafic volcanoclastic sediments. A follow-up drillhole (WH-90-10) completed 89 metres down-dip and to the north of the massive pyrite intersection cut through several, 2-3 metre wide zones of semi-massive to massive sulphide associated with intervals of volcanic sediment and calc-silicate over 16.3 metres. The sulphide-rich zones typically contain 50% pyrite accompanied by lesser (5-10%) sphalerite assaying up to 1.95% zinc over 2 metres. The stratigraphic transition, rock types and nature of the mineralization are similar to that described at the Winterhill Prospect. At Frenchman's Head, highlights from the 1964 and 1965 drilling include intersections of 18.6 metres grading 2.2% zinc including 2.0 metres grading 7.46% zinc. In 1986, Noranda drill tested a coincident geophysical and geochemical anomaly along strike of the Frenchman's Head prospect which returned an intersection of 8.0 metres grading 2.26% zinc and 1.3 oz/ton silver including 2.0 metres grading 6.49% zinc and 1.6 oz/ton silver.

On May 20-21, 2009, the authors examined four Noranda drillholes (WH-85-01 to 04) from the Winterhill prospect in order to verify lithology and mineralization as described by Noranda geologists in drill logs and reports. Eight drill core intervals previously sampled and assayed by Noranda were quarter split for check analysis. Sample intervals for re-analysis were chosen to check accuracy for a range of zinc grades as well as to check the grade of a copper -enriched section. It is the opinion of the independent qualified person that, for the most part, the drill logs accurately describe the rock types and styles of mineralization. Observations made by the authors' during examination of the core are presented in this report. There is general agreement between Zn, Cu, Pb and Ag assay results reported by Noranda and the results obtained from re-analysis of the core. Several of the analyses have mean paired relative differences within acceptable limits. Differences that fall outside the acceptable differences are considered to be due to the smaller sample size i.e. the quarter splits of the core as opposed to the original half splits and normal local inhomogeneities in the distribution of mineralization.

On June 29, 2009, the authors, accompanied by Michael Vande Guchte of Paragon, made a site visit to two of the areas recommended for further work on the property. An outcrop of altered and pyrite-bearing felsic volcanic rocks was examined in the Olive Cove Area and the Winter Hill East Prospect area was visited.

At Winter Hill East, the independent qualified person confirmed the presence of semi-massive to massive sulphides including pyrite and lesser sphalerite. The sulphides based on outcrop exposure at the showing are estimated to have a minimum thickness of 1.5m. A foliation noted that possibly indicates the spatial orientation of the massive sulphides dips gently to the north (270°/20°N). The strike and dip of the foliation is consistent with that of units in the area as recorded historically and observed by the authors during the field visit. Portions of the semi-massive to massive sulphides, which consist mainly of pyrite, contain an estimated 10% or more sphalerite, typically accompanied by calc-silicate minerals. Two sphalerite-bearing samples were collected for analysis from the showing.

During the site visit to Winter Hill East, the collar locations for WHE-86-08, WH-90-10 and WH-91-17 were located. Drill core was noted in the immediate vicinity of WH-91-17, presumably from the drill hole. The core boxes are badly weathered and notation on the boxes is now indecipherable, however the core is somewhat intact and was examined briefly while there. An estimated 10m section of the core is rusty, spherulitic felsic rock occurs in the rusty section and a 20 cm massive pyrite section is present.

At Olive Cove, Paragon established the presence of base metal stringer mineralization in altered felsic volcanic rocks that are coincident with an early-time EM anomaly and a 900 metre multi-element soil geochemical anomaly. This discovery provides further evidence that the Tickle Point Formation may be host to district scale VMS-style mineralization and is recommended for further follow up.

Drill testing (WH-91-16) at the eastern part of a 700-metre long airborne EM conductor that extends beneath Winter Pond resulted in the intersection of 9.6 metres of semi-massive to massive pyrite hosted within altered felsic volcanic rocks. The airborne EM survey completed by Paragon and the EM-37 survey completed by Noranda indicate that there are several sections along the conductor's strike length that have stronger conductivity than where tested. In the context of what has been discovered to date, it is suggested that the conductor represents a high priority target for further drilling.

A two-phase exploration program is recommended for the Winterhill Project. A Phase 1 program (\$250,000) should consist of 1000 metres of diamond drilling testing the EM conductors beneath Winter Pond; additional prospecting, soil sampling, rock sampling and geological mapping in the Olive Cove area to further define drill targets; and follow-up of all other short-strike length EM anomalies to further define drill targets. A second phase program (\$500,000) involves drill testing of priority targets based on results of Phase I.

## 2.0 INTRODUCTION AND TERMS OF REFERENCE

This National Instrument 43-101F1 technical report was prepared at the request of GFE Capital Corp. (“GFE Capital”) and Paragon Minerals Corporation (“Paragon”) in May 2009. The purpose of the Report is to provide GFE Capital with a summary of the Winterhill Property, including an independent assessment as to the property’s technical merits and to make recommendations regarding the appropriate manner of conducting continuing exploration. This report will be used by GFE Capital for the purpose of a qualifying transaction relating to GFE Capital’s seeking of a listing on the Toronto Venture Exchange (TSX-V). It is further intended that either GFE Capital or Paragon may use this Report for any lawful purpose for which it is suited.

The report covers Paragon’s exploration work and results on the Winterhill Property from December 2006 to April 2009 as well as historical programs by Rubicon Minerals Corporation (“Rubicon”), Noranda Exploration Company Ltd. (“Noranda”), Avalon Mines Ltd. (“Avalon Mines”) and Pickands Mather and Company Ltd. (“Pickands Mather”) from 1964 to 1991. Paragon acquired all the Newfoundland mineral exploration assets from Rubicon through a statutory Plan of Arrangement completed by Rubicon on December 8, 2006.

Information contained in this report is based on data collected by Paragon from 2006 until present, unpublished company reports, public domain data including assessment reports filed with the Newfoundland and Labrador Department of Mines and Energy, and a variety of publications and press releases. On May 20-21, 2009, the authors examined four Noranda drillholes (WH-85-01 to 04) from the Winterhill prospect in order to verify lithology and mineralization as described by Noranda geologists in drill logs and reports. Eight drill core intervals previously sampled and assayed by Noranda were quarter split for check analysis. On June 29, 2009, the authors, accompanied by Michael Vande Guchte of Paragon, made a site visit to two of the areas recommended for further work on the property. An outcrop of altered and pyrite-bearing felsic volcanic rocks was examined in the Olive Cove Area and the Winter Hill East Prospect area was visited. The Winter Hill East Prospect itself was examined and sampled and the collar locations of drill holes WHE-86-08, WH-90-10 and WH-91-17 were located and GPS coordinates recorded. Drill core was noted in the immediate vicinity of WH-91-17. The core boxes are badly weathered and notation on the boxes is now indecipherable, however the core is somewhat intact and was briefly examined while there.

Gold (Au) and silver (Ag) values for work performed by Paragon are reported as grams per metric tonne (“g/t”) or parts per billion (ppb). Historic Au and Ag values are presented as originally reported and converted to g/t if required. A conversion factor of 34.28 is used to convert ounces per short ton (“oz/ton”) to g/t. Base metal (copper (Cu), lead (Pb) and zinc (Zn)) values are presented in parts per million (ppm) or weight percent (%). Currency is reported as Canadian dollars unless otherwise noted. All map coordinates are given as Universal Transverse Mercator (UTM) Projection, North American Datum 1927 (NAD27), Zone 21 coordinates, unless otherwise stated. Distances and dimensions are expressed in metres (m) or kilometres (km), unless otherwise stated.

### 3.0 RELIANCE ON OTHER EXPERTS

The authors have relied on information provided by Paragon on the legal status of claims that form the Winterhill Property. Effort was made by the authors to review the information provided for obvious errors and omissions; however, the authors shall not be held liable for any errors or omissions relating to the legal status of claims described in this report.

### 4.0 PROPERTY DESCRIPTION AND LOCATION

The Property is located on NTS map sheet 01M/12 on the Connaigre Peninsula, south coast of Newfoundland (~~Figure 1~~~~Figure 1~~~~Figure 1~~). The coastal town of Harbour Breton is located approximately 25 km south-southwest of the property.

The Winterhill Property consists of 7 mineral licences (170 claims) for a total area of 4,250 hectares. Paragon Minerals Corporation has a 100% interest in the mining and mineral rights to the Property (Table 1). The property is subject to an underlying agreement and GFE Capital has recently signed on option agreement to earn a 70% interest in the Property, as described below.

**Table 1. List of Property Mineral Licences.**

<b>Mineral Licence No.*</b>	<b>No. of Claims</b>	<b>Licence Holder</b>	<b>Issue Date</b>	<b>Work Due Date</b>	<b>Expenditure Required</b>	<b>NTS</b>
12839M	80	Paragon Minerals Corporation	December 4, 2006	December 4, 2010	\$22,847.39	01M/12
11818M	16	Paragon Minerals Corporation	March 13, 2006	March 13, 2010	\$1,666.44	01M/12
11817M	6	Paragon Minerals Corporation	March 13, 2006	March 13, 2011	\$1,720.68	01M/12
12689M	2	Paragon Minerals Corporation	November 9, 2006	November 9, 2017	\$1,191.40	01M/12
12840M	30	Paragon Minerals Corporation	December 4, 2006	December 4, 2009	\$407.99	01M/12
11816M	16	Paragon Minerals Corporation	March 13, 2006	March 13, 2011	\$2,893.97	01M/12
16197M	20	Paragon Minerals Corporation	June 2, 2009	June 2, 2010	\$4,000.00	01M/12

#### 4.1 NRD Termination Agreement

The property is subject to an underlying agreement (the “Underlying Agreement”) with prospectors Alexander Stares and James Crocker (the “Vendors”) whereby the Vendors retain a 0.5% NSR on minerals production from the property. The NSR can be purchased by Paragon for \$500,000. The Underlying Agreement excludes mineral licence 16197M, which was staked following the signing of the Underlying Agreement.

## **4.2 GFE Capital Option Agreement**

On May 15, 2009, GFE Capital and Paragon entered into an agreement whereby GFE Capital can earn an undivided 70% interest in the mineral rights of the Property. To earn a 70% interest GFE Capital must complete \$700,000 of staged-exploration expenditures over a 4 year period and make cash payments totaling \$60,000 beginning on the second anniversary of the agreement effective date. The \$100,000 first year exploration expenditures are a firm and binding commitment of GFE Capital. As of the effective date of this report the option agreement was still pending approval of the TSX-V.

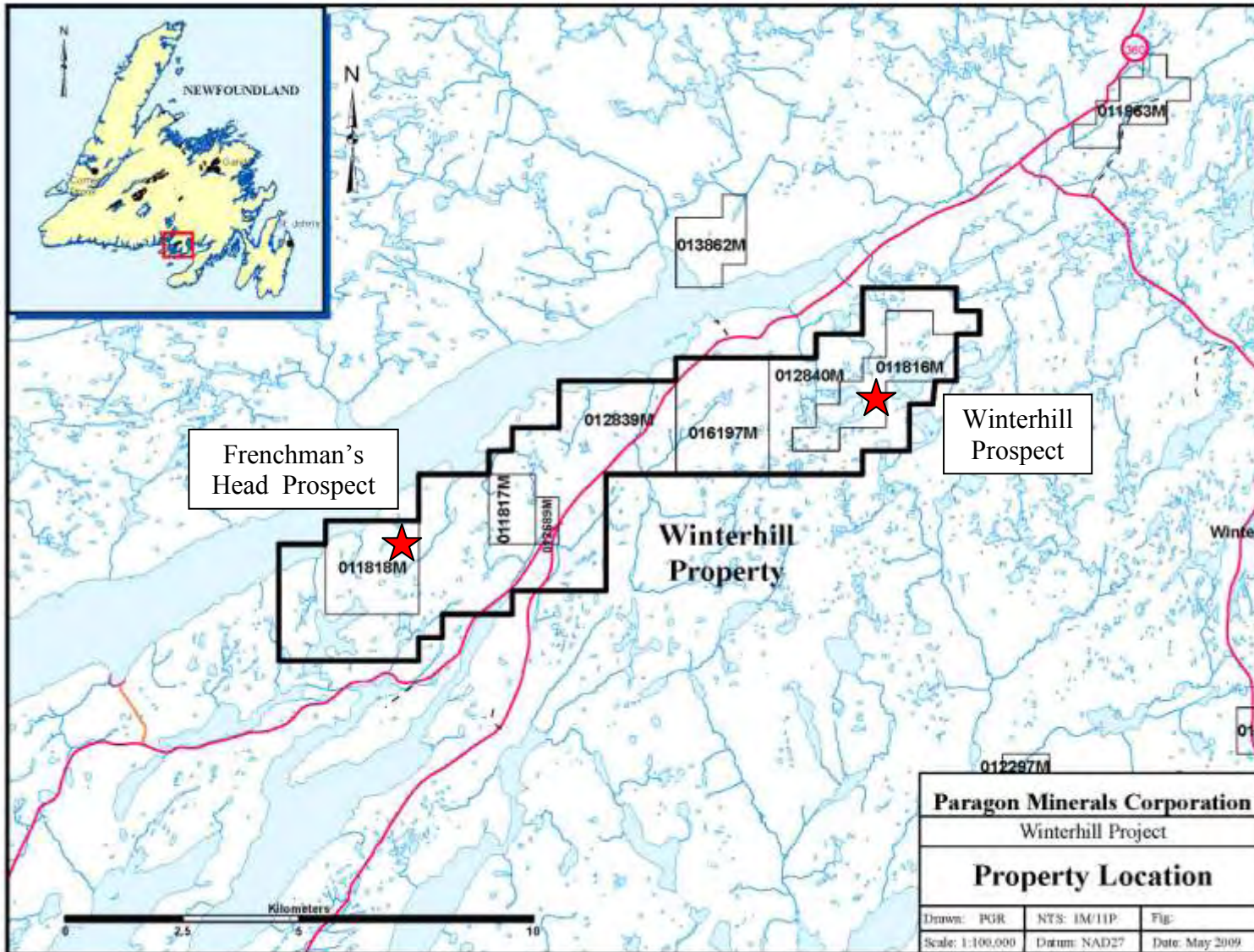


Figure 1. Location Map of the Winterhill Property.

## 5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

The Winterhill Property is accessed via the town of Gander by travelling west 90 km along the Trans-Canada Highway and then travelling south 160 km on provincial highway 360; the Baie D'Espoir Highway. The Town of Gander is serviced by daily commercial aircraft flights from St. John's and Halifax, Nova Scotia. Provincial highway 360, which transects the property, allows relatively convenient access to most of the property. Access to various prospects on the property can be gained via foot or the use of ATV, float plane or helicopter as the paucity of well forested areas on the Connaigre Peninsula has resulted in a lack of abundant forest access roads. High tension powerlines cross the property and parallel highway 360. The nearby town of Harbour Breton (pop. 1,877; 2006 census) offers accommodations, fuel, restaurants and grocery stores, nursing station and government services.

The topography of the property is relatively rugged with elevations rising to approximately 380 m above sea level (Figure 2). The property is partially forested with mostly thick stands of stunted spruce trees, locally known as tuckamore. The more prominent landforms are generally barren or sparsely vegetated with overall approximately 50% bedrock exposures throughout the area. The property is also covered by numerous small ponds and lakes that are elongated in a northeast-southwest direction parallel to the trend of underlying rock formations.



Figure 2. Photograph of the Winterhill Area (looking west-southwest from the Winterhill East Prospect).

The climate in the Winterhill area is characterized by relatively mild and wet winters with a daily average temperature in February of  $-4.5^{\circ}\text{C}$  (average daily high of  $-0.9^{\circ}\text{C}$ ), 93.1 mm of average monthly rainfall and 31 cm of average monthly snowfall at Harbour Breton. Summers are relatively cool and wet with a daily average temperature in August of  $15.8^{\circ}\text{C}$  (average daily high of  $18.5^{\circ}\text{C}$ ) and 94.4 mm of average monthly rainfall at Harbour Breton (all data from Environment Canada). Coastal fog and high winds are common throughout the area. Conditions are expected to be much more adverse in the winter months at Winterhill than the data suggests for the coastal community of Harbour Breton, largely due to the increased elevation and exposure in barren areas.

Historic ice-flow data and glacial geological mapping is sparse for the Hermitage Peninsula. However, ice flow data and till mapping from the nearby southwest Burin Peninsula document a pervasive south-southeast flow from an ice source to the north and presumably centred in the central part of the island of Newfoundland (Batterson et. al., 2006 and Batterson and Taylor, 2007). On the Burin Peninsula a younger regionally extensive westward ice flow is noted that crossed the Burin Peninsula from Placentia Bay to Fortune Bay (just SE of the Hermitage Peninsula; Bell et al., 2008). Overall glacial deposits in the Winterhill area comprise largely barren uplands (eroded tills) with localized till veneer and concealed bedrock, to till filled valleys. Locally raised beaches have been noted on the Hermitage Peninsula that infer ~30-35 metres of postglacial emergence or rebound in the region (Tucker et al., 1982).

## **6.0 HISTORY**

The Hermitage Peninsula, in particular the area including the Winterhill Property has been the subject of largely sporadic base-metal (Cu-Pb-Zn) VMS exploration from the mid-1960's to the current day. Exploration has documented several base metal sulphide occurrences throughout the area. However, none of the key base metal prospects discovered to date have been the focus of intensive diamond drilling despite the relatively encouraging results encountered. The exploration history of the property is presented below and has been subdivided into the two main areas where historic work has been completed; the Frenchman's Head Area and the Winterhill Area.

### **6.1 Frenchman's Head Area**

The earliest documented exploration work in the area began in the mid-1950's with NALCO Ltd., who discovered the Frenchman's Head Prospect during regional reconnaissance work of their extensive concessions. Early work by Pickands Mather, under option from NALCO, comprised geochemical and geophysical surveys and trenching leading to drilling of 19 drillholes (packsack and AXT sized) totalling 4,023.5 feet or 1226.4 m during 1964 and 1965 (Pickands Mather, 1965). Highlights from the drilling include intersections of 18.6 m grading 2.2% Zn including 2 m grading 7.46% Zn. Most of the drillholes were drilled at a poor angle to test a stratabound target.

Noranda staked the Frenchman's Head Prospect in 1982 and beginning in 1983 conducted geological, geochemical (soil sampling and wetland sampling surveys) and geophysical surveys (ground magnetics, VLF and EM) over the area, including a regional airborne magnetic/very-low-frequency (VLF)/electromagnetic (EM) survey comprising 223 line km of flying at 200 m

line spacing (Graves, 1983). Two areas were recommended for follow-up work. The first area was located just west of the Frenchman's Head prospect and the second area was located north-west of the Hermitage turn-off in an area now referred to as Olive Cove (Graves, 1983). During 1984 Noranda completed 32.2 line km of line cutting on two grids at 100 m line spacing with 25 m stations (Graves, 1984). The first grid covers the Frenchman's Head Prospect (Grid I) and the second grid covers the coincident geochemical and geophysical anomaly recommended by Graves (1983) at Olive Cove (Grid II; Graves, 1984). In total, Noranda collected 1093 soil samples which resulted in a strongly anomalous area of elevated Pb and Zn with lesser Cu and Ag on Grid I. Grid II in the Olive Cove area showed anomalous Pb and Zn with lesser Cu indicating the presence of base metal mineralization (Graves, 1984). Both grids were also covered by combined ground magnetic, VLF and EM surveys.

Drill testing in 1986 by Noranda (hole FH-86-1) of a coincident geophysical and geochemical anomaly along strike of the Frenchman's Head Prospect returned an intersection of 8 m grading 2.26% Zn and 1.3 troy ounces/ton Ag; including 2 m grading 6.49% Zn and 1.6 troy ounces/ton Ag (Graves, 1986a). Drillhole FH-86-2 tested the second area recommended above in the Olive Cove Area. The drillhole intersected a section of sericite and chlorite-altered pyritic felsic volcanics that returned elevated Zn (0.4%) over 1 metre.

