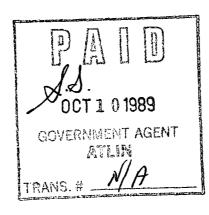
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SUMMARY REPORT on the PAVEY PROPERTY

Bennett Lake Area Atlin Mining Division FILMEL



GEOLOGICAL BRANCH ASSESSMENT REPORT

## SUMMARY REPORT

on the

## PAVEY and WILLARD PROPERTY

(PAVEY 1-6. LQ and BEN 1-4 Claims)

Bennett Lake Area

Atlin Mining Division

NTS 104-M-15W

Lat. 59°56'N, Long. 134°43'W

For:

LODESTAR EXPLORATIONS INC.

Suite 19, 4078 Fourth Avenue

Whitehorse, Y.T. Y1A 4K8

Ву:

B.A. Lueck, Geologist

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	(1989)

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#### SUMMARY

The PAVEY property consists of 160 units located between Bennett and Tutshi Lakes in the Tagish Highlands of the Atlin Mining Division in northwestern British Columbia. The property covers gold and silver rich mineralization in shears and quartz veins related to several strong north and northwesterly trending faults. The claims are underlain by layered sedimentary, volcanic and metamorphic rocks intruded by granitic bodies and porphyry dykes.

Previous work by Du Pont of Canada and Texaco Canada Resources Ltd. located quartz-arsenopyrite and quartz-stibnite-arsenopyrite veins concentrated in the "main gully" and around the Ben Fault at the head of Ben Creek. The "main gully" is a steep sided gorge which descends from a plateau area down the westerly facing slope overlooking Bennett Lake. Along the rocky walls of this gorge mineralized veins occur over a 1000 meter section. The Ben Fault is a northwesterly trending structure that cuts argillites and Boundary Range metamorphic rocks on the upland plateau. Veins and shear zones containing ore or more of pyrite, arsenopyrite, galena, sphalerite, stibnite and chalcopyrite lie parallel and nearby the Ben Fault. Du Pont and Texaco completed extensive rock sampling and soil geochemical surveys from 1982-1983.

In 1987 a prospecting and sampling program was undertaken on the PAVEY claims. In the "main gully"sample results correlated well with those obtained by Du Pont. Of the 10 samples taken (1987), 6 recorded gold values between 0.1 and 1.44 oz/ton; silver values were up to 12.6 oz/ton. No sampling was undertaken on the BEN claims as these claims were not under option to Lodestar until March, 1988. Earlier sampling by Texaco located seventeen mineral occurrence which produced gold values greater than or equal to 1.0 ppm and/or 70.0 ppm silver. Peak gold values are reported at 0.708 oz/ton and maximum silver values at 66.75 oz/ton.

At the south end of the PAVEY claims a 300 meter long adit, excavated in 1916-1917 remains open and in good condition. Apparently the drift was designed to intersect a ruby silver bearing ore body. Prospecting in 1987 located auriferous quartz veins above the adit returning values up to 0.433 oz/ton Au. However, no significant silver mineralization was found within or around the adit.

A three phase exploration program is recommended for the PAVEY property and consists of the following:

Phase 1 - Camp Establishment, 2 km of road building, backhoe trenching and trench sampling.

- total cost of \$ 75,000.00

Phase 2 - trenching, diamond drilling and prospecting.

- total cost of \$ 125,000.00

Phase 3 - major drilling with continued prospecting and trenching.

- cost of \$ 250,000.00

#### INTRODUCTION

The PAVEY 1-6, BEN 1-4, WILLARD and LQ Claims (160 units) cover gold and silver bearing, sulphide rich (Pb-Zn-As-Sb) quartz veins and shear zones located north of Paddy Pass and east of Bennett lake in the Atlin Mining District of northwestern British Columbia. The property is accessible via the Klondike Highway which passes within 1 km of the eastern margin of the claim block at Tutshi Lake. Klondike Highway links Skagway, Alaska on tidewater to Whitehorse, Yukon.

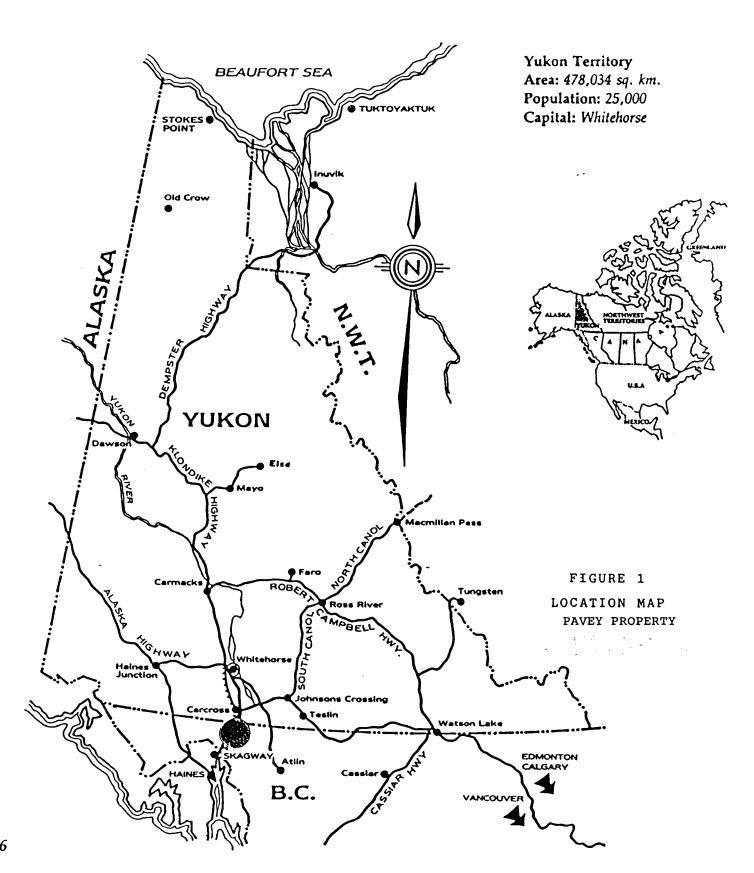
The PAVEY 1-6 and LQ Claims were staked in 1986-1987 to cover ground previously held by Du Pont of Canada (Gaug Claims) which lapsed in 1986. The PAVEY and LQ Claims are owned by G. Harris and G. Davidson of Whitehorse; Lodestar Explorations Inc. holds an option to acquire a 100% interest in the claims. The BEN 1-4 Claims are held by Texaco Canada Ltd. and Lodestar can earn a 100% interest in these claims by fulfilling the terms of an option agreement. The WILLARD claim was staked in early 1989 to cover road access and an area underlain by the Llewellyn Fault.

Du Pont and Texaco completed work programs on their respective properties in 1982-1983 and reported numerous gold and silver bearing sulphide rich mineral occurrences associated with northwesterly trending faults and shears cutting volcanic and metamorphic rocks. Geochemical and geophysical surveys were also performed.

This report, prepared at the request of Todd Peever, president of Lodestar Explorations Inc., summarizes an exploration program conducted on the claims in 1988 and 1989 and reviews assessment reports on the Gaug claims and reports on the BEN claims made available by Texaco Canada Ltd.

#### LOCATION AND ACCESS

The PAVEY property is located in northwestern British Columbia, 28 km south of Carcross and 60 km south of Whitehorse on N.T.S. Map Sheet 104 M-15. Approximate geographical co-ordinates are 59°56′ north and 134°43′west. The claims lie on the east side of Bennett Lake, with the White Pass and Yukon rail road passing through the western edge of the property. The Klondike Highway which links Skagway, Alaska to Whitehorse, Yukon is 1 km east of the claim block beside Tutshi Lake. A natural access route is available to the property via a northwesterly trending valley. A good gravel access road has now been completed into the central area of the claim block and an area cleared for camp.



#### PHYSIOGRAPHY, CLIMATE and VEGETATION

The Pavey property is situated in the Tagish Highlands of the Coast Mountain Ranges of the northwestern cordillera. The claims lie between 660 and 2200 meters, covering a steep westerly facing slopes beside Bennett Lake and a broad upland interior featuring a till covered plateau surrounded by rocky ridges. Several small creeks occupy steep canyons which descend from the upland plateau down the slope overlooking Bennett Lake. In the upland area tarns lie at the headwaters of Ben Creek which flows into Tutshi Lake.

