

PROSPECTUS

DATED: April 24, 1987

# **LEXINGTON RESOURCES LTD.**

(hereinafter called the "Issuer")

#### PUBLIC OFFERING 300,000 COMMON SHARES

Shares	Price to Public	Commission	Net Proceeds to be received by the Issuer
Per Share	\$0.50	\$0.075	\$0.425
Total	\$150,000.00	\$22,500.00	\$127,500.00*

\* Before deduction of the costs of the issue estimated to be \$18,000.00.

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#### AGENT

### WOLVERTON & CO. LTD.

#1750 - 701 West Georgia Street Vancouver, British Columbia

EFFECTIVE DATE: April 29th, 1987

KAMLU Rec'd. JUL 1 - 1987

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#### LEXINGTON RESOURCES LTD.

#### NOTES TO THE FINANCIAL STATEMENTS SEPTEMBER 30, 1986

#### 3. SHARE CAPITAL...continued

The Company has reached an agreement in principle whereby its agent will offer to the public 300,000 shares at a price of \$.50 per share. The agent will receive a commission of \$.075 per share.

The escrowed shares may not be traded in, dealt with in any manner whatsoever, or released without the consent of the appropriate regulatory authority.

#### 4. INCORPORATION

Hutton Miller

The Company was incorporated pursuant to the provisions of the Company Act of British Columbia on May 30, 1986 and commenced operations at that time.

#### PROGRESS REPORT ON THE

#### BOBCAT I, II AND III CLAIMS

Clinton Mining Division, B.C.

for

LEXINGTON RESOURCES LTD.

1600 - 609 Granville Street

Vancouver, B.C.

V7Y 1C3

by

#### ASHWORTH EXPLORATIONS LIMITED Mezz. floor 744 West Hastings Street Vancouver, B.C. V6C 1A5

- Location: NTS 92.0/7/SE Lat. 51 17'North/Long. 122 33'West Camelsfoot Range, about 70km WSW of Clinton, B.C.
- Subject: Geological, geochemical and geophysical survey results, August 20-September 6, 1986, and recommendations for further explorations.
- Prepared by: Hugo Laanela, F.G.A.C., Consulting Geologist 3657 Ross Road Nanaimo, B.C., V9T 2S3

October 8, 1986 February 10, 1987 Revised



## VIEW OF BOBCAT II CLAIM:

Looking west from camp toward dacitic dome (center of photo)

A.R.H./1986

#### SUMMARY

The 3 contiguous Bobcat claims, owned by Lexington Resources Ltd, are on Fraser Plateau of South-Central B.C. in Clinton Mining Division, about 240 km north of Vancouver and 3 km SW of Blackdome Mountain. The claims cover the SW extension of an epithermal Au-Ag bearing vein system now being successfully mined on the adjoining Blackdome Mine property. Although considerable surface and underground development has been done on present Blackdome property since the original gold discovery there in 1947, no such systematic exploration had been done on the Bobcat property until recently.

Blackdome Mine, B.C.'s newest gold producer, went into production in May 1986, and has reported ore reserves of about 207,000 tons grading, on the average, 0.79 opt Au and 3.76 opt Ag, with an Au:Ag ratio of about 1:4-5; only minor sulphides are present. The mine workings are about 2 - 3 km, along the NE strike, from Bobcat boundary.

The general area is underlain by Cretaceous to Tertiary volcanic and volcaniclastic rocks and related feeder dykes, ranging in composition from basalt, through andesite and dacite, to rhyolite. A SW trend dominates the structure of veins and host rocks in the area, resulting from tensional forces operating in NW-SE direction during Eocene time. The Blackdome Mountain and a series of smaller dacitic domes trending SW to Bobcat claims form a line of volcanic eruptive centres along the axis of a broad anticline with a shallow NE plunge. Zones of tension fractures related to doming have been recognized as the loci for the emplacement of the epithermal quartz veins.

There are reportedly at least 10-12 quartz veins or vein systems in the Blackdome Mountain area, cutting all rock types except the youngest basalt flow unit on summit of the Blackdome Mountain, striking generally North 40 degrees East, with moderate to steep NW dip. Mineralization is similar to many epithermal Au-Ag bearing quartz vein deposits of "bonanza-type" occurring in Western U.S.A. and Mexico. Ore grades occur in the most silicified parts of the veins and generally form steeply plunging rich shoots, with strike lengths seldom exceeding 30m. The veins vary from a few centimetres to a few metres in width and from weak stringer zones to sheeted, vuggy veins composed almost entirely of quartz. Ore minerals at Blackdome are very fine-grained native gold and silver, electrum, acanthite-argentite, and freibergite, with minor amounts of Fe, Cu, Pb and Zn sulphides also present. Abundance of quartz does not guarantee precious metal values, and there is no obvious shape or pattern to the ore shoots.

Wallrock alteration, consisting of silicification and bleaching, occurs typically within 1m of the veins, and is surrounded locally by very intense argillic alteration envelope up to 15m in width. Propylitization is present, but to a lesser degree. Although the geology on Bobcat claims is similar to Blackdome area, there is less outcrop and more overburden in Bobcat area (mostly alpine terrain) and hence, the claims area has not been explored as extensively in the past. However, alteration zone similar to that of Blackdome is present and quartz float, some of it mineralized, had been found indicating the presence of mineralized quartz veins on the property. In 1981, anomalous gold values were found in heavy mineral samples from the creeks here, and a highly altered and silicified quartz float assayed 2010 ppb Au(0.059 opt.). In 1982 soilsampling 3 samples analysed from 1180 to 2555 ppb Au, and 3 other samples contained weakly to moderately anomalous values of Au and Ag.

During August 20-September 6, 1986, Ashworth Explorations Limited, on behalf of Lexington Resources Ltd, carried out a "grassroots" type exploration program on Bobcat claims, with most work being do easternmost Bobcat II claim, closest to Blackdome property. done on The determine if epithermal Au-Ag was purpose of this program to the adjacent Blackdome Mine at mineralization of the type found property, and on the same strike as the Blackdome deposits, was present on the Bobcat claims. The work, subject of this report, consisted of prospecting, geological mapping, geochemical sampling, and VLF-EM and magnetic surveys.

The geochemical survey results indicate that there is potential finding epithermal Au-Ag mineralization on the Bobcat claims. Due to extensive overburden cover no quartz veins were seen. However, quartz float occurs in a zone of argillic alteration at least several hundred metres wide, centered on a conspicuous dacitic dome on Bobcat II claim. There are a number of Au, Ag, Hg and base metal anomalies, trending SW along the regional strike on Bobcat II claim grid area, but tending to concentrate in the altered zone surrounding the dacitic dome. Mercury particular, considered to be a good "pathfinder" for precious metals in Blackdome area, form a group, of more-or-less parallel, SW trending, moderate to high anomalous zones within an area about 2 km long and at least 0.5km wide, around and to the NW of the dacitic dome. Gold and silver in soils also form several narrow and moderate but definite SW trends.

One of the most interesting geochemical anomalous zones, or group of zones, occurs along the eastern margin of the dacitic dome, near the east boundary of Bobcat II claim. It consists of partly overlapping Au, Ag, Hg and base metal anomalies occurring in an area about 500m long and several hundred metres wide; it is also associated with a SW trending VLF-EM conductive zone.

A three-phase exploration program, budgeted at \$ 463,000, is proposed to complete the mineral potential evaluation of all three claims, and test the already known anomalous zones on Bobcat II claim by trenching and stripping. A 1000 metre diamond drilling program is proposed for Phase III.

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#### 1. INTRODUCTION

During August 20 - September 6, 1986, Ashworth Explorations Limited, on behalf of Lexington Resources Limited, carried out a "grassroots" exploration program on Bobcat I, II and III claims in Clinton Mining Division, British Columbia. The purpose of the program was to determine if epithermal gold and silver mineralization of the type found at the adjacent Blackdome Mine property and along the same geological strike as the Blackdome deposits, is present on the Bobcat claims.

