Geological, Geochemical and Diamond Drilling Report on the

WINDY 1-27 CLAIMS
(146 Units)

NTS 93J/13W

Latitude 54° 57' Longitude 123° 50'

CARIBOO AND OMINECA MINING DIVISION

Property Owner: R. Haslinger and R. Halleran
Fort St. James, B.C.

Operator: Placer Dome Inc.
Vancuver, B.C.

Author: Scott Frostad

December, 1989

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1.0 INTRODUCTION

The Windy property, located in central British Columbia, was examined for porphyry copper-gold mineralization. The program of diamond drilling on coincident soil geochemical and induced polarization anomalies intersected minor, structurally controlled copper and gold mineralization. Soil geochemistry, VLF-EM, magnetic and induced polarization surveys were conducted concurrently with the diamond drill program. Soil geochemical results indicate that the area located west of the drilling warrants further follow-up exploration. Testing of the western area would concentrate on a model of structurally controlled mineralization possibly generated by a porphyry style system.

2.0 SUMMARY

The property is owned by R. Haslinger and R. Halleran, both of Fort St. James, and is held under option by Placer Dome Inc. Big Bar Gold Corporation has the right to earn a 49% interest in the property by incurring expenditures totalling $850,000. Placer Dome Inc. completed a program of linecutting, geochemical and geophysical surveys, and 1495 metres of diamond drilling on the Windy property from June to September 1989.

The diamond drill program returned disappointing results but indicates that alteration intensity and gold-copper mineralization may be increasing towards the west. The best gold-copper intersections are hosted in zones of brecciation and quartz-carbonate veining that occur in the western most drill holes. These drill holes also encountered intense, pervasive hematite-epidote alteration with one hole encountering narrow quartz monzonite dykes which may indicate the presence of an alkalic intrusive.

The grid was extended to the north, west and east for a total of 62 kilometres of cut line and 24 kilometres of flagged line. The soil sampling conducted on the grid extensions outlined a strong, linear gold-copper-arsenic anomaly trending north-south for 2.0 kilometres along the western property boundary. This anomaly, coincident with VLF-EM conductors and an induced polarization chargeability high, is considered to be derived from an underlying mineralized structure.

Strong VLF-EM conductors, present along the northern slope of the central topographic high, are coincident with spotty gold and copper geochemical anomalies. It is suggested that the conductors reflect faults hosting gold-copper mineralization, none of which were tested by the northerly fence of diamond drill holes. The short strike length of these conductors and discontinuous geochemical anomalies indicate a low potential for economic mineralization in this area.

The large chargeability highs tested by the diamond drill program reflect broad zones of pyrite not associated with copper-gold mineralization. This suggests that further exploration of the property should not be confined to chargeability highs outlined by the induced polarization survey.

The cost of the 1989 exploration program totalled $733,000.00

3.0 RECOMMENDATIONS

It is recommended that a 1500 metre diamond drill program be implemented to test the source of the Au-Cu-As soil geochemical anomaly that is located close to the western property boundary.

PDI should acquire the adjacent claims west of the Windy property prior to commencing the proposed drill program.

4.0 PROPERTY DEFINITION

4.1 Location, Access and Topography

The Windy property is located some 65 kms north-northeast of Fort St. James in central British Columbia (Figure 1). Windy Lake is located within the west central part of the property and drains into the Salmon River which traverses the southern portion of the claims. Salmon Lake is located 7.0 km south of the claim group.

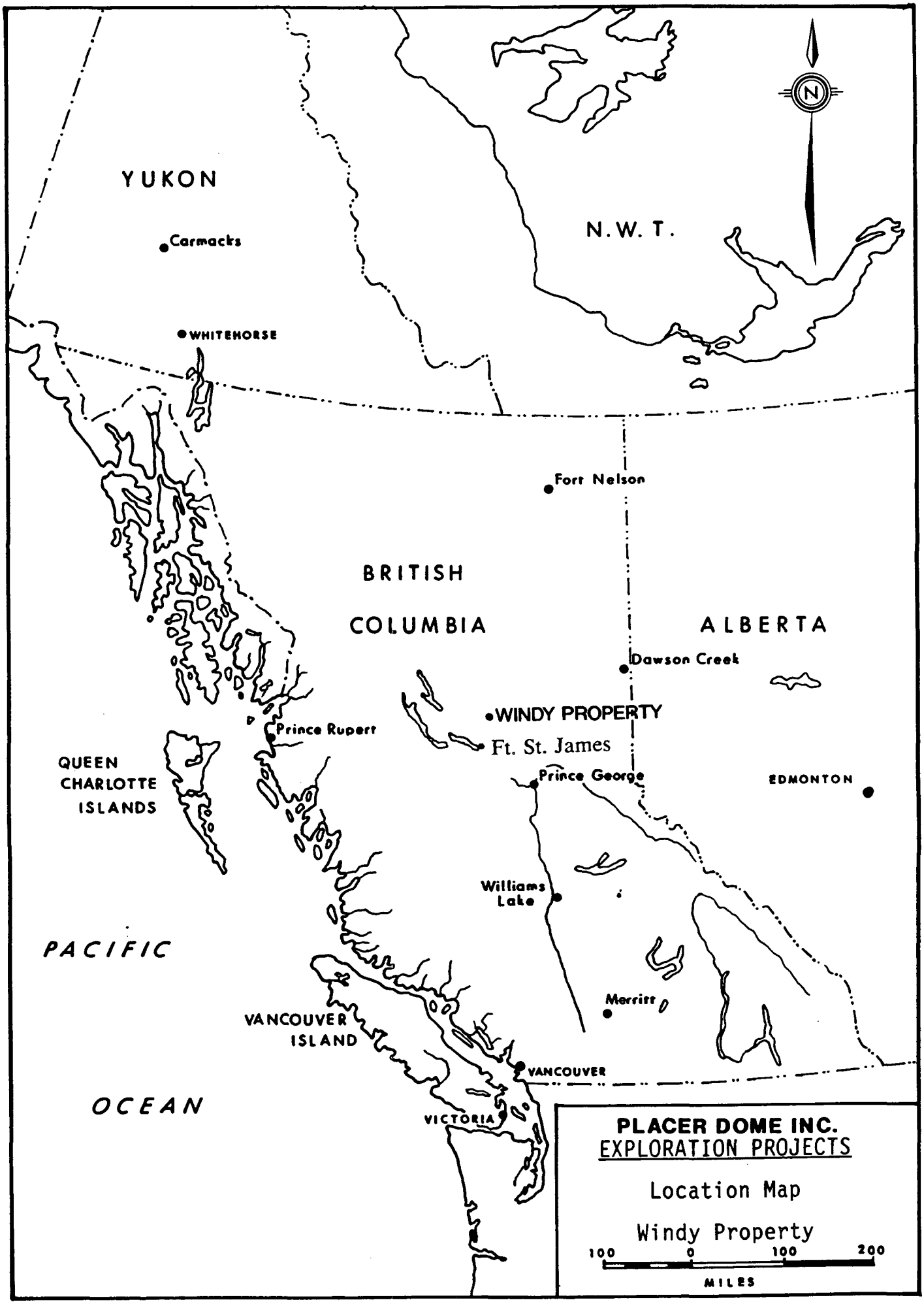
Access to the property from Fort St. James is via the Manson Creek and the Germansen-Cripple Lake forestry service roads. The route is north on the Manson Creek road to Kilometre 48, east on the Germansen-Cripple Lake road for 20 kilometres, then north on a 6.0 Kilometre "cat" road to the Windy camp. The "cat" road is passible only by 4-wheel drive vehicles but will be improved by the forestry industry in 1990.