Alpine areas in northwestern British Columbia have a northern interior climate modified by the Pacific Ocean. The property lies on the western side of the Coast Mountain Ranges where winter snow packs are 2-3 meters deep and annual precipitation averages 75 cm. Summers last from late June to late September with temperature averaging 12°C.

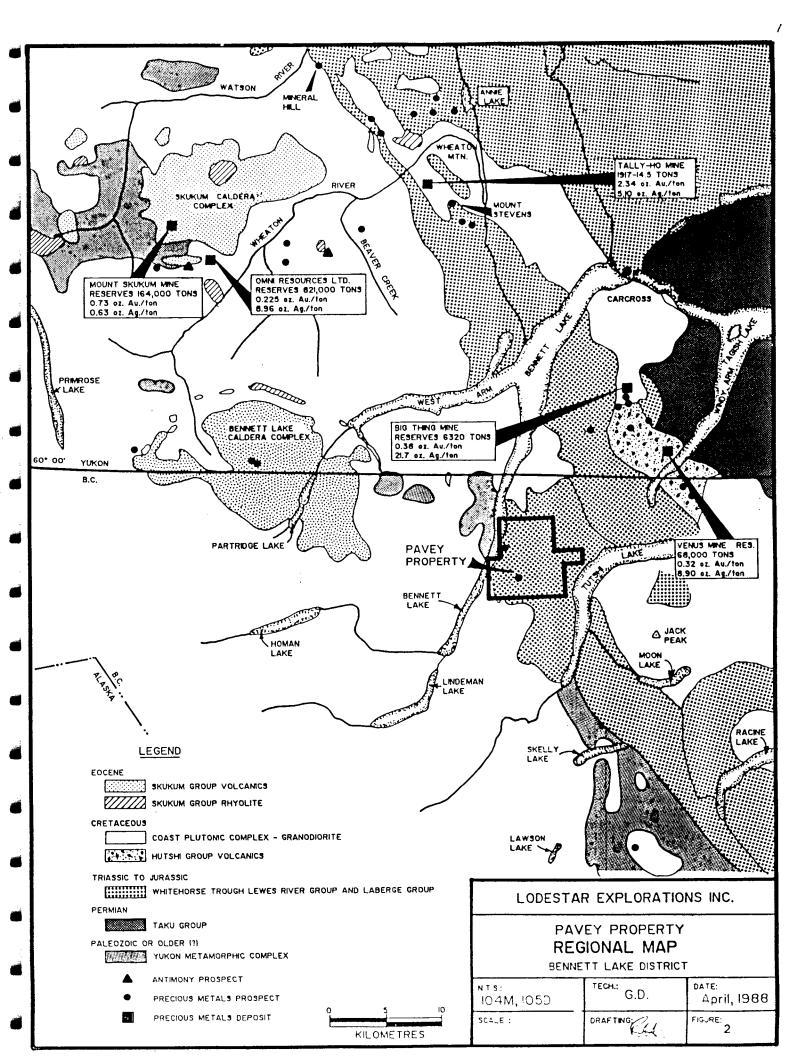
Spruce forest and buckbrush are thick up to 1400 meters on the east shore of Bennett Lake. Elsewhere the property is generally above treeline and alpine grasses and moss are the dominant flora. Outcrop is extensive on the steep slopes and ridges surrounding the upland plateau.

#### **PROPERTY**

The PAVEY property consists of twelve claims registered with the district Gold Commissioner in Atlin, B.C., as listed in Table I. Figure 3 shows the claim plan.

TABLE I PROPERTY DATA

Claim Name	Number of Unit	Record Number	Recording Date	Expiry Date
PAVEY 1	20	2659(8)	August 1, 1986	August 1, 1991
PAVEY 2	10	2660(8)	August 1, 1986	August 1, 1991
PAVEY 3	20	2661(8)	August 1, 1986	August 1, 1991
PAVEY 4	6	2662(8)	August 1, 1986	August 1, 1991
PAVEY 5	12	2759(11)	Nov. 7, 1986	Nov. 7, 1990
PAVEY 6	12	2760(11)	Nov. 7, 1986	Nov. 7, 1990
LQ	15	3041	July 24, 1987	July 24, 1991
BEN 1	15	1931(7)	July 4, 1983	July 4, 1994
BEN 2	15	1932(7)	July 4, 1983	July 4, 1994
BEN 3	9	1933(7)	July 4, 1983	July 4, 1994
BEN 4	6	1934(7)	July 4, 1983	July 4, 1994
WILLARD	20	3565(5)	May 19, 1989	May 19, 1991



G. Harris and G. Davidson of Whitehorse, Yukon are the registered owners of the PAVEY 1-6 and LQ claims, Texaco Canada Ltd. is the registered owner of the BEN 1-4 claims and Brian Lueck is the registered holder of WILLARD. Lodestar Explorations Inc. has entered into separate agreements with Texaco and Harris-Davidson to acquire 100% interest in the respective claims.

#### REGIONAL GEOLOGY

The Bennett Lake district overlies the contact between two terrains: (1)the Intermontane Belt of the western Cordillera and (2)the younger volcanic and intrusive suite of the Coast Intrusions.

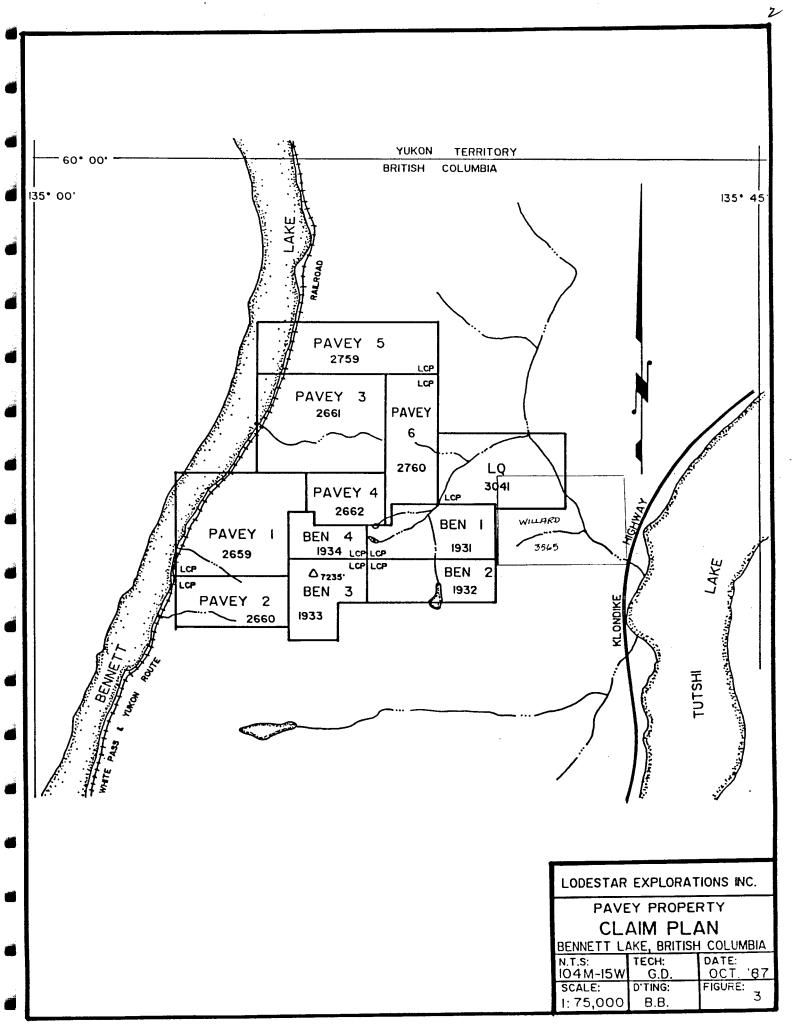
The Intermontane Belt features a complex assemblage of deformed volcanic and sedimentary rocks consisting of the Upper Triassic/Lower Jurassic Lewes River Group (Takla-Nicola), the Lower and Middle Jurassic Laberge Group (Stuhini Group) and Proterozoic metamorphic rocks.

Cretaceous granitic rocks of the Coast Intrusions are the most common in the district; typically, they consist of fresh quartz monzonite or quartz diorite. Pendants of Proterozoic gneiss, schist and limestone occur in the granitic intrusives.