The following report evaluates and summarizes the results of geological mapping, prospecting, geochemical sampling and geophysical surveys carried out during the course of this field program. A proposed program for further exploration is outlined.

#### 2. PROPERTY

The three contiguous Bobcat I, II and III claims, all located in Clinton Mining Division, British Columbia, are owned by Lexington Resources Ltd., address, 1600 - 609 Granville Street, Vancouver, B.C., V7Y 1A5, Canada. They were staked by Ashworth Explorations Limited acting as an agent for Lexington Resources Ltd. The pertinent data is listed as follows:

CLAIM NAME	TAG	NO.	RECORD #	RECOR	RD D	ATE	UNITS
Bobcat I	101	312	2064	March	18,	1986	20
Bobcat II	101	313	2065	March	18,	1986	17.5*
Bobcat III	101	314	2066	March	18.	1986	20

They are located between latitudes 51° 15' and 51° 19' North, and longitudes 122° 31' and 122° 35' West, on the NTS map sheet 92.0/7/SE guadrant.

\* The Bobcat II claim partially overstakes the Dome II (946) and Dome 12 (1945) claims resulting in loss of about 2.5 units along the easternmost side of the claim (Figure 2). Because of this uncertainty as to the exact location of the eastern boundary of the Bobcat II claim, a legal survey should be carried out before any work is performed near the east side of the claim. This is due to the two generations of partial overstaking with the Pony, Dome and Bobcat claims.

#### 3. LOCATION, TERRAIN AND ACCESS

The Bobcat claims are located in the Camelsfoot Range on the Fraser (Interior) Plateau some 20 km west of Fraser River, about 70 km due WSW of the town of Clinton and about 33 km SW of Gang Ranch, on the NTS "Churn Creek" map sheet 92.0/7/SE (see Figure 1).

Locally, the centre of Bobcat claims is about 5 km due SW of the 7,392' high Blackdome Mountain (shown on the west edge of NTS 92.0/8); a SW trending spur or ridge of this mountain extends to Bobcat property. The Blackdome Mines camp, mill and southernmost workings are only about 2 - 3 km NE from the eastern boundary of Bobcat II claim (see Figure 2).



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18.6 %

5

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The property is within the interior dry belt, with relatively slight precipitation, and is generally free from snow through June to September. The elevations above mean sea level range from about 2,040m (6,700') along the Blackdome ridge in the SE corner of Bobcat II claim, to about 1,650m (5,400') in the valleys north and south of Bobcat I and III claims, total relief of about 400m (1,300'). Terrain varies from gently rolling alpine meadows above the treelime, to fairly steep sided creek valleys forested with conifers. The treelime tends to follow the 1,950m (6,400') contour, more or less. The north facing slopes tend to be covered by glacial sand and till deposits, while the southern slopes are more likely to display thin soils, talus or even cliffs of exposed bedrock, thus suggesting a northerly glacial movement in the area.

Access to the property is, first, by about 105 km of good quality gravel roads from B.C. Highway 97, via a route about 18km north of Clinton, then crossing the Fraser River near Gang Ranch and thence through Empire Valley to Blackkdome Mine property. This road is government maintained, except the last 26 km which is maintained by Blackdome Mines Ltd., and is kept open year-round for mine workers and public.

From the Blackdome camp, a rough bulldozed 4-W-D road then extends along the alpine spur of Blackdome Mountain SW toward the east boundary of Bobcat II claim, a distance of about 3 km to the recent campsite. Any water and timber required for camp and drilling purposes has to be hauled in from lower elevations; the water for the recent camp was obtained from the Blackdome mine site.

During the recent visit to the property by the writer, the access was by a 30 minute helicopter ride from Pemberton, B.C., where a Hughes 500-D is based. Pemberton is about a two hour drive north of Vancouver via Squamish and Whistler Mountain.

In the areas visited by the writer, the outcrops appeared to be generally scarce, or buried by shallow rubble derived locally and indicating extensive weathering. Exceptions were the rather conspicuous dacitic domes along the SW trending spur or ridge of the Blackdome Mountain, often forming extensive talus covered slopes below the summits.

#### 4. HISTORY AND PREVIOUS WORK

#### 4.1. Blackdome Mine (See Figure 2)

The history of the Bobcat claims is very much tied to the development of Blackdome Mine Property which adjoins the Bobcat claims to the NE and has similar geology.

Gold bearing quartz veins were discovered in late 1940's by Mr. L. Frenier in the Blackdome Mountain area (then known as Porcupine Mountain), some 5 km NE of Bobcat claims. He staked and prospected several claims and in 1952 he optioned these to Empire Valley Gold Mines Ltd. In 1953 Silver Standard Mines Ltd optioned more claims south and east of the Empire Valley Property and in 1954 started exploration (sampling, stripping and 783' of packsack drilling) on Blackdome 1 - 4 claims. By then, Empire Valley had built a road to their property, erected a camp and also had driven two adits on Number 14 and Redbird veins. Silver Standard optioned the Empire Valley property in 1958 and commenced extensive trenching, lasting several years, of known veins.

More Au-bearing quartz veins had been located by 1972 west of the original Blackdome Mountain claims (now crown granted). Barrier Reef Resources Ltd. had staked the Dome claims by 1977 and were getting encouraging results from their prospecting, geological mapping and trenching (Dawson, 1979/BCAR #1761). In 1979 a new company, Blackdome Explorations Ltd. (50.3% owned by Barrier Reef), was formed and listed on the Vancouver Stock Exchange. With new financing, the work from 1980 on, including trenching, drilling and underground exploration, was concentrated mainly on Number 1 and 2 veins which run along and parallel to the SW trending ridge or spur of the Blackdome Mountain. Under an option agreement with Heath Steele Mines Ltd an adit was driven on the NW part of Number 1 vein, known here as the North Mine Zone, with favourable results. Since then, another adit was driven at the South Mine, about 1 km SW of the North Mine, on the Ridge Zone of Number 1 vein. Mine construction was started in 1985, including a 200 ton per day mill along with underground development of the Number 1 and 2 veins on two levels (1,920m and 1,960m), leading to production startup on May 16, 1986.

According to NAGMIN (August 29, 1986, p.7), the Blackdome Mine reserves are 207,200 tons grading 0.79 oz/ton Au and 3.176 oz/ton Ag. (The somewhat earlier data in 1985-1986 Canadian Mines Handbook - p. 65 - quotes the Blackdome reserves as 203,000 tons, with average grades the same as quoted above.) Based on these average grade figures, the Au:Ag ratio at the mine is 1:4.76 or roughly 1 to 5.

According to an article in "Northern Miner" (August 18, 1986, p. 6), "Blackdome Mining . . . . . . will be highly profitable . . . . . company reported an operating profit of \$1.6 Million for the quarter, and next earnings of \$507,824, representing only 6 weeks of production". It also stated that "exploration drilling has expanded reserves in the No. I vein. Although only 30,812 tons, the exceptional grade (2.37 oz/ton Au) of the material has boosted gold reserves of the mine by 84,784 oz."

During the summer of 1986, extensive diamond drilling SW of the recent stopings was carried out. Also, a small open pit is now being mined 2 km NE of the NE corner of Bobcat II claim. Underground mining is now drifting SW towards and under this open pit. Standard "cut and fill" methods are being used in the underground stopes.

#### 4.2 Bobcat Claims

The ground now covered by the Bobcat claims was originally staked in 1980 as the Pony claims. The claims are located only two km SW of the Blackdome Camp and southernmost workings, and occupy the SW extension of the same mineralized zone, but have been in the past only cursorily prospected.

