



## ASSESSMENT REPORT TITLE PAGE AND SUMMARY

TITLE OF REPORT: Geological Work on the DOR Project, Horsefly Area

TOTAL COST: \$12,850.00

AUTHOR(S): Louis E. Doyle SIGNATURE(S): "Signed" NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): STATEMENT OF WORK EVENT NUMBER(S)/DATE(S): 4289243, June 18/09; 4345449, September 15 2009

YEAR OF WORK: 2009 PROPERTY NAME: DORFLY CLAIM NAME(S) (on which work was done) DORFLY 1 573181, DORFLY 2 573182

COMMODITIES SOUGHT: Au, Cu

MINERAL INVENTORY MINFILE NUMBER(S),IF KNOWN: 093A 117, 093A 149 MINING DIVISION: CARIBOO BCGS: 093A.026, 093A.036 LATITUDE 52.305000 LONGITUDE <u>-</u>120.935556 (at centre of work) UTM Zone 10N EASTING 640755 NORTHING 5796975

OWNER(S): LOUIS E. DOYLE MAILING ADDRESS: 8384 Toombs Dr., Prince George, BC, V2K 5A3

OPERATOR(S) [who paid for the work]: LOUIS E. DOYLE MAILING ADDRESS:

REPORT KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude **do not use abbreviations or codes**) Quesnel Terrane, Upper Triassic, Lower Jurassic, sedimentary, volcanic, tuff, argillite, phyllite, quartz, pyrite, feldspar porphyritic andesite

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS 10118, 10263, 10980, 11382, 110118, 11905, 13172, 16233, 17089, 17215, 17902, 18756, 19551, 20395, 20805, 21291, 21456, 24404

Mineral ( Change	Mineral Claim Exploration and Development Work/Expiry Date Change Confirmation			
Recorder:	MACPHERSON, FRANCES JEAN (116548)	Submitter:	MACPHERSON, FR JEAN (116548)	ANCES
Recorded:	2009/JUN/18	Effective:	2009/JUN/18	
D/E Date:	2009/JUN/18			

Confirmation

If you have not yet submitted your report for this work program, your technical work report is due in 90 days. The Exploration and Development Work/Expiry Date Change event number is required with your report submission. **Please attach a copy of this confirmation page to your report.** Contact Mineral Titles Branch for more information.

<b>Event Number:</b>	4289243
Work Type:	Technical Work
Technical Items:	Geochemical, Geological, PAC Withdrawal (up to 30% of technical work performed)
Work Start Date:	2009/JUN/15
Work Stop Date:	2009/JUN/15
Total Value of Wor	<b>k:</b> \$ 2600.00
Mine Permit No:	

Summary of the work value:

Tenure Number	Claim Name/Property	Issue Date	Good To Date	То	# of Days For- ward	Area in Ha	Applied Work Value	Sub- mission Fee
573181	DORFLY 1	2008/jan/06	2009/jun/18	2009/SEP/15	89	1976.04	\$ 1927.32	\$ 192.73
573182	DORFLY 2	2008/jan/06	2009/jun/18	2009/SEP/15	89	1620.90	\$ 1580.93	\$ 158.09

Financial Summary:

**Total applied work value:**\$ 3508.25

PAC name:	LOUIS ERIC DOYLE
<b>Debited PAC amount:</b>	\$ 908.25
<b>Credited PAC amount:</b>	\$ 0.0
<b>Total Submission Fees:</b>	\$ 350.82

 Total Paid:
 \$ 350.82

The event was successfully saved.

Event Number: 4289243

### Mineral Claim Exploration and Development Work/Expiry Date Change

Confirmation

Recorder:MACPHERSON, FRANCES<br/>JEAN (116548)Recorded:2009/SEP/15D/E Date:2009/SEP/15

Submitter: MACPHERSON, FRANCES JEAN (116548) Effective: 2009/SEP/15

Confirmation

If you have not yet submitted your report for this work program, your technical work report is due in 90 days. The Exploration and Development Work/Expiry Date Change event number is required with your report submission. **Please attach a copy of this confirmation page to your report.** Contact Mineral Titles Branch for more information.