Cominco Limited conducted geochemical surveys and a 152-line km helicopter-borne magnetic, EM and VLF survey along strike to the northeast and southwest of Frenchman's Head during 1989 (de Carle, 1989). Due to what were interpreted to be negative results, Cominco allowed the ground to lapse.

The Frenchman's Head claims were allowed to lapse by Noranda and were subsequently staked by Vinland Resources Inc ("Vinland"). During 1992 and 1993 Vinland completed prospecting and geological work in the Frenchman's Head Area (Chislett, 1992 and 1993).

Avalon Mines, after optioning the property from Vinland in 1994, carried out geological mapping, geochemical sampling and prospecting in the Frenchman's Head Area during 1994, 1995 and 1996 (Jacobs, 1995 and Pickett, 1996).

## **6.2 Winterhill Area**

The Winterhill Prospect was discovered by Noranda in July 1984 during follow-up of a regional airborne survey flown to cover favourable stratigraphy and lake sediment anomalies along strike from the Frenchman's Head Prospect (Graves, 1983, 1985a). The airborne survey, conducted in 1984, comprised 632 line km of 3 frequency electromagnetics and magnetics at a line spacing of 200 m. Follow-up work to the airborne survey comprised geochemical surveying on 3 grids in the Winterhill Area (Grids 85-1, 85-2 and 85-3), which resulted in spotty anomalies. Prospecting following the discovery of the Winterhill Prospect resulted in the discovery of the Winterhill East, Winterhill West and Prospect #5 occurrences (Graves, 1985a).

Between 1984 and 1991 Noranda conducted ground geological (1:2,500 scale mapping), geochemical (soil sampling on grids 85-1, 85-2 and 85-3 plus some silt sampling), geophysical surveys (ground magnetics, VLF and Max-Min), trenching and diamond drilling of the

Winterhill Property as outlined in the reports by Graves (1985b), Graves (1986b), Simpson (1990) and Perry and Graves (1991). A total of 18 diamond drillholes totalling 4,227.7 metres were bored into the Winterhill, Winterhill East, Winterhill West and Winterhill North showings including 9 drillholes in 1985-86, 6 drillholes in 1990 and 3 drillholes in 1991. Highlights from the drilling programs include 11.0 m grading 6.17% Zn in drillhole WH-90-11 and 4.0 m grading 11.07% Zn and 1.16% Cu from Trench 4 at Winterhill.

During 1991, 20.0 line km of grid were cut and 18 line km of EM-37 geophysical surveying were completed over the favourable horizon hosting the Winterhill showings (Perry and Graves, 1991). The EM-37 survey outlined a minimum 700-m long conductor underlying Winter Pond, between the Winterhill and Winterhill East prospects. Drill testing of this target resulted in the intersection of 9.6 m of semi-massive to massive pyrite hosted within altered felsic volcanic rocks in drillhole WH-91-16 (Perry and Graves, 1991). Limited sampling (two samples) of the sulphide intervals returned elevated base metals, maximum 0.04% Zn and 0.04% Cu over 0.2 and 0.3m respectively.

Between 1991 and 2006 very little work was conducted in the Winterhill area. Rubicon staked the current property in February 2006. During September and October 2006, Rubicon conducted geological field visits to the Winterhill Property, which included a total of 4 days of prospecting (Copeland, 2007). The work was done in an attempt to assess the base metal occurrences that had been outlined by previous work. The property was subsequently transferred to Paragon through a statutory plan of arrangement completed by Rubicon on December 8, 2006.

## **7.0 GEOLOGICAL SETTING**

### **7.1 Regional Geology**

The Connaigre Peninsula lies within the Avalon Zone of the Newfoundland Appalachians and is underlain by a Neoproterozoic volcano-plutonic arc formed in a compressional tectonic environment (Williams, 1979; O'Driscoll, 1977; O'Brien et al., 1992, 1995 and O'Brien, 1998). The Avalon Zone is separated from the Cambro-Ordovician Gander Zone and rocks of the Dunnage Zone by the crustal-scale Dover Fault System (locally the Hermitage Bay Fault) that lies to the immediate north of the Hermitage Peninsula (Blackwood and Kennedy, 1975 and Blackwood and O'Driscoll, 1976) (Figure 3). Amalgamation of the Avalon Zone and Gander and Dunnage Zones was accommodated during protracted deformation and closing of the former Iapetus Ocean during collision of Laurentia and Gondwana during the Silurian (Taconic and Penobscot Orogenies; Williams, 1979). Renewed compressional tectonism in the Silurian-Devonian (Salinic and Acadian Orogenies) resulted in crustal thickening that caused regional greenschist and amphibolite grade metamorphism in the adjacent Gander and Dunnage Zones and parts of the Avalon Zone and crustal melting (granulite-facies metamorphism) that resulted in widespread plutonism (Dean, 1978 and Dallmeyer et al., 1983). Subsequent, possibly Alleghenian, Carboniferous faulting produced shallow pull-apart basins in which continental and shallow water sediments were deposited (Dean, 1978 and Kean et al., 1981).

The Connaigre Bay Peninsula is underlain by Neoproterozoic volcanic and sedimentary rocks that have been divided into four main groups that include, from oldest to youngest, the Tickle

Point Formation, The Sam Head Formation, the Doughball Point Formation and the Downs Point Formation (O'Driscoll, 1977; O'Brien et al., 1995 and O'Brien, 1998) (Figure 4). The latter 3 formations form the Connaigre Bay Group, dated at  $626\pm 3$  Ma, and overlie the older Tickle Point Formation, dated at  $681\pm 3$  Ma, which on the Connaigre Peninsula forms the oldest rocks exposed within the area. These strata have been intruded by various ages of mafic, intermediate and felsic intrusions, which dominate rock types in the area. The intrusive phases vary in age from Neoproterozoic to Devonian and include from oldest to youngest, the Furby's Cove Intrusive Suite ( $673\pm 3$  Ma), the Simmon's Brook Intrusive Suite ( $621\pm 3$  Ma), the Grole Intrusive Suite ( $567\pm 3$  Ma), the Harbour Breton Granite ( $570\pm 3$  Ma), the Hardy's Cove Granite ( $568\pm 2$  Ma) and a series of younger Devonian intrusions related to Devonian tectonism and metamorphism (O'Brien et al., 1995 and references therein).

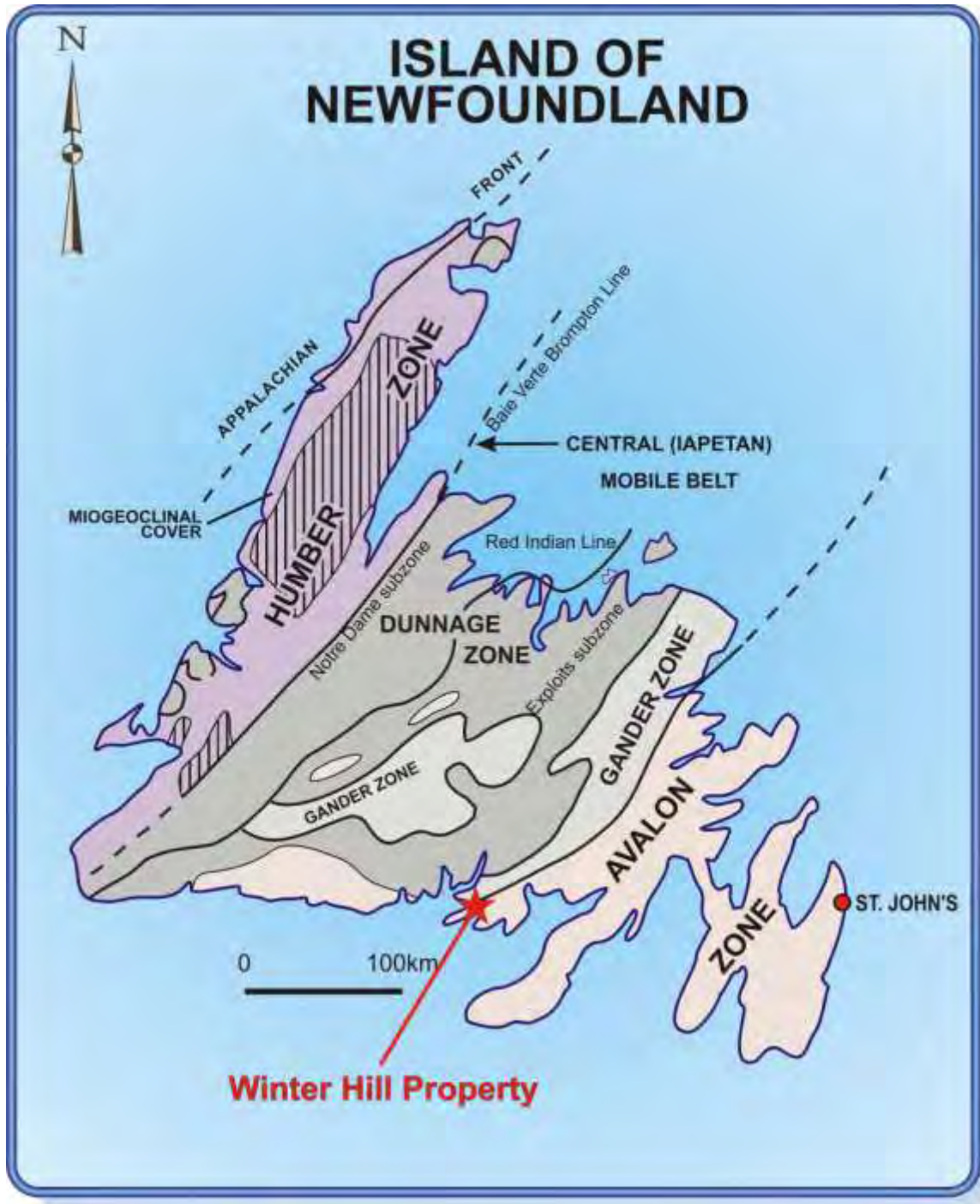


Figure 3. Tectono-stratigraphic Zones of Newfoundland.

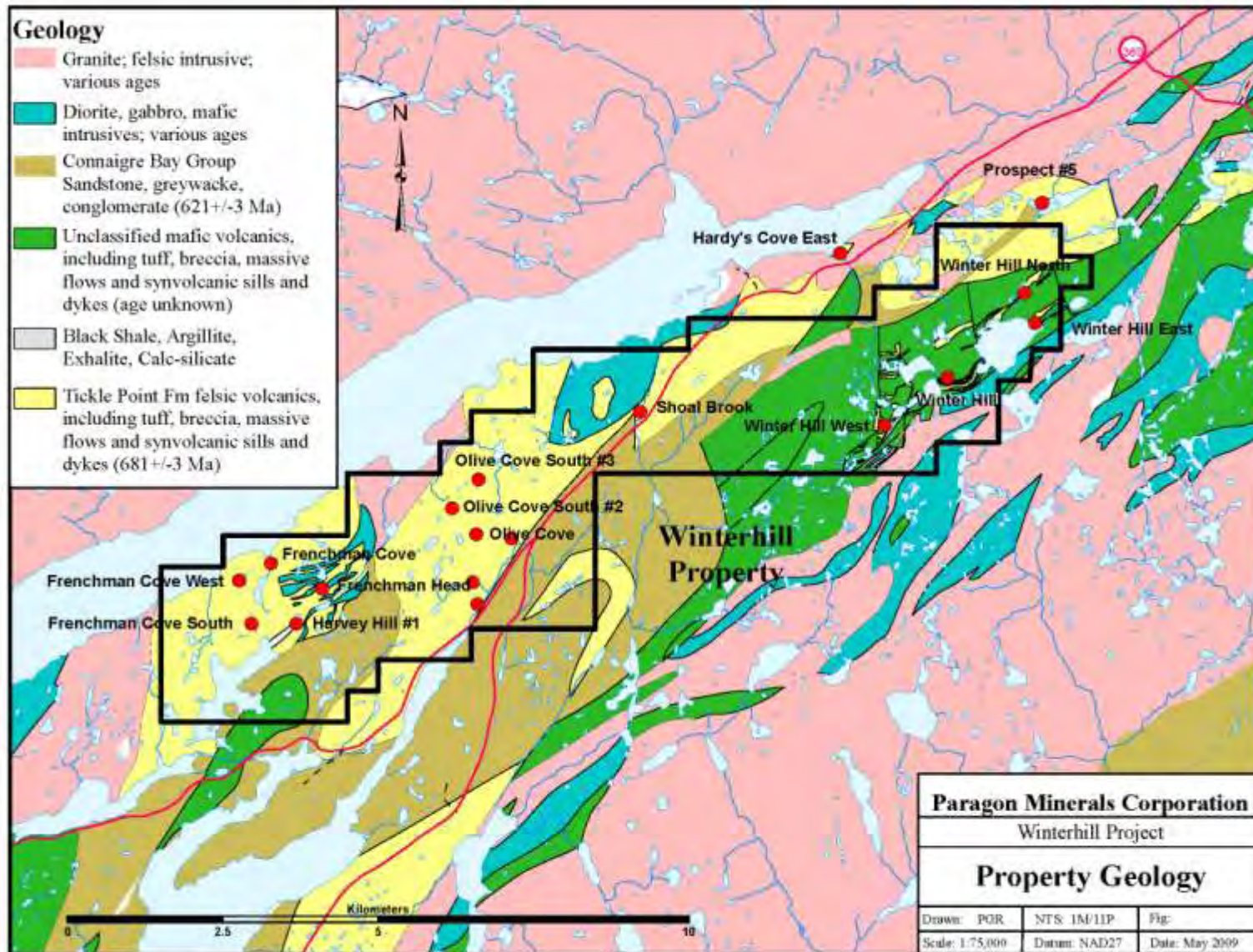


Figure 4. Regional Geology of the Winterhill Area (after O'Brien, 1998).

## 7.2 Property Geology

### 7.2.1 Stratigraphy

The Winterhill Property is underlain by a stratified sequence of calc-alkaline rhyolitic flows and felsic pyroclastic rocks associated with basalt and andesite as well as siliciclastic, mafic volcanoclastic and carbonate sedimentary rocks, termed the Tickle Point Formation, dated at  $681 \pm 3$  Ma (O'Driscoll, 1977; O'Brien et al., 1992, 1995 and O'Brien, 1998) (Figure 4). The Tickle Point Formation is intruded by a  $672 \pm 3$  Ma co-magmatic bimodal intrusive suite comprising granite and gabbro of the Furby's Cove Intrusive Suite. The Furby's Cove Intrusives are predominantly exposed along the south shore of Hermitage Bay, immediately north of the Frenchman's Head Prospect Area.

Felsic volcanic rocks and suspect calc-silicate chemical sediments and exhalative sulphides, exposed in the Winterhill Area are overlain by a suite of unclassified tholeiitic mafic tuff, massive flows and associated synvolcanic mafic intrusive rocks (O'Brien, 1998). The main strataform sulphide horizon through the property, typified by the presence of a distinctive calc-silicate to calcareous horizon, occurs at the transition from underlying felsic volcanic rocks to overlying mafic volcanic rocks (Graves, 1984 and 1985a and 1985b; Sears, 1990 and Sears and Wilton, 1996). It is currently uncertain whether or not the calc-silicate unit is a primary chemical sedimentary unit or a product of synvolcanic hydrothermal alteration. Numerous smaller occurrences of carbonate and/or calc-silicate rocks occur along the coast of Hermitage Bay and on the west shore of Northwest Arm at Harvey Hill. At Harvey Hill, calc-silicate rocks are spatially associated with massive pyrite bands in rhyolite, which occur along strike from two other massive pyrite occurrences north and northeast of the Head of Northeast Arm within rhyolites of the Tickle Point Formation (O'Brien et al., 1995).

The unclassified mafic unit forming the stratigraphic hangingwall to the mineralization, is in turn unconformably overlain by younger Neoproterozoic ( $626 \pm 3$  Ma) strata of the Connaigre Bay Group, including from oldest to youngest the Sam Head Formation, the Doughball Point Formation and the Downs Point Formation (O'Driscoll, 1977; O'Brien et al., 1992, 1995 and O'Brien, 1998). The Connaigre Bay Group consists of marine siliciclastic conglomerate, argillite and sandstone; mafic flows and pyroclastics; and limestone.

Younger Intrusive rocks that underlie the property area include the Simmon's Brook Intrusive Suite ( $621 \pm 3$  Ma), the Grole Intrusive Suite ( $567 \pm 3$  Ma), the Harbour Breton Granite ( $570 \pm 3$  Ma), the Hardy's Cove Granite ( $568 \pm 2$  Ma) all of which post date the sulphide mineralizing event and may, in places, crosscut and affect the mineralized zones. The southern portion of the claim area is underlain by granitic and dioritic intrusive rocks of the Harbour Breton Granite and Simmons Brook Intrusive Suite, respectively. They locally intrude both the Tickle Point Formation and overlying Connaigre Bay Group strata.

The unclassified mafic unit within the hangingwall at Winterhill is currently the source of uncertainty as some authors have assigned this unit to the younger and unconformably overlying Sam Head Formation. This implies an approximate 56 Ma hiatus between felsic volcanism, as represented by the Tickle Point Formation, in the footwall to the Winterhill mineralization and mafic volcanism of the Sam Head Formation purported to be represented by the mafic volcanic

and volcanoclastic rocks in the hangingwall to the mineralization. The authors, in reviewing diamond drilling core that crosses the contact zone locally at Winterhill, view the overlying mafic strata as being conformable with the Tickle Point stratigraphy. Additional uncertainties exist due to the transitional geochemical nature of the bimodal volcanic sequence as Sears (1990) reports that the felsic volcanic rocks of the Tickle Point Formation are calc-alkaline while overlying mafic rocks are tholeiitic. The authors currently prefer to view the felsic – mafic stratigraphy at Winterhill as being part of a contemporaneous bimodal volcanic sequence of Tickle Point Formation age.

### **7.2.2 Structure**

The structural pattern of the Avalon Zone is dominated by the development of numerous fault zones and by broad open folds. The faults generally trend in a north to north-easterly direction. Shear zones that dip moderately to steeply to the northwest are evident in many areas. The open folds are northeast trending with axes that plunge gently to the southwest. In the Avalon Zone only one period of folding is indicated by the simple fold patterns. This resulted in a regional northwest-southeast shortening with the compression probably being relieved finally by the development of high-angle north-westward dipping thrust faults (O'Driscoll, 1977).

Locally, the Winterhill area is underlain by strata and intrusive rocks that generally have an east-northeast strike (Figure 4). The Tickle Point Formation and Connaigre Bay Group rocks in the central portion of the claim group are transposed into an open syncline plunging shallowly to the west-southwest. Units in the southern portion of the claim group dip shallowly to the northwest (Graves, 1986b). At Winterhill the Main mineralized zone and the associated felsic-mafic contact dip shallowly to the north-northwest with repetitions of the mineralized unit to the north caused by folding and/or thrust faulting. Several contact-parallel northeast-southwest trending faults transect the rocks and are accompanied by occasional proto-mylonite to mylonite development, primarily at major lithological contacts. In addition, local north-northwest trending sub-vertical faults offset stratigraphic units orthogonal to their overall strike. These north-northwest trending fault zones may represent splays off the main northeast trending fault/shear zones or late stage brittle fault zones or a combination of both.

### **7.2.3 Alteration**

Hydrothermal alteration at the Winterhill and Frenchman's Head Prospect comprises largely footwall style volcanogenic massive sulphide alteration including pervasive silicification and sericitization accompanied by lesser and variable chlorite and pyrite alteration of host felsic volcanic rocks. Details of the alteration patterns at the various prospects are limited within the historical literature and drill logs.