In 1981, Mr. R. Dunn, owner/operator, prospected the Pony Group and found anomalous values of gold in the heavy mineral samples of the creek bottoms. Sampling of highly altered and silicified rock chips in float gave assays of up to 2,010 ppb (0.059 opt) of gold. This sample and other quartz float, often containing sulphides, were found along the SW projected extension of the mineralized zone of the Blackdome property (see Dunn, 1981/BCAR #9884).

In 1982, 23 soil samples were collected near the NW corner of Pony claims, of which 3 were strongly anomalous in gold (1,180 to 2,555 ppb), one moderately anomalous in gold (105 ppb), and two weakly anomalous in silver (see Fipke and Capell, 1983/BCAR #10773).

In 1983, the Pony claims were chip sampled along 6 traverse lines. All 35 rock chip samples, mainly consisting of andesite, gave assays in the background range for gold (Capell, 1984/BCAR #12426).

The Pony claims were let to lapse in early 1986, and were restaked as Bobcat I, II and III claims by Mr. John Fleishman, a local prospector who runs trapline in the area. a The claims were subsequently sold to Lexington Resources Ltd of Vancouver, B.C. Because of the original Bobcat claims were staked in harsh winter conditions, which necessitated the use of witness posts, the same claims were restaked and re-recorded in the Fall of 1986, during the recent field program, for Lexington Resources Ltd by Ashworth Explorations.

A report on Bobcat claims was prepared by Mr. J.P. Sorbara, M.Sc., geologist, after he examined the property during a visit on July 25, 1986. He recommended a two-phase exploration program on the property, with a budget of \$79,000 for the initial phase (Sorbara, 1986).

During late August - early September 1986, Ashworth Explorations Limited carried out a "grassroots" exploration program on the property, consisting of geochemical and geophysical surveys, mapping and prospecting, - the subject of this report.

## 5. REGIONAL GEOLOGY AND MINERALIZATION OF BLACKDOME AREA

Inasmuch the geology and mineralization of the Bobcat claims are similar and related to those of the adjoining Blackdome Mine property, a review based on the B.C. government geologists reports (Church, 1980, 1982, and Faulkner, 1986) on that property, is at this stage, warranted. Most of the mine development work by Blackdome Resources Ltd has taken place along the ridge extending SW from the peak of Blackdome Mountain, towards Bobcat claims. The South Mine workings of Blackdome are only about 2 - 2.5 km, along the strike of mineralized veins, from the eastern boundary of Bobcat claims.

## 5.1 Regional Geology (after Faulkner, 1986)

The Blackdome Mountain area is underlain by an 500m thick sequence of Cretaceous to Tertiary volcanic and volcaniclastic rocks and related feeder dykes. The Tertiary volcanic pile in the area is roughly flatlying and "layer cake" in configuration, and ranges in composition from basalt, through andesite and dacite, to rhyolite. On the Blackdome property, they host several typical epithermal quartz veins carrying "bonanza-type" gold-silver mineralization. The following stratigraphic column, consisting of seven units (youngest to oldest) in the Blackdome area, has been described by Faulkner (1986):

## 5.1.1 Stratigraphic Column:

#### MIOCENE

<u>Basalt Lava:</u> Dark brown to black basalt and weakly porphyritic olivine basalt flows from the peak of Blackdome Mountain and occurs extensively farther NW. A conspicuous but thin brick red agglomerate occurs at the base of the basalt wherever it is exposed. Age dated at 24  $\pm$  0.8 Ma. (Not known to occur on Bobcat claims.)

#### EOCENE

Dacitic Domes: Dacitic andesite underlies part of Ridge Zone and forms thin dome-shaped outliers further SW (extending to Bobcat claims). Material in the domes has lower total iron content than the underlying dacitic andesite unit and weathers to distinctive pale-gray colour; these two units are probably comagmatic. Age dated at 51.5 <u>+</u> 1.9 Ma. Average thickness 30 metres or less.

Dacitic Andesite: Much of Blackdome Mountain is underlain by a sequence of gray-weathering, dark gray to greenish gray dacitic andesite flows. These are frequently porphyritic with pale plagioclase laths up to 5mm long. Dyke-like bodies of similar composition occur in SW part (toward Bobcat claims) of the area. Thickness is about 200m.

<u>Rhyolite:</u> The SW part of the Blackdome Mine area (extending to Bobcat claims) is underlain by a sequence of pale, flow-banded rhyolite, welded tuff, and lapilli tuff, interspersed irregularly with coarse to very coarse polymictic breccia. Lack of sorting and limited lateral extent suggest a localized slump or lahar (= land or mudslide of pyroclastic material on the flank of a volcano) origin.

Lower Andesite: An irregular and patchy sequence of mostly pyroclastic rocks occurs at the base of rhyolite and parts of dacitic andesite (see above), consisting of welded and lapilli tuffs, and volcanic breccias of andesite composition. The breccia is particularly coarse in places with closely spaced bombs and blocks indicating proximity to a volcanic vent. The thickness of both the rhyolite and lower andesite is about 100m. Dacite: A sequence of porphyritic dacite flows with some discontinuous tuff horizons lies unconformably above the older greenstone (see below). The dacite is fine grained, greenish gray and porphyritic; it weathers to medium to brownish gray. Thickness 70m or more.

#### CRETACEOUS

<u>Greenstone:</u> The oldest rocks in the Black Dome Mine area are chloritic andesite flows, tuffs, and agglomerate exposed in some of the lower creek valleys and also intersected in drill holes.

## 5.1.2 Structure: (from Faulkner, 1986)

"A northeasterly trend dominates the structure of veins and host rocks in the Blackdome Mine area as a result of tensional forces in a NW-SE direction during Eocene time. Blackdome Mountain and the dacitic domes form a northeasterly line of eruptive centres along the axis of a broad anticline with a shallow northeasterly plunge. Feeder dykes of dacitic andesite strike NE. Flows generally strike NE also, with gentle dips to NW or SE seldom exceeding 20 degrees. The dips are not entirely depositional; in the Ridge zone, the direction of flow lineations and the direction of dip differ by up to 30 degrees, indicating that the ridge zone has been uplifted relative to the summit area."

"There are at least 12 quartz veins or veins systems in the Blackdome Mine area. Although the surface trace of some of the veins is sinuous, they generally strike North 40 degrees East, with moderate to steep NW dips. The veins commonly follow shear zones. The veins occupy tensional openings; where movement of the faults has been determined, it is normal" (Faulkner, 1986).

## 5.2 Economic Geology at Blackdome Mine (from Faulkner, 1986)

"The gold and silver mineralization occurs in <u>typical epithermal</u> <u>quartz veins</u>, most of which are hosted by rhyolite and dacitic andesite. Above tree line the veins either outcrop or occur beneath areas containing quartz float. Below tree line they have been found by trenching precious metal soil geochemical anomalies.

The veins vary from a few centimetres to a few metres in width and from weak stringer zones to sheeted, vuggy veins composed almost entirely of quartz. The best precious metal values occur only in veins with a high percentage of quartz, but abundant quartz does not guarantee precious metal values.

The most persistent and best mineralized veins identified to date are the No. 1 and 2 veins, which parallel the Ridge zone and extend up to the southwest spur of Blackdome Mountain. Both veins are characterized by a gouge and breccia-filled shear zone from a few centimetres to 1.5 metres thick with brecciated or sheeted and sometime vuggy white to grey quartz on one or both sides of the shear zone. Total vein width exceeds 3 metres in places. Movement was normal, typically with a displacement of 20 to 30 metres across both veins. The No. 2 vein has a steeper dip in the Ridge zone than the No. 1 vein (75 degrees versus 60 degrees) so they converge at depth and to the southwest. From surface trenches and on the 1,920-metre level, it appears that the No. 1 vein branches off the No. 2 vein. Diamond drilling has shown that the vein system and mineralization continue below the 1,920-metre level; the system is considered open at depth.