<b>Event Number:</b>	4345949
Work Type:	Technical Work
<b>Technical Items:</b>	Geological
	•

Work Start Date:2009/JUN/17Work Stop Date:2009/SEP/14Total Value of Work:10500.00Mine Permit No:10500.00

Summary of the work value:

Tenure Number	Claim Name/Property	Issue Date	Good To Date	То	# of Days For- ward	Area in Ha	Applied Work Value	Sub- mission Fee
573181	DORFLY 1	2008/jan/06	2009/sep/15	2010/JUN/01	259	1976.04	\$ 5608.71	\$ 560.87
573182	DORFLY 2	2008/jan/06	2009/sep/15	2010/JUN/01	259	1620.90	\$ 4600.69	\$ 460.07

Financial Summary:

Total applied work value: \$ 10209.40

PAC name: Debited PAC amount: Credited PAC amount:	Louis Eric Doyle \$ 0.0 \$ 290.6
Total Submission Fees:	\$ 1020.94
Total Paid:	\$ 1020.94

The event was successfully saved.

**Geological Work** 

# on the

# **DOR Project**

Horsefly Area Cariboo Mining Division British Columbia

Work was done between June 17 and September 14 2009 on the following claims:

Dorfly 1 (Tenure 573181) & Dorfly 2 (Tenure 573182)

Latitude 52.305000 Longitude -120.935556 NAD83, Zone 10N UTM: Northing 5796975 Easting 640755

**Owner: Louis E. Doyle** 

October 30 2009

Report Prepared by: Louis E. Doyle 8384 Toombs Dr. Prince George, BC, V2K 5A3 Phone: 250-563-8752 Email: <u>nuera@telus.net</u>

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### 1.0 Introduction and Work Completed

The mineral claims comprising the property are owned by and registered in the name of Louis E. Doyle. 11 outcrop samples for rock identification were taken as road access was re-established through hand brushing where warranted in order to access areas not previously sampled. Soil, till and stream sediment samples will be sieved down to a heavy mineral concentrate then analyzed by a portable XRF analyzer with any anomalous samples sent to the lab for assay verification. Assay results have not been received at the time of the writing of this report and will be included in the next Doreen assessment report. (Figure 2 – Claim & Rock Sample Locations) (Figure 2a Claim & Stream Sample Locations)

The local geology and past history of the Doreen project area is described in this report with information from previous assessment reports #13,172, Noranda - 1984; #17,089, Eureka Resources - 1988; and #19,551 Eureka Resources - 1990

#### 1.1 **Property Location**

The Dor claims are situated some 85 km east of Williams Lake, British Columbia, within National System area 93A/7W, and are centered at 120° 57'W longitude and 52° 17'30"N latitude (Figure 1 - Property location) Road access to the property is east for 55 kilometers on the paved road from 150 Mile House to Horsefly River for about 30 km to a branch road that goes south up Doreen Creek to Doreen Lake

The south-facing slope north of the east end of Doreen Lake has been burned and logged. A network of old skid trails and recent bulldozer trails built by Eureka Resources, Inc. reaches the south-central part of the Dor 2 claim where most of the exploration work has been done.

#### 1.2 Geography and Physiography

The property is situated regionally in the Interior Plateau physiographic area. Glacial drift of various depths occur on the property with outcrop scarce except in the higher elevation areas where a moderate amount of outcrop is exposed and will be mapped in follow up programs. Overburden is thin in the eastern part of the claims but increase in depth to the west.

The climate is typical for the central interior, with warm summers and moderately cold winters. Annual precipitation is around 40 centimetres.

The project area has been ravaged by beetle bug kill and is being actively logged for fir, spruce and pine in the area, principally during winters, which has created significant road access to the project areas.

The claims area covers moderately dissected, rolling hills near the transition between the Interior Plateau on the west and the Cariboo Mountains. on the east. Relief is about 500 m, from Doreen Lake (950 m elev.) to the hill on the north (1,550 m elev.)

Forests of cedar, fir, balsam and spruce cover the eastern and southern claims area. These have been logged in part recently. A large burn covers the remainder of the claims, and it has light to moderate second growth.







### 1.3 Mineral Deposits

Three general types of gold deposits are possible on the project, gold-bearing veins, stratabound occurrences and copper-gold porphyry type deposits. This classification is simplistic, but forms a starting point in the discussion.