## **8.0 DEPOSIT TYPE**

Mineralization in the Winterhill area consists of massive, banded and disseminated sphalerite, lesser pyrite, pyrrhotite, magnetite and galena plus minor chalcopyrite occurring in stratabound carbonate and calc-silicate rocks overlying a pyrite and lesser chalcopyrite stringer zone developed in felsic volcanic breccias (Simpson, 1990). The stratabound carbonate/Ca-Mg-silicate assemblage occurs within the transition zone between felsic dominated volcanic and

volcaniclastic rocks of the Neoproterozoic (681±3 Ma) age Tickle Point Formation and overlying mafic volcaniclastic rocks and volcanic flows (O'Brien, 1998). Mineralization at the Winterhill Prospect, which is the most important prospect discovered in the area to date, is interpreted to be of volcanic-hosted massive sulphide (VMS) affinity (Sears and Wilton, 1996).

A number of examples exist worldwide of Neoproterozoic VMS deposits, particularly in the Arabian-Nubian Shield of Saudi Arabia and northeast Africa, which hosts at least 60 VMS deposits most of which are Neoproterozoic in age (Sangster and Abdulhay, 2005, Barrie et al. 2007). In many of the Saudi Arabian deposits, the sulphide mineralization is associated with carbonate and Mg or Ca-Mg silicates. VMS deposits in the Arabian Shield of Saudi Arabia include the Al Masani-Wadi Hismah (Al Masane) deposit, which as of 1984 had proven and probable reserves of 7.486 MT of 5.71% Zn, 1.32% Cu, 44.09 g/t Ag and 1.23 g/t Au (Sangster and Abdulhay, 2005). The Bisha VMS deposit in Eritrea presents a notable example of a large (>30 million tonne), relatively high grade Zn-Cu-Au-Ag deposit that occurs in a bimodal tholeiitic to transitional calc-alkaline volcanic and probable co-magmatic intrusive suite of Neoproterozoic age (Barrie et al., 2007). In addition to a supergene enriched section the Bisha deposit contains a primary sulphide component that includes a measured and indicated resource of 8.576 million tons grading 9.19% Zn, 1.06% Cu, 0.76 g/t Au and 59.5 g/t Ag and an inferred resource of 6.803 million tons grading 8.42% Zn, 0.83% Cu, 0.65 g/t Au and 53.3 g/t Ag.

Examples of other large VMS deposits that are associated with bimodal meta-volcanic rocks and have carbonate and calc-silicate rocks associated with the ores occur in the early Proterozoic rocks of the Fennoscandian Shield of Finland and Sweden (Rickard, 1988).

The Winterhill and Frenchman's Head prospects and other smaller showings in the area represent the only known VMS-type mineralization within the Avalon Zone of Newfoundland (Sears and Wilton, 1996). However, Avalon Zone rocks elsewhere in the Appalachians do host VMS deposits including the Teahan and Lumsden Cu-Pb-Zn±Ag±Au VMS deposits in New Brunswick and the Mindamar Mine of the Stirling Belt, Cape Breton Island, Nova Scotia (Bevier et al., 1993, Patterson, 1993 and Ruitenberg et al., 1972). Mineralization at the Stirling deposit or Mindamar Mine, Cape Breton Island, Nova Scotia is particularly analogous to that in the Winterhill area in that it occurs in similar lithologies, including felsic volcanic and volcaniclastic rocks that occur in the footwall and most of the ore lenses are hosted by a Ca-Mg-silicate rich unit. Host rocks to the deposit have been dated at ca. 681 Ma, equivalent to the Tickle Point Formation that hosts the Winterhill area mineralization (Bevier et al. 1993 and O'Brien, 1998). The Mindamar Mine produced 1.06 million tonnes of ore grading 6.3% Zn, 1.5% Pb, 0.8% Cu, 74 g/t Ag and 1.1 g/t Au (Patterson, 1993).

Although hosted by younger Cambro-Ordovician rocks, stratabound massive sulphides in the West Thalanga lens, a significant component of the Thalanga volcanic-hosted massive sulphide deposit in North Queensland, Australia, are spatially associated with an assemblage of Ca-Mg carbonates and Ca-Mg-silicates as is the mineralization at Winterhill (Hermann and Hill, 2001; Sears and Wilton, 1996). Other sulphide lenses comprising the Thalanga deposit are not spatially associated with a carbonate/calc-silicate assemblage. The Thalanga deposit was mined between 1990 and 1998 during which production amounted to 4.7 million tonnes from an

estimated total resource of 6.6 million tonnes grading 8.4% Zn, 1.8% Cu, 2.6% Pb, 69g/t Ag and 0.4g/t Au.

The spatial association of Ca-Mg carbonates and Ca-Mg silicates with some VMS deposits but not others has been attributed to greater permeability in the footwall rocks to these deposits (Hermann and Hill, 2001 and Sangster and Abdulhay, 2005). Hermann and Hill (2001) note that in stratiform VMS systems hosted by permeable volcanoclastic rocks, where hydrothermal flow was probably diffuse, carbonate and chlorite (or metamorphic equivalents) appear to indicate mixing of hydrothermal fluids and seawater in the shallow substrate or peripheral zones. They conclude that the Ca-Mg silicates and Ca-Mg carbonates associated with the West Thalanga sulphides originated as dolomite and chlorite (or Mg smectite) assemblages and formed by hydrothermal alteration and addition of carbonate to permeable rhyolite volcanoclastics, probably in the upper few metres of the sea-floor substrate (Hermann and Hill, 2001). Similarly, Sangster and Abdulhay (2005) attribute the presence of carbonate/calc-silicate/sulphide assemblages in the Arabian Shield VMS deposits to deposition from hydrothermal fluids emitted onto the seafloor over a large area from “cryptic” feeder systems through permeable volcanoclastic rocks. They note that because the upward flow of the hydrothermal fluids is not focused then metal grades are typically lower and footwall alteration is less than VMS deposits formed from more focussed feeder systems.

Some of the implications for additional mineralization potential in the Winterhill area based on observations and interpretations presented by Hermann and Hill (2001) and Sangster and Abdulhay (2005) are noted below. The mineralization associated with the carbonate/calc-silicate horizon at Winterhill will likely be low to medium grade similar to examples noted from similar deposits elsewhere (i.e. 5-9% Zn) accompanied by about 1% Cu. However, the carbonate/calc-silicate bearing mineralized horizon is typically widespread and serves as a good exploration target horizon. The Thalanga deposit in Queensland has carbonate/calc-silicate associated with the West Thalanga lens but the remainder of the deposit is composed of lenses not associated with carbonate/calc-silicate horizons presumably formed above more focused feeder systems. This indicates that although mineralization in the Winterhill area found to date is associated with carbonate/calc-silicate assemblages, there is potential for VMS mineralization elsewhere in the area that may have formed above more focused feeder systems.

## **9.0 MINERALIZATION**

### **9.1 Frenchman’s Head and Frenchman’s Cove Prospects**

The Frenchman’s Head Prospect consists of disseminated, stringer and semi-massive pyrite, sphalerite and lesser chalcopyrite and galena in silicified rhyolite of the Tickle Point Formation near the contact with rocks of the overlying Connaigre Bay Group (Figure 4 and Figure 5). Drillholes into the Frenchman’s Head prospect were drilled in five different directions making it difficult to determine the spatial orientation of the mineralized zone. Avalon Mines in 1996 assembled a three-dimensional model of the drilled prospect, leading to the following observations as quoted from Pickett (1996, page 5):

“The mineralization has been outlined over an area about 150 m long by about 50 m wide. The long axis is oriented about 35 degrees but the actual orientation of the mineralization has not

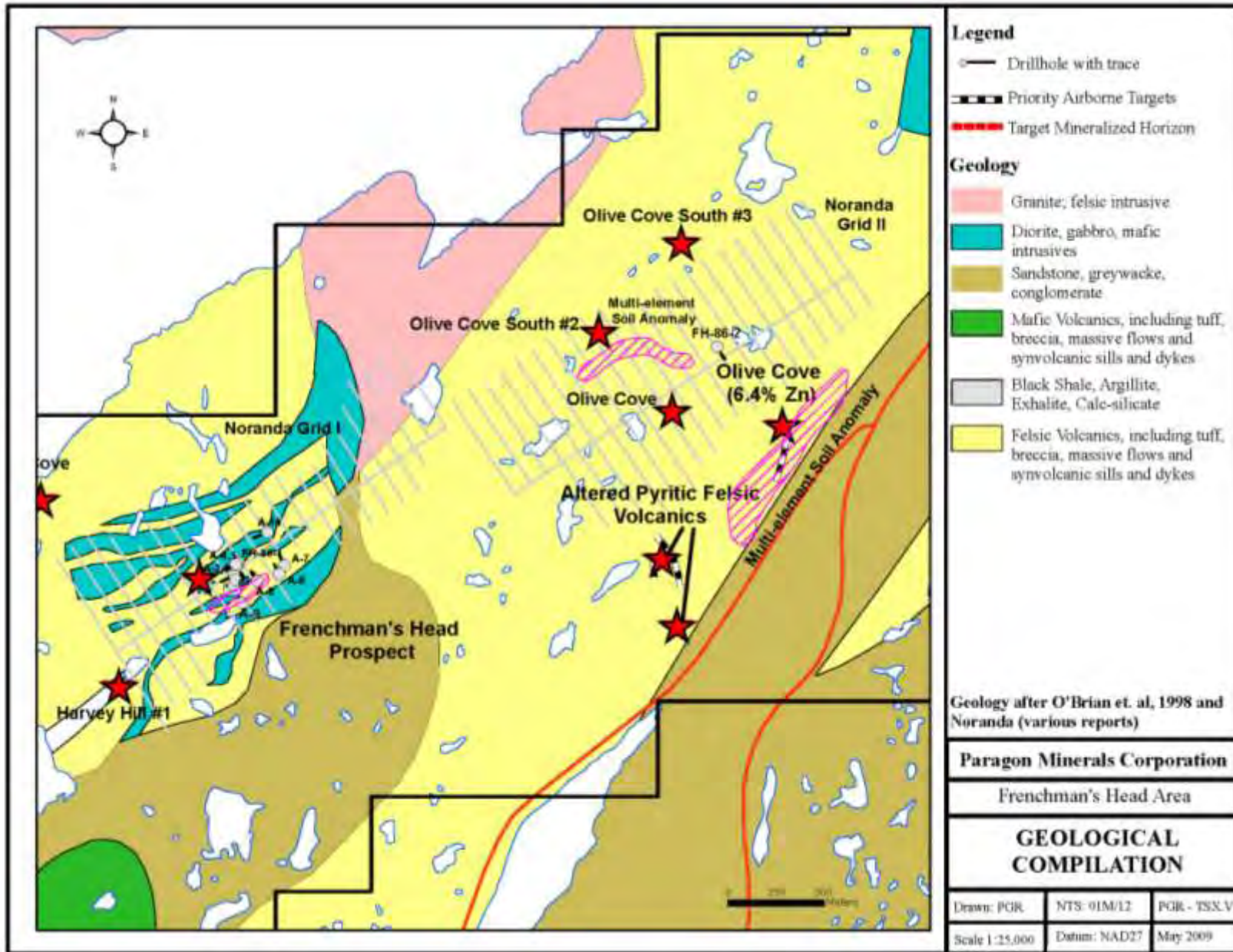


Figure 5. Geology and Mineralized Trends of the Frenchman's Head Area.

been defined very well by the drilling to date. The mineralization occurs in possibly two or three sub-horizontal zones, all of which are less than 50 m below surface. Higher grade sections (greater than 3% Zn) typically occur in the lower or central zone if more than one zone was intersected. Like the overall mineralization, the higher grade sections are also sub-horizontal. The mineralization, including the higher grade mineralization intersected in drillhole P-3, is open to the west. Likewise, the mineralization, including the higher grade mineralization intersected in Noranda drillhole FH-86-01, is open to the east-northeast. Noranda shows a north-trending fault about 100 m east of FH-86-01. The fault probably limits the extent of mineralization to the east.”

At Olive Cove, located approximately 2.75 km east-northeast of the Frenchman’s Head prospect, Noranda, in 1984 and 1985, discovered several (Olive Cove South #1, #2, and #3) pyrite showings in the area of the contact between rhyolitic and andesitic rocks of the Tickle Point Formation. The rocks contain disseminated (1-5%) pyrite and trace sphalerite, and have been slightly silicified and chloritized. Noranda completed 1 diamond drillhole (FH-86-02) during 1996 in the area totalling 100.6 m in length. The drillhole passed through moderately to highly sericite and chlorite-altered felsic volcanics, then into mafic volcanics and interflow sediments. The transition zone was unfortunately marked by a mafic dyke, but proximal to the zone the host felsic rocks show more intense sericite alteration and contain up to 5% disseminated pyrite and up to 4,000 ppm Zn over 1 m from 30.4 to 31.4 m (Graves, 1986a). Anomalous Ag values were also obtained in the drillhole.

## **9.2 Winterhill Prospect**

The Winterhill Prospect contains massive lenses, bands and disseminations of pyrite, sphalerite, chalcopyrite and galena within suspected calcareous chemical sediments and calc-silicate rocks near the contact between the Tickle Point Formation and the Connaigre Bay Group (Sears and Wilton, 1996; O'Brien et al., 1995) (Figure 6). The main mineralized zone, which is exposed for 120 m on surface, is approximately 5 to 15 m thick (Simpson, 1990). Simpson (1990) also reported that the mineralized calc-silicate unit is up to 30 m thick and extends along strike for over 3.5 km from the Winterhill West Prospect through to the Winterhill East Prospect.

The mineralized zone is underlain by felsic flows and fragmental rocks, lesser mafic tuffs and flows as well as felsic and mafic dykes, which cut all units (Graves, 1986b; Sears and Wilton, 1996) (Figure 7). The mineralized zone and calc-silicate horizon are overlain predominantly by mafic tuffs and basaltic flows and sills? (Graves, 1986b). Alteration within the footwall felsic fragmentals is characterized by strong silicification accompanied by lesser chloritization (Graves, 1986b; Sears, 1990). The mineralized carbonate/calc-silicate unit includes a basal, chaotically banded impure dolomitic marble consisting of carbonate-tremolite-diopside-serpentine-brucite-quartz-epidote with lesser talc and magnesite. The basal unit is overlain by a discontinuous breccia of Ca-Mg-silicate facies (tremolite and diopside) with lesser epidote-quartz-talc-carbonate (Sears and Wilton, 1996). The breccia also contains fragments of banded carbonate and massive sulphide. Discontinuous sulphide-mineralized intervals occur above the calc-silicate unit and consist of disseminated to locally massive and layered sphalerite-pyrrhotite-pyrite-galena-chalcopyrite mineralization, which ranges from 2 to 5 m in thickness on surface (Sears and Wilton, 1996).

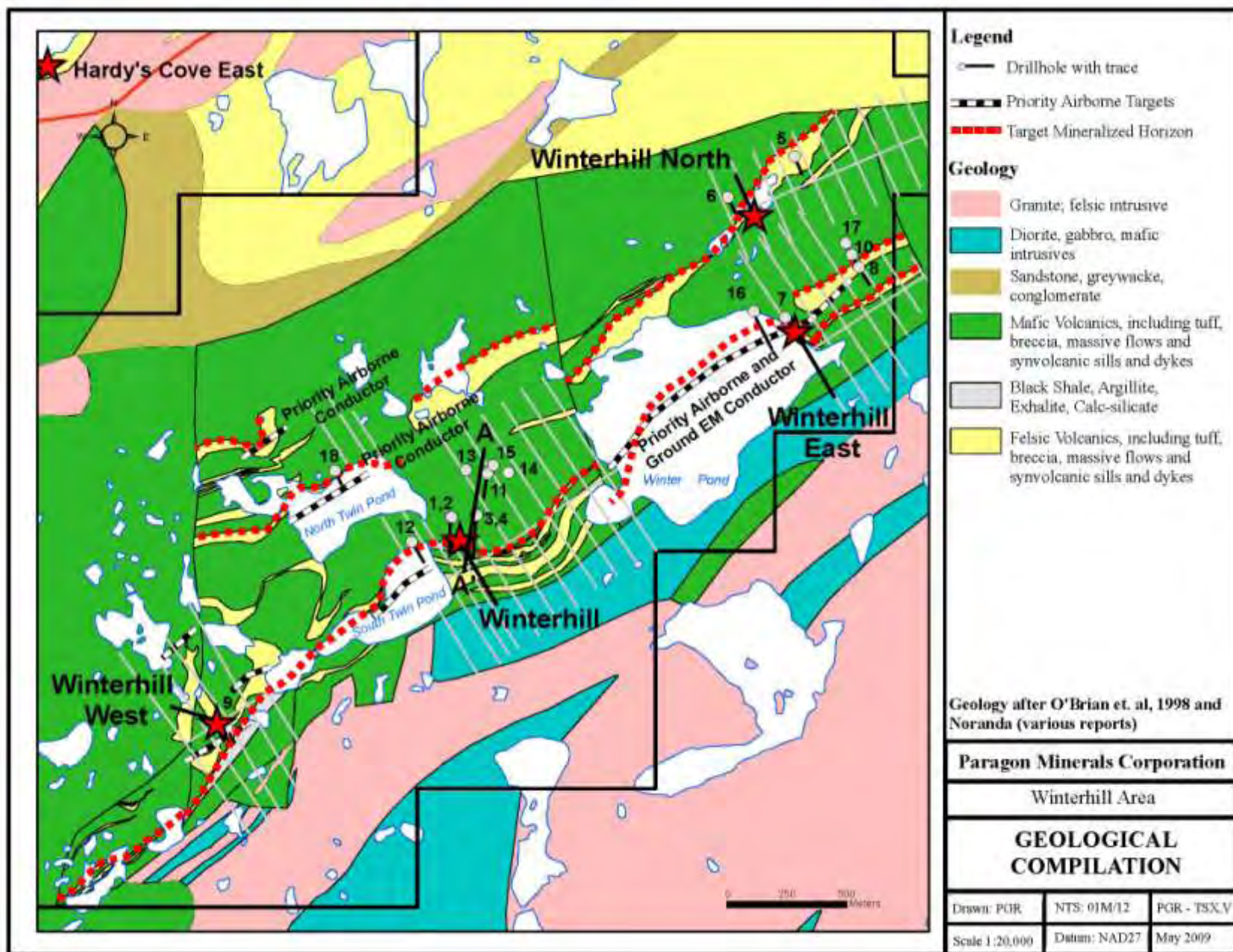


Figure 6. Geology and Mineralized Trends of the Winterhill Area.