Metallic minerals are sparse, seldom exceeding 0.5 per cent. Ore minerals are very fine-grained native gold and silver, electrum, acanthite, or argentite and freibergite. The gold to silver ratio is 0.17 - 0.27:1. Minor amounts of pyrite, pyrrhotite, chalcopyrite, sphalerite, and galena are present; marcasite, digenite, bornite, covellite, chalcocite and arsenopyrite have also been identified.

Despite local assays of a few tens of grams of gold per tonne, visible gold is rare. A few colours and sulphide grains were panned from gouge taken from the No. 2 vein. Coupled with the sheeted vein structure, this suggests that movement on the shear zone occurred during as well as after mineralization.

Wallrock alteration typically occurs only within approximately 1 metre of the vein and takes the form of bleaching, silicification, and, locally, extensive argillic alteration.

Ore grades occur in the most silicified parts of the veins and generally form steeply plunging 'bonanza-type' shoots with a strike length seldom exceeding 30 metres; as defined by assay cutoffs, there is no obvious shape or pattern. Ore grades have been cut by approximately 30 per cent below raw average grades, using a runningaverage method to cut high gold assays. Proven and probable ore reserves are 185,000 tonnes grading 27.3 grams per tonne gold and 128.9 grams per tonne silver (undiluted)." (Faulkner, 1986).

The local geology and mineralization on Bobcat claims based on the recent fieldwork carried out by Ashworth Exploration Limited, is described in Chapter 7, below.

In summary, the Blackdome deposits are similar to many epithermal precious metal-quartz vein deposits of the "bonanza-type" occurring in Western USA and Mexico. Typically these are tensional vein systems in felsic to intermediate calc-alkaline flows and pyroclastics of Tertiary age. At Blackdome, the main host rocks containing the Au-Ag veins are hornblende dacitic andesite and rhyolite; these are exposed on the lower slopes and the south spur or ridge of Blackdome Mountain. A capping remnant of volcanic vent deposit consisting of basaltic lava and a layer of basal agglomerate, considered to be younger than the mineralized quartz veins, forms the summit of Blackdome Mountain. This younger unit is not cut by quartz veins.

#### 6. FALL 1986 EXPLORATION PROGRAM

The exploration program was carried out during the August 20 to September 6, 1986, period by a crew of five which consisted of a project geologist, a field geologist, and 3 geotechnicians. The author acted as a consultant in planning the program, personally examining the property and checking the field work in progress, as well as evaluating the collected data.

#### 6.1 Scope and Purpose:

The field work had to be completed during a limited time period late in the season and within the restrictions of a set budget. The objects of the program were:

- to quickly explore the overall economic mineral potential of the claims by "grassroots-type" prospecting and reconnaissance;
- more particulary, to locate by geological mapping and float tracing the projected continuation of the precious metal bearing epithermal vein system of Blackdome Mountain extending SW to Bobcat claims;
- to outline target areas for next season's follow-up work within the wide alteration zone, largely covered by overburden, by geochemical and geophysical surveys, and detail mapping.

#### 6.2 Methods and Procedures

#### 6.2.1 Mapping and Prospecting

Geological traverses were carried out over most of the Bobcat claim group, but the Bobcat II claim was chosen as the focal point of the program. This decision was based on the similarities between the host rocks, alteration and structure of the Bobcat II claim and those observed at the Blackdome Mine property.

Geological mapping was done on 1:5,000 scale using an enlarged NTS topographic map, showing elevation contours, as a base. Air photos were used also to locate lineaments and fault zones. The stratigraphic divisions used by Faulkner (1986) on Blackdome property were found to be applicable to the rock types found here (see 5.1.1, above). The flagged geochemical -geophysical survey stations were used for control in more detailed mapping on Bobcat II claim. Tracing of quartz float was useful to delineate possible vein systems in largely overburden covered areas.

Seventy eight rock samples, mostly quartz or silicified volcanic float, were also collected and assayed for Cu, Pb, Zn, Au and Ag by Vangeochem Lab Limited in North Vancouver, B.C.

#### 6.2.2 Soil Sampling

An east-west control grid, flagged and marked, consisting of 16 lines averaging 2,000 m in length and 200 m apart, was laid out by compass and hip-chain on Bobcat II claim. A total of 688 soil samples along 29.6 km of lines were collected at 50m intervals, except in the central part of the grid where the sampling grid was closed to 25 x 100m intervals. Where possible, samples were collected from B-horizon, but at higher elevations, such as here, there is no well developed soil profile and the more "rubbly" C-horizon had to be sampled. Samples were dug out from small pits 10 -30 cm deep and the sites were flagged.

Samples were placed in marked kraft-paper bags, field dried and shipped to Vangeochem Lab Limited in North Vancouver, where they were dried and sieved to -80 mesh. They were then analysed by hot aqua regia digestion and atomic absorption (A.A.) method for Au, Ag, Cu, Pb, Zn and Hg. (The lab methods are described in further detail by lab analyst in a letter included with lab results, Appendix I).

The computerized statistical summaries, including histograms, means, standard deviations and other parameters for each metal were also supplied by the lab (see Appendix I).

Lab analytical results for each of the 6 metals, divided into a range of categories in increasing order of value, were plotted by appropriate symbols on 1:5,000 scale maps. The anomalous values, i.e. those above the threshold values, were then contoured on the maps.

Mercury (Hg) was chosen as a "pathfinder" here, since if reportedly had worked well on the adjoining Blackdome property in defining the mineralized zones (Dawson, 1979).

#### 6.2.3 VLF - EM Survey

A Phoenix Model VLF-2 EM instrument was used to run a VLFelectromagnetic survey over the same grid on Bobcat II claim as used in soil sampling, on 13 east-west lines each about 2,000m long, at 50-25m station intervals. Total survey was 24 line km. Only the in-phase readings were taken, using the VLF transmitter near Seattle. The data was presented on two 1:5,000 scale maps, one showing the field data as graphs, the other Fraser-filtered and contoured data to facilitate interpretation of anomalous readings.

## 6.2.4 Magnetometer Survey

A Scintrex Model MP-2 instrument was used to run a ground magnetic survey over the same grid as above, covering the same stations as the VLF-EM survey. Total survey was 26 line km. Limited time did not permit to take sufficient base station readings, resulting in lack of diurnal corrections for field data. Hence the raw field data was plotted as graphs on individual lines, and no attempt was made to contour it.

#### -7. RESULTS

#### 7.1 Property Geology (See Map 2)

Geological mapping was done by Mr. Alan R. Hill, B.Sc., project geologist during the field program at Bobcat property. It covered most of Bobcat II claim and the immediately adjacent area. The following is based on his field report and mapping:

#### 7.1.1 Stratigraphy and Structure

Bedrock exposure on Bobcat claims is sparse, and generally restricted to higher elevations on and around.Bobcat II claim. The other two claims are low-lying and almost entirely devoid of outcrops, being covered by thick glacial deposits and thick bush.

On Bobcat II claim, Tertiary volcanics outcrop along a NW trending plateau and on the south-facing slopes of steep sided valleys. The north-facing slopes are more apt to be buried under thick overburden, which suggest northward movement of glaciation. The steep sided valleys often follow large scale faults along which blocks of stratigraphy have dropped as much as 250 metres (over 800'), as shown on geology map (Map 2).

The stratigraphy exposed on the property, roughly flat lying and striking in northerly direction, correlates well with that at the Blackdome mine, so the legend devised by E.L. Faulkner (1986) has been adapted for the use on the Bobcat claims. From youngest to oldest, the rock units (See also Section 5.1.1, above) mapped on the property were:

Dacitic Domes: The youngest rocks on the property (unit 6 on Map 2) are pale gray dacitic andesites. They commonly display an aphanitic to fine grained matrix with abundant plagioclase phenocrysts up to 3mm in length. Accessory minerals include quartz, alkali feldspar, tourmaline, hornblende and pyrite.