A younger series of andesite, dacite and rhyolite flows, tuffs and agglomerates, mapped as the Late Cretaceous-Tertiary Mount Skukum Group(Mount Nansen Group-Sloko Group) intrude and overlie granitic rocks at Mount Skukum and Mount Macauley. Also, dykes of Tertiary and Eocene age intrude all rocks in the district.

The geology of the Bennett Lake district was mapped by R.L. Christie of the G.S.C. (published as Map No. 19-1957) and the Tutshi Lake Area was remapped by M. Mihalynuk and J. Rouse of the B.C. Geological Survey Branch, published as OPEN FILE MAP 1988-5. Figure 4 shows the property geology.

Structurally, the area features major faults, primarily along river and lake valleys associated with movement in the Coast Intrusive complex and with early Tertiary volcanism at Mount Skukum, Mount Macauley and Montana Mountain. The Skukum Group volcanic rocks may be equivalent to the Sloko Group of northern B.C. and the Mount Nansen Group of central Yukon. Late stage features of Skukum Group volcanism include dacite, rhyolite and granitic dykes, emplaced in fractures and fault zones around the volcanic complexes, and quartz-carbonate veining with significant precious and base metal mineralization.



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#### HISTORY and PREVIOUS WORK

The Bennett Lake district was first explored by prospectors travelling along the major lakes and rivers in the early 1890's. The Klondike gold Rush brought a great influx of people to the area in 1898. Gold and silver bearing quartz veins were discovered around Bennett and Tagish Lakes, and in the Wheaton River drainage. High grade mining operations at the Engineer mine beside Taku Arm, Tagish lake, and at the Venus and Big Thing mines on Montana Mountain produced gold and silver periodically during the early 1900's.

Near Pavey, B.C. on the White Pass and Yukon Rail Road, two claims were staked by Fred H. Storey around 1913. The SILVER QUEEN and RUBY SILVER claims were reported to overly highgrade silver mineralization. The early workers built a 1.2 km tramway from the railroad at 660 m elevation up the mountain side to 1400 m elevation. They then excavated a 300 m long adit towards the perceived mineralization. This adit is located on the PAVEY #2 claim and remains open and in good shape. No records of production exist and from the appearance of the adit, ore was not intersected. Three shorter adits are located in a steep gully 2.5 km to the north (PAVEY #3 claim) of the Ruby Silver adit. The history of these workings is unknown. They uncover mineralized quartz veins which occasionally contain visible gold.

From the mid-1920's to the late 1960's, little exploration of significance took place. By 1970, many of the old showings were restaked as an increase in the value of base and precious metals rekindled the interest of mining companies and prospectors. The Venus and Arctic mines operated on Montana Mountain between 1969 and 1971. The Venus mine was rehabilitated again from 1980 - 1981 and a new mill was installed at the southern end of Windy Arm, Tagish Lake.

In the 1980's the discovery and development of the Mount Skukum gold deposit in the Wheaton River area initiated a methodical staking rush in which much of the Wheaton River and Lake Bennett district has been staked. Gold production at Mount Skukum commenced in 1986 and a production decision on the nearby Omni Resources property is pending.

From 1981 - 1986 Du Pont of Canada held the GAUG claims over the area presently covered by the PAVEY 1-4 claims. During 1982 and 1983 Du Pont completed geological and geochemical surveys on the upland plateau and over a steep rocky gully which descends from the upland area to the east shore of Bennett Lake. They discovered old adits in the gully. Of 33 rock samples collected by Du Pont, 15 contained gold values of .1 - .805 oz/ton and silver values up to

66 oz/ton. Du Pont also outlined strong precious and base metal geochemical anomalies in the gully and on the surrounding upland surface. Peak gold and silver values in soil were 1150 ppb and 46 ppm respectively. Du Pont ceased exploration activities in the region after the 1983 season.

In 1983 Texaco Canada Ltd. staked the BEN 1-4 claims and performed geological, geophysical and geochemical surveys. Seventeen mineral occurrences produced gold values greater than or equal to 1000 ppb and/or silver values greater than or equal to 70 ppm. The mineralized veins and shear zones contain one or more of pyrite, arsenopyrite, galena, sphalerite, stibnite, chalcopyrite and rarely siderite. Although most of the mineral occurrence were of limited size Texaco's consultants concluded that there was potential for larger silver and gold deposits along or near a northwestery trending fault which traverses the upland plateau passing through both the BEN and at that time GAUG claims. Further details of Du Pont's and Texaco's exploration work are summarized in Appendix I.

## GEOCHEMICAL and GEOPHYSICAL RESULTS, 1982-1983

Soil geochemical surveys by Du Pont and Texaco produced strong precious and base metal anomalies in the "main gully" area and weak to moderate anomalies at the head of Ben Creek. The strongest gold values (up to 1150 ppb) were obtained by Du Pont on grid line 7+00 W. A series of anomalous values over 300 meters on this line were interpreted to come from a large fault or shear zone which runs parallel to the line and cuts across the creek bed. Other spot gold anomalies are scattered over the upland area around the "main gully" and around Ben Creek.

Silver, antimony, arsenic lead and zinc values correlate closely to gold values. The strongest anomalies are in the "main gully", where silver values reach 46.0 ppm. Other notable anomalies surround several of the old trenches on the BEN claims.

Anomalous copper values (up to 3830 ppm) occur over the chalcopyrite rich[\*p763Xsheerexposed by a short adit; north of the "main gully".

VLF and Magnetometer surveys performed by Texaco on two grids around the top of Ben Creek outlined the northwesterly trending Ben Fault. A prominent magnetic high on Grid 2 corresponds to a gossanous pyrrhotite-bearing zone in gneiss. Weaker magnetic anomalies on Grids 1, 2, and 3 and northwesterly trending VLF anomalies on Grid 2 are not exposed in outcrop. The causes of these anomalies are uncertain.

#### 1987 EXPLORATION PROGRAM

On July 10, 1987 a four-man field crew mobilized onto the PAVEY property, locating camp just east of the PAVEY #6 claim. Crowsnest Helicopters, based in Whitehorse, provided air support.

A 1.75 km picket baseline trending north/south was established on the upland plateau with the BL 0+00 south picket located at the old legal cornerpost of Du Pont's GAUG 1 and 2 claims. 3.4 km of picket crosslines were extended primarily to the west of the baseline to tie in claim posts, old pits and quartz veins. The "main gully" where Du Pont located numerous mineralized veins and geochemical anomalies was also tied into the grid. The property plan is shown in Figure 5.

Blast and hand pits were excavated on quartz-sulphide veins in the main gully and beside a small tarn at the south end of the grid (PAVEY #4 claim). A Cobra gasoline drill was utilized for trenching.

collected prospecting Thirty rock samples were on traverses. The samples were first reconnaissance mapping qeochemically analyzed for 17 elements by Bondar-Clegg. with high values in Au-Ag-Pb-Zn were then assayed. Sample values, locations and descriptions are summarized in Appendix II, and Figures 6,7 and 8 show the sample sites. Du Pont and Texaco data is included on the maps and in the following sections.

#### Property Geology

The property is underlain by layered volcanic, sedimentary and metamorphic rocks extensively exposed on precipitous slopes overlooking Bennett Lake and on peaks and ridges surrounding the upland plateau. Intruding this sequence are granitic rocks of various ages and porphyry dykes of Late Cretaceous or Tertiary age. Mineralization is associated with Cretaceous and Tertiary volcanic activity.

The oldest rocks are the Palaeozoic and Proterozoic Boundary Ranges Metamorphics which consist of northwesterly trending fault bounded blocks of gneiss, schist, sediments pyroclastics and minor carbonates. Altered pyroxenites, foliated gabbros and mafic flows are also mapped as part of the metamorphic succession. Locally, gneiss can be divided into 1)mafic gneiss, composed of quartz, chlorite and amphibole; and 2)felsic gneiss, composed of quartz, feldspar and muscovite. All rocks of this age are metamorphosed to at least greenschist facies.

Triassic and Jurassic sedimentary and volcanic rocks occupy most of the remaining area of the property. Pebble conglomerate of Paleozoic to Upper Triassic age outcrops on the PAVEY #5 claim at the head of a small creek. The conglomerate contains chert and quartz pebbles in a black siltstone matrix. Contacts with granitic rocks are highly silicified and contained up to 2% pyrite.