Upper Triassic black argillites and phyllites host most of the gold-quartz veins along the eastern margin of the Quesnel Trough, as for example, the Frasergold occurrence (stratigraphically controlled, gold-bearing quartz veins and segregations) and similar occurrences in the Spanish Mountain. area.

The Doreen occurrence is classed as vein type. There are crosscutting vein-like bodies of massive pyrrhotite and pyrite in the area, some parts of which do carry gold. However, there is scarcity of megascopic quartz veining and Doreen occurrence should not be confused with the gold-quartz veins in the Upper Triassic rock units to the east.

The largest and most developed gold deposits are associated with the early Jurassic plutons, namely the Cariboo-Bell deposit and the QR deposit. The Cariboo-Bell deposit, 9 km southwest of Likely, has mineable reserves of 117 million tons grading 0.31% Cu and 0.012 oz Au/ton. Mineralization is mainly confined to high level, intrusive breccia zones within an alkalic laccolith of early Jurassic age emplaced at the site of an Upper Triassic eruptive center (Saleken and Simpson, 1984).

The QR deposit, 15 km northwest of Likely, has a mineral inventory of about 1.1 million tons grading 0.2 oz Au/ton. Gold mineralization is located within a 300 m wide alteration halo about the QR stock in vocanoclastics, blocky basaltic conglomerate and breccia, and hornfelsed sediments. The QR stock has diorite margin and monzonite core (Fox et al, 1986).

There are two types of ore present at the QR deposit: pyritic stockworks in propylitized basalts and disseminated pyrite in massive, propylitized basaltic tuffs. The alteration assemblage includes variable amounts of pyrite, chlorite, fine-grained disseminated epidote, epodite-rich selvages on pyrite-carbonate veinlets, and thin pyrite-epidote coatings on fractures (Fox et al, 1986).

Fox et al have summarized the events as follows. They are repeated in full, as they could be directly applicable to an understanding of the mineralization on the Dor claims. The three stages are:

- 1) 'Mafic submarine volcanics of shoshonitic (alkalic) composition are deposited from fissure style eruptions. No textural zoning within the basaltic pile is present to indicate any central volcanic center. During waning stages of the mafic phase, a brief volcanic hiatus allows development of shelf-like limestones and calcareous sediments. Remnant heat flow from the mafic volcanics or perhaps the initial development of the central volcanic centers present during the subsequent felsic volcanic phase results in local fumarolic activity. This activity results in pyrite-carbonate alteration of basaltic units near the top of the pile. Pyrite precipitates forming fine-grained framboidal, colloform masses and bedded textures accompanied by sparry calcite cement. Traces of chalcopyrite in this horizon and local beds of massive pyrite suggest that massive sulphide deposits may have formed at this time. Gold is not present at this stage.
- 2) Rapidly rising, differentiating, silica-poor diorite stocks begin to intrude the volcanic pile. Felsic breccias and flows are erupted from central volcances. Fragments of the stock and

the surrounding basaltic rocks are often taken up in eruptive breccia flows. Felsic rocks quickly grade outward from volcanic centers into distal volcaniclastic and epiclastic equivalents. Possible auriferous exhalative horizons may form at this time within proximal felsic strata.

3) Eventually the alkalic stock, now strongly differentiated, intrudes its own volcanic extrusives. Possible caldera collapse provides a plumbing system for a convection system of heated, acidic, oxidizing meteoric and/or magmatic fluids. Gold is taken into solution from the surrounding rock mass or contributed directly from magmatic fluids. When gold-laden solutions encounter the pyrite-carbonate horizon, formed in Stage 1, the strong pH-Eh barrier precipitates gold at the reaction front. Higher in the convective system no favorable host rock is present and the system diffuses into a large, low grade porphyry copper deposit.'

It follows from the above descriptions and models presented that gold exploration in the Quesnel Gold Belt should then focus on semi-conformable, stratabound mineralization hosted by permeable volcaniclastic or sedimentary rocks, preferably calcareous tuffs and siltstones, and developed in propylitic alteration zones about alkalic plugs, stocks and dikes. Major faults could have played a part in the mineralization, in so far as volcanic centers could be preferentially developed in gradens along a volcanic axis.