These rocks form a dome-shaped outlier on the high ground near the centre of Bobcat II claim. The observed stratigraphic thickness is about 25m. Two other such outliers occur 1300m NE of the claims, in line with Blackdome Mountain where dacitic dome material overlies the Ridge Zone at the Blackdome Mine.

Dacitic Andesite: Underlying the dacitic dome is an about 160m thick sequence of dacitic andesite flows (Map unit 5). Fine to medium grained, and dark to medium gray, the rock is ubquitously plagioclase, and porphyritic with frequently aligned plagioclase laths up to 5mm long. Minor discontinuous tuff beds are also present. The hybabyssal equivalent of this unit was observed in granular grained dyke-like bodies cross-cutting the uppermost part of the underlying rhyolite.

Rhyolite: This rock type (Map unit 4) ranges widely in texture and appearance. To the south of the map area it is comprised of a thick (over 200m) sequence of fine grained to "cherty" microcrystalline flows. These flows range in colour from dark gray to light brownish gray, due mainly to finely disseminated ash and primary pyrite. Spherulites up to 2cm in diameter are present within particular flows. Glass shards, quartz "eyes", and alkali feldspar phenocrysts are also common. Some flows range in composition to that of rhyodacite. Highly contorted, "treacle-like" flow banding is common and distinctive of this unit. The scale of this banding is 2-20cm; there is abundant slump folding and flow repetition, apparently formed when molten rock was flowing downhill in about the same orientation as at present. These flows are draped over the larger hill just south of Bobcat II claim, suggesting a local volcanic eruptive centre.

Farther to the north and east, and probably more distal from this source, the rhyolite unit is predominantly ignimbritic and considerably thinner (about 65 metres). Light weathering welded tuff, crystal tuff, lapilli tuff, and agglomerate are all part of this pyroclastic package. The rock is very prone to weathering and argillitization, in which case, its surface expression tends to be a pile of mildly rusty and white, friable rock chips and their slabs, easily broken by hand.

Lower Andesite: This rock (Map unit 3) is patchy and discontinuous in distribution. It consists of dark greenish-gray, layered andesite tuff, occuring near the base of the above rhyolite unit. It outcrops in only one location on the Bobcat property, near the NE corner of Bobcat III claim.

Dacite : The lowermost stratigraphic unit (Map unit 2) outcropping on Bobcat claims is a distinctly greenish-gray sequence of porphyritic dacite flows. These flows are locally "nodular" in texture, resembling small pillows, although the lava was probably extruded in subaerial conditions. Subordinate and discontinuous tuffaceous horizons are also present. These rocks outcrop in the lower lying creek valleys.

## 7.1.2 Mineralization and Alteration

No quartz veins were found outcropping on Bobcat claims. However, alteration, in the form of moderate to intense argillitization, is evident in the central part of Bobcat II claim adjacent to the dacitic dome, where quartz vein material occurring as float is common. Often intense argillitization, involving the complete removal of feldspar phenocrysts, occurs on flanks of slight draws. This is notable due to the fact that at Blackdome property, quartz veins occurring in highly shattered shear zones are invariably recessive weathering. When covered by only a few metres of overburden there is virtually no surface weathering.

A total of 78 samples of highly weathered quartz vein material and altered volcanic rock were collected from float in areas of no bedrock exposure. These were analysed for copper, zinc, silver and gold (see results in Lab Report, Appendix I). Base metal values were invariably low, while silver values ranged up to 15.8 ppm (0.46 opt Ag), and gold values up to 50 ppb (0.0015 opt Au). The distribution of these metals, as compared with soils, is further discussed in 7.2, below.

The quartz in these samples varied from white, crystalline, pegmatitic type through sugary, chalcedonic, and vuggy varieties. The size of the float ranged from angular and sheet-like to sub-rounded. Many of the samples were rusty, but only trace amounts of pyrite, sphalerite and chalcopyrite were observed.

#### 7.2 GEOCHEMISTRY

#### 7.2.1 Gold: (See Map 4)

About 75% of the 688 soilsamples analysed for gold had values below 5 ppb detection limit, hence its "background" is in the "less than 5 ppb Au" range. The "threshold" value in soils is in the 5-10 ppb range, with 10 ppb as "probably anomalous" (see Graph #1 in Appendix II). Thirteen soilsamples (1.9%) were in the 20-30 ppb "medium anomaly" range, of which 5 samples analysed 30 ppb Au, the highest values present in soils. Although none of these anomalous values are significantly high, they, when contoured (see Map 4) tend to outline several weakly to moderately anomalous zones on Bobcat II claim grid. Correlation between gold and other metals appears to be weak.

Of the 78 rock samples analysed for gold, none contained ore grade values. In fact, the distribution curve for the gold is nearly identical for both soil and rock samples, eg 73% of rock samples assayed below the 5 ppb Au detection limit. Only two rock samples, No's BC-21 and BC-42, assayed 50 ppb (0.0015 opt Au) and 40 ppb, respectively, with the last sample also assaying 1.5 ppm. Ag (0.044 opt).

It should be pointed out here that all rock samples were from highly weathered float lying on furface, which may explain their low content of ore metals. Also, as reported from Blackdome mine area (see Section 5.2, above, second paragraph), "abundant quartz does not guarantee precious metal values."

#### 7.2.2 Silver (see Map 5)

Forty-one percent (282 out of 688) of soilsamples analysed for silver at below the 0.1 ppm Ag detection limit, and 94% analysed 0.4 ppm or less. The background for silver is in the "less than 0.1 ppm" to 0.1 ppm range. The values above 0.5 ppm Ag were taken as anomalous (see Graph #2, Appendix II), with the highest silver value in soil being 1.1 ppm Ag, - a "medium" grade anomalous value. The distribution graph is positiely "skewed", -probably logarithmic, indicating some weakly to moderately anomalous trends. Contouring of the anomalous values on map (Map 5) indicates numerous "spot anomalies", and also some narrow anomalous trends crossing several grid lines on Bobcat II claim in northerly or NE direction. There is local correlation with gold, but some of it may be coincidental.

Silver in 78 rock samples also gave generally low values, with 24 samples (31%) assaying below the 0.1 ppm Ag detection limit. Comparing the silver distributions in both rock and soil, the geochemical backgrounds and thresholds are very similar, but with a wider "spread" of anomalous values in rocks. Nineteen rock samples assayed between 0.1 and 6.8 ppm Ag, while the highest assay was 15.8 ppm Ag (0.46 opt) in sample No. BC 71.

#### 7.2.3 Copper (See Map 6)

Copper values in soils were uniformly low, and the distribution graph (Graph #3, Appendix II) shows a rather normal distribution curve centered on the median-background in the 15-19 ppm Cu range. Values above 30ppm Cu could be considered anomalous (34 samples or about 5%). The highest two values were both 50ppm Cu, only "moderately anomalous". Contouring of the anomalous values (Map 6) results in several weakly to moderately anomalous areas, particularly in the central part of Bobcat II claim where there is correlation with gold on lines 13 and 14 South, and also correlation with mercury in the same area, on Lines 12 to 16 South. Hence this area of overlapping Au-Cu-Hg anomalies, near the dacitic dome, may be of particular interest.

Copper values in rock samples were similarly low. Background for copper here is even lower than in soils with most values in the "not detectable" to 15 ppm range. However, the distribution is skewed or logarithmic, with about the same threshold (25-30ppm), indicating a very slight but steady increase of copper background toward the alteration zone. Highest copper assay was in sample No. BC 75, 226 ppm Cu(0.0226%), along with 215 ppm Zn and 2.5 ppm Ag.