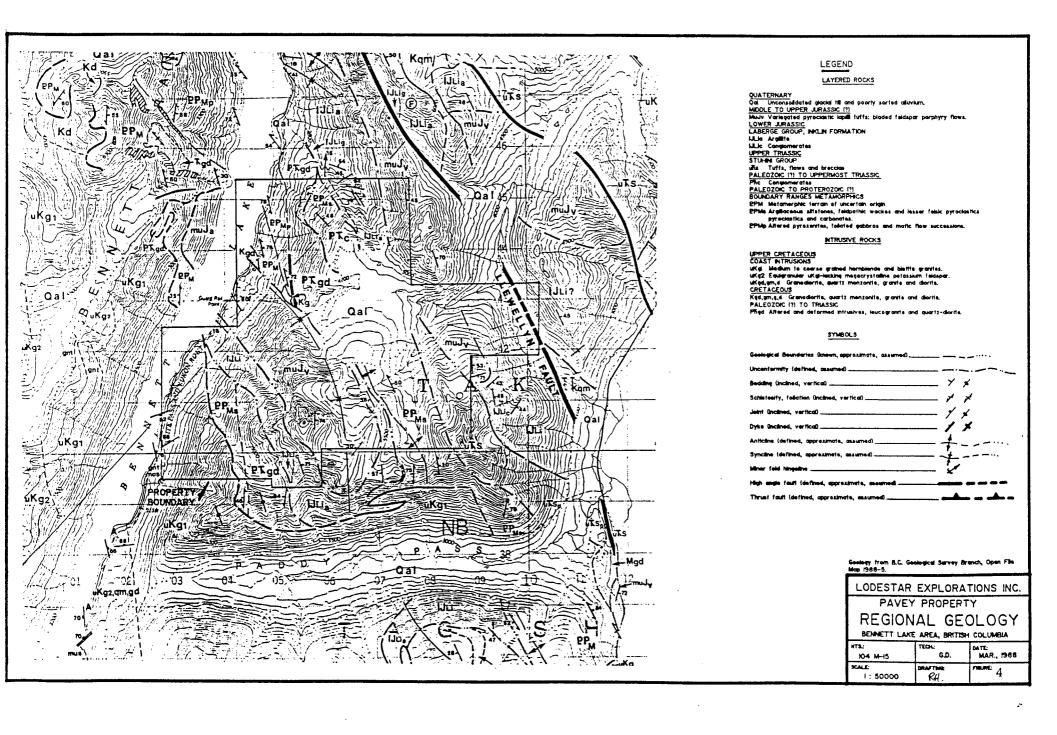
The Upper Triassic Stuhini Group occurs in the southeastern corner of the claim block and consists primarily of green pyroxene-feldspar porphyry tuffs and breccias, and variegated feldspar-phyric tuffs and lesser flows.

The Stuhini Group volcanics lie in uncomfortable contact with the Lower Jurassic Laberge Group and with Middle to Upper Jurassic volcanics. The Laberge Group consists of intermixed argillite, siltstone, greywacke and lesser conglomerate. The sediment are generally highly fractured and form vivid orange gossan zones when pyrite rich. The Middle to Upper Jurassic volcanics closely resemble volcanic rocks on Montana Mountain and in the Wheaton district which are considered Cretaceous or Tertiary in age. They consist of variegated pyroclastic lapilli tuffs and bladed feldspar porphyry flows of basaltic and andesitic composition. Basaltic flows weather a brownish green colour and contain up to 30% plagioclase phenocrysts. The tufaceous units weather a dark brown colour and contain subangular clasts up to 1 cm in size.

At least three stages of granitic intrusive rocks ranging in composition from diorite to quartz monzonite intrude and underlie the layered rocks. Altered and deformed intrusives, leucogranite, and quartz diorite of Paleozoic to Triassic age intrude sedimentary and metamorphic rocks in the western half of the claim block. Hornblende phenocrysts constitute up to 30% of the rock and maintain a northwesterly orientation. Minor pyrite, pyrrhotite and chalcopyrite are present in most samples.

Cretaceous granite and granodiorite plugs have been mapped by the B.C. Geological Survey Branch on the western margin of the claim block. Of limited extent the more easterly felsic plug hosts numerous sulphide bearing quartz veins and fractures zones. Du Pont workers identified this plug as a rhyolite porphyry body which the writer also believes.

The most extensive intrusive rocks in the area are the Upper Cretaceous Coast Intrusions. They outcrop as prominent smooth faced cliffs in the southwestern corner of PAVEY # 1 and 2 claims. The Coast Intrusions are medium to coarse grained hornblende and biotite granites which lie in sharp fault contact with metamorphic and sedimentary strata to the east.



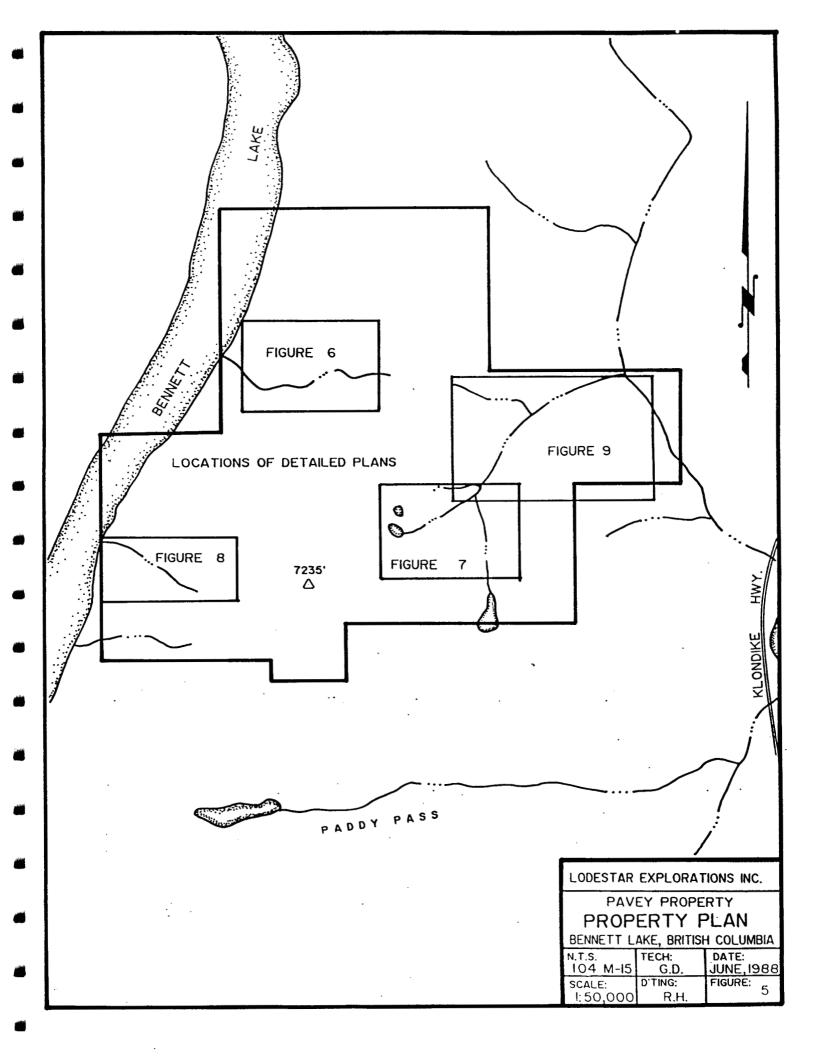
A variety of dykes occur throughout the claim area. They penetrate all rock units except the Coast Intrusive, where they were not The dykes are probably contemporaneous with Tertiary volcanic dykes of the Bennett Lake caldera complex located 15 km west of the property, the Late Cretaceous Montana Mountain volcanics located 12 km to the northeast. The most common dykes, range in composition from andesite to basalt and outcrop along the westerly facing slope above Bennett Lake. Typically they are less than 5 m wide, vary in colour from light green to dark brown and contain less than 10% fine phenocrysts. Two bodies of rhyolite porphyry occur in the main gully west of the upland plateau. yellowish weathering rock contains feldspar and quartz phenocrysts that average 5 mm in size. The groundmass is very fine grained and siliceous. Pyrite and pyrrhotite comprise up to 5% of the rhyolite. Above the adit in Pavey #2 claim several granitic porphyry dykes intrude quartz diorites.