#### 1.4 History

The exploration history of the Dor claims has been well reviewed by Leishman (1985) and the following is mostly based on his summary.

#### 1.4.1 In 1974 Newmont Mining and Dome Mines

Reported the occurrence of porphyry copper mineralization in a small-altered quartz diorite stock, the "Doreen" occurrence (B.C. Ministry of Mines, G.E.M., 1974)

#### 1.4.2 In 1982 a government agrochemical release

(Regional Agrochemical Survey, Geological Survey of Canada, B.C. Ministry of Energy, Mines and Petroleum Resources, N.T.S. 93A) identified prominent agrochemical anomalies in silts and which touched off a staking rush in the area. Kern Holdings Ltd. staked the Door claims at this time.

#### 1.4.3 1981–1983 Kern Holdings Ltd. and Eureka Resources Ltd.

Kern Holdings Ltd. completed a soil survey over the claims in 1981, collecting 330 samples. Anomalous gold values were not abundant; however a correlation between anomalous copper and gold values was noted. In 1983 Eureka Resources Ltd. undertook soil sampling (887 samples), geological mapping, rock chip sampling, a limited VLF-EM survey and access road construction.

A broad zone, greater that 45 ppb Au, parallels the base line from 14E to 26E. Zones of ferricrete (re-cemented talus and soil with sulphide fragments) were found near the main gold geochemical anomaly. These carried from 0.022 oz Au/ton, and were thought at the time to indicate near surface mineralization.

#### 1.4.4 1984 Noranda Exploration Co. Ltd.

In the early part of the 1984 field season Noranda undertook, geological mapping, geophysical and geochemical surveys, and drilled two short holes.

Most of the work was along the base line in the area of the main geochemical anomaly. A HLEM and magnetometer survey were completed over most of the area. An EM conductor was outlined, which coincided with the eastern end of the soil geochemical anomaly. However, over most of its length the conductor lies some 50 m north of the geochemical anomaly. Test lines of induced polarization indicated an extensive and highly polarized unit (pyrite and pyrrhotite). Baerg and Bradish (1984) concluded that the HLEM and IP anomaly source could possibly be a mineralized shear or narrow alteration zone. One sample of float carried 12.5 ppm Au.

Two holes were spotted to test the EM conductor. Massive sulphides were intersected but these carried negligible gold. However, later re-sampling of the core by Eureka reported a value of 0.026 oz Au/ton over 2.1 m of highly altered andesite with low sulphide content in the hole NDL-84-1.

#### 1.4.5 1984–1985 Eureka Resources Inc.

Eureka then performed trenching, soil and rock chip sampling. The trenching was concentrated in the area of Noranda's drill holes. Values to 0.132 oz Au/ton were reported. A narrow band of brecciated massive pyrrhotite and pyrite was uncovered near 22+60E, 2+00N but no gold values were reported. One sample of massive sulphide float collected by B. Kahlert carried **68 ppm Au**.

Further trenching chip sampling by Eureka in 1985 uncovered two more zones of massive sulphides, both of which carried insignificant values of gold and silver. One sample of andesite west of NDL-84-1 returned with 0.186 oz Au/ton over 2 m. The steep topography precluded trenching, however.

#### 1.4.6 1989 Gibraltar Mines Drilling

A diamond drill program was conducted by Gibraltar Mines Limited during the period August 14 to August 30, 1989. Six holes were drilled totalling 1212.71 meters.

#### Objective

The primary purpose of the 1989 drill program was to test the inferred bedrock source of the large east trending geochemical gold anomaly outlined by Eureka. A secondary purpose was to determine the geological nature of the sulfide mineralization found in rock exposures within and adjacent to the geochemical anomaly. (Figure 3 – Drillhole Locations and Au Soil Anomalies)

#### Results

Two vertical and four angle N.Q. diamond drill holes were completed. Some difficulty was encountered in drilling the hard, highly fractured hornfelsic rocks but recoveries generally remained above 95. Survey control was by compass, hip chain and topographic map. Assays of the core were unavailable at the time the Statement of Work was submitted.