## 7.2.4 Lead (Map 7)

Lead values in soilsamples nearly duplicate copper values on the distribution graph and same distribution parameters can be used (see Graph 4, Appendix II). Only 13 samples (about 2%), however, could be considered anomalous, being 30 ppm or higher. The highest value is 71 ppm Pb, a "medium anomaly". The anomalous values, when contoured, are largely scattered over the soil grid area (Map 7) as "spot anomalies" or small clusters; although most of these do not apper to be overly significant, there are several lead anomalies on lines 95 to 145, correlating with or being closely associated with Zn, Cu, Hg, Au and Ag anomalies.

The rock samples again gave low assay values of lead, the highest being 187 ppm in sample No. BC 45. Eleven samples (14%) assayed more than 40 ppm Pb. As with copper, the background values of lead in rocks tend to be lower than in soil, but also with a wider background "spread" in the "not detectable" to 19 ppm Pb range.

#### 7.2.5 Zinc (Map 8)

Compared to copper and lead, zinc in soilsamples occurs in higher concentrations, with a background range of 30-75 ppm Zn and a "threshold" of about 80 ppm. About 10.5% (72 samples) are in the "low" to "medium-low" anomalous range, ie. 80-169 ppm, with one "erratic high" of 1147 pm (soil sample #1034), on Line 4 S on NW part of Bobcat II grid), which is away from the main area of interest. Distribution of values is logarithmic (graphs 5 and 6, Appendix II), indicating anomalous zones. Contoured values (Map 8) indicates a number of "spot anomalies", but also several small anomalous trends, both in NW corner of the grid, and in the central area adjacent to the dacite dome. One anomaly here, crossing lines 9S to 13S, lying along the east margin of the dome and associated with anomalies of other metals, appears to be of particular interest. Compared to zinc in soils, the rock samples gave much lower geochemical assays, with most values being in the "not detectable" to 29 ppm "background" range. Fifteen (19%) remaining rock samples assayed in the 30-79 ppm Zn range, and only one rock sample, No. BC-75, analyzed 215 ppm (0.0215%) Zinc. Hence most of Zn assays are insignificant.

#### 7.2.6 Mercury (Map 9)

Based on the experience at Blackdome Mine, mercury was chosen as a "pathfinder" for precious metals. Here also it appears to outline a number of anomalous zones, particularly in the central part of the Bobcat II grid area. The median-background value is 35 ppb Hg, with the threshold in the 55-60 ppb range (Graphs 7 and 8, Appendix II). Distribution of values is logarithmic, with "low" to "very high" anomalies ranging from 60 ppb to as high as 1020 ppb (soil sample BS-1230 on line 14 South, just south of the dacite dome on Bobcat II claim.

Most of the mercury anomalies, when contoured (Maps 9 and 11) can be interpreted as rather definite NE trending anomalous zones in the central and NE part of the grid, adjacent to the dacitic dome and paralleling the regional strike of quartz veins exposed in small trenches NE of Bobcat II claims (off the property)(see Map 2-Geology). The strongest and most persistent mercury anomalies occur in the area just west of the dacitic dome, from lines 6 to 19 south, with an approximate strike length of some 1200 or more metres. The total width of this anomalous trend in some 600-800 metres in NW direction. The dacite dome itself is not as anomalous as the surrounding alteration zone. Although there is local overlap between mercury anomalies, and those of other metals, the correlation with individual metals is not particularly noticeable.

## 7.2.7 Discussion of Geochemical Results (See Maps 10 and 11)

Map 10 shows contoured combined geochemical anomalies of copper, lead and zinc, and Map 11 shows contoured mercury anomalies, along with combined gold plus silver anomalies. These maps are interpretative in nature, not showing individual lab analyses but including those, a) above threshold values, and b) over "medium" range on overlapping anomalies. Regional NE trending bias, similar to regional strike of known mineralized zones, was used to interpret the trends of anomalous zones (along with similar trends in VLF-EM surveys).

By combining the base metal (Cu,Pb,Zn) anomalous values (Map 10), several geochemically anomalous base metal zones become apparent. The most persistent and probably most significant zone runs diagonally across the grid area, from about east end of Line 9 South to west end of Line 18 South, --a NE strike length of 2000 m, and width (NW) averaging about 500 m. It includes the argillitic alteration zone around the dacitic dome on Bobcat II claim. Although the central area of the dome is not significantly more anomalous, there is a quite significant base metal anomalous zone along the margin of the eastern part of the dome which appears to be interesting. Combining the Au and Ag anomalies (Map 11) also permits delineating the precious metals in soilsamples so that numerous "low" range trends become apparent. These occur almost over the entire grid. However, they contain smaller, narrower trends of "medium" range or overlapping Au and Ag anomalies which would be of more interest, particularly where they coincide or overlap base metal and mercury anomalies. Several such areas are immediately apparent; these are:

- The area along the eastern margin of dacitic dome, where gold, silver, base metals and some mercury form a geochemical "halo" within the alteration zone.
- The precious metal anomaly, associated with mercury and low to moderate base metal anomaly, trending NE across lines 6 South to 2 South, in area of no outcrop.
- 3) the precious metal anomaly on lines 14, 16 and 18 South, near west boundary of Bobcat II claim and probably extending into Bobcat I ground. A low base metal anomaly occurs parallel and just SE of it, and a good VLF-EM conductor also runs close to and parallel to it, on SE side. A N-S fault runs through these anomalies; this area is not mapped (overburden?). There is no corresponding mercury anomaly.
- 4) There are a number of precious metal anomalies along both north and south boundaries of the Bobcat II claims, opened toward north and south, respectively (ie. off the property). These are associated with anomalous mercury and/or base metal values and some are flanked by VLF-EM conductors. Those along the south boundary of Bobcat II claim probably reflect the alteration zone shown on geology map (Map 2), off the property toward south.

Mercury anomalies are superimposed on the precious metals contour map (Map 11); these have already been discussed in subsection 7.2.6., above. Comparison of mercury anomalies with precious metals indicates that although there is some overlap, the correlation is rather local and largely coincidental on the overall property scale. The main trend of mercury occurs in the NE trending central part of the grid, west of the dacitic dome, and covers an area some 500 m wide (on the average), with a strike length of about 1.5 - 2 km.

#### 7.3 GEOPHYSICS

## 7.3.1. VLF-EM Survey (See Maps 12 and 13)

Since only In-Phase (dip angle) readings were taken and also because the lines were run diagonally across the regional geologic strike, the full interpretation of the electromagnetic survey data is difficult. Map 12 shows the raw field data, while the Fraser-filtered and contoured data on Map 13 was used for interpretation of anomalous trends, based on the regional geological bias. Numerous parallel NE trending conductive zones are shown. One of those NE zones, extending from 14 + 50 E on Line 0 to 4 + 25 E on Line 14 south (and possibly farther SW) appears to be related to a fault zone and its associated topographic "low". Offset by a distance of 50-200 metres toward SW, this conductor also parallels two precious metal anomalous trends (see items 2 and 3 in subsection 7.2.7. above) and hence may be of particular interest.

In general, the significance of these conductors, if any, has yet to be established because of lack of corroborating detail geological information (due to extensive overburden cover), and also lack of out-of-phase data. There is only local correlation with most of the geochemical anomalous trends, which may be coincidental. However, there appears to be rather good correlation of an EM conductor with the geochemically anomalous zone, previously described, along the eastern margin of the dacitic dome on Bobcat II 'claim (See item 1, subsection 7.2.7., above).

A rather strong conductor shown striking northerly across lines 6S to 12S (See Map 13), being located along a ridge, may have been caused by topography.

## 7.3.2 Magnetometer Survey (See Map 14)

Due to lack of diurnal corrections the results of this survey are difficult to interpret, particularly from line to line. Hence the data is represented as line-graphs, rather than contoured. The data on last 4 lines on the south part of the grid shows increasingly wide fluctuations, apparently caused by approaching magnetic storm, and should be ignored. The remaining lines show more gentle variations, reflecting regional magnetic "highs" and "lows", probably related to geology.