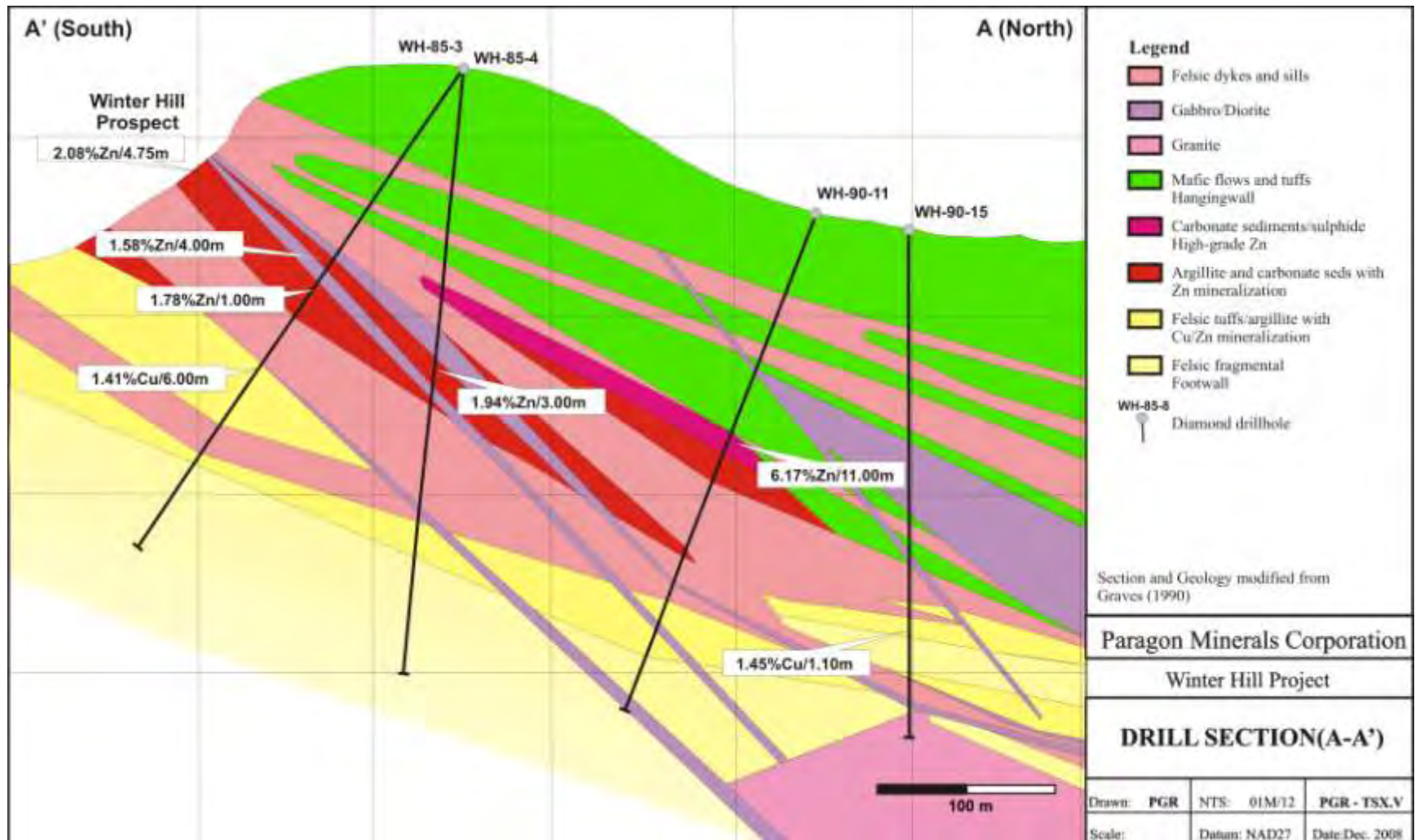


Figure 7. Cross Section through the Winterhill Prospect looking west.

Sulphide mineralization at the Winterhill Prospect consists of an upper 3 to 7 m thick Zn-Pb rich zone stratigraphically and structurally underlain by a <10 m thick, pyritic Cu-rich zone (Simpson, 1990; Sears and Wilton, 1996). Sears (1990) determined that the Winterhill Prospect had an overall stratabound configuration with a discordant lower Cu-Zn-Py-Po stringer zone and a concordant upper layered Zn-Pb-Ag-Py zone, a characteristic of VMS deposits. Contact metamorphism of the lower mineralized zone has produced an assemblage of recrystallized quartz, cordierite, biotite and andalusite (Sears and Wilton, 1996). A total of 8 drillholes were drilled into the main showing and the best result obtained was 6.17% Zn over 11.0 m, which included 10.1 % Zn over 4 m from drillhole WH-90-11 (Simpson, 1990) (Figure 7). The best intersection of the footwall Cu-rich zone was 1.41% Cu over 6 m from drillhole WH-85-3 (Graves, 1986b). Numerous mafic and felsic dykes (sills) intrude the mineralized horizon. Figure 7 shows a cross-section through the prospect looking west. Drilling results are summarized in Section 11.1 below.

### **9.3 Winterhill East**

The Winterhill East showing is located approximately 1.8 km northeast of the Winterhill Prospect and consists of semi-massive to disseminated pyrite-sphalerite-galena-chalcopyrite hosted by calc-silicate rock (Sears and Wilton, 1996; Simpson, 1990; Graves, 1986b) (Figure 6 and Figure 7). Thin, massive and banded pyrite hosted by banded argillite (calcareous calc-silicate?) occurs for an additional 1 km along strike to the northeast (Simpson, 1990; Graves, 1985b). Drilling at Winterhill East intersected 8 m of massive bedded pyrite in drillhole WHE-86-8 and 2 m grading 1.95% Zn in drillhole WH-90-10, which was drilled down dip of WHE-86-8 (Graves, 1986b; Simpson, 1990). Additional drilling in 1991 failed to intersect significant mineralization further down dip, however, the calc-silicate horizon with a 20 cm massive band of pyrite was encountered in WH-91-17 (Perry and Graves, 1991).

On June 29, 2009, the authors, accompanied by Michael Vande Guchte of Paragon, made a site visit to the Winterhill East Prospect. Semi-massive to massive sulphides including pyrite and lesser sphalerite are exposed there. The sulphides based on outcrop exposure at the showing are estimated to have a minimum thickness of 1.5m (Figure 8 and Figure 9). A foliation noted that possibly indicates the spatial orientation of the massive sulphides dips gently to the north (270°/20°N). The strike and dip of the foliation is consistent with that of units in the area as recorded historically and observed by the authors during the field visit. Portions of the semi-massive to massive sulphides, which consist mainly of pyrite, contain an estimated 10% or more sphalerite, typically accompanied by calc-silicate minerals. Two sphalerite-bearing samples were collected for analysis from the showing (Table 2). The samples have been sent to Eastern Analytical Ltd. of Springdale, NL for analysis.



Figure 8. Semi-massive and massive sulphides at the Winterhill East Prospect, photographed by the independent qualified person on June 29, 2009.



Figure 9. Closer view of semi-massive and massive sulphides at the Winterhill East Prospect, photographed by the independent qualified person on June 29, 2009.

**Table 2. Winterhill East Prospect and samples collected.**

Name	Zo ne	NAD83_East	NAD83_North	Alt (m)	NAD_27East	NAD_27North
Winterhill East	21	605,144	5,279,616	283	605,083	5,279,399
Sample 3065	21	605,144	5,279,616	283	605,083	5,279,399
Sample 3066	21	605,144	5,279,616	283	605,083	5,279,399

Name	Description
Winterhill East	WinterHill East Showing - massive sulphides minimum 1m width, typically massive pyrite, contains sphalerite locally up to 10% plus typically associated with calc-silicate minerals, foliation in sulphides dips very gently to the north 270/20
Sample 3065	WinterHill East Showing - Sample 3065 estimated 10% sphalerite in calc-silicate and pyrite-rich matrix
Sample 3066	WinterHill East Showing - Sample 3066 massive pyrite containing an estimated 5% sphalerite

#### 9.4 Winterhill West

The Winterhill West showing, located 1.5 km along strike to the southwest of the main Winterhill Prospect, hosts mineralization consisting of heavily disseminated to massive pyrite within silicified argillite, which extends along strike for an additional 1 km to the southwest (Graves, 1985b; Simpson, 1990) (Figure 6). A massive sulphide boulder assayed 4% Cu in the vicinity of the showing. Drilling of the prospect (hole WHW-86-9) intersected four one-m thick intervals of massive pyrite (Graves, 1986b). Assays from the zone returned elevated Zn and Ag including an interval assaying 0.33% Zn and 0.73 ounces/t Ag over 3 m from 81.0 to 84.0 metres.

#### 9.5 Winterhill North

The Winterhill North showing (Prospect #4) located approximately 600 m north of Winterhill East consists of magnetite-sphalerite-galena-chalcopyrite mineralization in boulders (Figure 6). Trenching and drilling nearby indicate the presence of a thick calc-silicate (calcareous chemical sediment?) unit containing massive pyrite bands up to 1 m thick as reported from drillhole WHN-86-5 (Graves, 1986b; Simpson, 1990). Sears (1990) reported values of 2.23 and 1.1% Zn from grab samples collected at the prospect. Graves (1986b) also reported that the predominant rock type is basalt and that alteration consisting of epidote and minor chlorite is similar to that in the hanging wall basalts/tuffs above the Winterhill Main Prospect. The Winterhill North appears to be hosted by the Connaigre Bay Group but lying approximately 225 m stratigraphically or most likely structurally above the Winterhill horizon (Sears, 1990).

#### 9.6 Prospect #5

The Prospect #5 showing is located approximately 2 km north of Winterhill East and consists of massive banded pyrite in silicified argillite (Simpson, 1990). Approximately 200 m north of

Prospect No.5, trace Pb-Zn within a limestone unit was reported by Simpson (1990). The best assay reported from this prospect is 0.41% Zn and 0.31% Pb (Sears, 1990). The Prospect #5 showing is located just north of the northern property boundary and is not on the Winterhill Property.

## **10.0 EXPLORATION**

In 2006 and 2007, Paragon completed 7 days of prospecting on the property (Copeland, 2007 and 2009). Prospecting resulted in the collection of 31 rock samples from the Winterhill and Winterhill East Prospects and 25 rock samples from the Olive Cove area (Copeland, 2007 and 2009). A soil sampling program conducted in the Olive Cove area included collection and analysis of 92 B-horizon and humus samples over an area of outcropping base metal mineralization (Copeland, 2009).

During July 2007, Paragon completed a total of 708.5 line km of high resolution helicopter-borne magnetic and electromagnetic surveying (AeroTEM II) over the Winterhill Property in an attempt to locate conductive base-metal massive sulphide mineralization and to outline the geology underlying the claims (Plastow and Garrie, 2007; Sparkes, 2007). The work was carried out by Aeroquest International Ltd. (“Aeroquest”) under contract to Paragon.

### **10.1 Prospecting and Rock Sampling**

#### ***10.1.1 Winterhill Area***

Sampling of outcrop exposures and subcropping float at the Winterhill Prospect (27 samples) returned assays that include 33.6% Zn in one sample; 15.90% Zn, 10.20% Pb and 294.5 g/t Ag in another; and 8.20% Zn, 4.30% Pb and 164.4 g/t Ag in a third sample. Sampling of outcrop exposures at the Winterhill East Prospect (4 samples) returned assays from anomalous base metal bearing sulphides in outcrop up to 4.90% Zn, 4.20% Pb and 184.9 g/t Ag. Sampling was completed to confirm historic grades from work conducted by Noranda. Overall the sampling conducted reproduced results from historic sampling reliably and indicates that the Winterhill Prospect exhibits a metal zoning that, although not yet fully understood, is similar to that of VMS deposits elsewhere. Certain areas of the massive sulphide have more elevated Pb and Ag than others.

Sampling at Winterhill East and the exposure of more base metal rich sulphides with higher grades than previously reported indicates the potential for the Winterhill East prospect to host additional base metal mineralization than currently indicated.

#### ***10.1.2 Olive Cove Area***

Sampling of outcropping highly altered (silica, sericite, pyrite) felsic volcanic rocks with disseminated, stringer and vein sphalerite in the Olive Cove area in 2006 returned assays up to 6.4% Zn with low Pb, Cu and Ag values (Figure 5). Another sample from the same area returned elevated Pb (0.56%) as well as Zn (0.63%). The area of altered and mineralized felsic and mafic volcanics lies off to the east of the Olive Cove occurrences where it outcrops along a steep brook. The mineralized zone has not been previously documented in Newfoundland government databases although there was evidence of previous sampling. Additional prospecting and rock sampling by Paragon in September 2007 in the Olive Cove area resulted in

the discovery of outcropping highly silica, sericite and pyrite altered felsic volcanic rocks to the south of the Olive Cove occurrence. Although these samples do not contain economically significant base or precious metals, the outcrops indicate the presence of a large hydrothermal alteration system with characteristics similar to that at the Olive Cove and Winterhill Prospects and other VMS districts globally (Copeland, 2009). Assay results from prospecting in 2007 returned anomalous levels of base metal sulphides from stringer mineralized and altered felsic volcanic rocks. Assays up to 320 ppm Zn were obtained during prospecting.

On June 29, 2009, the authors, accompanied by Michael Vande Guchte of Paragon examined an outcrop of altered and pyrite-bearing felsic volcanic rocks about 2km southwest of the 2006 sampled area that returned 6.4% Zn (Figure 5 and [Figure 10](#)~~Figure 10~~~~Figure 10~~). Fine grained gabbro or diabase intrudes the felsic volcanic rocks. Abundant angular float of pyrite-bearing felsic volcanic rocks similar to those in outcrop were observed about 40m to the north-northeast. Alteration and sulphide-enrichment are clearly widespread in the area.

Additional prospecting and geological mapping within the Olive Cove area is warranted to further define the setting and distribution of the underlying alteration and mineralization.



Figure 10. Outcrop of pyrite-bearing felsic volcanic rock in the southern portion of the Olive Cove area of interest, photographed by the independent qualified person on June 29, 2009.

### ***10.1.3 Frenchman's Head Prospect***

On December 20<sup>th</sup>, 2006 Paragon personnel visited the Frenchman's Head Prospect. During the visit the location of the occurrence, as well as the locations of historical drill collars and cut grids were verified using a hand-held GPS. Overall the cut grids are in poor shape and not many of the drill collars are discernible. No samples were collected from the prospect during the visit.

## 10.2 Airborne Geophysical Survey

The Winterhill Property was flown by Aeroquest using the AeroTEM II time domain helicopter electromagnetic system in combination with a high-sensitivity caesium vapour magnetometer (Plastow and Garrie, 2007). The survey was flown in two separate blocks based on the local geological trends in each block. The NE Block survey was flown at a line spacing of 75 m and at an orientation of 134° with orthogonal tie lines spaced every 750 m. The SW Block survey was flown at a line spacing of 75 m at an orientation of 0° with orthogonal tie lines spaced every 750 m. Nominal EM bird clearance was 30 m. A total of 708.5 line km of surveying was completed over the aggregate land position with 439.6 and 268.9 line km completed on the SW and NE Survey Blocks, respectively. The report by Plastow and Garrie (2007) covers the survey parameters and provides EM and magnetic maps from the survey.

Results of the aeromagnetic survey show map patterns that are useful for extrapolation of mapped lithological units to areas having overburden cover and, on a more local scale, potentially identifying redox changes from rocks dominated by Fe oxide mineralogy, particularly magnetite, to those where Fe-bearing minerals are predominantly sulphides. Specifically, in the Winterhill area, the magnetic data maps the relatively highly magnetic overlying mafic volcanic rocks as magnetic highs. The thicker felsic volcanic sequences have low magnetic susceptibility and as a general statement the areas of combined magnetic lows (felsic volcanics) and coincident conductors form the most attractive first order geophysical targets in the area.

Results of the EM survey on the NE Survey Block identified one formational conductor, 10 conductors of strike length less than 300 m and one beneath Winter Pond southwest of the Winterhill East Prospect having an estimated strike length of 700 m (cf. maps in Plastow and Garrie, 2007) (Figure 6). Peter Manojlovic of Veliki Exploration Inc. reviewed the EM data and recommended three of the targets identified by the survey as being of high priority (Manojlovic, 2009). Of particular interest is the conductor beneath Winter Pond since the anomaly (albeit of lower conductivity) continues to the northeast through the Winterhill East showing (Figure 6). Manojlovic (2009) notes that, although conductive lake bottom sediments cannot be ruled out as the source of the anomaly, he indicates that a bedrock source is more likely. A bedrock source is supported by work carried out in the area by Noranda in 1991. The anomaly beneath Winter Pond is coincident with a 700 m long EM-37 conductor detected by Noranda during a survey conducted at the time (Perry and Graves, 1991). Drill testing of the eastern extremity of the conductor resulted in the intersection of 9.6 m of semi-massive to massive pyrite hosted within altered felsic volcanic rocks (DDH WH-91-16) (Perry and Graves, 1991) (Figure 6).

Results of the EM survey on the SW Survey Block identified strong conductivity resulting from seawater proximal to the coast. A few short anomalies having strike lengths of 100 m or less were identified, one of which is located about 160 m south of the mineralization in the Olive Cove area sampled by Paragon in 2006 (Figure 5). Elevated conductivity is also indicated in a lake near the southwest boundary of the block. The conductivity mimics the outline of the lake and is likely due to conductive lake sediments.

Anomalous elevated conductivity was not detected in the areas of known mineralization at the Winterhill Prospect or at Frenchman's Head.

### 10.3 Soil Sampling

A total of 92 B-horizon and humus samples were collected in the Olive Cove area in December 2007. Sampling was designed as a follow-up to stringer sulphide mineralized and highly altered (silica, sericite, pyrite) felsic volcanic rocks returning up to 6.4% Zn in the Olive Cove area (Figure 5). The area of altered and mineralized felsic and mafic volcanics outcrops along a steep brook to the north of the highway that crosses the licence and lies off to the east of the Olive Cove occurrences.

Sampling was completed at 25 m intervals on 100 m spaced lines oriented 315 degrees. The sample grid was originally intended to be much larger and designed to be centred over the occurrence and a coincident airborne EM anomaly. The program was not entirely completed due to adverse snow conditions late in the year. However, the sampling that was completed (92 samples) has outlined a multi-line and multi-element (Zn, Cu, Pb, Ag) geochemical anomaly on the flank of the outcropping mineralization and EM anomaly (Figure 5). Analyses up to 1600 ppm Zn, 188 ppm Cu, 149 ppm Pb and 1.3 ppm Ag were obtained from the area. No significant Au in soils was encountered. The anomalous base and precious metal values outline a 900 m long multi-element soil anomaly that trends NE-SW parallel to the mapped contact between Tickle Point Formation felsic volcanic rocks and marine sedimentary rocks of the Connaigre Bay Group (Figure 5).

Follow-up prospecting of the anomalous soil sites as well as expanded soil sampling to the north are currently recommended as outlined below.

### 10.4 Expenditures

From October 2006 to February 2009, a total of \$120,708.90 in eligible exploration expenditures have been spent on the Winterhill Property (Table 3).

**Table 3. Statement of Exploration Expenditures (December 2006 to February 2009).**

<b>Activity</b>	<b>Expenditure</b>
Geology – Salaries	\$17,876.68
Geology - Field Costs	\$10,321.51
Geology – Assays	\$6,242.13
Geology - Helicopter	\$5,069.10
Geophysics - Contractor	\$81,199.48
<b>Total</b>	<b>\$120,708.90</b>

It is the opinion of the Independent Qualified Person that the expenditures as reported are reasonable for the work performed.

### 11.0 DIAMOND DRILLING

Historic diamond drilling on the Winterhill Property has focussed mainly on 3 prospects, the Winterhill, Winterhill East and Frenchman's Head, with only minor reconnaissance drill testing of prospects outside these areas. Outlined below is a summary of historic diamond drilling on the Winterhill Property presented for each of the prospects tested. A summary of a review of

historic diamond drill core by the authors is also presented below. Paragon Minerals has not completed any drilling on the Winterhill Property to date.

### 11.1 Frenchman's Head Area

The Frenchman's Head Prospect was first drill tested in 1964 and 1965 by Pickands Mather who completed nineteen (19) packsack and AXT sized drillholes totalling 4,023.5 feet or 1226.4 m (Pickands Mather, 1965) (Table 4; Figure 5). In 1964, the company completed 9 shallow packsack drillholes (drillholes P-1 to P-9) for a total of 377.5 feet (115.1 m) testing outcropping base metal mineralization in order to acquire preliminary assay and structural data prior to mobilizing a larger drill. In the report by Pickands Mather (1965) drill sections with assay data are presented, however data is only presented for drillholes P-1 to P-6 and although drillholes P-7 to P-9 are referred to as existing no collar data is presented for the drillholes, nor do the collar locations show up on subsequent compilation maps by Noranda and Avalon Mines Ltd. Following encouraging results of the packsack drilling program Pickands Mather mobilized a Boyles Bros. diamond drill and completed 5 AXT sized (3.25 cm diameter) drillholes (A-1 to A-5). The drilling was shut-down on November 12, 1964 for the winter and drilling resumed in May, 1965 when an additional 5 AXT drillholes (A-6 to A-10) were completed.