Drill holes 89-1, 89-2, 89-3, 89-4 and 89-6 have encountered similar rock types. All holes for example, have intersected an alternating sequence of fine-grained siliceous black argillite and fine to medium grained grey-green tuff. The tuff appears to be of andesitic or dacitic composition and generally lacks bedding structure. The argillite appears to be composed mainly of silica with minor and variable amounts of graphite and carbonate. Fine bedding structure is often shown by alternating grey and black laminae. Bedding angles, as indicated in vertical hole 89-3, suggest the sequence dips at 70- to 80-degrees. The thickness of the alternating tuff and argillite beds vary between one- and 40-meters. All the above holes also indicate the argillite-tuff sequence has been intruded by a series of grey seriate textured dacitic dykes. Heat metamorphic effects occur on most dyke contacts and some brecciation of the host rock was noted in holes 89-2 and 89-4. A steep dip can be inferred for most of the dykes; particularly in the case of drill hole 89-2, which



suggests the dyke contact, lies along the 63-degree axis of the hole. Another dyke rock was noted in holes 89-4 and 89-6; this is a grey-green fine-grained seriate textured hornblende porphyry having conspicuous black prismatic hornblende phenocrysts. All the rock units contain very fine grained disseminated pyrrhotite and pyrite which generally averages between one- and two-percent, and may exceed seven-percent in some three- to six-meter sections. The relationship between pyrite and pyrrhotite is not clear, but there is some suggestion that the proportion of pyrite increases towards the west. Massive brown pyrrhotite segregations occur in many of the holes, particularly in hole 89-1, in which several massive zones up to .5 meters thick have been intersected. Minor chalcopyrite often accompanies the massive pyrrhotite. All the rock units are cut by numerous quartz and quartz-carbonate veinlets, which occasionally also contain sulphides.

Drill holes 89-3, 89-4 and 89-6 have encountered higher grades of contact metamorphism associated with zones of plutonic rock. In the case of 89-3, a biotite hornfels was intersected near the bottom of the hole at 201 m., followed by a zone of grey diorite and more biotitie hornfels. Further to the west, hole 89.4 appears to be confined entirely to alternating zones of biotite hornfels, recrystallized tuff and dacitic dykes. A four meter zone of diorite rock was also noted. Still further west, hole 89-6 has intersected a sequence of breccias, zones of biotite hornfels and recrystallized tuff, and 17-meter wide zone of grey quartz-diorite fragments. Another is a mixture of various plutonic porphyry fragments, some of which appear felsic.

Drill hole 89-5, which was the most westerly hole of the program, was confined almost entirely to a dioritic rock type. The diorite appears mainly as a fine to medium grained, equigranular plutonic rock consisting essentially of plagioclase and mafic minerals. Various degrees of propylitic alteration were noted throughout the hole, mainly involving a saussuritization of plagioclase and choritixation of mafic minerals. Cutting the propylite were numerous zones of dark chlorite-green alteration assumed to be an assemblage of chlorite, silica and minor carbonate. This same alteration also occurs as halos and envelopes around certain quartz veins. Zones of massive epidote occur throughout the hole, as well as quartz veining accompanied by various combinations of chlorite, epidote and carbonate. Disseminated pyrite was noted and pyrrhotite also occurs in veins either alone or with the other vein minerals. One zone, at about 213-meters, contains massive pyrrhotite, pyrite and chalcopyrite in a quartz-cabonate-chlorite gangue over a width of about .6-meters. Of interest in this hole, was the occurrence of hornblende porphyry dykes similar to those of holes 89-4 and 89-6, which were clearly intrusive to the diorite.

#### 1.5 Regional Geology

The area referred to as the Quesnel Gold Belt lies within the Quesnel Trough, a linear belt of early Mesozoic volcanic and sedimentary rocks lying between the Omineca Crystalline Belt (early Paleozoic and Precambrian metasedimentary rocks) on the east and the Pinchi Geanticline (Paleozioc Cache Creek Group) on the west. (Figure 4 Regional Geology Map)

The Quesnel Trough in the section is composed of alkalic volcanics, volcaniclastics and sedimentary rocks intruded by comagmatic stocks and dike complexes (Campbell, 1978). The basal unit of the Trough is of Upper Triassic black argillite, located along the eastern boundary of the Trough and representing a back arc basinal facies.