## 7.3.3 Comments on Geophysical Work

The role that geophysics, particularly VLF-EM, could play in locating mineralized zones and structures is not yet certain due to lack of corroborating, detail geological data on Bobcat claims. The question now is: Do the numerous EM conductive zones found on the property indicate the presence of any minerialized shear zones or vein systems? If the trenching and stripping to bedrock gives positive answers here, then the VLF-EM method, applied correctly and diligently, would be very cost-effective and a fast exploration tool to be used alongside geochemical surveys. For similar reasons, the detailed magnetic and self-potential methods should also be tried out on an experimental basis.

According to Dawson (1979), commenting on a magnetic survey done on the adjoining Blackdome property, "the magnetic relief (there) was extremely complex; however, a number of north-northwesterly trends parallel known vein and fault structures". He further stated:

"A series of isolated lows coincide with the NNE trending ridgetop near the centre of (Blackdome) grid area. West of this zone magnetic relief is relatively flat. The topographic lows of the upper tributaries of Fairless Creek are crossly outlined." "Most of the prominent magnetic relief is concentrated in a NE trending zone coinciding with the location of No. 1 Vein zone and other suspected veins which parallel it. Several weak 'lows' overlie the prominent geochemical anomaly paralleling and lying about 600 metres east of the No. 1 Vein zone."

These remarks should be kept in mind if any further magnetic surveying is planned on the property.

#### 8. CONCLUSIONS

The results of the 1986 exloration program indicate that the Bobcat property has the potential to host epithermal type gold-silver mineralization, and that further work is warranted. This conclusion is based on the following observations:

- 1) The geology of the Bobcat property is similar to that of the adjoining Blackdome Mine property, where rich "bonanzatype" veins and ore shoots are now being mined successfully for gold and silver.
- 2) The structural zone hosting these veins and vein systems, surrounded by strong epithermal alteration and following a regional SW strike direction associated with a series of Eocene age volcanic centres and dacitic domes, extends to the Bobcat property, as evidenced by recent mapping.
- 3) Quartz float, some of it mineralized, and epithermally altered volcanics associated with the dacitic dome, have been found on the Bobcat II claim. Several rock and soil samples collected in the area in early 1980's reportedly assayed up to 2555 ppb Au.
- A number of gold, silver, base metal and mercury anomalies, 4) trending SW along the regional strike, were found during the recent geochemcial soil survey on the Bobcat II claim. One base and precious metal anomaly (with some mercury) which is of particular interest, occurs along the eastern margin of the dacitic dome on Bobcat II claim; it is associated with a Also of interest is a SW moderate VLF-EM conductor. trending zone of moderate to strong mercury soil anomalies just east of the dacite dome, covering an area at least 1.5 km long, along strike, and averaging 500 m wide. Mercury is considered to be a good "pathfinder" for precious metal Its anomalies on the deposits in the Blackdome Mine area. Bobcat property indicate the potential for finding precious metals there.

Some other conclusions are:

 Outcrops are scarce on the Bobcat claims and no actual quartz vein outcrops were seen. However, their presence is inferred from occurrences of quartz float on the surface and the presence of strong alteration zones;

- On a detailed scale, trenching and stripping to bedrock will be the most suitable means to locate, map and sample the veins and provide future drill targets in overburden covered areas;
- On a wider scale, geochemical soil surveys appear to be the most useful for locating these epithermal mineralized zones, particularly when using mercury as a "pathfinder" in largely overburden covered, claim-size areas.
- Although it was expedient to run the recent grid base-line along the north-south claim line, with survey lines running east-west, in any future surveys the base line should run parallel to the SW strike with cross-lines running perpendicular to strike to facilitate geophysical surveys and interpretation of results.
- Although practically all recent work was done on the Bobcat II claim, there are indications that the mineralized zone, along with geochemical anomalies and VLF-EM conductive zones, extends SW to the other two Bobcat claims;
- Block-faulting to the NW and SW of the dacitic dome on the Bobcat II claim indicated uplifting of these areas. Hence any mineralized veins on the Bobcat I and III claims would have been emplaced at comparatively deeper epithermal environment;

#### 9. RECOMMENDATIONS

A three phase program is recommended to test the anomalous areas adjacent to the dacitic dome on the Bobcat II claim, and to explore the mineral potential on the Bobcat I and III claims.

#### PHASE I

Phase I should be a follow up program on the Bobcat II claim to test the targets indicated by the anomalous areas adjacent to the dacitic dome. The aim is to locate and expose by trenching any mineralized zones or veins that may be associated with the geochemical and VLF-EM anomalies, as well as to evaluate the various exploration methods used this far. If successful, trenching will also provide drill targets and indicate the best method for exploring the remainder of the property.

To further evaluate the suitability of geophysical methods which, in the case of VLF-EM, SP and magnetic surveys, are fast and inexpensive to run, the following should be done before any trenching or stripping commences:

- Do a survey of the east boundary of the Bobcat II claims where overstaking of Dome claims has occurred (see Chapter 2 footnote), before planning any further work east of the dacitic dome.
- Run a 2000 meter long baseline, starting from the NE corner post of Bobcat II claim toward the SW corner, at azimuth 40 degrees (ie. parallel to regional strike) by transit; this baseline follows the main zone of mercury anomalies;
- Chain the baseline and mark it at 50 metre intervals with 2 x 2 pickets, then run crosslines 600 metres toward NW and 800 metres toward SE every 100 metres, from Base Line stations 6 + 00s to 20 +00 S;
- The resulting grid area will contain the dacitic dome, the mercury anomalous zone and other more significant geochemical and VLF-EM anomalies. The previous 1986 grid should be tied in to the new base-line grid, so that the known anomalies and geological features already located can be accurately plotted on the new grid map.
- Re-run VLF-EM surveys over this grid, taking out-of-phase readings at 25 m intervals;
- Also test-run a SP survey over some selected lines, say 8S to 16S;

This survey, along with the results from the 1986 surveys, will be used in the field to zero in on the most promising targets for trenching. The anomalous zones adjacent to the eastern margins of the dacitic dome, and those associated with a fault zone NW of this dome, are the most obvious targets. The trenching and stripping should be done with a bulldozer, particularly if overburden is deep, although a backhoe may be quite adequate in shallower cover, such as near the dacitic dome where outcrops are more common. The trenches should reach fresh bedrock, across the regional strike. The exposed bedrock, especially where quartz veins and alteration zones are present, should be mapped and sampled in detail. All samples should be assayed for Au, Ag and Hg. If sulphides appear to be present the samples should be analysed for As, Sb, Cu, Pb and Zn to determine their relationship with the precious metal mineralization.

#### PROPOSED BUDGET, Phase I

Ashex Field Crew (4 persons x 16 days);Project Geologist \$275 x 16\$ 4,4003 Geotechnicians 3 x \$190 x 169,120Contractors (trenching and survey);9,200DC-8 Cat \$200/hr x 110 hrs\$ 22,000Cat, mob-demob2,000Transit Survey2,000

Eield Costs (16 days);

4x4 Truck Rental \$100 per day x 16 days	\$	1,600	
Communications \$25 per day x 16 days	~	400	
Food, and supplies \$100 per days x 16 days		1,600	
Instrument rentals \$120 per day x 10 days		1,200	
Misc. Supplies (field work)		1,000	
Ashex mob-demob		2,000	7,800

Lab Analysis; Au, Ag, Hg(Cu, Pb, Zn)

700 soil/rock samples @ \$14

Administration, Management, Reporting;

Management, Supervision \$400day x 6 days2,400Geo. Consulting & Reporting 350day x 8 days2,800Maps, Drafting, etc.800Typing, Copying, etc.6006006,600

Sub-Total \$ 63,720

Administrations, & Miscellaneous (15% of above) 9,558

\$ 73,278

\$ 13,520

26,000

9,800

(Say \$ 74,000)

#### PHASE II

Carrying out this phase, mainly diamond-drilling, is contingent upon the favourable results from the Phase I work. The amount of drilling proposed here is 1000 metres of NQ core, to adequately test most of the anomalous zones in the Bobcat II claim area.