Drilling targeted outcropping mineralized andesite discovered during previous geological mapping, prospecting and trenching activities. Highlights from the 1964 and 1965 drilling include intersections of 18.6 m grading 2.2% Zn including 2 m grading 7.46% Zn (Table 5).

In 1986, Noranda completed two BQ-sized diamond drillholes totalling 244.2 mm in the Frenchman's Head area (Table 4; Figure 5). Drilling in 1986 by Noranda (DDH FH-86-1) to test a coincident geophysical and geochemical anomaly along strike of the Frenchman's Head Prospect returned an intersection of 8 m grading 2.26% Zn and 1.3 troy ounces/ton Ag; including 2 m grading 6.49% Zn and 1.6 troy ounces/ton Ag (Graves, 1986a). Drillhole FH-86-2 tested a second area, an area of anomalous soil geochemistry northeast of the Frenchman's Head Prospect in the Olive Cove Area. The drillhole intersected a section of sericite and chlorite altered pyritic felsic volcanics that returned elevated Zn (0.4%) over 1 m.

Drillholes into the Frenchman's Head prospect were drilled in five different directions making it difficult to determine the spatial orientation of the mineralized zone. Avalon Mines in 1996 assembled a three-dimensional model of the drilled prospect (Pickett, 1996). Pickett (1996) indicated that the mineralization was outlined over an area 150 m long and 50 m wide oriented about 035 degrees (relative to true north). He interpreted that the mineralization occurs in two or three sub-horizontal zones, all of which are less than 50 m below surface. Higher grade sections (greater than 3% Zn) typically occur in the lower or central zone if more than one zone was intersected, with the higher grade sections also oriented sub-horizontally. The mineralization, including the higher grade mineralization intersected in drillhole P-3, is open to the west. Likewise, the mineralization, including the higher grade mineralization intersected in Noranda drillhole FH-86-01 is open to the east-northeast.

**Table 4. Drill Collar Locations and Orientations, Winterhill and Frenchman's Head Areas.**

Drillhole Number	UTM Easting	UTM Northing	Azimuth	Dip	Length (m)	Core Size	Prospect	Year	Company
A-1	593790	5275136	205	-45	111.9	AXT	Frenchmans Head	1964	Pickands Mather and Company Ltd.
A-2	593781	5275159	245	-45	136.9	AXT	Frenchmans Head	1964	Pickands Mather and Company Ltd.
A-3	593781	5275159	245	-70	66.3	AXT	Frenchmans Head	1964	Pickands Mather and Company Ltd.
A-4	593788	5275220	245	-45	108.8	AXT	Frenchmans Head	1964	Pickands Mather and Company Ltd.
A-5	593803	5275228	245	-70	117.3	AXT	Frenchmans Head	1964	Pickands Mather and Company Ltd.
A-6	594016	5275168	335	-43.5	100.3	AXT	Frenchmans Head	1965	Pickands Mather and Company Ltd.
A-7	594043	5275211	335	-45.5	124.1	AXT	Frenchmans Head	1965	Pickands Mather and Company Ltd.
A-8	593900	5275130	335	-42.5	124.1	AXT	Frenchmans Head	1965	Pickands Mather and Company Ltd.
A-9	593821	5275017	335	-40.5	99.4	AXT	Frenchmans Head	1965	Pickands Mather and Company Ltd.
A-10	593956	5275387	250	-45	122.2	AXT	Frenchmans Head	1965	Pickands Mather and Company Ltd.
P-1	593789	5275091	250	-37	5.2	packsack	Frenchmans Head	1964	Pickands Mather and Company Ltd.
P-2	593783	5275084	235	-50	7.3	packsack	Frenchmans Head	1964	Pickands Mather and Company Ltd.
P-3	593786	5275115	269	-52	24.1	packsack	Frenchmans Head	1964	Pickands Mather and Company Ltd.
P-4	593775	5275104	235	-67	35.1	packsack	Frenchmans Head	1964	Pickands Mather and Company Ltd.
P-5	593756	5275081	137	-63	18.0	packsack	Frenchmans Head	1964	Pickands Mather and Company Ltd.
P-6	593788	5275135	269	-52	12.2	packsack	Frenchmans Head	1964	Pickands Mather and Company Ltd.
P-7	no record of drilling details - reference to hole only					packsack	Frenchmans Head	1964	Pickands Mather and Company Ltd.
P-8	no record of drilling details - reference to hole only					packsack	Frenchmans Head	1964	Pickands Mather and Company Ltd.
P-9	no record of drilling details - reference to hole only					packsack	Frenchmans Head	1964	Pickands Mather and Company Ltd.
FH86-1	593794	5275206	145	-55	143.6	BQ	Frenchmans Head	1986	Noranda
FH86-2	596310	5276358	145	-55	100.6	BQ	Olive Cove	1986	Noranda
WH85-1	603639	5278642	185	-55	247.5	BQ	Winterhill	1985	Noranda
WH85-2	603642	5278642	185	-85	233.8	BQ	Winterhill	1985	Noranda
WH85-3	603747	5278654	185	-55	315.8	BQ	Winterhill	1985	Noranda
WH85-4	603748	5278651	185	-85	347.5	BQ	Winterhill	1985	Noranda
WH90-11	603791	5278825	185	-70	299.9	BQ	Winterhill	1990	Noranda
WH90-12	603476	5278539	145	-55	183.2	BQ	Winterhill	1990	Noranda
WH90-13	603704	5278842	0	-90	338.0	BQ	Winterhill	1990	Noranda
WH90-14	603881	5278831	0	-90	249.9	BQ	Winterhill	1990	Noranda
WH90-15	603817	5278861	0	-90	290.2	BQ	Winterhill	1990	Noranda
WH91-18	603153	5278839	155	-75	190.8	BQ	Winterhill	1991	Noranda

<b>Drillhole Number</b>	<b>UTM Easting</b>	<b>UTM Northing</b>	<b>Azimuth</b>	<b>Dip</b>	<b>Length (m)</b>	<b>Core Size</b>	<b>Prospect</b>	<b>Year</b>	<b>Company</b>
WH90-10	605321	5279749	145	-75	196.4	BQ	Winterhill East	1990	Noranda
WH91-16	604912	5279508	155	-46	270.6	BQ	Winterhill East	1991	Noranda
WH91-17	605297	5279796	0	-90	146.3	BQ	Winterhill East	1991	Noranda
WHE-86-7	605044	5279484	145	-55	87.5	BQ	Winterhill East	1986	Noranda
WHE-86-8	605353	5279694	145	-60	152.4	BQ	Winterhill East	1986	Noranda
WHN-86-5	605081	5280161	155	-55	139.6	BQ	Winterhill North	1986	Noranda
WHN-86-6	604802	5279990	155	-55	75.0	BQ	Winterhill North	1986	Noranda
WHW-86-9	602700	5277755	145	-55	107.6	BQ	Winterhill West	1986	Noranda

Total	5329.2
Total Frenchman's Head^	1356.6
Total Winterhill	2696.6
Total Winterhill East	853.2

## 11.2 Winterhill Area

Four base metal prospects within the Winterhill Area were tested by a total of 18 BQ-sized diamond drillholes (3,872 m) between 1986 and 1991, including 9 drillholes in 1985-86 (Graves, 1986b), 6 drillholes in 1990 (Simpson, 1990) and 3 drillholes in 1991 (Perry and Graves, 1991) (Figure 6).

The drillholes tested the Winterhill, Winterhill East, Winterhill West and Winterhill North Prospects following discovery of the sulphide zones via grid prospecting of combined airborne conductors and geochemical anomalies during 1984 and 1985. The results of the diamond drilling are discussed for each prospect below.

**Table 5. Drilling and Trenching Highlights from the Frenchman's Head and Winterhill Areas.**

Drillhole	From (m)	To (m)	Interval (m)	Assay/Description	Prospect
A-1	30.2	33.6	3.4	3.18% Zn, 0.05% Pb, 0.14% Cu, trace Ag, over 3.4 m in andesite.	Frenchman's Head
A-2	7.2	14.6	7.4	1.93% Zn	Frenchman's Head
	27.7	46.3	18.6	2.02% Zn (includes a 2.0 m section of 7.44% Zn) both sections in andesite.	
A-3	13.7	23.2	9.5	1.26% Zn (includes a 2.8 m section of 2.82% Zn)	Frenchman's Head
	36.0	45.1	9.1	0.80% Zn (includes a 3.5 m section 1.86% Zn) both sections in andesite.	
A-4	20.7	29.3	8.6	1.26% Zn, 0.14% Pb, 0.05% Cu (1.8m of 3.75% Zn within this)	Frenchman's Head
	64.6	66.1	1.5	7.35% Zn, 0.21% Pb, 0.39%	
	78.9	86.0	7.1	1.07% Zn	
A-5				mostly andesite and felsite, no obvious mineralization	Frenchman's Head
A-6	46.7	47.7	1.0	50% Py, mostly andesite, chloritized or silicified	Frenchman's Head
A-7				mainly andesite, silicified, brecciated in places	Frenchman's Head
A-8				andesite, extensive faulting with kaolinization and epidotization	Frenchman's Head
A-9				mainly andesite, silicified, faulting near	Frenchman's Head
A-10	15.2	26.5	11.3	minor Cu, Zn	Frenchman's Head
	29.0	35.4	6.4	minor Cu, Zn mainly andesite	
P-1				andesite containing 1.8 m of 1.74% Zn	Frenchman's Head
P-2				andesite	Frenchman's Head
P-3	8.5	11.0	2.5	6.75% Zn	Frenchman's Head
	16.5	23.8	7.3	4.43% Zn (includes 2.6 m of 8.47% Zn); mainly andesite	Frenchman's Head
P-4	14.3	22.7	8.4	0.36% Zn	Frenchman's Head

Drillhole	From (m)	To (m)	Interval (m)	Assay/Description	Prospect
	22.7	26.2	3.5	3.78% Zn. Mainly andesite.	Frenchman's Head
P-5	14.3	15.8	1.5	0.02% Cu, 0.05% Pb, 0.28% Zn, 56.6 g/t Ag, 0.31 g/t Au. Mainly andesite.	Frenchman's Head
P-6				mainly andesite	Frenchman's Head
FH86-1					Frenchman's Head
FH86-2					Olive Cove
Trench 4			6	3.0% Zn, 1.74% Pb, 125 ppb Au	Winterhill
Trench 6			4	11.07% Zn, 1.61% Cu	Winterhill
Trench 1			2	6.85% Zn, 1.34% Pb	Winterhill
Trench 13			4	6.67% Zn, 3.74% Pb, 140 ppb Au	Winterhill
WH-85-1	104	107	3	1.25% Zn, 0.2% Pb	Winterhill
WH-85-2	176.5	177.5	1	8.86% Zn	Winterhill
WH-85-3	131	132	1	2.77% Zn, 0.31% Pb	Winterhill
	145	147	2	2.5% Zn	
	149	151	2	2.72% Zn	
	199.5	205.5	6	1.41% Cu	
WH-85-4	165.5	168.5	3	1.94% Zn	Winterhill
	173	175	2	3.05% Zn	
WH-90-11	135.5	146.5	11	6.17% Zn (incl.)	Winterhill
	139.5	143.5	4	10.1% Zn	
WH-90-14	111.1	112.4	1.3	1.81% Zn	Winterhill
WH-90-15	231.4	232.5	1.1	1.45% Cu	Winterhill
WH-90-10	111.5	113.5	2	1.94% Zn	Winterhill East

### 11.2.1 Winterhill Prospect

The Winterhill Prospect has been tested by 10 diamond drillholes (WH-85-1 to 4, WH-90-11 to 15 and WH-91-18) totalling 2696.6 m (Table 4; Figure 6). Drillholes WH-85-1 to 4, WH-90-11, 13, 14 and 15 tested the Winterhill Prospect to 425 m down-dip of outcropping base metal massive sulphides over a strike length of 225 m. The drillholes are broadly spaced, typically 100 to 200 m. The main mineralized zone, which is exposed for 120 m on surface, is approximately 5 to 15 m thick (Simpson, 1990). Simpson (1990) also reported that the mineralized calc-silicate unit is locally up to 30 m thick.

Drilling at the Winterhill Prospect has outlined an upper 3 to 7 m thick Zn-Pb rich zone stratigraphically and structurally underlain by a <10 m thick, pyritic Cu-rich zone (Simpson, 1990; Sears and Wilton, 1996). Highlight assays from the drilling include results from WH-90-

11 where 6.17% Zn over 11.0 m including 10.1 % Zn over 4 m were reported (Simpson, 1990) (Figure 7). The best intersection of the footwall Cu-rich zone is 1.41% Cu over 6 m from drillhole WH-85-3 (Graves, 1986b). Numerous mafic and felsic dykes (sills) intrude the mineralized horizon. Figure 7 shows a cross-section through the prospect. Drilling results are summarized in Table 5.

Drillhole WH-90-12 tested a VLF anomaly and the projected trace of the Winterhill Prospect beneath South Twin Pond. The drillhole did not intersect the distinctive calc-silicate unit at the contact between mafic and felsic volcanics as observed at Winterhill. A bedded pyritic unit from 85.7 to 95.4 m was intersected that contains 10-20% pyrite overall, locally reaching concentrations of 30-40%. No significant assays are reported from the drillhole and the source of the VLF anomaly remains unexplained.

Drillhole WH-91-18 tested a weak airborne conductor that coincides with outcropping semi-massive pyrite hosted within felsic volcanic rocks on the north side of North Twin Pond. A calc-silicate horizon was intersected from 80.7 to 83.7 m but was not associated with significant sulphide mineralization. The calc-silicate horizon is interpreted to represent the western continuation of the Winterhill horizon (Perry and Graves, 1991).

### ***11.2.2 Winterhill East Prospect***

The Winterhill East Prospect has been tested with 5 drillholes (WHE-86-7 and 8, WH-90-10 and 91-16 and 17) totalling 853.2 m (Table 4; Figure 6). Mineralization at Winterhill East consists of semi-massive to disseminated pyrite-sphalerite-galena-chalcopyrite hosted by calc-silicate rock (Sears and Wilton, 1996; Simpson, 1990; Graves, 1986b). Thin, massive and banded pyrite hosted by banded argillite (calcareous calc-silicate?) occurs for an additional 1 km along strike to the northeast (Simpson, 1990; Graves, 1985b). Drillhole WHE-86-7 was an initial test of outcropping and trenched base metal sulphide mineralization at Winterhill East and drillhole WHE-86-8 tested the equivalent felsic volcanic stratigraphy and calc-silicate horizon 350 m along strike to the northeast.

Drillhole WHE-86-8 intersected massive bedded pyrite from 98.1 to 107.9 m hosted within calc-silicate and felsic volcanic rocks underlying a section of mafic tuff and mafic volcanoclastic sediments. The stratigraphic transition, rock types and nature of the mineralization are similar to that described at the Winterhill Prospect. Sampling of the massive sulphide section in drillhole WHE-86-8 returned elevated Pb (up to 278 ppm), Zn (up to 305 ppm) and Ag (up to 5.5 oz/ton) values, but no values of immediate economic significance. A follow-up drillhole, WH-90-10, drilled 89 m down-dip and to the north of drillhole 8 in 1990 intersected several 2-3 m wide zones of semi-massive to massive sulphide associated with intervals of volcanic sediment and calc-silicate from 97.2 to 113.5 m. The sulphide-rich zones typically contain 50% pyrite accompanied by lesser (5-10%) sphalerite at the same stratigraphic transition as observed in drillhole WHE-86-8. Assays for drillhole WH-90-10 include 1.95% Zn over 2 m (Graves, 1986b; Simpson, 1990) (Table 5). Additional drilling in 1991 in drillhole WH-91-17 failed to intersect significant mineralization further down dip, however, the calc-silicate horizon with a 20 cm band of massive pyrite was encountered in WH-91-17 (Perry and Graves, 1991). The drillhole ended in granite at a depth of 146.3 m and it is possible that the drillhole encountered

the granite before reaching the down-dip projection of the sulphide zone.

Drillhole WH-91-16 tested a part of a 700 m long EM-37 conductor 100 m west of drillhole 7 under Winter Pond. Drillhole WH-91-16 was successful in intersecting 9.6 m of semi-massive to massive pyrite hosted within calc-silicate altered felsic volcanic rocks from 145.9 to 155.5 m (Perry and Graves, 1991). Two samples were collected from the sulphide zone. The samples returned trace levels of Zn (up 0.04%), Cu (up to 0.04%) and Ag (up to 2.74 g/t). Strongly chlorite altered felsic fragmental rocks are described in the footwall of the sulphide zone. The presence of the sulphide mineralization explained the EM-37 response and as is presented below forms a compelling argument for the 700 m long conductor to represent sulphide mineralization underlying Winter Pond.

On June 29, 2009, the authors, accompanied by Michael Vande Guchte of Paragon, located the collars of drill holes WHE-86-08, WH-90-10 and WH-91-17 while on a site visit to the Winter Hill East Prospect area. The UTM coordinates of the collars were recorded by the independent qualified person using a handheld GPS (Garmin GPSmap 60) (Table 6). Drill core was noted in the immediate vicinity of WH-91-17, presumably from the drill hole (Figure 11). The core boxes are badly weathered and notation on the boxes is now indecipherable, however the core is somewhat intact and was examined briefly while there (Figure 11 and [Figure 12](#)~~Figure 12~~[Figure 12](#)).



Figure 11. Drill core stored near collar location of WH-91-17, note that the collar location is marked by the vertical piece of drill rod in the background; photographed by the independent qualified person on June 29, 2009.

**Table 6. Winterhill East Drill Holes WH-86-08, WH-90-10 and WH-91-17 locations and comments**

Name	Zone	NAD83 East	NAD83 North	Alt (m)	NAD 27East	NAD 27North
DDH WHE-86-08	21	605,377	5,279,920	302	605,317	5,279,703
DDH WH-90-10	21	605,353	5,279,965	302	605,293	5,279,749
DDH WH-91-17	21	605,336	5,280,014	301	605,276	5,279,797

Name	Description
DDH WHE-86-08	About 380m NE of Winter Hill East Showing
DDH WH-90-10	About 50m NW of WHE-86-08
DDH WH-91-17	About 50m NW of WH-90-10. Drill core is stored nearby. An estimated 10m section of the core is rusty, spherulitic felsic rock occurs in the rusty section and a 20 cm massive pyrite section is present.



Figure 12. Drill core stored near the collar location of WH-91-17, photographed by the independent qualified person on June 29, 2009.

An estimated 10m section of the core is rusty, spherulitic felsic rock occurs in the rusty section and a 20 cm massive pyrite section is present ([Figure 12](#)~~Figure 12~~~~Figure 12~~ and [Figure 13](#)~~Figure 13~~~~Figure 13~~).



Figure 13. Massive sulphide and spherulitic felsic rock in drill core stored near WH-91-17; photographed by the independent qualified person on June 29, 2009.

While traversing across the prominent hill to the east of the Winterhill East Prospect, the authors noted the presence of drill core near the location of WH-91-16 about 200m to the southwest.

It is felt that the combined results from and the presence of the EM-37 and airborne conductors under Winter Pond form a priority target for future exploration. Overall 450 m of sulphide mineralized stratigraphy, similar to that at Winterhill is recognized at Winterhill East. The section has only been tested by a few widely spaced drillholes and to date thick accumulations of sulphide mineralization have been noted at the contact zone between felsic and mafic volcanic rocks. More intense chlorite alteration in the footwall felsic rocks in WH-91-16 relative to drillholes further east may provide an alteration vector toward the west leading to rocks that have interacted with higher temperature hydrothermal fluids in the primary VMS environment.