Access to the northeast area of the property is possible either by a 15 kilometre long ATV trail from camp or from Mackenzie by travelling west on the Philip Mainline to Kilometre 32 and then south on the South Philip Mainline followed by a network of logging roads (approx. 20 km).

The southern claim block consisting of Windy Claims 1-6 and 10-18, (Figure 2) is located on a topographic high with a moderate gradient in all directions from a maximum elevation of 1130 metres, to a low of 915 metres on the Salmon River at the southeast corner. The Salmon River flows south along the western property boundary before angling southeast across the most southern part of the claims. Forest cover on the topographic high consists of spruce, balsam, fir and pine with patches of tag alder and occasional open meadow. In the areas of lower elevation there are local swamps and dense tag alder.

The northern claim block (Windy 7-9 and 19-27) has three topographic highs separated by creeks and swampy areas. The northeastern topographic high is clearcut, has abundant outcrops and reaches 1130 metres in elevation. The other two topographic highs are located in the northwest property corner and immediately north of Windy Lake. They both have maximum elevations of 1070 metres with forest cover similar to the southern claims.

Small outcrops are fairly common along the Salmon River. With exception of the river and northeast topographic high, outcrop is rare. The direction of last glacial ice movement was towards 010 degree azimuth.


YUKON
N.W.T.
Carmacks
WHITEHORSE
Fort Nelson
BRITISH
COLUMBIA
ALBERTA
Dawson Creek
WINDY PROPERTY
Ft. St. James
Prince Rupert
QUEEN
CHARLOTTE
ISLANDS
Prince George
EDMONTON
Williams
Lake
PACIFIC
Merritt
VANCOUVER
ISLAND
VANCOUVER
OCEAN
VICTORIA
PLACER DOME INC.
EXPLORATION PROJECTS
Location Map
Windy Property
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MILES

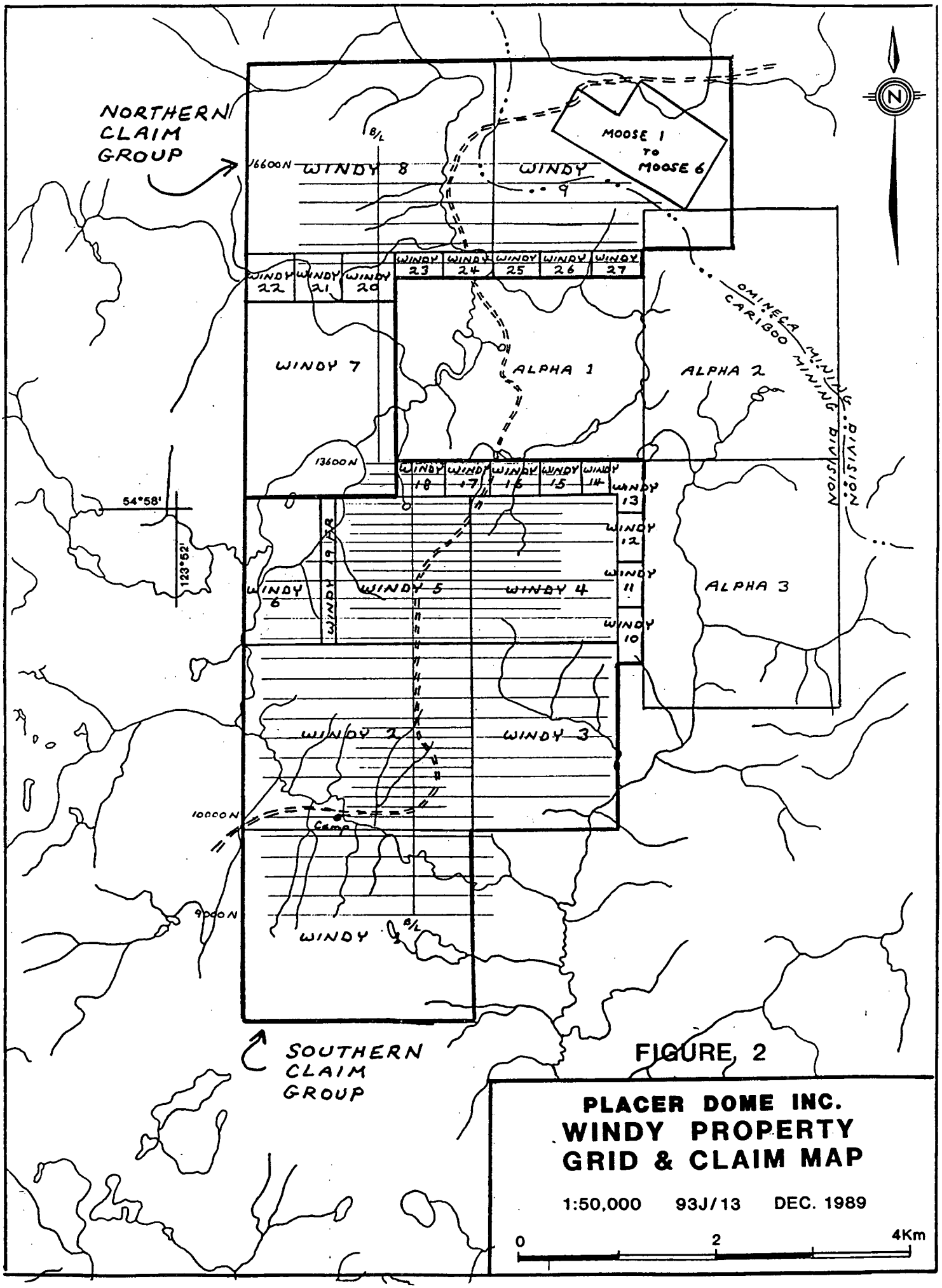

FIGURE 2

PLACER DOME INC.