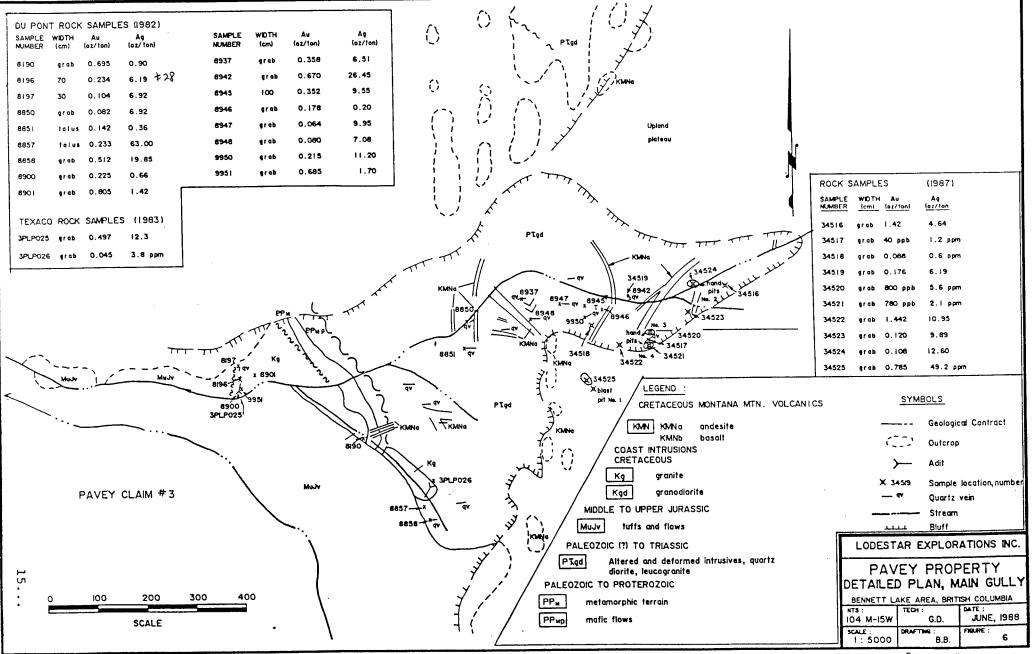
Structurally, two major northwesterly-trending faults run through the upland plateau. The western fault labelled the Ben Fault by Texaco was exposed in a blast trench. It consists of a 6 m wide fracture zone of gouge and argillite. The eastern fault called the Paddy Fault is the contact between metamorphosed sediments and altered intrusive rocks. A larger regional structure, the Llewellyn Fault, is a major northwesterly trending fault that passes through the eastern part of the LQ claim and most of the 104 M 15 map sheet.

#### Mineralization

Four types of mineralization containing gold, silver, copper, lead and zinc values are present on the Pavey property. In order of significance they are:

- 1) Arsenopyrite-quartz veins
- 2) Stibnite-arsenopyrite-galena-sphalerite-quartz veins
- 3) Chalcopyrite-magnetite in a shear zone
- 4) Massive pyrrhotite boulders
- 1) Quartz veins containing bands of massive arsenopyrite and minor pyrite, sphalerite and galena occur in fractures and shear zones in granitic, porphyritic and argillaceous rocks. Six veins ranging in size from a few centimetres to 40 cm in thickness are located at approximately 1000 m in elevation in the "main gully" (see Figure 6).





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A 25 m long adit follows one of these veins in a northeasterly direction. The adit exposes a quartz vein averaging 25 cm in width which pinches and swells along strike and dips to the west. The vein is surrounded by a 4 m wide bleached alteration zone in the host rhyolite porphyry. The alteration zone can be traced across outcrop for over 50 m from the portal. Gold and silver values of samples collected from the dump range up to 0.497 oz/ton and 12.3 oz/ton respectively. A 20 cm chip sample taken on surface approximately 40 m North of the adit recorded 0.234 oz/ton Au and 6.19 oz/ton Ag.

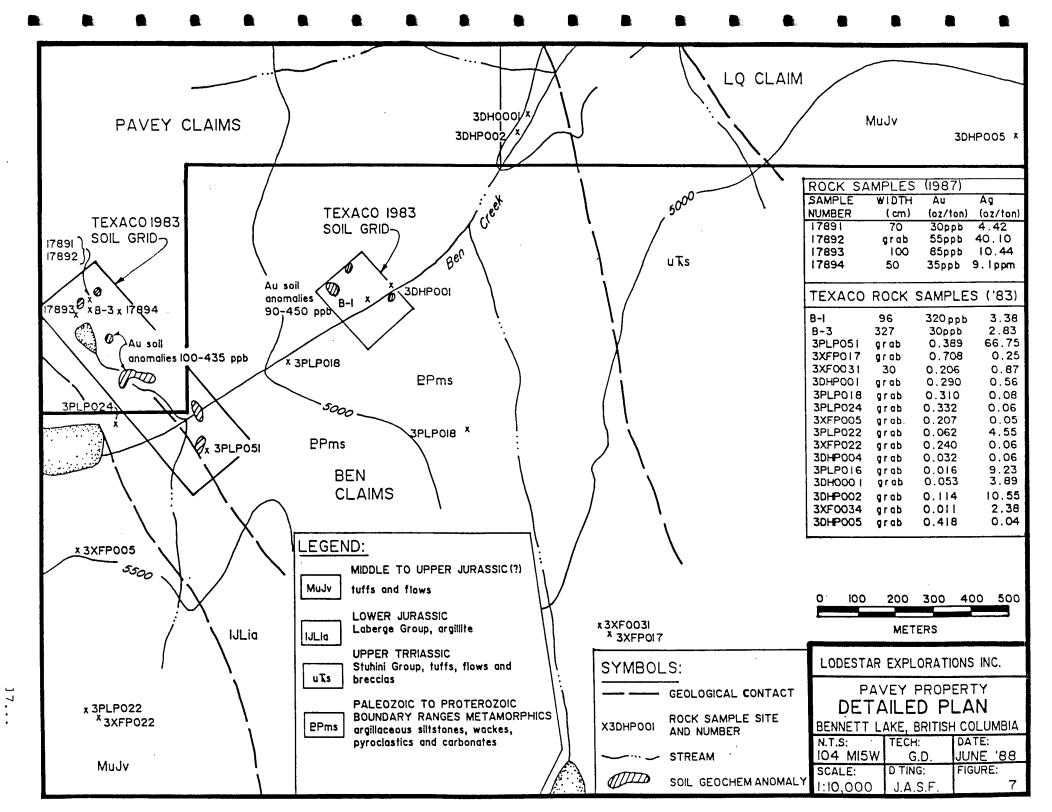
On the LQ claim a large quartz vein containing up to 20% arsenopyrite and 2% galena outcrops in quartz chlorite schist in a creek bed. The vein forms the west bank of BEN creek for 10 m, averaging 70 cm in width, striking 33° and dips 57° east. A grab sample of well mineralized vein material assayed 0.114 oz/ton Au and 10.55 oz/ton Ag while a chip sample over 150 cm recorded values of 0.084 oz/ton Au and 10.44 oz/ton Ag (see Figure 7).