### ***11.2.3 Winterhill West Prospect***

The Winterhill West Prospect has been tested with 1 drillhole (WHW-86-9) totalling 107.6 m (Table 4; Figure 6). The Winterhill West Prospect hosts mineralization consisting of heavily disseminated to massive pyrite within silicified argillite, which extends along strike for an additional 1 km to the southwest (Graves, 1985b; Simpson, 1990) (Figure 6). A massive sulphide boulder assayed 4% Cu in the vicinity of the showing. Drilling of the prospect intersected 2 narrow zones of massive pyrite from 18.6 to 19.1 m and 20.6 to 20.9 m hosted within mafic volcanic breccias. Assays of the second massive pyrite section returned elevated Cu (0.33%) and Ag (4.3 ounces/t) from 20.1 to 20.5 m. Further down the drillhole a section of laminated pyrite and silicified rhyolite (described as chert) was encountered from 76.6 to 91.6 m. The interval contains several 1 m or less wide zones of bedded and laminated pyrite throughout (Graves, 1986b). Assays from the zone returned elevated Zn and Ag including an interval assaying 0.33% Zn and 0.73 ounces/t Ag over 3 m from 81.0 to 84.0 m.

The Winterhill West Prospect represents a relatively untested exploration target that has displayed early stage success in that drilling has identified a sulphide mineralized horizon elevated in base and precious metals occurring at the transitional contact between felsic and mafic rocks.

### ***11.2.4 Winterhill North Prospect***

The Winterhill North Prospect has been tested by two broadly spaced (325 m) drillholes (WHN-86-5 and 6) totalling 214.6 m (Table 4; Figure 6). The drillholes tested an area where magnetite-sphalerite-galena-chalcopyrite mineralization occurs in boulders and where trenching has exposed calc-silicate and argillite. A thick calc-silicate unit from 80.5 to 120.5 m hosted within mafic volcanic breccias (111.6 to 119.0 m) and containing massive pyrite beds up to 1 m thick (from 119.5 to 120.5 m) was intersected by drillhole WH-86-5 (Graves, 1986b; Simpson, 1990). Although no convincing felsic volcanic rocks are logged, sections of “felsites” described as being brecciated, banded and with “inclusions” of volcanic sediments are reminiscent of felsic volcanic stratigraphy elsewhere on the property. No significant mineralized zones were encountered in drillhole 6.

## **11.3 Drill Core Review - Winterhill Prospect – drillholes WH-85-01 to 04**

Summarized below are observations pertaining to the geology and mineralization at the Winterhill Prospect as noted by the authors during an examination of Noranda drillholes WH-85-01 to 04 stored at the core storage library in St. John’s.

The felsic units underlying the mineralization in the drillholes examined are typically light grey and include flow banded rhyolite, massive or locally spherulitic rhyolite and felsic fragmental rocks including lapilli tuff and agglomerate (Figure 14 and Figure 15). Locally the units contain abundant disseminated pyrite well below the main mineralized sections. A number of very dark green, fine grained typically magnetic massive mafic dykes intrude the units.

The mineralized intervals noted in the drillholes examined mark a transition from felsic to mafic-dominated volcanism as evidenced by the change from felsic volcanic units below the

mineralized intervals to massive basalt and mafic ash to lapilli tuff units that are prevalent above the mineralization (Figure 16). The basaltic units are typically massive and magnetic, in places feldspar phyrlic and locally variolitic (Figure 17). Epidote veining is widespread. No pillowed flows were noted and some of the thicker massive mafic units may be sills.

Several felsic units intersected by drilling over one to five m widths are interlayered with or intrude the mafic units in the hangingwall to the mineralization. Some of the felsic rocks are grey quartz and feldspar phyrlic while others are non-porphyrific and marked by pink to orange alteration adjacent to fractures (Figure 18 and Figure 19). Several of the units display layering (Figure 20). The felsic units have previously been interpreted as dykes but contact relationships, particularly the general lack of chilled margins, suggest that some of the units may be thin felsic flows.

The predominant host to mineralization at Winterhill, described by previous workers as the “calc-silicate horizon”, is characterized by well developed but in many sections brecciated compositional layering consisting of very dark grey discontinuous layers alternating with very light grey to white material (Figure 21 and Figure 22). In places textures suggest the light material is the matrix to brecciated fragments of dark grey material (Figure 21). The unit is vuggy in places, particularly in the light grey to white portions of the rock. The mineralogy of the “calc-silicate horizon” is not readily apparent macroscopically but it is likely that graphite and chlorite are components of the dark material. Typical green varieties of the calc-silicate minerals were noted only very locally suggesting that any calc-silicate minerals present are light or very dark coloured varieties. Mineralization typically occurs as layers, knots and disseminations of medium reddish brown sphalerite accompanied by lesser galena, pyrite, and pyrrhotite and in several sections magnetite (Figure 23). There is evidence in places of a redox shift from a more oxidizing to more reducing hydrothermal environment down section as evidenced by a decrease in magnetite and concomitant increase in Fe sulphides from rocks in the hangingwall downward through the calc-silicate horizon.

Thin (about 30 cm thick) pyrite- and locally sphalerite-bearing argillaceous units occur within mafic units up to tens of metres above to locally proximal to the calc-silicate mineralized sections (Figure 24 and Figure 25). Disseminated pyrite up to 3% also occurs in the mafic units in some sections.



Figure 14. Spherulitic rhyolite in footwall.



Figure 15. Felsic lapilli tuff and agglomerate in footwall.



Figure 16. Mafic lapilli tuff in hangingwall.



Figure 17. Variolitic basalt in hangingwall.



Figure 18. Feldspar- and quartz-phyric felsic dyke? in hangingwall.



Figure 19. Non porphyritic felsic dyke? in hangingwall; note pink/orange alteration adjacent to fractures.



Figure 20. Layering in felsic dyke?



Figure 21. Calc-silicate horizon, note compositional layering and brecciation.



Figure 22. Calc-silicate horizon.



Figure 23. Layered sphalerite mineralization.



Figure 24. Layered pyrite-bearing siltstone/argillite.



Figure 25. Layered pyrite-bearing tuff?

In places, pyrite and very locally chalcopyrite occur as stringers in the footwall felsic units underlying the calc-silicate mineralized sections (Figure 26). Fragmental felsic rocks footwall to

the mineralization as intersected near the bottom of WH-85-04 contain abundant (estimated 5-10%) disseminated pyrite; trace arsenopyrite was noted at one location.

With the exception of a kaolinite-rich zone developed at the lower contact of a calc-silicate unit and underlying felsic dyke in WH-85-03, no strong evidence of faulting was noted in the core. The general lack of evidence for faulting and the absence of evidence for an unconformity (e.g. no basal conglomerate) suggest that the change from predominantly felsic rocks below the mineralization to a mafic dominated sequence above represents a transitional, conformable contact.



Figure 26. Stringer pyrite in footwall brecciated rhyolite.

## 12.0 SAMPLING METHOD AND APPROACH

### 12.1 Rock and Soil Sample Collection

Rock samples collected by Paragon during their 2006-2007 exploration programs were typically in the range 0.3 to 1 kg in size. Samples were placed in clear plastic bags together with a waterproof paper ticket depicting a unique sample number. Each bag was tied with vinyl flagging tape and labelled with permanent marker.

Soil samples were collected in the field utilizing a standard Dutch auger. The samples, which typically weighed about 0.2 kg, were placed in kraft paper bags together with a waterproof paper ticket depicting a unique sample number and marked with a permanent marker.

## **12.2 Drill Core Sampling for Check Analysis**

As per standard industry practice, Noranda preserved one half of the core they split and submitted for analysis. Core preserved by Noranda over the intervals chosen for check analysis was sawn in half at the core storage facility. One half of the sawn sample, representing one quarter of the original core, was placed in plastic bags and sealed. The remainder was placed back into the core box for future reference.

## **13.0 SAMPLE PREPARATION, ANALYSES AND SECURITY**

Both the rock and soil samples collected during the 2006 and 2007 exploration programs were stored under the supervision of the sample's collector (Paragon prospector or geologist) and shipped to Eastern Analytical Ltd. ("Eastern"), Springdale, Newfoundland and Labrador for preparation.

The independent qualified person kept in his possession the rock and core samples collected in 2009 for check analysis until they were transported to Eastern Analytical Labs, Springdale, NL for analysis.

### **13.1 Rock and Core Sample Preparation - Eastern Analytical Ltd.**

Rock and core sample preparation at Eastern Analytical Ltd. ("Eastern") is carried out according to the following specifications. The samples are dried, crushed in two stages to approximately - 10 mesh, split using a rifle splitter to approximately 300 grams and then ring milled such that 98% of the material is less than 150 mesh. Ring mills are quartz cleaned between samples. Sample rejects are retained at Eastern for possible future reference.

### **13.2 Soil Sample Preparation - Eastern Analytical Ltd.**

Soil sample preparation at Eastern is carried out according to the following specifications. The samples are dried at 90°F (32.2°C). They are then pounded with a rubber mallet in the soil bag. Then the soil is screened through an 80 mesh screen. The -80 fraction is rolled and kept as the sample. The +80 mesh fraction is discarded.

## **13.3 Analytical Methods Used**

### ***13.3.1 Rock and Core Samples***

Rock samples collected during the 2006 and 2007 exploration program were assayed at Eastern for Au by fire assay. Some of the 2006 rock samples were analyzed at Eastern utilizing their 30-element ICP (inductively coupled plasma) method, the 2007 rock samples were analyzed at Eastern for Cu, Pb, Zn and Ag by AAS (atomic absorption spectrometry). Over limits for Cu, Pb, Zn and Ag were assayed by AAS.

Core samples collected by the authors during 2009 for check analysis were analyzed at Eastern for Au by fire assay and for 30 additional elements utilizing their ICP-30 method. Over limits for Cu, Pb, Zn and Ag were assayed by AAS.

Pulps from the 2006 and 2007 rock samples prepared at Eastern were shipped to ALS Chemex in Vancouver for further analysis. At ALS Chemex, the samples were analysed for 33 elements by ICP-AES (Inductively Coupled Plasma Atomic Emission Spectroscopy) following a four acid digestion. Overlimits for Cu, Pb, Zn and Ag were analysed by AAS following a four acid digestion. Barium was analysed by fusion XRF.

### ***13.3.2 Soil Samples***

Soil samples collected during the 2007 exploration program were assayed at Eastern for Au by fire assay and for Cu, Pb, Zn and Ag by AAS.

Pulps from the 2007 soil samples prepared at Eastern were shipped to ALS Chemex in Vancouver for further analysis. At ALS Chemex, the samples were analysed for 33 elements by ICP-AES (Inductively Coupled Plasma Atomic Emission Spectroscopy) following a four acid digestion.

## **13.4 Assay and Analytical Procedures - Eastern Analytical Ltd.**

### ***13.4.1 Fire Assay***

A 30 g sample is weighed into an earthen crucible and mixed with PbO fluxes. Silver nitrate is then added and the sample is fused in a fire assay oven to obtain a liquid which is poured into a mold and let cool. The lead button is then separated from the slag and cupelled in a fire assay oven. The resulting silver bead also contains any gold that may be present.

The silver is removed with 1 ml nitric acid and then 3 ml hydrochloric acid is added to bring the Ag and Au into solution. After cooling, deionized water is added to bring the sample up to a desired volume. The sample is then analyzed by the Atomic Absorption method.

### ***13.4.2 Geochemical Analysis by Atomic Absorption Spectrometry (AAS)***

A 0.500g sample of the pulp is digested in a test tube with 2ml of nitric acid and 1ml of hydrochloric acid for 1 hour. The sample is then diluted to 10ml with deionized water following which it is analyzed on the AAS.

### ***13.4.3 Assay for Cu, Pb and Zn by Atomic Absorption Spectrometry (AAS)***

A 0.200g sample of the pulp is digested in a beaker with 10ml of nitric acid and 5ml of hydrochloric acid for 45 minutes. The sample is then transferred to a 100ml volumetric flask following which it is analyzed on the AAS. Eastern states that the lower detection limit for this method is 0.01% and there is no upper detection limit.

### ***13.4.4 Assay for Ag by Atomic Absorption Spectrometry (AAS)***

A 1000 mg sample of the pulp is digested in a 500ml beaker with 10ml of hydrochloric acid and 10ml of nitric acid with the cover left on for 1 hour. The cover is removed and the sample

allowed to evaporate to a moist paste. Following this, 25ml of hydrochloric acid and 25ml of de-ionized water are added and the resulting mixture is heated gently and swirled to dissolve solids. The sample is cooled and transferred to a 100ml volumetric flask following which it is analyzed on the AAS. Eastern states that the lower detection limit for this method is 0.01 oz/ton and there is no upper detection limit.

### ***13.4.5 Analytical Methodology and Reporting***

Samples are analyzed one at a time by AAS (in batches of 24) with a value obtained by taking the average of three readings per sample. The AAS unit is checked with a calibration solution after every 12 samples. Sample results are recorded manually and transferred to the manual data entry person where assay data is remerged with RMX sample number and tabulated into reports for certificates. Reports and standards are checked by the Chief Assayer before the certificates are released to the client.

## **13.5 Analytical Procedures – ALS Chemex**

### ***13.5.1 Geochemical Procedure – ME-ICP61 - Trace Level Methods Using Conventional ICP-AES Analysis***

A prepared sample (0.250 gram) is digested with perchloric, nitric, and hydrofluoric acids to near dryness. The sample is then further digested in a small amount of hydrochloric acid. The solution is made up to a final volume of 12.5 ml with 11% hydrochloric acid, homogenized, and analyzed by inductively coupled plasma-atomic emission spectrometry. Results are corrected for spectral inter-element interferences.

Element	Symbol	Lower Reporting Limit	Upper Reporting Limit	Units
Silver	Ag	0.5	100	ppm
Aluminum	Al	0.01	25	%
Arsenic	As	5	10,000	ppm
Barium	Ba	10	10,000	ppm
Beryllium	Be	0.5	1000	ppm
Bismuth	Bi	2	10,000	ppm
Calcium	Ca	0.01	25	%
Cadmium	Cd	0.5	500	ppm
Cobalt	Co	1	10,000	ppm
Chromium	Cr	1	10,000	ppm
Copper	Cu	1	10,000	ppm
Iron	Fe	0.01	25	%
Potassium	K	0.01	10	%
Magnesium	Mg	0.01	15	%
Manganese	Mn	5	10,000	ppm
Molybdenum	Mo	1	10,000	ppm
Sodium	Na	0.01	10	%
Nickel	Ni	1	10,000	ppm
Phosphorus	P	10	10,000	ppm
Lead	Pb	2	10,000	ppm

Sulphur	S	0.01	10	%
Antimony	Sb	5	10,000	ppm
Strontium	Sr	1	10,000	ppm
Titanium	Ti	0.01	10	%
Vanadium	V	1	10,000	ppm
Tungsten	W	10	10,000	ppm
Zinc	Zn	2	10,000	ppm

## 14.0 DATA VERIFICATION

On May 20-21, 2009, the authors examined four Noranda drillholes (WH-85-01 to 04) from the Winterhill prospect in order to verify lithology and mineralization as described by Noranda geologists in drill logs and reports. Eight drill core intervals previously sampled and assayed by Noranda were quarter split for check analysis.

On June 29, 2009, the authors, accompanied by Michael Vande Guchte of Paragon, made a site visit to two of the areas recommended for further work on the property. An outcrop of altered and pyrite-bearing felsic volcanic rocks was examined in the Olive Cove Area and the Winter Hill East Prospect area was visited.

At Winter Hill East, the independent qualified person confirmed the presence of semi-massive to massive sulphides including pyrite and lesser sphalerite. The sulphides based on outcrop exposure at the showing are estimated to have a minimum thickness of 1.5m. A foliation noted that possibly indicates the spatial orientation of the massive sulphides dips gently to the north (270°/20°N). The strike and dip of the foliation is consistent with that of units in the area as recorded historically and observed by the authors during the field visit. Portions of the semi-massive to massive sulphides, which consist mainly of pyrite, contain an estimated 10% or more sphalerite, typically accompanied by calc-silicate minerals. Two sphalerite-bearing samples were collected for analysis from the showing.

During the site visit to Winter Hill East, the collar locations for WHE-86-08, WH-90-10 and WH-91-17 were located. The UTM coordinates of the collars were recorded by the independent qualified person using a handheld GPS (Garmin GPSmap 60). Drill core was noted in the immediate vicinity of WH-91-17, presumably from the drill hole. The core boxes are badly weathered and notation on the boxes is now indecipherable, however the core is somewhat intact and was examined briefly while there. An estimated 10m section of the core is rusty, spherulitic felsic rock occurs in the rusty section and a 20 cm massive pyrite section is present.

### 14.1 Paragon Exploration Programs

The independent qualified person has found no reason to question the validity of the work conducted by Rubicon, Paragon, nor the contractors and consultants that conducted work on their behalf and believes that the work was done in a professional manner and met or exceeded generally accepted industry standards.

Aeroquest International Ltd. who carried out the airborne electromagnetic and magnetic survey is a well established geophysical company with extensive industry experience. Experienced geophysicists performed quality checks and interpretation of all geophysical data, most of whom are registered with Canadian Professional Associations. The airborne geophysical survey data was monitored by Mr. Bob Lo, P. Eng. a consulting geophysicist from Toronto, Ontario.

Sample preparation and assaying were carried out by reputable analytical labs using standard industry practice to avoid contamination between samples and using internal duplicates and standards for quality assurance and quality control.

## 14.2 Other Operators

Drill core from Noranda drillholes WH-85-01 through WH-85-04 is stored at the Government of Newfoundland and Labrador core storage facility in St. John's. On May 20<sup>th</sup> and 21<sup>st</sup> 2009 the authors examined the four drillholes in order to verify lithology and mineralization styles as described by Noranda geologists in their drill logs and reports. In addition, eight drill core intervals previously sampled and assayed by Noranda were quarter split for check analysis. Sample intervals for re-analysis were chosen to check accuracy for a range of Zn grades as well as to check the grade of a Cu-enriched section.

As per standard industry practice, Noranda preserved one half of the core they split and submitted for analysis. Core preserved by Noranda over the intervals chosen for check analysis was sawn in half at the core storage facility. One half of the sawn sample, representing one quarter of the original core, was placed in a plastic bag and sealed. The remainder was placed back into the core box for future reference. The independent qualified person kept the core samples in his possession until transported to Eastern Analytical Labs, Springdale, Newfoundland and Labrador for analysis. Descriptions of the samples as well as the original and duplicate results are presented in Table 7.

It is the opinion of the independent qualified person that, for the most part, the drill logs accurately describe the rock types and styles of mineralization. Further discussions of the authors' observations are presented in Section 8.0 and 11.0.

During sampling of drillhole WH-85-02, a 10-foot (3.28 m) blocking error was noted at 227 ft. (69.19 m). The footage marker at that interval was recorded as 237 ft. (72.24 m). Each of the footage markers below that depth indicated a depth 10 ft (3.28 m) greater than actual. However, although the intervals recorded on footage markers are incorrect, the sampling intervals as recorded by tags inserted in the drill core boxes by Noranda are correct.

### 14.2.1 Paired Data Analysis of Core Duplicate Analyses

Core duplicates are considered as paired data, which may be analyzed using different statistical methods. One way to test the relationship between paired data is to consider their MPRD (Mean Paired Relative Difference) which is equal to:

A1: Assay1

A2: Assay2

$$\text{MPRD}\% = (A1 - A2) / \text{Mean}(A1, A2) * 100$$

An MPRD value between 0 and 25 percent is considered an acceptable result for paired data. Another way to evaluate the relationship between paired data is to calculate the Pearson Correlation coefficient. The Pearson Correlation Coefficient reflects a linear relationship between two data sets and is recorded as values from -1.0 to 1.0. Where -1.0 is a perfect negative (inverse) correlation, 0.0 is no correlation, and 1.0 is a perfect positive correlation.