WINDY PROPERTY GRID & CLAIM MAP

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4.2 Property Status

The property consists of nine Mineral Claims, 17 Two-Post Claims and one Fraction for a total of 146 units.

NAME	UNITS	RECORD NO.	EXPIRY DATE
Windy 1	20	6831	May 16, 1994
Windy 2	20	6840	June 3, 1994
Windy 3	12	7836	June 9, 1994
Windy 4	9	7837	June 9, 1994
Windy 5	9	7835	June 9, 1994
Windy 6	6	9599	March 2, 1994
Windy 7	12	9600	March 5, 1994
Windy 8	20	9703	May 12, 1994
Windy 9	20	9704	May 10, 1994
Windy 10	1	9847	June 25, 1994
Windy 11	1	9848	June 25, 1994
Windy 12	1	9849	June 25, 1994
Windy 13	1	9850	June 25, 1994
Windy 14	1	9851	June 25, 1994
Windy 15	1	9852	June 25, 1994
Windy 16	1	9853	June 25, 1994
Windy 17	1	9890	July 4, 1994
Windy 18	1	9891	July 4, 1994
Windy 19 Fr.	1	9892	July 4, 1994
Windy 20	1	10071	Sept 20, 1994
Windy 21	1	10072	Sept 20, 1994
Windy 22	1	10073	Sept 20, 1994
Windy 23	1	10074	Sept 21, 1994
Windy 24	1	10075	Sept 21, 1994
Windy 25	1	10076	Sept 21, 1994
Windy 26	1	10077	Sept 21, 1994
Windy 27	1	10078	Sept 21, 1994

The claims, which are owned by R. Haslinger and R. Halleran of Fort St. James, British Columbia. The property is optioned to Placer Dome Inc. (1600-1055 Dunsmuir Street, Vancouver, B.C.); Big Bar Gold Corporation is earning 49% of Placer Dome's interest in the property. Placer Dome is the operator of the exploration program.

4.3 History

The original prospectors active in the area are unknown but some exploration pits have been noted along the banks of the Salmon River. Current interest was started by Richard Haslinger of Fort St. James who located small amounts of chalcopyrite with low gold and silver values on the north bank of the Salmon River. These showings were examined by W. Pentland of Placer Development Limited (now Placer Dome Inc.). The property was rejected with the suggestion that more prospecting be done.

Additional pits dug by R. Haslinger 200 metres north of the initial discovery contained gold values of 3.51 g/t and palladium values of 0.50 g/t. Copper values were also higher in these pits.

In October 1985, a soil sampling survey was conducted by Cassiar Mining Corporation (Brinco Mining Ltd.) on a small grid with 400 metre line intervals. R. Haslinger dug more pits in an area of anomalous gold and copper 800 metres northeast of the discovery pits. Gold has been repeatedly panned from the overburden in the area.

In June 1986, the property was examined by R. Boyce of Placer Development Limited. The check sampling and conclusions reached were favourable and resulted in the property being optioned by Placer Dome Inc. (formerly Placer Development Ltd.) in August 1986.

In September 1986, Placer Dome established a 20 km grid over the area of most apparent interest and conducted soil sampling, VLF-EM and magnetic surveys, mapping and sampling of outcrops and test pits. This program outlined three soil geochemical anomalies.

In September 1987, 6.8 km of Induced Polarization was conducted over the three geochemical anomalies. The grid was extended 2.5 km with additional soil sampling, VLF-EM and magnetic surveys to further delineate the northern Cu-As anomaly. Five east-west trending trenches were excavated over coincident geochemical and I.P. anomalies for a total of 426 metres. The highest values obtained were from the trench samples on Line 102 N; these returned 0.84 g/t Au and 0.17% Cu over 10.0 metres.

From May to July of 1988, the exploration program consisted of 26 km of line cutting, 16.2 km of flagged line, 24.6 km of I.P., soil sampling (557 samples) and geological mapping. Although drill targets had been defined, due to lack of funding from the joint venture partner, a diamond drill pgoram was not undertaken.

4.4 Summary of Work Done

The 1989 program was conducted during the period from June to September. The original grid, located within the southern claim group, was extended to the north, west and east for a total of 41 kilometres of cut line and 22 kilometres of flagged line. A geochemical survey was conducted over the grid extension with a total of 2,537 soil samples collected. An induced polarization survey was conducted over the 41 kilometres cut line and the entire grid extension of 63 kilometres was covered by magnetometer and VLF-EM surveys.

The northern claim group was made accessible by line-cutters who cleared approximately 10 kilometres of trail. A rough section of the trail was eventually repaired by a bulldozer for easier access. A total of eight kilometres of cut line (one kilometre base line) and fifteen kilometres of flagged line was completed. An induced polarization survey was conducted over seven kilometres of cut line, while geochemical, magnetometer and VLF-EM surveys were completed over the entire grid. The geochemical survey obtained a total of 996 soil samples.

Mapping of the topography, vegetation and geology was conducted on the southern grid while geology only was mapped on the northern grid.

A diamond drill program on anomalies outlined prior to 1989, consisted of nine holes for a total of 1,495 metres of NQ core.

5.0 ECONOMIC ASSESSMENT

It is possible that the intrusive rocks on the Windy Property have a strong affinity to the other alkalic intrusives along the Quesnel Trough. These alkalic intrusives are known to host porphyry copper deposits that have a strong gold association (ie: Afton, Stikine Copper, Cariboo-Bell and Mt. Milligan).

6.0 REGIONAL GEOLOGY

The property is located along the northwesterly extension of the Quesnel Trough that is underlain by volcano-sedimentary rock units of Mesozoic Takla Group. This stratigraphic unit is composed of Upper Triassic/Lower Jurassic pyroxene-rich flows and volcaniclastics with interbedded greywacke, siltstone, minor limestone and conglomerate. The assemblage is intruded by comagmatic, frequently zoned alkaline plutons. These plutons are most frequently diorite but range from syenogabbro to syenite. The chemical composition of the plutons are similar to the volcanics they intrude. The plutons occur along linear trends and appear to be controlled by major faults. The size of the plutons varies from small dykes and plugs to batholiths (Ney, Hollister, 1976).

7.0 PROPERTY GEOLOGY

The southern claim group is mainly underlain by a diorite stock which has intruded the overlying andesites of the Takla Group. The oldest rocks consist of a sequence of andesitic flows and pyroclastics. The flows are mainly porphyritic and contain amphibole (hornblende) while the pyroclastics are comprised of agglomerates, crystal, quartz eye and ash tuffs. Late stage quartz diorite and granodioritic dykes along with faulting and shearing cut the diorite stock and volcanics.