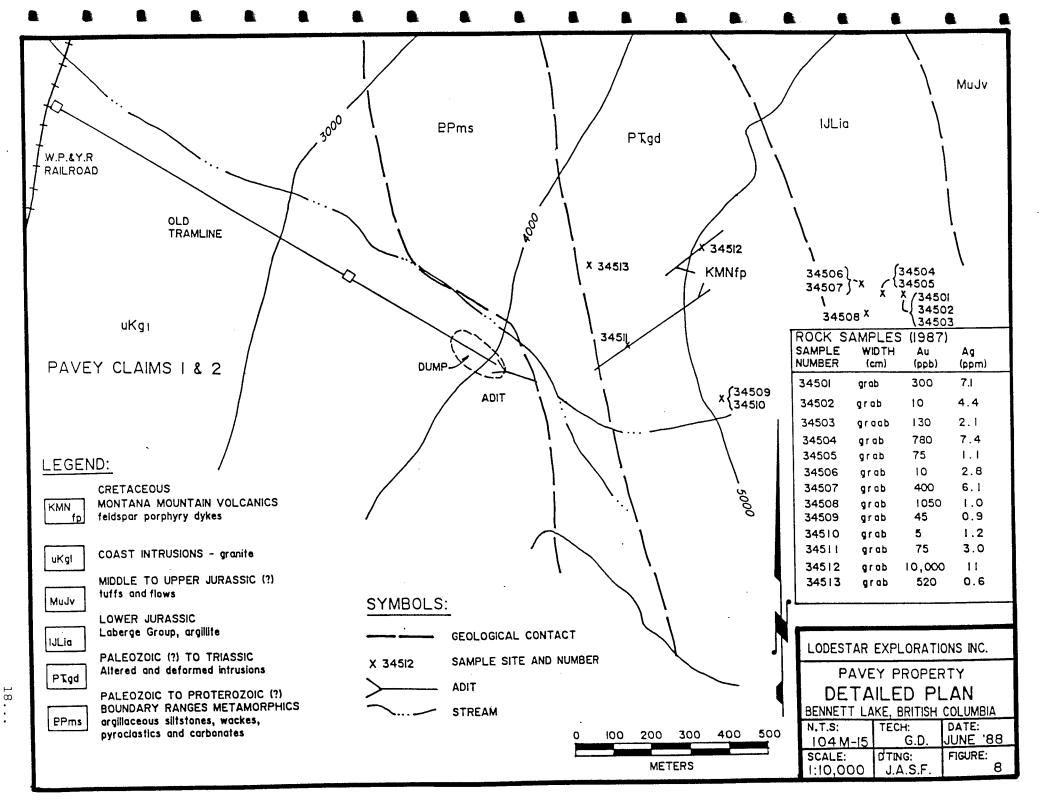
On the BEN claims 6 locations host veins and shear zones predominately composed of quartz, arsenopyrite and less pyrite. The veins are generally less than one meter wide and the maximum values in rock samples collected by Texaco are 0.708 oz/ton Au and 66.7 oz/ton Ag.

Above the large adit in PAVEY #1 claim (see Figure 8) a quartz-arsenopyrite vein occurs in quartz eye porphyry dyke. A grab sample returned a gold assay of 0.433 oz/ton.

The adit was examined and mapped at a scale of 1:100. The adit consists of a 180 m long drift and a 95 m crosscut with several short spurs. The adit was driven in 1915-1916 in a year-round operation to try and intersect a ruby silver ore zone. The workings cut fresh granodiorite for almost their entire length. One rhyolite porphyry dyke occurs at the end of the main drift and in a small spur. Apparently, no mineralization was intersected and the project was abandoned in 1916.

Quartz veins containing massive stibnite and arsenopyrite with some galena, sphalerite and chalcopyrite are exposed primarily in the "main gully" on the south side of the creek and in old trenches located beside a small tarn at the head of Ben Creek on PAVEY #4 claim. The veins vary from a few centimetres up to 1 meter in width and are hosted by granodiorite and argillite. Sulphide bands up to 10 cm thick consist of coarse bladed to fine grained stibnite and fine grained arsenopyrite.





In the main gully the veins are exposed in shears and fractures along 1000 meters of outcrop and talus on the creek bank. Values from rock samples collected by Du Pont, Texaco and the writer are consistently over 0.1 oz/ton Au and 6 oz/ton Ag. Peak values in gold are 1.442 oz/ton and in silver 63 oz/ton.

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Near the small tarn (Figure 7) two old blast pits were mucked out and sampled. Massive stibnite with 10% arsenopyrite, sphalerite and galena occurs in a fractured rhyolite porphyry. The sulphide zone is approximately 70 cm wide, and appears to occupy a northwesterly trending shear zone in the felsic volcanics. Rock samples assayed up to 40 oz/ton Aq.

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3) A zone of copper mineralization occurs on the west facing slope above Bennett lake on the PAVEY #3 claim. This occurrence was not visited by the writer but is described in the following paragraphs from the Du Pont 1982 report on the GAUG property.

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"The zone is a four meter wide sheared and altered section of granodiorite. This sheared rock is traceable on the surface over a length of 10 meters. The zone strikes east-southeast with a moderate dip to the northeast. An adit has been driven horizontally into the lower portion of this altered zone. The adit is in good shape and is approximately  $1.0 \times 1.5$  meters in section and 15 meters long. It has been driven east into the hill then jogs to the north for seven meters.

Mineralization in the sheared rock is limited to a 30 cm wide section of massive to disseminated chalcopyrite and magnetite. Minor pyrite and bornite has also been noted in the rock. a strong malachite/azurite stain extends outward from the mineralization for a distance of one meter. Malachite staining covers the walls of the adit but only minor chalcopyrite was observed inside. Grab samples from inside and outside the adit varied from 3.3 to 9.5% copper. A sheared outcrop of malachite-stained granodiorite 450 meters below the adit ran 0.5% copper (grab sample). This suggests the mineralized shear zone may extend for several hundred metres across the property."

"A summary of rock samples and their anomalous assay values for this copper zone is given in Table 2."

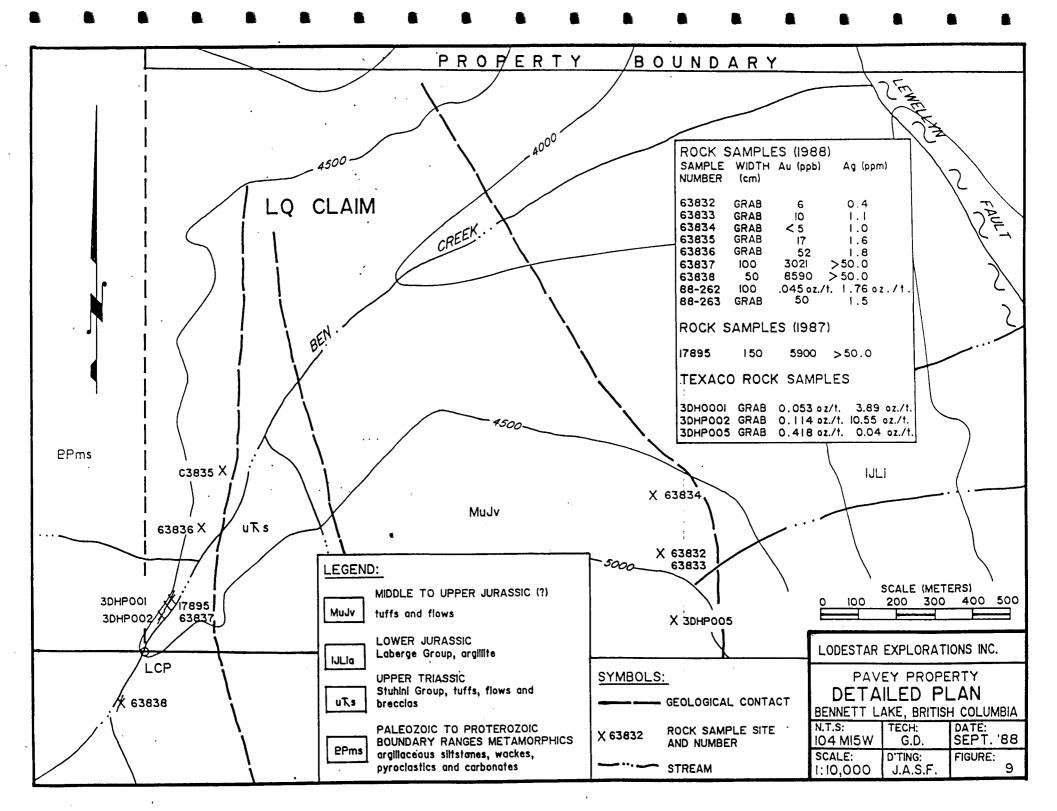


TABLE 2 (from GAUG claims report)

#### Copper Zone, rock Descriptions and Assays

Sample #	Location	Description	<u>Assay</u>
7700A	Above adit	Massive chalcopyrite, magnetite, malachite	Cu 9.49% Ag 2.74 oz/t
9952A	Inside adit	Altered granodiorite, malachite/azurite	Cu 3,26% Ag 0.83 oz/t
9953A	600 meters northwest of adit	Altered granodiorite, heavily chloritized, malachite	Cu 0.585% Ag 0.50 oz/t

4) Boulders of massive platey pyrrhotite and pyrrhotite-bearing amphibole skarn are situated in a talus slope on the BEN claims and along a contact between argillite and granitic rocks on the PAVEY #2 claim. Two talus samples from separate locations contained gold values of 0.31 oz/ton and 0.240 oz/ton however, 5 other pyrrhotite samples produced low gold values. The source of the boulder samples has not been located.