## PROPOSED BUDGET, Phase II

Project Geologist \$275 x 14 \$	3,850	
Geotechnician \$190 x 14	2,660	\$ 6,510
Diamond Drilling \$80/m x 1000m	80,000	
Mob/Demob	2,000	82,000
4x4 Truck Rental \$100 x 14	1,400	
Communications \$25 x 14	350	
Food and Supplies	1,400	
Ashex Mob/Demob	2,000	5,150
Core Assays: Au, Ag, (Cu,Pb,Zn)	7,000	7,000
(Say 500 samples @ \$14)		
Administration & Management \$400 x 5 days	2,000	
Geological Consulting & Reporting \$350/8 days (including field trips)	2,800	
Maps, Drafting (drill-sections)	1,000	
Typing, Copying, etc.	600	6,400
Su	ıb Total	\$107,060
Administration and Miscellanous (15% of above)	)	16,059
Total for I	Phase II	\$123,119
	(Say	\$124,000)

#### PHASE III

This phase will be carried out contingent on the success experienced in Phase II. Continuation of the drilling program to test unexplored anomolies not drilled or trenched in Phase II and to follow-up on successful holes drilled in Phase II. Also, continuation of the program started in the fall of 1986 on the Bobcat II claim (subject of the discussion of results in this report). The objective is to explore the projected extension of the mineralized structures and anomalous zones on the two remaining claims.

It includes surveying a base line (6km, at azimuth 040 degrees), establishing a control grid over the claim group area, mapping-prospecting, soil sampling and geophysics on the Bobcat I and III claims, where not previously done.

- Run (with transit and chain) an accurate, approximately 4000 metre base-line diagonally across the claim group parallel to the regional geological strike. The line should continue the Phase I baseline from the NE corner post of Bobcat III claim, and run at 040 degrees azimuth to the SW corner of Bobcat III claim. Initially, crosslines should be run from the base line at 200 metre intervals, say 800 metres both to NW and SW (except where they run into claim boundaries). These lines could be later extended, and "fill-in" lines 50 metre added at 100 or intervals, where warranted. The base line should be marked with permanent 2 x 2 inch pickets at 50 metre intervals. The resulting grid should adequately cover the projected extension of the mineralized structures.
- Using the above control grid, geologically map, prospect, soil sample and do a VLF-EM survey over Bobcat I and III claims area. Initially, the station intervals should be 50 metres, or 25 metres where more detail is warranted.
- Soil samples should be analysed for Au, Ag, Cu, Pb, Zn and Hg, using atomic absorption method. Results should be plotted on 1:5,000 scale base maps, statistically evaluated, and contoured.
- In the VLF-EM survey, using the Seattle transmitter, both phase readings should be taken and plotted on 1:5,000 scale base maps. The In-phase data should also be Fraser-filtered and plotted to facilitate comparison and interpretation of various anomalies.

In mapping and prospecting overburden covered areas, attention should be paid to any quartz, mineralized and/or altered float occurrences.

#### PHASE III, PROPOSED\_BUDGET:

Diamond Drilling \$80/metre x 2000 metres				\$160,	000
Project Geologist \$275 x 28	\$	7,	700		
Field Geologist \$250 x 28		7,	000		
2 Geotechnicians \$190/day/man x 28		10,	640	\$ 25,	340
Mob/Demob (Ashex)	\$	2,	000		
2 - 4x4 Truck Rental \$100 x 28		5,	600		
Communications \$50 x 28		1,	400		
Food, camp suplies \$200 x 28		5,	600		
VLF-EM Rental \$55 x 28		1,	540		
Misc. Field Supplies \$50 x 28		1,	400	17,	540
Base Line and Surveying	\$	2,	000		
Lab Analysis: \$15/sample x 1000 samples		15,	000	17,	000
Administration & Management \$400 x 10	\$	4,	000		
Geological Consulting, Reporting \$350 x 12		4,	200		
Maps, drafting		1,	200		
Typing, copying			800	10,	200
	Sul	b To	tal	\$230,	080
Administration and Miscellaneous (15% of ab	ove	)		34,	512
Total for	Pha	ase	III	\$264,	592
			(Say	\$265,	000)

The results of these Phase III surveys, along with a successful Phase II drilling program should be used to locate the most promising target sites for additional trenching and drilling. \$ 463,000

#### TOTAL BUDGET

Phase	I:	\$ 74,000
Phase	II:	124,000
Phase	III:	265,000

Total

ASSOCIATESpectfully submitted by ASHWORTH EXPLORATIONS LIMITED H. LAANELA Hugg Laanela, F.G.A.C. FELLOW Consulting Geologist

January 30 1987 Nanaimo, B.C.

#### PERSONNEL

The following personnel were employed during the 1986 Field Program on the Bobcat Claims property:

Alan HillProject GeologistElizabeth ScrogginsField GeologistJohn FleishmanProspector/GeotechnicianSydney NichollsGeotechnicianClay NichollsGeotechnicianHugo LaanelaConsulting GeologistClive AshworthCoordinator/Administrator

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- B.C. Min. of Energy, Mines & Petr. Res.: The following Assessment Reports (BCAR's) also cover work done in the Blackdome Mine area: No's 6692, 7512, 7910, 8346, 8990 and 11046. (See also Mineral Inventories 92.0 - 50 to 53, 66.).
- George Cross Newsletter, May 26, 1986: Article on Blackdome Mining Corp.
- "North American Gold Mining News" (NAGMIN), August 29, 1986: references to Blackdome Exploration Ltd., p. 7.
- "Northern Miner" (1986): articles on Blackdome Mine appearing in the following issues: June 16, 1986, p. B13; August 4, 1986, pp. 1,6; August 18, 1986, p. 6.

"Vancouver Stockwatch", July 31, 1986: Blackdome Mining Corp., p. 4.

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#### CERTIFICATE

I, HUGO LAANELA, of 3657 Ross Road, Nanaimo, B.C., do hereby declare that:

- 1. I am a geologist, graduate of the University of British Columbia Vancouver, B.C., in 1961 with a B.A. degree in geology.
- 2. I am Fellow of The Geological Association of Canada, and a full member of The Association of Exploration Geochemists, The Canadian Institute of Mining and Metallurgy, and The Australasian Institute of Mining and Metallurgy.
- 3. I have practiced my profession as a mining exploration geologist from 1961 to 1966 and 1973 to present across Canada and western U.S.A., and during 1966 to 1972 as a senior/regional geologist in Australia.
- 4. I have visited and examined the Bobcat property and the work embodied in this report was done under my instructions by experienced geologists and geotechnicians whose abilities I affirm.
- 5. The information, opinions and recommendations presented in this report are based on my examination of exploration data, library research work, and my own examination of the property.
- 6. I have no direct or indirect interest in the subject property of this report, nor in any shares of the company, nor do I expect to receive any such interest or shares in the future.
- 7. I consent to the use of this report in a Prospectus or Statement of Material Facts by Lexington Resources Ltd. for the purpose of private or public financing.

Dated at Vancouver, B.C., this 8th day of October, 1986



Hugo Laanela, F.G.A.C.









#### CERTIFICATE

The foregoing constitutes full, true and plain disclosure of all material facts relating to the securities offered by this Prospectus as required by the Securities Act its regulations.

DATE: April 24, 1987

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CLARENCE A.R. ANDERSON President, Director & Promoter

GRAHAM REYNOLD HUGHES Director & Promoter

CLEMENS TERENCE PASIEKA Director & Promoter

CZP

BLAIR RUTHERFORD MCRAE Secretary, Director & Promoter

GERALD WAYNE SKORONSKI Director & Promoter