The northern claims are underlain by volcaniclastics with minor amphibole porphyry flows. Intrusives have not been observed in the northern area.

The overburden varies from glacial till to fluvial sands. The overburden encountered during diamond drilling varied from 5.9 to 24.0 metres in thickness.

7.1 Rock Types

The following rock units are based on a field classification.

Unit 1 - Andesitic Flows and Pyroclastics

These rocks are medium to dark green to greyish-green, fine to medium grained with the andesitic flows being porphyritic. Hornblende phenocrysts are common and may reach 6.0 mm in size. Rocks are commonly sheared and foliated. The alteration is predominantly chloritic with epidote common.

Unit 1a - Hornblende Porphyritic Flows

Rocks medium to dark green, fine to medium grained with 10 to 20% subhedral hornblende (average size 1 to 2 mm). Occasional leucoxene is developed.

Unit 1b - Agglomerates

Light grey to greyish green bombs are 50 to 60 cm in size and comprised of 25 to 30% hornblende crystals (average size 3 to 4 mm) within a fine grained matrix. The bombs are contained within a crystaline matrix 40 to 50% amphiboles (average size 1 mm) and 50 to 60% plagioclase (average size 1 mm).

Unit 1c - Crystal Tuffs

These rocks are medium grey to green, and comprised of 10 to 20% subhedral amphibole crystals (avg. size 1 to 2 mm), 10 to 20% plagioclase as subhedral/anhedral crystals and laths (avg. size 1 mm) within an aphanitic matrix. They are massive to poorly bedded. The bedded nature of this unit is generally recognized by grading and variation in phenoclast size and abundance. Bedding planes have been recognized. The matrix, as identified by petrographic study, is 60 to 70% plagioclase and 30 to 40% amphiboles. This unit was observed bearing 10 to 15% quartz eyes on the northern claim group.

Unit 1d - Quartz-eye Tuffs

This rock is a crystal tuff as previoulsy described which contains 5 to 10% subrounded quartz eyes (average size 3 to 4 mm).

Unit 1e - Ash Tuffs

These rocks are medium to dark grey, very fine grained and commonly sheared with strong chlorite alteratin. This unit may occur with a small percentage of fine mafic and feldspar crystals or display good bedding.

Unit 2 - Dioritic Intrusions

The diorites are light grey to greyish green, coarse to fine grained, occasionally porphyritic with hornblende (up to 6 mm) and/or plagioclase (up to 3 mm). Textural and compositional variations are gradational. Observed alteration is primarily propylitic style with pervasive and vein controlled chlorite, epidote +/- sericite +/ silica +/- carbonate +/- hematite. The diorite hosts broad zones of pyrite (1 to 3%, occasionally up to 10%) and occasional chalcopyrite blebs within quartz-carbonate veins. Local intense shear zones contain increased quartz veining and sulphides.

Unit 2a - Porphyritic Diorite

Rock unis is light to medium grey and contains 30 to 40% subhedral/euhedral amphiboles with average size >3 mm and up to 4 cm (megacrystic). It may occur with phenocrysts of feldspar (up to 3 mm) as euhedal crystals or laths. Porphyritic diorite dykes ranging from three to ten metres in width are observed cutting volcanic units.

Unit 2b - Coarse Grained Diorite

Rock is light to medium grey in colour and massive to strongly sheared. It commonly occurs as a large unit with a gradational change to porphyritic or medium grained diorite. Modal composition is generally 65 to 70% plagioclase as subhedral crystals (< 3 mm) or laths and 20 to 25% subhedral/euhedral amphibole (avg. size of 2 to 3 mm).

Unit 2c - Fine and Medium Grained Diorite

This unit is medium grey to greyish green and may occur with a mottled appearance. Medium grained diorite is classified as occurring with average amphibole size of 1.0 to 3.0 mm. Fine grained diorites have an average amphibole size of less than 1.0 mm. Also occurs as dykes (up to 3 metres) and dyklets (10 to 20 cm) crosscutting diorite and volcanic rock units with sharp contacts. With the exception of dykes, this unit is difficult to distinguish from the volcanic rocks due to gradational contacts.

Unit 3 - Quartz Diorite

This rock type was observed as an outcrop on the Salmon River near the eastern property boundary. The quartz diorite is leucocratic, medium grained, equigranular and comprised of 60 to 70% subhedral plagioclase, (1 to 5 mm) and 10% quartz grains. The outcrop is weakly foliated, has crackle brecciation, weak sericite alteration and is unmineralized. The fractures and breccia voids are filled with carbonate, chlorite, minor muscovite and trace K-feldspar.

Unit 4 - Granodiorite/Quartz Monzonite Dykes

These dykes are light grey, fine to medium grained, massive and equigranular. These dykes are 1.0 to 2.0 metres wide DDH-02. Modal composition is 40 to 50% subhedral plagioclase (1 to 2 mm), 30 to 40% anhedral K-feldspar (up to 2 mm), 15 to 20% quartz grains, 10% biotite and chlorite. The dykes are relatively unaltered and contain 1.0 to 2.0% disseminated pyrite.

7.2 Structural Geology

7.2.1 Faults

The southern claim group is extensively sheared by subparallel, steeply dipping faults that strike NNE to NNW. The numerous faults are evidenced in drill core, trenching and interpreted from VLF-EM survey data. The fault zones encountered by diamond drilling reached 30 metres in width and are associated with strong chlorite/sericite/carbonate

alteration, quartz-carbonate vein material (up to 70%) and patchy silicification. Zones of pasty gouge are chloritic with trace to 10% disseminated pyrite. The gouge may host angular to subrounded, occasionally silicified, rock fragments. The fragments may contain up to 40% quartz carbonate fracture fillings, and up to 10% pyrite as disseminations and/or fracture fillings. The host rock on either side of the gouge is commonly weak to moderately brecciated. The contacts of gouge occasionally host quartz-carbonate veins.

Faulting in the northern claims is not as extensive as the south as evidenced from the outcrops and low number of VLF-EM conductors.

7.2.2 Quartz-Carbonate Vein Structures

The veins observed within drill core are predominantly quartz-carbonate shear veins that range up to 1 metre in width. This style of veining occurs within moderate to strongly sheared host rock. Some veins within shear zones are folded and therefore post-date the latest fault movement. The shear veins may contain up to 40% chloritic host rock fragments commonly mineralized with disseminated pyrite, and wisps of black chlorite. This black chlorite is believed to have been misidentified as tourmaline in the past.

The tensional style of veining (up to 30 cm) occurs within massive rock with sharp, usually parallel, contacts. This style of veining may display sericitic envelopes (bleaching) along with pyrite mineralization within the host rock at vein contacts.