#### 1989 PROGRAM

In 1989, an exploration program was conducted on the PAVEY Property which consisted of road access surveying, road building, horse pack camp establishment, prospecting, structural and geological mapping, and rock sampling. A total of \$ 25,000.00 was expended on developing the property.

A road was constructed which joins the central part of the claim block with the all weather Whitehorse-Skagway highway. Prospecting and geologic mapping were conducted prior to and during road construction. A horsepack train was taken into the high country and a base camp was established. Prospecting and sampling were done with loop traverses from base camp.

#### LOCAL GEOLOGY

Rock Types: Basement rocks on the property are characterized by schistose quartz rich metasediments. These rocks vary from quartz chlorite schists to calcareous calc-silicate beds. They are variable sheared and have experienced at least two phases of deformation. These schists are in contact to the northeast with a more recent volcanic package consisting of coarse to fine lapilli tuffs, welded tuffs, ignimbrites, sub-volcanic andesite porphyrys and tuffaceous sediments.

To the southwest of the schists are found granitic rocks of the Coast range batholith.

Recent quartz-feldspar porphyry volcanics are found in the vicinity of the BEN fault and may be genetically related to the precious metal mineralization found on the property.

## STRUCTURAL GEOLOGY

Structural mapping in the schists shows two phases of deformation clearly. A stage 1 fabric is folded about a shear fabric oriented at 150/90. Stage 1 fabric orientations form tight similar folds around a fold axis of 150° with no plunge. Limb attitudes are generally steep and around 70° to either NE or SW. Some outcrops shows wild fluctuations in fabric orientation and no attempt was made to decipher these more complex structures.

Joint and fracture attitude mapping in the volcanics and schists show two predominant joint sets; one parallel to the Stage 2 fabric in the schists (150/90); and one oriented between 035° and 070° and dipping 50° to 55° to the southeast. Veins are largely emplaced in fractures with these attitudes.

### **MINERALIZATION**

There are several types of mineralization found within the claim block which hold potential for economic deposits.

Small, high grade orebodies in vein structures are a potential target type which warrant exploration. Outcrops of quartz-sulphide veins show widths in outcrop over 1.5 m (one wall is unexposed). Combined grades for gold, silver, copper, lead and zinc average from \$ 150.00 U.S. to \$ 250.00 U.S. per tonne (July 1989 prices). This vein target can best be explored by backhoe trenching followed by shallow drilling.

Small high grade gold-silver veins are common throughout the BEN Fault region where outcrop is visible. It is possible that a dilatent fracture zone exists near this fault which could host a large enough fissure vein to make an ore body.

There is excellent potential for replacement type precious metal ore bodies of larger scale and lower grade. Pyrrhotite boulders found in float suggest a replacement origin in calcarious sediments and often run high in gold. Stratabound polymettalic sulphides are common in schist and gneiss and also hold significant to ore grade values in gold and silver. Calc-silicate skarn found by Texaco showed 9.29 ppm Au and 18 ppm Ag in a single sample. This is an exciting target as this type of skarn mineralization is widespread over much of the claimblock.

#### SAMPLE DESCRIPTIONS - TABLE II

06-22-02 - A float sample of oxidized pyrite and arsenspyrite in quartz	Au 180 ppb	Ag 1 ppm
06-22-03 - Disseminated pyrite is found in a fine grained altered volcanic - sconodite stain defines an apparently stratiform zone 1 to 2 metres in width within tuffs	<10 ppb	<1 ppm
06-23-05 - Bleached and silicified rusty altered volcanics are found in and adjacent to gulleys formed by northeast striking fractures. This zone is from 1 to 5 metres in width. A composite grab sample	320 ppb	.5 ppm
06-23-07 - Massive arsenopyrite is found in northeast trending steeply dipping fractures veins are up to 30 cm in width and can be traced up to 10 metres.	9690 ppb	.8 ppm
06-23-08 - <u>Fault Gouge</u> - a narrow (<1m) fault gouge zone is exposed adjacent to a fracture zone of broken felsic tuffs.	500 ppb	1 ppm
06-23-08 - A 3.5 m channel sample of sulphide bearing broken, silicified tuff. Zone strikes 150°.	140 ppb	1.3 ppm
06-23-08 B - A composite grab sample of common yellowish stained fine grained felsic tuff.	13 ppb	<1 ppm

06-23-09 - Bleached and partially silicified volcanic rock is found in a 2 - 3 m wide shear 20 ppb .1 ppt trending northeast.	m
06-23-10 - Best grab samples of quartz with minor stibnite in veinlets greater than 15 cm; 2340 ppb >50 pp found in a stockwork cockade quartz veinlet system striking roughly east-west.	m
06-23-10 B - More common stockwork quartz veinlets with very minor selvege stibnite 2520 ppb 35.4pp and galena.	m
06-23-11 - Altered bleached and rusty stained volcanics adjacent to zone in 06-23-10. 330 ppb 1.7 pp	m
06-23-12 - Greenish stained, fine grained volcanic tuffs contain fine dissenated pyrite. 77 ppb .8 pp	m
06-24-02 - A composite grab sample of L.Q quartz vein rubble adjacent to the vein outcrop. 2230 ppb >50 pp	m
06-24-03 - A sample of float boulder approximately 200 meters upstream of the L.Q 1270 ppb 4 pp vein outcrop. The boulder is identical mineralogically and texturally with the L.Q. vein.	m
06-24-06 - Quartz-sulphide boulder float from Ben Creek. Contains galena, arsenopyrite, <1400 ppb 49.3 pps sphalerite, stibnite and pyrite.	m
06-24-07 - A composite grab of abundant near source high talus of quartz vein material 4820 ppb >50 ppm containing arsenopyrite, pynte, galena, sphalerite and stibnite pyrite.	
06-24-08 - cockade quartz vein material with minor chalchopyrite. 110 ppb 5.6 pp	m
06-24-09 - Pyritic altered volcanic in 2 - 5 metre wide stratiform zone 110 ppb 1.6 pp	m
06-24-10 - Malachite stained and carbonate altered volcanic adjacent to a 2 - 3 metre 150 ppb 32. ppm wide northeast trending shear.	3

06-25-02 - A narrow quartz - arsenopyrite - stibnite vein found in outcrop at the edge 750 ppm of the main gulley zone

15,900 ppb

06-25-04 - A composite grab sample of minor stockwork quartz veinlets in altered granodiorite.

Au Ag 1450 ppb 1.9 ppm

06-25-06 - Arsenopyrite veinlets in altered granite

<18900 ppb >50 ppm

#### DISCUSSION

There are numerous veins which have been sampled which have high grade gold and silver values within them. These veins appear to exist in north west trending shear zones or in northeast striking cross faults. Structural mapping has shown that veins are associated with structural fabrics and joints which are pervasive throughout the area.

Potentially economic precious metal targets include high grade fissure veins, massive sulphide replacements in schists, calc-silicate stratabound skarn zones and silicified replacements in permeable tuffs.

Two areas are recommended for initial follow up work. The Ben Fault zone should be grid surveyed and magnetometer and E.M. geophysical surveys conducted over the grid. Conductors or traceable magnetic linears associated with known outcrops of precious metal mineralization are to be backhoe trenched at 30 metre intervals for the length of the zone.

The L.Q. vein zone should also be grid surveyed with geophysical surveys conducted over the grid. Trenching should concentrate on extending the known vein zone and exposing of parallel conductors under the overburden.

Reconnaissance prospecting has defined several zones of abundant amphibole skarn with minor to significant copper mineralization. These zones have run 9.29 ppm Au in samples taken by Texaco. This should be focused on as a high priority target.