As shown in Table 8 and Figures 27 to 31 there is general agreement between Zn, Cu, Pb and Ag results reported by Noranda and the results obtained from re-analysis of the core. Paired data analysis statistics for the original and re-analyzed samples are presented in Table 9. Mean paired relative differences (MPRD) for the Zn analyses show that three of the seven paired analyses, including high grade sample 3063 (>8% Zn) differ by less than 25%, considered to be acceptable. Re-analysis of two of the mid grade samples (2.7 to 2.9%) returned significantly higher Zn grade (0.83 and 1.54% higher) while one was about 2% lower resulting in relative differences greater than 25%. Relative differences for the Cu analyses above 0.11% are acceptable in that they are less than 25%. Relative differences for two of the Pb analyses above 0.2% are less than 25% but the higher grade sample (1.12% Pb) reanalyzed about 0.35% less Pb for a relative difference of -37%. Re-analysed samples containing less than 0.2% Pb returned lower grades than the originals. Re-analyzed samples for Ag above 0.09% returned grades less than the Noranda analyses but differed by less than 25% while those at or below 0.09% typically returned values less than the original Noranda analyses having relative differences of -27% to -67%.

Differences between the analyses for the original and re-analyzed samples can be partially explained by the 50% less sample size between the re-analysed quarter split and the original half split. The limited number of core samples re-analyzed (eight samples) and normal local inhomogeneities in the distribution of mineralization will have also contributed to the differences cited.

**Table 7. Sample descriptions and original analytical results of Winter Hill Prospect core re-sampled.**

Hole_ID	Noranda Sample #	From_m	To_m	Interval m	Paragon Sample#	Noranda Zn (%)	Noranda Cu (%)	Noranda Pb (%)	Noranda Ag. (oz./ton)	Description
WH-85-1	16825	177.00	178.00	1.00	3060	4.60	0.05	1.12	0.09	estimated 5% sphalerite stringers in granular chlorite plus sericite matrix, very fine grained massive sericitized felsic rock also present, minor calcite, mostly non-magnetic, abundant tiny white/grey grains of unknown mineral also present
WH-85-2	16196	114.50	115.50	1.00	3061	0.85		0.01	0.04	light grey fine grained altered rock, local knots of sphalerite and magnetite, minor pyrite and pyrrhotite
WH-85-2	16180	119.50	120.50	1.00	3062	0.78	0.02	0.25	0.15	about 50% of sample composed of fine grained magnetic very dark grey mafic dyke; remainder is light greyish rock containing layered and disseminated sphalerite, minor galena, pyrite and pyrrhotite
WH-85-2	14100	176.50	177.50	1.00	3063	8.86	0.08	0.04	0.05	estimated 10% of sample comprises stringer sphalerite and pyrite in strongly chloritic matrix; remainder consists of grey altered rock containing a few white feldspar and quartz phenocrysts, locally abundant buff, possible Fe-carbonate or dolomite, minor very dark grey, very fine grained magnetic mafic dyke also present in sample
WH-85-2	14084	193.50	194.50	1.00	3064	3.85	0.03	0.15		most of sample consists of pale grey, sericitized felsic rock, estimated 10% of sample is composed of layered sphalerite, pyrite, minor galena and chalcopyrite
WH-85-3	16150	131.00	132.00	1.00	3057	2.77		0.31	0.09	Dark grey fine grained granular rock estimated to contain 5% sphalerite, lesser pyrite, locally magnetic, some sections chloritic, calc-silicate m
WH-85-3	16849	203.50	204.50	1.00	3058		<b>2.52</b>		0.26	Brecciated felsic lapilli tuff containing estimated 10% pyrite stringers, lesser chalcopyrite and minor bornite?, non-magnetic
WH-85-3	16156	249.00	249.60	0.60	3059	2.96	0.33		0.07	estimated 10% pyrite and pyrrhotite plus lesser sphalerite as stringers and knots in strongly chloritic or locally grey more silicious matrix, locally magnetic
<b>Total</b>				<b>7.60</b>						



Table 9. Mean Paired statistics for analyses of core from the Winter Hill Prospect, NTS 1M/12.

MPRD (Mean Paired Relative Difference)									
A1 - Paragon re-analysis					A2 - Original Noranda analysis				
MPRD = (A1-A2)/Mean (A1,A2)*100									
			Pearson					Pearson	
Paragon	Noranda	Paragon		Correlation	Paragon	Noranda	Paragon		Correlation
Sample#	Zn (%)	Zn (%)	MPRD%	Coefficient	Sample#	Cu (%)	Cu (%)	MPRD%	Coefficient
3063	8.86	8.00	-10	0.906	3058	2.52	1.97	-24	0.997
3064	3.85	3.80	-1		3059	0.33	0.40	20	
3059	2.96	4.50	41		3063	0.08	0.11	29	
3060	4.60	2.51	-59		3060	0.05	0.03	-36	
3057	2.77	3.60	26		3064	0.03	0.03	1	
3062	0.78	0.71	-9		3062	0.02	0.03	27	
3061	0.85	0.51	-50						
			Pearson					Pearson	
Paragon	Noranda	Paragon		Correlation	Paragon	Noranda	Paragon		Correlation
Sample#	Pb (%)	Pb (%)	MPRD%	Coefficient	Sample#	Ag (oz./ton)	Ag (oz./ton)	MPRD%	Coefficient
3060	1.12	0.77	-37	0.968	3058	0.26	0.20	-25	0.976
3057	0.31	0.37	18		3062	0.15	0.14	-9	
3062	0.25	0.26	4		3057	0.09	0.08	-6	
3064	0.15	0.06	-80		3060	0.09	0.05	-53	
3063	0.04	0.02	-58		3059	0.07	0.04	-67	
3061	0.01	0.00	-76		3063	0.05	0.04	-27	
					3061	0.04	0.02	-53	

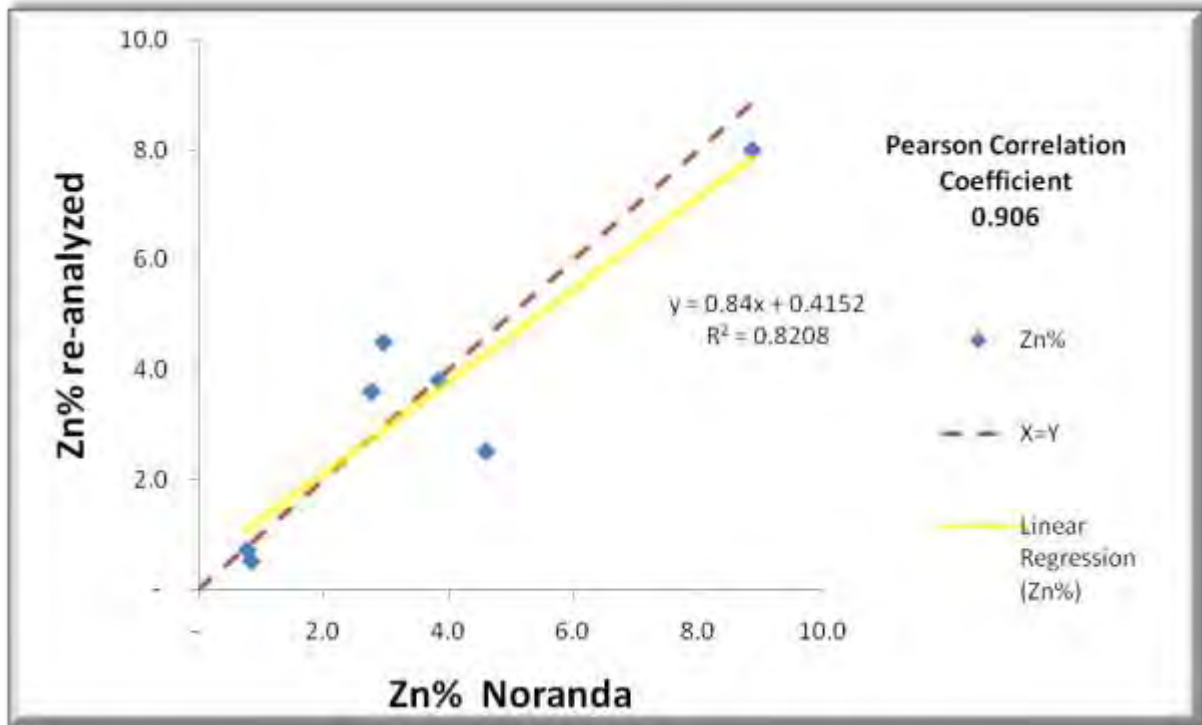


Figure 27. Plot of Zn results from selected sections of core from WH-85-01 to 04 re-analyzed for data verification.

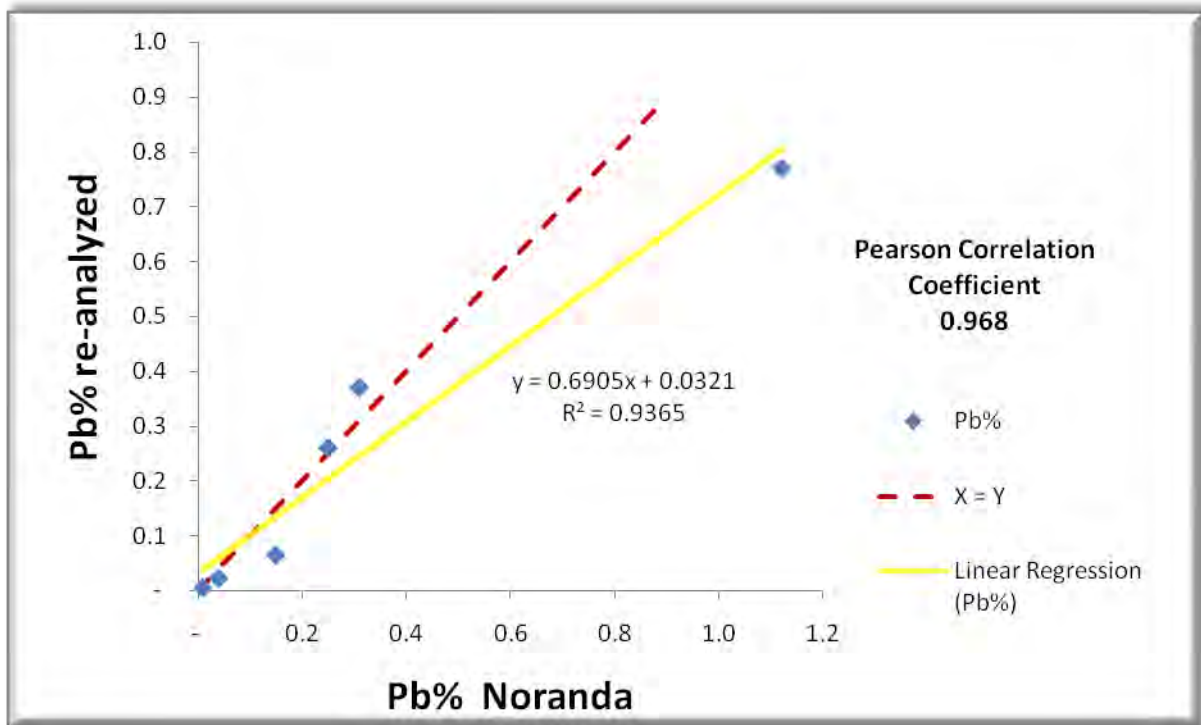


Figure 28. Plot of Pb results from selected sections of core from WH-85-01 to 04 re-analyzed for data verification.

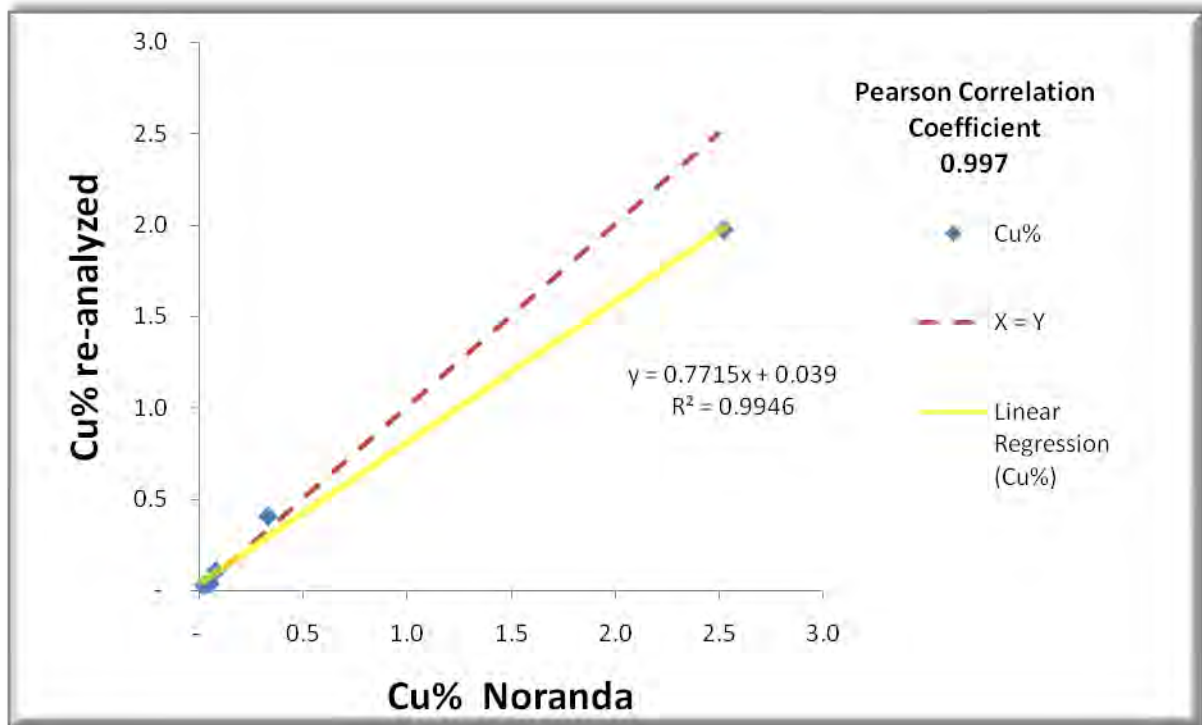


Figure 29. Plot of Cu results from selected sections of core from WH-85-01 to 04 re-analyzed for data verification.

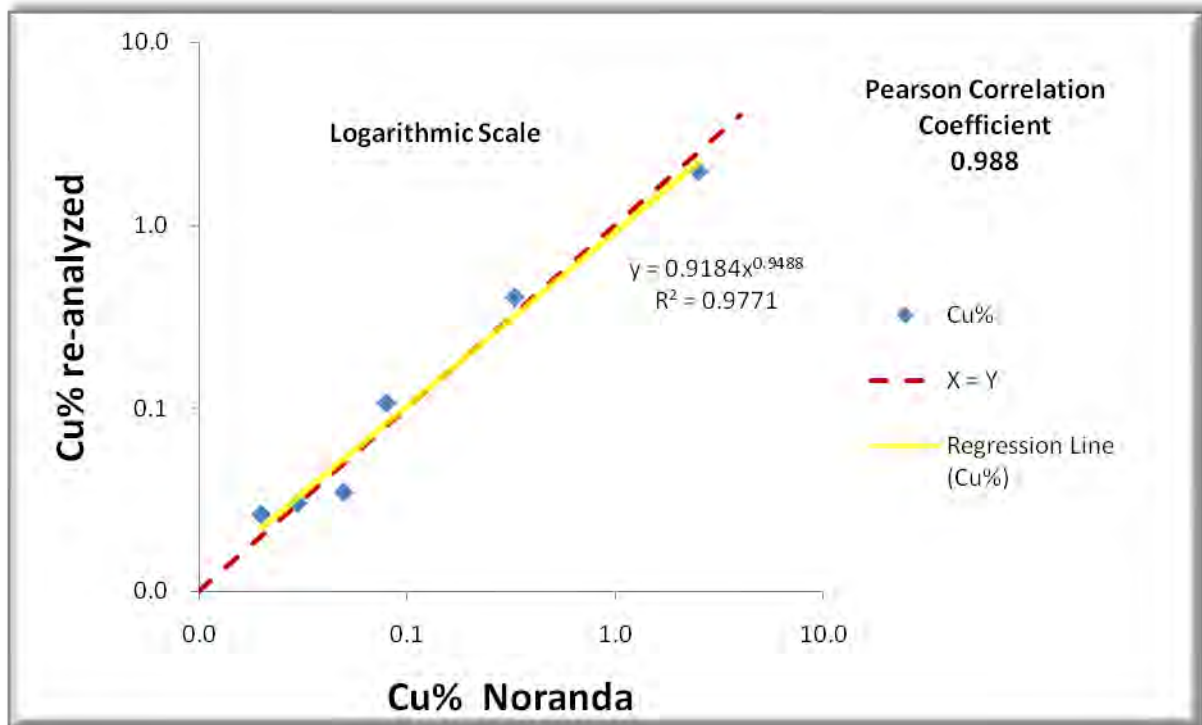


Figure 30. Plot of Cu results from selected sections of core from WH-85-01 to 04 re-analyzed for data verification. The logarithmic scale is used to clarify the relationship between analytical results for the lower grade samples.

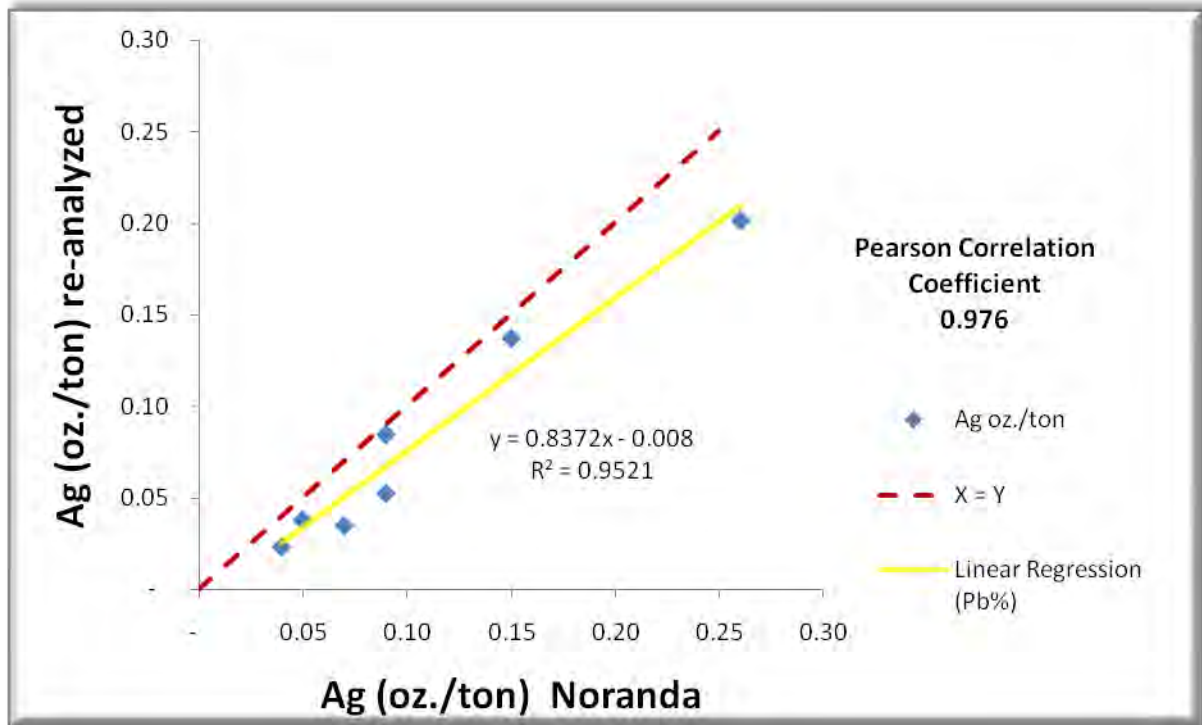


Figure 31. Plot of Ag results from selected sections of core from WH-85-01 to 04 re-analyzed for data verification.

## 15.0 ADJACENT PROPERTIES

None.

## 16.0 MINERAL PROCESSING AND METALLURGICAL TESTING

Not applicable as no mineral processing and metallurgical sampling has been completed on the Property.