The veins themselves are commonly unmineralized but may host chalcopyrite as blebs.

7.3 Alteration

Extensive propylitic alteration has been observed on the property. It is of weak intensity and is primarily pervasive but may be selectively pervasive or veinlet controlled. Within the diorites and volcanic rocks, the alteration assemblage is typically chlorite-epidote+/- sericite+/-carbonate+/-hematite+/-biotite. The following describes the various types of alteration encountered.

i) The chlorite alteration may be weak to intense and pervasive, to selectively pervasive (replacing hornblende phenocrysts).

ii) Epidote was observed in drill core as pervasive and fracture controlled alteration but not estimated to be as abundant as described by thin section work. Epidote was identified within most petrographic specimens from trace to 30% (replacing amphiboles and plagioclase).

iii) Sericite alteration of plagioclase is common. Minor sericite vein envelopes, 2 to 3 cm wide, were developed at contacts of the wider quartz-carbonate tension veins.

iv) Carbonate alteration is weak to intense, commonly patchy and appears to be strongest near fault zones and moderately foliated units.

v) Earthy red hematite occasionally occurred as pervasive alteration and/or confined to fractures, vein margins, breccia matrix and fragments.

vi) Silicification is commonly quite patchy and may occur with a mauve hue. It appears to overprint chlorite and epidote alteration and is a favourable site for brittle fracturing, fracture fill pyrite and chalcopyrite.

vii) Minor biotite was observed within thin section as a partial alteration of amphibole phenocrysts.

viii) Limonite staining along fractures is common at trench sites, subcrops and within the upper 20 metres of diamond drill core.

7.4 Mineralization

The sulphide mineralization is mainly composed of broad zones of disseminated pyrite (1 to 3%, occasionally up to 10%) with occasional chalcopyrite and pyrrhotite (blebs and fracture fillings within porphyritic flows), and rare bornite. Anomalous arsenic values were returned from drill core but arsenopyrite was not observed.

7.4.1 Pyrite

The pyrite mineralization occurs as disseminations (up to 70%), fracture fillings (up to 30%), euhedral/subhedral crystals (up to 5%, 2 mm in size) and blebs. The euhedral pyrite was commonly found associated with vein contacts. The percentage of disseminated and fracture filling pyrite was observed to increase within many zones of shearing, brecciation and silicification.

7.4.2 Chalcopyrite

The chalcopyrite mineralization occurs as blebs within quartz-carbonate veins. It is anomalous within the two southwest drill holes, both of which tested diorites. The most common occurrence is within narrow quartz-carbonate tensional veins and zones of brecciation proximal to shear zones. It is also observed within a shear vein with euhedral pyrite.

7.4.3 Gold

Gold mineralization appears to be related to shear zones and associated with fracture controlled chalcopyrite, and pyrite. However, it may also be related to hematite, epidote and zones of silicification. Anomalous gold values correlate with copper but may occur within shear zones containing negligible copper.

8.0 GEOCHEMICAL SURVEY

8.1 Soil Development, Terrain and Vegetation

Soils on the Windy claims have developed on a variety of substrate or parent materials which include bedrock, glacial till, glaciofluvial sands and gravels, and more recent fluvial deposits. Soils developed from weathered bedrock represent residual material that is "in place" and are found on the topographic highs of the property.

Glacial till consists of locally eroded bedrock lithologies whose source lies a short distance (100 to 1000 m) up-ice of the present deposits. Glacial ice movement in the area was towards 010 azimuth. Till appears to occur as pockets on the topographic highs and along the upper slopes. Geochemical anomalies in till should be traceable to source.

Both the glaciofluvial and recent fluvial materials have relatively complex transportation histories. The soils of the extreme south claims are glaciofluvial in origin, comprised mainly of sand and gravel, while zones of silt and washed sands were encountered in the vicinity of the Salmon River and may represent old stream channels. These fluvial materials mask bedrock and are not readily traced to source.

8.2 Soil Sampling Procedures

A total of 3,533 soils was collected on the grid extension at 20 metre intervals. Failure to obtain samples occurred only within the extremely swampy areas. The initial samples were taken using shovels but most samples were obtained by hand augers to help facilitate sampling of swampy areas. Sample depths varied from 10 to 100 cm but averaged 30 to 60 cm. Notes were taken on the soil collected and the site conditions. The samples were placed in kraft paper bags and sent to the Placer Dome Laboratory in Vancouver for geochemical analysis. The samples were separated into a coarse fraction (-20 to +80 mesh) and a fine fraction (-80 mesh). The coarse fraction was analyzed only for gold while the fine fraction was analyzed for Au, Cu and As. The analytical extraction and detection techniques used for each element are presented in Appendix I.

Samples were generally collected from the "B" soil horizon. The "B" horizon was typically light tan in colour with some variation from yellow to orange tone. When the "B" horizon could not be reached, especially in swampy areas, then a black, organic rich sample was collected.

8.3 Results

A complete listing of the 1989 soil geochemical data is provided in Appendix II. The five major geochemical anomalies (GC-1 to GC-4) are shown on the Summary Compilation Map (Figure 3). The location sites of the 1989 soils are distinguished from the previous surveys on the Sample Location Map (Figure 4). Posted and symbol plot maps (Figures 5 to 16) outline the distribution of copper, gold and arsenic in soils for the South and North claim blocks. The gold geochemical maps utilize the highest value obtained from the coarse and fine fraction analyses for a particular sample site.