Above the argillite unit lie a succession of augite porphyry breccias and flows with subordinate interbedded argillites. These area in turn overlain by volcaniclastics and argillites of Upper Triassic and Lower Jurrassic age.

Several volcanic centers emerged in the Lower Jurrassic. These are recognized by subaerial volcanic flows and composite lenses of sandstone, grit and conglomerate (Saleken and Simpson,



1984). Between Horsefly Lake and Horsefly Rover, Panteleyev (1987) considers that felsic-clast conglomerates mark a series of small gradens, which may be part of a series of larger, northwesterly trending gradens along the medial axis of a volcanic arc. This same structural zone could have controlled emplacement of volcanic centers.

### 1.6 Local Geology

#### 1.6.1 Lithology

The Dor claims are underlain by Upper Triassic – Lower Jurrassic interbedded andesitic volcanics and argillites, which have been intruded by at least one small plug of quartz diorite north of Doreen Lake. Samples collected in 1987 are described in Appendix V.

The black argillites have been hornfelsed into hard, flinty material, which is highly shattered, sheared and brecciated. Fine laminations are discernible in a few places and a fine fracture cleavage filled with quartz was noted in one case. Iron oxide coatings are common and some outcrops are thickly coated with gossan. The argillites have locally been bleached to light gray and is some places show partial silicification. Fine quartz stringers are common but not pervasive, as are iron oxide and fine pyrite-filled fractures. Where both quartz and pyrite stringers are present pyrite crosscuts quartz.

The volcanic rocks are predominantly hornblende andesite with subordinate hornblende – pyroxene andesite. All those seen by the author in the main work area are flows, breccias or possibily volcaniclastics. In most cases the groundmass was either so fined grained, glassy and opaque or so altered the rocks could not be readily classified. Some did have the appearance of being dike rock (slightly coarser grained, less porphyritic) with a texture intermediate between typical flows and intrusives.

Feldspar is extensively saussuritized and sericitized. The groundmass has been variously altered to an assemblage of carbonate, chlorite, iron oxides, and less commonly, minor epidote. Some rocks have been silicified, with abundant crystocrystalline light gray quartz and quartz-filled stringers. Fine pyrite is ubiquitous, coating joint surfaces, forming irregular blebs to  $\frac{1}{2}$  cm, disseminations and filling fine fractures.

An x-ray diffraction study of six andesite samples was done by Cominco Exploration Research Laboratory in Vancouver. The x-ray study revealed that quartz is present in four of the six examples. It is considered to be the result of silicification, both of the groundmass and through the introduction of quartz stringers. Chlorite is a large component of some samples. Both calcite and pyroxene were detected but are rare. Epidote is not abundant.

I would not describe the rocks as being extensively propylitized, due to the abundance of relatively unaltered amphibole and pyroxene and the fact that the cores of the plagioclase grains have not been replaced by epidote. No stringers or coatings of epidote were seen.

The quartz diorite to the north of Doreen Lake is of fine to medium grained, pale green pyroxene set in feldspar groundmass that includes some intergranular quartz. A few ragged, inclusion-filled, subhedral hornblende prisms are present and these have been partly replaced by epidote. It would be useful to know the extent of the plug or stock and if the mineralogy or alteration is zoned.

### 1.6.2 Structure

The structure has been mapped as interbedded volcanic and sedimentary rocks striking about 040°. The few bedding measurements made by myself confirm this general strike and indicate a dip of 50-60° to the northeast. I am not confident of the map pattern shown due to the lack of exposure and difficulty in tracing any one layer or units.

A preliminary study of the fractures indicates the following:

- 1. cross joint set; strike 070°, dip 90°, right angles to bedding, filled with quartz
- 2. shear joint set; strike 040°, dip 70° northwest
- 3. dilation joint set; strike 050°, dip 50° southeast
- 4. shear joint set; strike 340°, dip 55° east-northwest, subparallel to bedding
- 5. quartz-filled fractures dipping moderate angles to north and north-east
- 6. a single shear zone striking 110°, dip 74° north-northeast, cuts quartz-filled cross joints (Set 1 above)
- 7. Baerg and Bradish (1984) reported that massive sulphides occur in east-west trending shear zones. Other evidence for east-west structures includes the east-west trends of the conductivity and geochemical anomalies and a parallel major fracture zone in the valley of Doreen lake and extending at least as far west as the Horsefly River.