## 17.0 MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES

Not applicable as there has not been any mineral resource or mineral reserve estimates completed on the Property.

## 18.0 OTHER RELEVANT DATA AND INFORMATION

There is no other relevant data or information to present on the Property.

## 19.0 INTERPRETATION AND CONCLUSIONS

Mineralization in the Winterhill area consists of massive, banded and disseminated sphalerite, lesser pyrite, pyrrhotite, magnetite and galena plus minor chalcopyrite occurring in stratabound carbonate and calc-silicate rocks overlying a pyrite and lesser chalcopyrite stringer zone developed in felsic volcanic breccias (Simpson, 1990). The stratabound carbonate/Ca-Mg-

silicate assemblage occurs within the transition zone between felsic dominated volcanic and volcanoclastic rocks of the Neoproterozoic ( $681 \pm 3$  Ma) age Tickle Point Formation and overlying mafic volcanoclastic rocks and volcanic flows (O'Brien, 1998). Mineralization at the Winterhill Prospect, which is the most important prospect discovered in the area to date, is interpreted to be of volcanic-hosted massive sulphide (VMS) affinity (Sears and Wilton, 1996).

A number of examples exist worldwide of Neoproterozoic VMS deposits, particularly in the Arabian-Nubian Shield of Saudi Arabia and northeast Africa, which hosts at least 60 VMS deposits most of which are Neoproterozoic in age (Sangster and Abdulhay, 2005, Barrie et al., 2007). In many of the Saudi Arabian deposits, the sulphide mineralization is associated with carbonate and Mg or Ca-Mg silicates. As discussed in Section 8.0, there are examples of large 7 to 30 million tonne Neoproterozoic aged VMS deposits in the world having reported grades of 5 to 9% Zn accompanied typically by about 1% Cu. Examples also exist of VMS deposits of similar age and within similar lithologies elsewhere in the Appalachians e.g. the Mindamar Mine of the Stirling Belt, Cape Breton Island, Nova Scotia.

Examples of other large VMS deposits that are associated with bimodal meta-volcanic rocks and have carbonate and calc-silicate rocks associated with the ores occur in the early Proterozoic rocks of the Fennoscandian Shield of Finland and Sweden (Rickard, 1988).

The spatial association of Ca-Mg carbonates and Ca-Mg silicates with some VMS deposits but not others has been attributed to greater permeability in the footwall rocks to these deposits (Hermann and Hill, 2001 and Sangster and Abdulhay, 2005). Hermann and Hill (2001) note that in stratiform VMS systems hosted by permeable volcanoclastic rocks, where hydrothermal flow was probably diffuse, carbonate and chlorite (or metamorphic equivalents) appear to indicate mixing of hydrothermal fluids and seawater in the shallow substrate or peripheral zones. They conclude that the Ca-Mg silicates and Ca-Mg carbonates associated with the West Thalanga sulphides in Queensland Australia originated as dolomite and chlorite (or Mg smectite) assemblages and formed by hydrothermal alteration and addition of carbonate to permeable rhyolite volcanoclastics, probably in the upper few metres of the sea-floor substrate (Hermann and Hill, 2001). Similarly, Sangster and Abdulhay (2005) attribute the presence of carbonate/calc-silicate sulphide assemblages in the Arabian Shield VMS deposits to deposition from hydrothermal fluids emitted onto the seafloor over a large area from "cryptic" feeder systems through permeable volcanoclastic rocks. They note that because the upward flow of the hydrothermal fluids is not focused then metal grades are typically lower and footwall alteration is less than VMS deposits formed from more focussed feeder systems.

Some of the implications for additional mineralization potential in the Winterhill area based on observations and interpretations presented by Hermann and Hill (2001) and Sangster and Abdulhay (2005) are noted below. The mineralization associated with the carbonate/silicate horizon at Winterhill will likely be relatively low grade i.e. 5 to 9% Zn and 1% Cu similar to examples noted from similar deposits elsewhere in the world. However, the carbonate/calcsilicate bearing mineralized unit is typically widespread and serves as a good exploration target horizon. This is certainly the case on the Winterhill Property where the calc-silicate horizon has a  $> 3.5$  km strike extent and typically has some mineralization everywhere noted including significant mineralization at the Winterhill main prospect and at Winterhill East

and West. The horizon, which is discontinuously exposed, has only been partially explored. The Thalanga deposit in Queensland has carbonate/calc-silicate associated with the West Thalanga lens but the remainder of the deposit is composed of lenses not associated with carbonate/silicate horizons presumably formed above more focused feeder systems. This suggests that although mineralization in the Winterhill area found to date is associated with carbonate/calc-silicate assemblages, there is potential for VMS mineralization elsewhere in the area that may have formed above more focused feeder systems.

The mineralized horizon, where exposed on the Winterhill property, occurs on the southern limb of an open syncline plunging shallowly to the southwest. In the southern portion of the property the stratigraphy dips to the north at approximately 30 degrees. The central portion of the property is overlain by predominantly mafic volcanics and tuffs of the Connaigre Bay Group. Thus, a significant portion of the favourable horizon remains buried or unexposed.

The northern portion of the Winterhill property is underlain by Tickle Point Formation felsic volcanics, which form the footwall to the mineralization observed at Winterhill and Frenchman's Head. The base of the Connaigre Bay Group, the Sam Head Formation, unconformably overlies the Tickle Point Formation in the central northern portion of the property and has minor Zn-Pb base metal mineralization associated with carbonate rocks there (Prospect # 5). Massive bedded pyrite was also reported by Noranda in the same area. An airborne EM anomaly also occurs along strike to the southwest of the massive bedded pyrite and minor Zn-Pb mineralization reported at Prospect # 5 (Graves, 1985a and 1985b and Sears, 1990).

Exploration by Noranda focused on the Winterhill, Winterhill East and Winterhill West prospects. Drilling was limited to the main prospects with very little drilling conducted to test the prospective horizon beyond the immediate area of the main prospects. Highlights from the drilling and trenching programs conducted by Noranda in the area include 11.0 metres grading 6.17% Zn in drillhole WH-90-11 and 4.0 metres grading 11.07% Zn and 1.16% Cu from Trench 4 at Winterhill. The best drill intersection of the footwall Cu-rich zone returned 1.41 % Cu over 6 metres from drillhole WH-85-3 (Graves, 1986b).

Noranda was discouraged by the presence of a large number of mafic and felsic dykes and sills that intrude the mineralized horizon at the Winterhill Prospect (Simpson, 1990). Dykes and sills also presented a challenge to explorationists at the Mindamar Mine in Cape Breton, where the upper levels in the northern part of the mine were rendered uneconomic due to their presence (Nova Scotia Dept. of Mines and Energy Web Site). Some of the dykes and sills at Winterhill may represent a contemporaneous magmatic event related to sulphide deposition as most Archean and Proterozoic sulphide districts in Canada have intrusions associated with them (Franklin, 1993). Furthermore, as suggested by Basha (2000 and 2001) tectonically generated faults or fracture zones, which form conduits for hydrothermal fluids, may also be the focus for the emplacement of dykes.

The conductor beneath Winter Pond detected by the 2007 airborne EM survey is coincident with a 700 metre long EM-37 conductor detected by Noranda in 1991. The anomaly was interpreted to be relatively flat-lying having an elongate, tabular shape, dipping shallow to the north and raking to the east (Perry and Graves, 1991). It was interpreted to have a depth in the order of 50

m and a width of 100 m. Drill testing of the eastern extremity of the conductor resulted in the intersection of 9.6 m of semi-massive to massive pyrite hosted within altered felsic volcanic rocks in drillhole WH-91-16 (Perry and Graves, 1991). The anomaly has several sections along its strike length that have stronger conductivity than where tested. In the context of what has been discovered to date, it is suggested that the conductor represents a high priority target for drilling.

On licence 12689M in the Olive Cove area, sampling of disseminated stringer and vein sphalerite within highly altered (silica, sericite, pyrite) felsic volcanic rocks during 2006 returned assays up to 6.4% Zn typically accompanied by low Pb, Cu and Ag values. One sample returned elevated Pb (0.56%) as well as Zn (0.63%). The area of altered and mineralized felsic and mafic volcanics lies off to the east of the Olive Cove occurrences outcropping along a steep brook to the north of the highway that crosses the licence. Prospecting carried out subsequent to the initial work resulted in the sampling of outcrops in the Olive Cove area that indicate the presence of a large hydrothermal alteration system with characteristics similar to that at the Olive Cove and Winterhill Prospects and other VMS districts globally (Copeland, 2009). Soil sampling carried out over the mineralized area and environs identified a 900 m long multi-element (Zn, Cu, Pb and Ag) soil anomaly that trends NE-SW parallel to the mapped contact between Tickle Point Formation felsic volcanic rocks and marine sedimentary rocks of the Connaigre Bay Group. Results from the soil analyses returned analyses up to 1600 ppm Zn, 188 ppm Cu, 149 ppm Pb and 1.3 ppm Ag (Copeland, 2009). The limits of the soil anomaly have not been defined particularly to the north-northwest. Additional sampling is warranted.

At Frenchman's Head, drilling to date, based on Avalon Mines interpretation (Pickett, 1996) has outlined a subhorizontal zone of base metal mineralization whose geometry is poorly understood. The exploration strategy at Frenchman's Head will have to account for the present scenario where mineralization may be relatively flat lying to gently dipping and have a limited surface expression. Although the grade is somewhat lacking at Frenchman's Head to date, the initial interpretation of the geometry seems to indicate that it may hold value as a relatively low-grade bulk tonnage open pit target. The indication that the mineralization may be limited or truncated to the east by a fault mapped by Noranda needs to be further evaluated to determine if indeed the fault is present and, if so, what degree and vector of offset is associated with it. Pickett (1996) noted the usefulness of a three dimensional presentation of the drilling at Frenchman's Head. It is suggested therefore that the data from the Frenchman's Head drilling should be entered into a database and a 3 dimensional model of the deposit constructed using currently available modeling software in order to determine the spatial orientation of the mineralized zone and potentially identify targets for further drilling.

The Winterhill, Winterhill East and Winterhill West prospects are associated with a mineralized horizon with greater than 3.5 km of strike extent, occurring in a submarine, calc-alkaline felsic volcanic sequence. Ore grade Zn values have been reported locally and exploration to date has neither completely evaluated the potential of the mineralized horizon hosting the Winterhill Prospects nor that of the Tickle Point Formation. In addition the occurrence of the Frenchman's Head and Olive Cove Prospects within similar if not correlative stratigraphy indicates that the Connaigre Peninsula and the Winterhill Property have the potential to host economically significant base-metal VMS prospects along a somewhat predictable stratigraphic setting.

At Olive Cove, Paragon has established the presence of base metal stringer mineralized and altered felsic volcanics that are coincident with an early-time EM anomaly and a 900 m multi-element soil geochemical anomaly. This discovery provides further evidence that the Tickle Point formation is host to district scale VMS-style mineralization. Follow-up work is warranted in this location as well as the Winterhill and possibly the Frenchman's Head Prospects.

## **20.0 RECOMMENDATIONS**

A two-phase exploration program is recommended for the Winterhill Project. A Phase I program (\$250,000) should consist of: 1000 metres of diamond drilling testing the EM conductors beneath Winter Pond; additional prospecting, soil sampling, rock sampling and geological mapping in the Olive Cove area to further define drill targets; and follow-up of all other short-strike length EM anomalies to further define drill targets (Table 10). A second phase program (\$500,000) involves drill testing of priority targets based on results of Phase I (Table 10).

### **20.1 Phase I Exploration Program**

A drill program comprising 1,000 metres of diamond drilling is proposed to test two target areas. One drillhole (250 m) is proposed as an initial test of the Olive Cove occurrence and would be designed to test priority targets resulting from the field programs proposed above. Two diamond drillholes (750 m) are proposed to test the coincident airborne and ground EM conductor beneath Winter Pond. The drillhole would follow-up on the massive sulphide mineralization intersected in drillhole WH-91-16 along strike to the west, testing the most intense parts of the 700 metre long anomaly with broad step-outs.

A 5-day field program comprising geological mapping, lithochemical sampling and prospecting (follow-up of existing soil targets) is recommended for the Olive Cove occurrence. An additional 300 soil samples should be collected over EM anomalies and areas of mapped hydrothermal alteration in the Olive Cove area to the north of the existing soil grid completed by Paragon in 2007.

It is thought that the results of the Phase I program will provide additional geological targets and act as a preliminary test of two currently highly ranked exploration targets. The Phase I Program is designed to provide further guidance and prioritization of targets for the more aggressive Phase II diamond drilling program.

### **20.2 Phase II Exploration Program**

A Phase II diamond drilling program comprising a minimum 2,500 m of diamond drilling in approximately 10 to 12 drillholes is currently envisaged as a follow-up to the Phase I drilling program. Although the location and positioning of the drillholes for the Phase II program are currently uncertain, there are abundant targets that remain to be adequately drill tested outside of the Olive Cove and Winter Pond targets presented above, including, Winterhill, Winterhill West,

Winterhill East, Winterhill North, Prospect #5 and two other airborne EM conductors including priority conductors as indicated by Vileki Exploration (Manojlovic, 2009). Drill targets for the Phase II program will be re-prioritized following completion of the Phase I program. The total budgeted cost of the 2,000-m diamond drilling program is \$500,000.

**Table 10: Phase I and II Exploration Budget – Winterhill Property.**

<b>Phase I</b>		
<b>Description</b>	<b>Units</b>	<b>Cost</b>
Geological Mapping (1:5000), lithogeochemical sampling and prospecting - Olive Cove Area	5 days at \$1400/day	7,000
Soil Sampling - Olive Cove Area	300 samples at \$60/sample	18,000
Drilling - One drillhole Olive Cove Area	250m at \$200/m	50,000
Drilling - Two drillholes to test EM target beneath Winter Pond	750m at \$200/m	150,000
	SubTotal	225,000
	Contingency	25,000
		<b>\$ 250,000</b>
<b>Phase II</b>		
Drilling - Priority targets as determined from results of Phase I	2500m at \$200	<b>\$ 500,000</b>

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## **22.0 CERTIFICATE OF THE INDEPENDENT QUALIFIED PERSON**

I, J. Wayne Pickett, a self-employed consulting geologist residing at 37 Wintergreen Road, Conception Bay South, Newfoundland and Labrador, A1W 4V5, hereby certify that:

1. I personally prepared or reviewed all sections of this technical report entitled “Form 43-101F1 Technical Report on the Winterhill Property, Connaigre Peninsula, NTS 01M/12, Newfoundland and Labrador”.
2. I graduated with a Bachelor of Science degree in Geology from Memorial University of Newfoundland in 1974. In addition, I obtained a Master of Science degree in Earth Sciences (Geology) from Memorial University of Newfoundland in 1989.
3. I have worked as a geologist for a total of 30 years since my graduation from university.
4. I am a Registered Professional Geoscientist in good standing with the Professional Engineers and Geoscientists of Newfoundland and Labrador (PEGNL) (Registration No. 02525; registration date February 27, 1992), and the Association of Professional Engineers and Geoscientists of the Province of British Columbia (Registration No. 23713; registration date April 28, 1998).
5. 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 to be a “qualified person” for the purposes of NI 43-101.
6. I am considered independent of Paragon Minerals Corporation and GFE Capital applying the test outlined in section 1.4 of National Instrument 43-101. I am not an employee, insider or director nor do I hold securities, directly or indirectly, of the reporting issuers (Paragon Minerals Corporation and GFE Capital Corp.) or of a party related to the issuer; nor do I, or expect to, hold securities, directly or indirectly, in another issuer that has a direct or indirect interest in the property that is the subject of this technical report or an adjacent property. I do not have nor do I expect to have, directly or indirectly, an ownership, royalty, or other interest in the property that is the subject of this technical report or an adjacent property. I have not received the majority of my income, directly or indirectly in the three years preceding the date of the technical report from the issuer or a related party of the issuer. I, therefore, am considered independent of GFE Capital Corp. in respect of this report.
7. I visited a portion of the Winterhill Property, Frenchman’s Cove, on August 16, 1994. I also completed a current property visit on June 29, 2009 to the Winterhill East Prospect. The site visit included a review and sampling of outcropping base metal massive sulphide mineralization and locating of nearby historic diamond drillholes. On May 20 and 21st 2009, I visited the Government of Newfoundland and Labrador core storage library in St. John’s NL where I examined four drillholes from the Winterhill Prospect (WH-85-01, 02, 03, and 04) in order to verify lithology and mineralization styles as described by Noranda geologists in their drill logs and reports. In addition, eight drill core intervals previously

sampled and assayed by Noranda were quarter split for check analysis. Sample intervals for re-analysis were chosen to check accuracy for a range of Zn grades as well as to check the grade of a Cu-enriched section.

8. I am responsible for the content of the technical report.
9. I have prepared a 43-101 report on the Winterhill property in 2009 at the request of Paragon Minerals Corporation.
10. I have read National Instrument 43-101 and Form 43-101F, and the technical report has been prepared in compliance with this Instrument and Form 43-101F.
11. As of the date of this certificate, 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 report not misleading.

Dated this 3<sup>rd</sup> day of June, 2009  
(revised July 6, 2009)

J. Wayne Pickett, M.Sc., P.Geo.

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Signature of Independent Qualified Person

(Effective Date: June 3<sup>rd</sup>, 2009)

## 22.0 CERTIFICATE OF THE QUALIFIED PERSON

I, David A. Copeland, an employee of Paragon Minerals Corporation, residing at 6 Falcon Place, St. John's, Newfoundland and Labrador, A1A 5P1, hereby certify that:

1. I have assisted in the preparation of this technical report entitled "Form 43-101F1 Technical Report for the Winterhill Property, Connaigre Peninsula, NTS 01M/12, Newfoundland and Labrador".
2. I am a graduate of the University of New Brunswick, Fredericton, New Brunswick with a B.Sc. degree in geology (1995) and a graduate of the University of New Brunswick with a M.Sc. degree in geology (1999).
3. I have been employed in the mineral exploration and mining industry for 14 years, and have explored for Au, base metals and diamonds, in Canada and Australia for both senior and junior mining companies and am a "qualified person" for the purposes of National Instrument 43-101.
4. I am a member in good standing of the Association of Professional Engineers, Geologists and Geophysicists of Alberta (license # M66276) and the Association of Professional Engineers and Geoscientists of Newfoundland and Labrador (Registration # 04257).
5. My most recent visit to the Winterhill Property was on June 27<sup>th</sup> to 29<sup>th</sup>, 2009. I performed a review of the historical diamond drill core on May 19 and 20, 2009.
6. **I am NOT considered independent of Paragon Minerals Corporation and GFE Capital Corp. applying the test outlined in section 1.4 of National Instrument 43-101. I am an EMPLOYEE AND INSIDER and DO DIRECTLY HOLD SECURITIES of one of the reporting issuers (Paragon Minerals Corporation); I do not expect to hold securities, directly or indirectly, in another issuer that has a direct or indirect interest in the property that is the subject of this technical report or an adjacent property. I do not have, nor do I expect to have, directly or indirectly, an ownership, royalty, or other interest in the property that is the subject of this technical report or an adjacent property. I HAVE received the majority of my income, directly in the three years preceding the date of the technical report from Paragon Minerals Corporation. I, therefore, am NOT CONSIDERED INDEPENDENT of Paragon Minerals Corporation or GFE Capital Corp. in respect of this report.**
7. I have assisted in the preparation this 43-101 report on the Winterhill property during May and June 2009 at the request of Paragon Minerals Corporation and GFE Capital Corp.
8. I have read National Instrument 43-101 and Form 43-101F, and the technical report has been prepared in compliance with this Instrument and Form 43-101F.

9. As of the date of this certificate, 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 report not misleading.

Dated this 3<sup>rd</sup> day of June, 2009  
(revised July 6, 2009)

David A. Copeland, M.Sc., P.Geo.

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Signature of Qualified Person

(Effective Date: June 3<sup>rd</sup>, 2009)