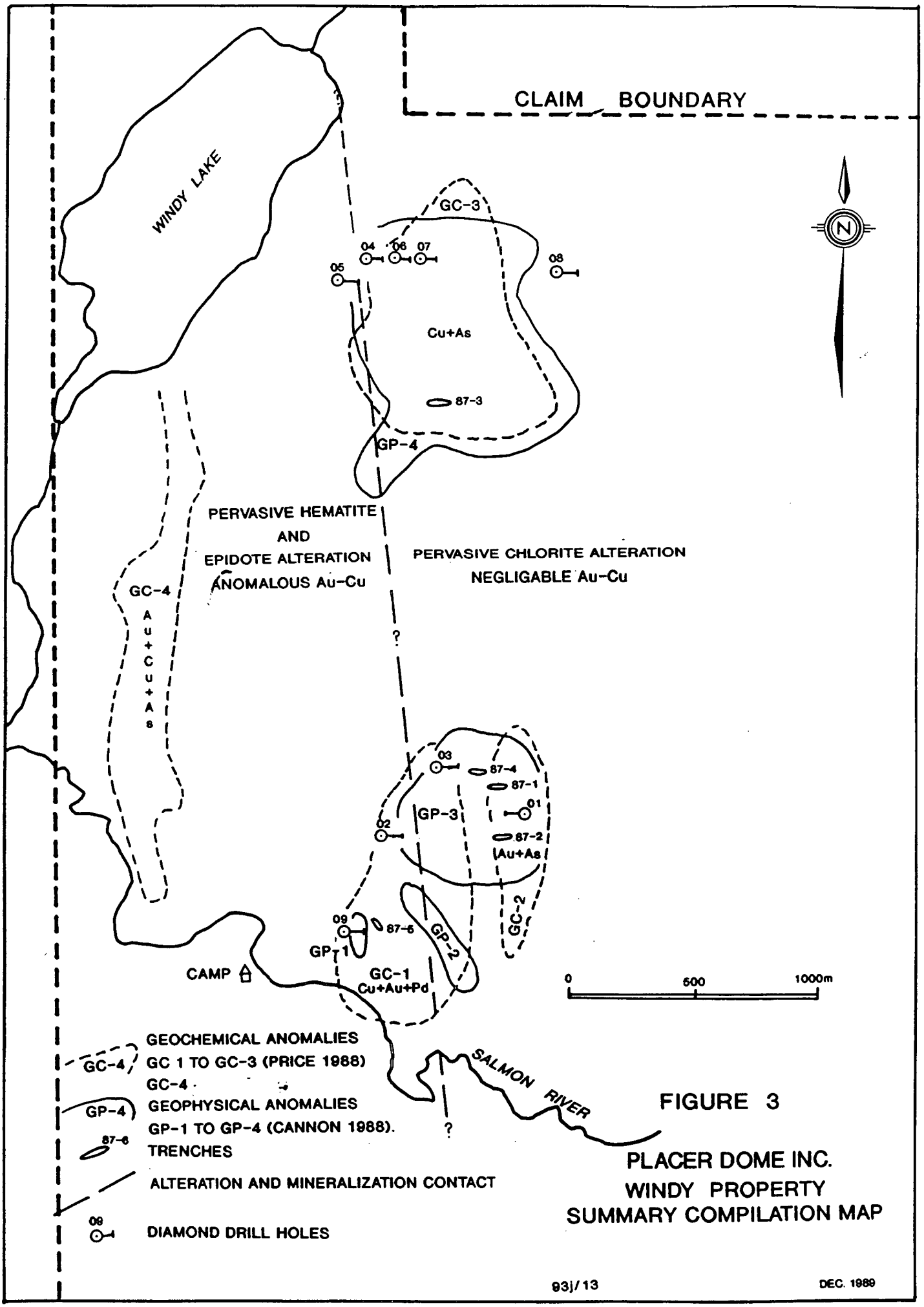

FIGURE 3

PLACER DOME INC.
WINDY PROPERTY
SUMMARY COMPILATION MAP

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The geochemical anomalies of each element were contoured by hand on the symbol plot maps then transferred onto the Compilation Maps of the North and South Claim Group (Figures 17 and 18). These maps also include VLF-EM conductors and IP chargeability anomalies. The contouring of the geochemical anomalies was aided by overlying the symbol plot maps on the Geology - Topography - Vegetation Map: Southern Claim Group (Figure 19) and the Geology Map: Northern Claim Group (Figure 20).

The following range of values are considered to be background, threshold and anomalous concentrations for each element. The selection of these breakpoints were determined by visual inspection of the data.

Element	Background	Threshold	Anomalous
Copper	<100 ppm		>100 ppm
Gold	<25 ppb	25-50 ppb	>50 ppb
Arsenic	<15 ppm	15-30 ppm	>30 ppm

The main geochemical anomalies occur within the southern claim group on the western and northern slopes of the topographic high. On the western slope there is a strong, linear type Cu-Au-As soil anomaly (GC-4) that extends in a north/south direction for approximately 2.0 kilometres.

The anomaly is coincident with VLF-EM conductors and a chargeability high. It stretches from 10600N/8700E to 12600N/9050E, averages 100 to 200 metres in width, and is open to the north. The copper values range from 39 to 1760 ppm, gold from 10 to 1625 ppb and arsenic from 2 to 730 ppm. The northern slope lines of 13000N to 13600N have small, weak and discontinuous Cu and Au anomalies, usually with a north-south orientation. These anomalies are often found overlying or flanking VLF conductors. The gold values range from 50 to 1055 ppb and copper from 55 to 1030 ppm. There are also numerous single point gold anomalies on the northern slope which reach 1870 ppb.

The northern grid produced thin, elongate single element anomalies. These anomalies are not coincident with the VLF conductors. The strongest gold anomaly stretches 600 metres from 15600N/11880E to 16200N/11820E, is open to the south, has a width of 20 to 60 metres and gold ranging from 10 to 1970 ppb. A copper anomaly extends north 400 metres from this gold anomaly to 16600N/11780E. This anomaly varies in width from 40 to 80 metres, is open to the north and has copper ranging from 92 to 150 ppm.

The second strongest north grid gold anomaly is arcuate in shape, 500 metres in length and follows the base of a slope from 16200N/14060E to 16600N/10520E. The anomaly has a width of 20 to 60 metres and gold ranges from 70 to 4000 ppb.

Copper anomalies in the northern grid are weak with most values just above the anomalous breakpoint of 100 ppm. The highest value returned for copper in this area was 361 ppm.

One arsenic anomaly was defined; its attained dimensions of 400 metres in length, 20 to 40 metres wide and open to the south. It reached 15600N/9400E to 16000N/9600E and has arsenic ranging from 33 to 54 ppm.

8.4 Interpretation of Results

A general observation of the southern claim block geochemical anomalies is that they appear to coincide with the denser populations of VLF-EM conductors. This may reflect an association of Au-Cu mineralization with structures that are inferred by the geophysical surveys.

The most interesting geochemical anomaly strikes north/south along the western property boundary, just east of the Salmon River. This linear Cu-Au-As anomaly is coincident with VLF-EM conductors and an I.P. chargeability high. The soil anomaly is best explained as being derived from an underlying mineralized structure, due to the presence of coincident VLF-EM conductors and numerous elevated values for gold. The anomaly is closed toward the south where soils are developing on fluvial materials. These materials may be masking a southern extension of the geochemical source. The northern end of the anomaly is open and adjoins Windy Lake. Down-ice dispersion elongated this anomaly northward or alternatively, the geochemical source may extend beneath the lake.

The extension of the grid to cover the northern slope of the southern claim block has produced numerous small gold and copper anomalies but none more pronounced than soil anomaly GC-3 that was tested by DDH-04 to DDH-08. It appears that these small geochemical anomalies are formed from mineralized shears untested by the northern fence of diamond drill holes.