Baerg and Bradish reported that their magnetometer survey appeared to be mapping the stratigraphy. However, their magnetometer map (Figure 10 of their report) shows magnetic trends of N60°W, some 20° west of the lithological trends shown on the geology map.

#### 1.6.3 Mineralization

Baerg and Bradish reported that four types of mineralization occur:

- 1. small isolated pods of semi-massive pyrrhotite-pyrite-chalcopyrite in chloritic altered volcanics,
- 2. semi-massive to massive pyrrhotite, +/- pyrite, +/- chalcopyrite in east-west shear zones within andesitic volcanics
- 3. small chalcopyrite-rich zones in chloritic siliceous volcanics, and
- 4. isolated massive sulphide float in ferricrete.
- 5. fine pyrite-filled fractures in andesite, and
- 6. disseminated pyrite in andesite

Gold mineralization occurs in the following areas:

- 1. Massive pyrrhotite and pyrite to **68,000 ppb** Au. Gold values in these rocks are very variable and I do not believe they constitute a prime target for gold mineralization. Drilling by Noranda verified that massive sulphides are the probable cause of the conductivity anomaly. "However, these sulphides are not thought to have much to do with the geochemical anomaly to the south".
- 2. Ferricrete; assays to 0.155 oz Au/ton and 12.55 ppm Au. The ferricrete consists of fragments of sulphides, bleached argillite and altered volcanics cemented with iron oxides. It occurs near and downslop of the massive sulphides exposed in the trenches and is considered to be a surficial deposit related to groundwater flow. Gold is a common constituent of such iron oxides, and in this case is most likely derived from any gold-

bearing sulphides in the massive sulphide occurrences. The ferricrete is not considered to be a gold exploration target but it is a useful prospecting phenomena.

**3.** Rocks mapped as andesite 20 m west of NDL-84-1; assays of 0.132 and 0.186 oz Au/ton. The rocks in this area are silicified, chloritic andesites. These rocks are a worthy exploration target. They lie upslope of the gold geochemical anomaly in soil, but their location does not explain the east-west trend of the gold anomaly.

### 1.7 Dor Mineralization Model

The following geological factors that could be part of a mineralization model are:

- 1. presence of interlayered andesitic volcanics and argillites; permeable due to their inherent volcaniclastic and clastic textures and brecciated aspect.
- 2. presence of quartz diorite plug or stock; the possibility of other bodies being present should be explored, as these could be the source of gold-bearing fluids, as at other occurrences in the region.
- 3. situation of east-west structure (s) which at this time are considered to be shear zone (s) and to control massive sulphide deposits. They could explain the subparallel gold geochemical anomaly.

Geological factors critical to mineralization at the QR deposit that have not yet been found on the Dor claims are:

- 1. pervasive propylitic and potassic alteration,
- 2. calcareous tuffs and sediments, and
- 3. pyrite-carbonate alteration whose location subsequently determines where gold precipitates.

It remains to be determined if gold mineralization detected in the andesites near the geochemical anomaly is the source of that anomaly. It may very well be that there is an underlying east-west structure that extends westward as far as the quartz diorite plug. If that is so, then the Dor mineralization model would include a source of gold (the diorite), a conduit (the east-west structure), and host rock (permeable, brecciated, slightly altered andesitic volcanics and shattered argillites).

#### Interpretation of 1989 Drill Program

The diamond drill program has indicated the geochemical anomaly is underlain in part, by a contact zone formed between a dioritic pluton and an argillite-tuff sequence. The diorite appears to have been altered by an early alteration, and a later hydrothermal phase, which has caused localized *chlorite-quartz-carbonate alteration*. Sulfides, mainly pyrite and pyrrhotite with minor chalcopyrite and molybdenite appear to have been a relatively late event since it occurs in all rocks including the hornblende porphyry, which is clearly younger than the diorite. The presence of a quartz diorite zone in hole 89-4 and felsic fragments in nearby breccias are of interest since it suggests the pluton is differentiated into more acidic phases. Narrow contact effects immediately next to the pluton, which involve the transformation of argillite to biotite hornfels and the recrystallization of tuff to granoblastic textured rock, suggests an epizonal level of emplacement. An irregular easterly dipping contact zone is also indicated by the distribution of biotite hornfels and plutonic rock in drill holes 89-3, 89-4 and 89-6. The fact that the drill holes are distributed

along a westerly axis, and each hole, with the exception of 89-5, has intersected the argillite-tuff sequence as well as numerous dacite dykes suggests that both the argillite-tuff sequence and the dykes strike close to a westerly direction. This appears even more likely when it is considered that both the dykes and host rock dip at 70- to 80-degrees, possibly to the north. *If westerly strike is correct, then this drill program has been confined to only a narrow horizon within the sedimentary-volcanic host rock formation. The drilling may, however, lie at a large angle to the thermal metamorphic gradient set up by the pluton; that is, the pluton at this point is considered to strike northerly.* 

#### **1.8 Conclusions and Recommendations**

The 2009 samples collected were stored in the Likely field camp and are currently being sent in for analysis and the results will be reported in the next assessment report on the Doreen Project. The use of a portable XRF analyzer will allow more samples to be tested for less money, therefore maximizing exploration dollars.

A program of soil sampling, geological mapping and geophysical surveys is being planned to define targets for follow up exploration programs. IP surveys are recommended to define drill targets for follow up drilling.

#### **1.9** Certificate or Qualifications

This report was prepared by Louis E. Doyle, Prospector, who has 15 years experience managing exploration projects in the Cariboo region of British Columbia.

#### 1.10 Bibliography

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## **Expenditures for Dor Project**

## Work was completed on June 15 &16, 2009 Work was completed on Dorfly 2 (tenure # 573182)

Geological

2 days @ \$125/day vehicle & gas       \$ 200.00         Chris Stevens       2 days @ \$250/day wages 2 days @ \$100/day room & board       \$ 500.00 \$ 200.00         Aaron Doyle       2 days @ \$250/day wages 2 days @ \$100/day room & board 2 days @ \$100/day room & board 2 days @ \$125/day vehicle & gas       \$ 500.00 \$ 200.00	Soil & stream samp	ling		
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2 days @ \$125/day vehicle & gas \$ 200.00	Aaron Doyle	2 days @ \$250/day wages		
		2 days @ \$100/day room & board	\$	500.00
\$ 250.00		2 days @ \$125/day vehicle & gas	\$	200.00
			\$	250.00

## **Report preparation**

Louis Doyle 2 days @ \$400/day wages

**Total expenditures** 

\$ 2,350.00

# **Expenditures for Dor Project**

Work was completed on June 17 - September 14, 2009

## Work was completed on Dorfly 1 (tenure # 573181) & Dorfly 2 (tenure # 573182)

Geological			
Planning and supervision			
Louis Doyle	1 day @ \$400/day wages	\$	400.00
Rock sampling			
Louis Doyle	3 days @ \$400/day wages 3 days @ \$100/day room & board 3 days @ \$125/day vehicle & gas	\$ \$ \$	1,200.00 300.00 375.00
James Doyle	3 days @ \$250/day wages 3 days @ \$100/day room & board 3 days @ \$125/day vehicle & gas	\$ \$ \$	750.00 300.00 375.00
Chris Stevens	3 days @ \$250/day wages 3 days @ \$100/day room & board 3 days @ \$125/day vehicle & gas	\$ \$ \$	750.00 300.00 375.00
Aaron Doyle	2 days @ \$250/day wages 3 days @ \$100/day room & board 3 days @ \$125/day vehicle & gas	\$ \$ \$	750.00 300.00 375.00
Mobe & demobe			
Louis Doyle	1 day @ \$400/day wages	\$	400.00
James Doyle	1 day @ \$250/day wages	\$	250.00
Chris Stevens	1 day @ \$250/day wages	\$	250.00
Aaron Doyle	1 day @ \$250/day wages	\$	250.00
Misc. expenditures			
Quad rental (2) Field supplies Satelite phones (2)	5 days @ \$100/day 10 days @ \$25/day	\$ \$ \$	500.00 1,250.00 250.00
Report preparation		Ψ	200.00
Louis Doyle	2 days @ \$400/day wages	\$	800.00
Total expenditures		\$	10,500.00