The area south of Salmon River produced only a few single point geochemical anomalies. The presence of thick glaciofluvial materials in this area has probably masked the bedrock.

The southern claim group's topographic high and the northern claim group also produced only a few thin and single point anomalies. These areas with poor geochemical responses have good development of parent soils and are presently considered to lack economic mineralization.

9.0 DIAMOND DRILL PROGRAM

Diamond drilling was conducted between July 14 and August 8, 1989 by Olympic Diamond Drilling Ltd. of Vancouver, B.C. Nine holes for a total of 1,495 metres of NQ core were drilled with a Val d'Or model drill rig.

9.1 Core Logging Procedures

The diamond drill core was logged by the author and M. Prefontaine then photographed and sampled. The detailed geological logs are included in Appendix IV.

The drill logging was performed using the GEOLOG System, a software package developed by International Geosystems Corporation of Vancouver, B.C. The core logging was recorded on Geoform which has been modified by Placer

Dome Inc. This modified version allows the user to create a graphic log, provide written descriptions and code pertinent information for computer entry. Complete rock mechanics (Rock Quality Designation, Compressive Strength, Recovery and Fracturing) were conducted every 3.0 to 5.0 metres.

9.2 Sampling

Core sampling was selective with approximately 70% of the core analysed. All core with significant mineralization, particularly sulphide contents greater than 0.5%, shearing, alteration or veining was cut using a rock saw then sampled.

Sludge samples were collected for every drill run (10 feet). The sludge was run through a partitioned pipe splitter to collect an one-eighth split for a sample. This method of collection produces a representative sample.

9.3 Results

The drill program was designed to test a porphyry-type model, therefore, drill targets were defined by broad zones of high chargeability that were overlain by anomalous Au-Cu soil geochemical values.

The following table summarizes the collar details for the diamond drill program:

TABLE 1

DRILL HOLE SURVEY DATA

Drill Hole	Northing	Easting	Elevation m	Azimuth	Inc.	Hole Length m
DDH-01	10700	10300	1018	270	45	182
DDH-02	10600	9720	975	90	45	228
DDH-03	10900	9950	1015	90	45	182
DDH-04	13000	9660	1025	90	45	155
DDH-05	12900	9520	1020	90	45	204
DDH-06	13000	9760	1030	90	45	155
DDH-07	13000	9860	1035	90	45	155
DDH-08	13000	10400	1060	90	45	130
DDH-09	10200	9570	950	90	45	104
					TOTAL	**1495m**

The drillhole cross sections are plotted on figures 21 to 27.

DDH-01 to DDH-03 were designed to test an oval shaped I.P. chargeability high, Anomaly GP-3 (Figure 3), that underlies an area of pits and trenches (T 87-1, T 87-2 and T 87-4). This one kilometre wide anomaly is coincident with geochemical soil anomaly GC-2 (As, Au) and part of soil anomaly GC-1 (Cu, Au, Pd). The three holes encountered diorite interfingered with porphyritic andesite flows.

DDH-01 tested the eastern edge of the chargeability high beneath an arsenic-gold geochemical response. A zone with crackle texture, 3 to 5% quartz-carbonate stringers and 2 to 3% fracture fill pyrite returned an anomalous gold value of 0.21 g/ton Au over 10.8 metres.

DDH-02 tested the western edge of the chargeability high below anomalous gold-copper soils. This was the only hole to encounter granodiorite/quartz monzonite which occurred as dykes, 1.0 to 2.0 metres wide. Occasional, low gold and copper values associated with quartz carbonate tension fractures were intersected over narrow widths. The best intercepts returned were 0.55 g/t Au over 2.4 metres and 0.42% Cu over 0.5 metres.

DDH-03 tested a chargeability peak of Anomaly GP-3 beneath soils elevated in arsenic. Numerous fault zones were encountered but no significant values were returned.

DDH-04 to DDH-07 were drilled on an east-west fence through a large chargeability zone (Anomaly GP-4) coincident with soil anomaly GC-3 (Cu,As).

DDH-04 tested the chargeability zone beneath an arsenic soil anomaly. The hole encountered coarse to fine grained, occasionally porphyritic, diorite throughout its length. The only anomalous value was returned from a breccia zone assaying 0.11% Cu over 1.4 metres.

DDH-05, the most westerly hole of the fence, tested the western edge of the chargeability zone beneath a Au-Ag-Cu soil anomaly. The hole encountered coarse grained diorite throughout its length. A zone of brecciation returned anomalous copper over narrow widths. The intersections assayed 0.08% Cu over 1.0 metres and 1.47% Cu over 0.3 metres.

DDH-06 tested the western edge of a chargeability peak coincident with a silver soil anomaly. The hole encountered fine to medium grained diorite to 68 metres, then porphyritic andesite flows, crystal tuff and a diorite dyke for the remainder of its length. An anomalous copper value was intersected at the silicified diorite-volcanic contact associated with 3 to 4% quartz carbonate stringers and 1 to 2 % fracture fill pyrite. The assay returned 0.06% Cu over a length of 2.1 metres.

DDH-07 tested the centre of a chargeability peak. The hole encountered porphyritic andesite flows and bedded crystal tuffs. It intersected a chloritic fault gouge containing fragments of pyrite-quartz-carbonate veining which assayed 0.06% Cu over 4.5 metres.

DDH-08 was designed to test a small chargeability high coincident with a Cu-Ag-As soil anomaly. This hole encountered porphyritic to coarse grained diorite interfingered with porphyritic andesite flows and agglomerates. A brecciation zone assayed 0.06% Cu over 2.2 metres.

DDH-09 was designed to test a narrow, near surface chargeability high which covers an area of 50 metres by 200 metres (Anomaly GP-1). This chargeability anomaly is located immediately west of trench T 87-5 and within geochemical anomaly GC-1 (Cu, Au, Pd). The hole encountered medium grained diorite throughout its length. The best intercepts of the drilling program were received from DDH-09. Numerous zones of Cu-Au mineralization were

intersected with the highest assay from tension fractures returning 0.40 g/t Au and 0.26% Cu over 9.8 metres.

9.4 Interpretation of Results

The drilling that was conducted on the Windy property intersected only a few anomalous gold and copper values. These values were most commonly obtained from narrow, quartz-carbonate tensional veins and zones of brecciation. The restriction of copper-gold mineralization to structural controls suggests that VLF-EM conductors are better exploration targets as opposed to the broad zones of disseminated pyrite indicated by large chargeability highs.

The best development of gold-copper mineralization occurred throughout DDH-09. The nearest neighbor to this hole, DDH-02, also intersected occasional anomalous mineralization. The remaining seven holes returned negligible values.

Pervasive epidote and hematite alteration are prevalent within DDH-09 and DDH-02, the two southwestern holes which intersected anomalous gold and copper mineralization. Minor, patchy occurrences of this alteration style were observed within DDH-05, the western hole of the northern fence. Patchy, pervasive epidote alteration was observed at depth on DDH-03 but hematite was not present. It is concluded that the pervasive style of epidote and hematite alteration is associated with anomalous copper-gold mineralization and is most intense towards the west.

Granodiorite/quartz monzonite was only encountered within DDH-02 and occurred as narrow dykes. The dykes are possibly related to an undiscovered alkalic intrusive.

10.0 STATEMENT OF COST

The following expenditures were incurred by Placer Dome Inc. while operating the Windy claims during 1989. There were additional expenditures that were incurred for the geophysical surveys on the Windy Property during 1989; these are covered in a separate report entitled "Geophysical Survey Report on the Windy 1-18, 19 Fr Claims" by R.W. Cannon, September 1989. Total cost for the geophysical surveys was $57,924.27.

Personnel Costs

G. Shevchenko (Project Geologist) 50 days @ $375/day	$ 18,750.00	
M. Gareau (Geologist) 4 days @ $375/day	1,500.00	
H. Goddard (Technician) 25.5 days @ $287.50/day	7,331.25	
S. Frostad (Project Geologist) 111 days @ $334/day	37,074.00	
M. Prefontaine (Geologist) 85 days @ $250/day	21,250.00	
V. Matthews (Field Assistant) 83 days @ $208/day	17,264.00	
B. Nevokshonoff (Field Assistant) 84 days @ $167/day	14,028.00	
T. Berger (Geologist) 29.5 days @ $244/day	4,148.00	
A. Woolverton (Field Assistant) 20 days @ $157.50/day	3,150.00	
D. Traverse (Field Assistant) 14 days @ $210/day	2,940.00	
		$ 135,311.75

Line Cutting Costs

Grass Roots Enterprises: 86 kilometres of line		$ 70,689.21

Assay Costs

Soil Fine, 3,527 samples for Cu,Au,As; $8.86/sample	31,249.22	
Soil Coarse 3,517 samples for Au; $9.15/sample	32,180.55	
Core 882 samples for Cu,Ag,Au,As; $13.85/sample	12,215.70	
Sludge 446 samples for Cu,Ag,Au; $11.80/sample	5,262.80	
Rock 8 samples for Cu,Pb,Zn,Ag,Au,As; $13.80 sample	102.40	
		$ 81,010.67

Drilling Costs

Olympic Drilling & Consulting Ltd. - 1495 metres		
Invoices # 060789, 010889, 020989	113,289.79	
Materials and associated equipment	14,053.14	
		$ 127,343.92

Roads & Site Preparation Costs

MB Contracting		$ 8,372.00

Camp Operations Costs

Grass Roots Enterprises	268 man days	
Olympic Drilling & Consultants	126 man days	
Placer Dome Inc.	602 man days	
	996 man days @ $62.20	$ 61,951.20

Vehicle & Maintenance Costs

One 4x4 Ford Truck $1000/month	4,000.00	
One GMC Suburban $1500/month	6,000.00	
Gas, Oil & Maintenance $12.50/day	3,000.00	
Major Repairs for Trucks	3,000.00	
ATV Maintenance	2,000.00	
		$ 18,000.00

Helicopter Costs

Northern Mountain Helicopter	
Invoices #1885, 2685	$ 2,918.00

Travel Costs	$ 7,112.00
Accommodation Costs	$ 4,969.00

Equipment Purchases

Pacific Yamaha - 4 A.T.V's	22,911.18	
Camp Equipment & First Aid Supplies	17,098.82	
		$ 40,010.00
Miscellaneous Costs & Supplies		$ 22,862.00
Expediting & Freight Costs		$ 20,977.00
Telephone & Radio Costs		$ 3,824.00
Minister of Finance		$ 1,910.00
Claim Staking Costs		$ 4,584.00
Option Payments Costs		$ 40,000.00
Data Compilation & Report Preparation Costs		
S. Frostad 52 days @ $334/day	$ 17,368.00	
M. Prefontaine 22 days @ $250/day	5,500.00	
H. Goddard 1 day @ $287.50	287.50	
		$ 23,155.50
TOTAL COSTS		$ 675,000.25

11.0 CONCLUSIONS

The exploration completed to date on the Windy property indicates that the area west of current drilling has potential for gold-copper mineralization. A proposed program of diamond drilling would test this area for structurally controlled mineralization which is possibly generated by an alkalic porphyry system.

Submitted by,

S. Frostad

Scott Frostad
Project Geologist

REFERENCES

Cannon, R.W.: September 1988, Geophysical Survey Report on the Windy 1-5 Claims; Placer Dome Inc.

Pentland, W., Cannon R.W., P.Eng., and Thomson I.: April 1987, A Geological, Geophysical and Geochemical Report on the Windy 1-5 Claims; Placer Dome Inc.

Price, S.: November 1987, A Geochemical, Geophysical and Trenching Report on the Windy 1-5 Claims; Placer Dome Inc.

Price, S.: November 1988, Geochemical and Geological Report on the Windy 1-5 Claims; Placer Dome Inc.

STATEMENT OF QUALIFICATIONS

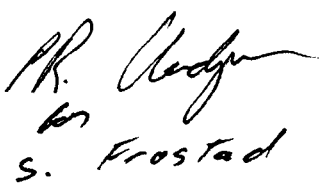
I, S.R. Frostad, of Placer Dome Inc., Vancouver, British Columbia, do hereby certify that:

1. I am a geologist.

2. I am a graduate of the University of Western Ontario, London, Ontario with a Bachelor of Science in Geology dated 1984.

3. I have been engaged in mineral exploration, primarily in Ontario, Quebec and Manitoba, since graduation in 1984.

4. I personally supervised and participated in all aspects of the 1989 diamond drill program, geological mapping and soil sampling on the Windy property including the interpretation of the data resulting from this work.



S.R. Frostad
Dated: November 15, 1989

APPENDIX I

Analytical Extraction and Detection Techniques

Analytical Extraction and Detection Techniques used by Placer Dome's Vancouver Geochemical Laboratory

Element	Unit	Weight (Gram)s	Disgestion	Detection Limit	Instrumentation
Cu	ppm	0.5	HC104/HN03 4 Hrs	2-4000	Atomic Absorption
Au	ppb	10.0	Aqua Regia 3 Hrs	5-4000	A.A. Solvent Extract
As	ppm	0.5	Aqua Regia 3 Hrs	2-2000	DC Plasma