## RECOMMENDATIONS

The following program is recommended for the Pavey Property:

### Phase 1

Road building and Backhoe trenching
150 hours at \$125.00/hour: \$ 18,750.00

2 Geologist 30 days at \$400.00/day: 12,000.00

1 assistant 30 days at 100.00/day: 3,000.00

Camp costs and assays: 10,000.00

\$ 43,700.00

## Phase 2

Diamond Drilling, Prospecting: \$ 150,000.00

## STATEMENT OF COSTS

Road building, Cat operator, Fuel Haulage Cat Rental:	14,000.00
Geologist - road access surveying, road building supervision, prospecting, sampling. 14 days at \$300.00/day:	4,200.00
Assistant - 14 days at \$100.00/day:	1,400.00
Horse rental - 6 pack horses at \$20.00/day each for 6 days:	720.00
Horse Wrangler and Horse haulage:	950.00
Camp cook - 6 days at \$100.00/day:	600.00
Camp costs and supplies - 40 man days at \$40.00/day:	1,600.00
Truck and fuel - 10 days at \$75.00/day:	750.00
Assays:	250.00
Report:	1,100.00
	\$ 25,570.00

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on the
PAVEY PROPERTY

Bennett Lake Area Atlin Mining Division

## STATEMENT OF QUALIFICATIONS

I, BRIAN A. LUECK, of the City of Whitehorse, in the Yukon Territory,

#### HEREBY CERTIFY:

- 1. That I am a consulting geologist and that I was present on the property during all phases of exploration work done in 1988/89.
- 2. That I am a graduate in Honours Geology of the University of British Columbia.
- 4. That I have been engaged in mineral exploration or have been employed as a geologist in the Yukon and British Columbia for a period of 7 years.
- 5. That I have attended Carleton University in a Masters Geology program and that I have successfully completed one year of graduate studies.

Brian A. Lueck, B.Sc.

## APPENDIX I

VALUES and DESCRIPTIONS OF
ROCK SAMPLES FROM ASSESSMENT REPORT
#11,044 (GEOLOGICAL and GEOCHEMICAL REPORT
ON THE GAUG PROPERTY)
and from
BEN CLAIMS REPORT

TABLE 3 "GAUG" Claims

# Arsenopyrite-Quartz Veins, Descriptions and Assay Results

Sample #	Location	Description	Assay
9951A (grab)	Inside adit	Width 2 to 30 cm qtz aspy, py; strike approx - 030°	Au: 0.685 oz/t Ag: 1.70 oz/t As: 20.50 %
8900A (grab)	10 m west of adit	Exposed area 150 cm x 30 cm qtz, aspy, py, jarosite; orientation - 040°/60SE	Au: 0.255 oz/t Ag: 0.66 oz/t As: 9.25%
8901A (grab)	20 m east of adit	Width 10 to 40 cm exposed length 10 m; orientation 55°/45SE qtz, aspy, jarosite	Au: 0.805 oz/t Ag: 1.42 oz/t As: 17.6%
8196D (chip across 70 cm)	15 metres above adit	Width, average 70 cm aspy, qtz, jarosite; strike approx. 060°	Au: 0.234 oz/t Ag: 6.19 oz/t As: 4.75%
8197D (chip across 30 cm)	15 metres above 8196D	Width, average 30 cm aspy, qtz	Au: 0.104 oz/t Ag: 6.92 oz/t As: 5.55% Pb: 1.08%
8190D	South branch main creek EL: 1120 m	15 cm wide, qtz-aspy vein, exposed over 10 metres; orientation - 000/10E	Au: 0.695 oz/t Ag: 0.90 oz/t

Arsenopyrite - aspy
Pyrite - py
Quartz - qtz
Chalcopyrite - cpy
Sphalerite - ZnS
Stibnite - Sb

TABLE 4 "GAUG" Claims

# Stibnite-Arsenopyrite Quartz Veins, Descriptions and Assay Results

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	Sample #	Location	Description	Assay
	8938A (grab)	North side creek, 1+76m EL: 1410 m	Shear zone in grano-diorite 3 cm thick vuggy qtz 10% combined py, cpy, sb	Au: 0.034 oz/t Ag: 1.57 oz/t Cu: 0.710% Sb: 0.28%
<b>*</b>	8941A (grab)	South side creek, 4+28m EL: 1425 m	3 cm wide, qtz-py-aspy -sb vein; striking 050°	Au: 0.069 oz/t Ag: 4.19 oz/t Pb: 3.53% Zn: 1.18%
	8942A (grab)	North side creek, 4+28m EL: 1375 m	3 to 40? cm wide, qtz-sb-ZnS-py vein; orientation 074/80SE	Au: 0.670 oz/t Ag: 26.45 oz/t Pb: 6.44% Zn: 5.94% Cu: 0.110%
	8943A (grab)	South side creek, 5+20m EL: 1355 m	Altered granodiorite wall rock of vein described under 8944A taken 10 cm from vein	Ag: 0.29 oz/t all others low
	8944A (grab)	South side creek, 5+20m EL: 1355 m	40 cm wide, qtz(25%)aspy(50%)-cpy(10%)py(10%)- ZnS(minor); orientation 084/15S	Au: 0.052 oz/t Ag: 9.60 oz/t Pb: 0.44% Zn: 0.24%
	9950A (grab)	South side creek, 5+10m EL: 1370 m	<pre>1 m wide, qtz~sb(60%)aspy (10%)-ZnS (10%)- cpy(5%) vein; orienta- tion 058/76 NW</pre>	Au: 0.215 oz/t Ag: 11.20 oz/t Pb: 2.36% Zn: 4.93%
	8945A chip sample over lm	South side creek 5+15m EL: 1345 m	<pre>1 m wide, qtz-sb(10%) -aspy(25%)-cpy (5%)-py(10%) vein swarm orientation: 083/82 NW</pre>	Au: 0.352 oz/t Ag: 9.55 oz/t Zn: 0.32% Cu: 0.101%

TABLE 4 - (continued) - "GAUG" Claims

•	Sample #	Location	Description	Λss	ау
	8946A (grab)	South side creek 4+90 m EL: 1355 m	10 cm wide, qtz-aspy py vein, extension of vein in 8945A, 25 m east of 8945A		0.178 oz/t 0.20 oz/t
4	8947A (grab)	South side creek, 5+60m EL: 1330 m	10 cm wide, qtz-py(10%) -cpy(10%)-aspy(5%) vein, traceable over 20 m; striking: 098°	Ag: Pb:	0.064 oz/t 9.95 oz/t 0.33% 0.89%
•	8948A (grab)	South side creek, 6+22m EL: 1345 m	50-100 cm wide qtz-py- galena-aspy-sb stringer vein zone strike: 090°	Ag:	0.080 oz/t 7.08 oz/t 4.96%
<b>4</b>	8937A (grab)	South side creek	<pre>l m wide, qtz-sb- aspy-ZnS vein; orientation - 090/45S</pre>	Ag: Pb:	0.358 oz/t 6.51 oz/t 0.30% 0.41%
	8851A (talus)	South side creek, 8+27m	Talus from inacces- sible qtz vein, ex- posed over approx. 10 metres qtz boxwork strong goethite stain, minor py	Ag:	0.142 oz/t 0.37 oz/t 0.26%
•	8852A (grab)	North side creek, 8+27m EL: 1205 m	Silicified zone in granodiorite py and boxwork to 20%, jarosite & goethite stain	Au:	0.016 o/t
4	8853A Chip over lm	South side creek, 9+23m EL: 1170 m	Altered zone in grano- diorite silicified and feldspar altered, jarositic & hematitic soil	Ag:	0.016 oz/t 0.085 oz/t 046%
	8854A Chip over 1m	South side creek, 9+25m EL: 1180 m	Silicified zone in granodiorite 10 m above 8853A, jarosite stain, disseminated py	Ag:	0.10 oz/t

TABLE 4 - (continued) "GAUG" Claims

	Sample #	Location	Description	Assay
4	8856A chip over 1m	South branch main creek near adits EL: 1230 m	<pre>l m wide, qtz-aspy- sb-py vein; orienta- tion - 090/55S</pre>	Au: 0.032 oz/t Ag: 0.12 oz/t
	8857A talus grab	South branch main creek near adits	Talus sample of massive coarse bladed sb, 10 cm thick	Au: 0.233 oz/t Ag: 63.00 oz/t Cu: 0.955% Pb: 2.48% Zn: 1.39%
	8858A (grab)	Above south branch main creek	10-100 cm wide, qtz-sb-aspy-py vein; striking approximate- ly 090°	Au: 0.512 oz/t Ag: 19.85 oz/t Cu: 0259% Pb: 0.90% Zn: 0.76%

#### TABLE III

#### GOLD- AND/OR SILVER-BEARING LOCALES

	IDENTIFIER	SAMPLE TYPE	LOCATION	DESCRIPTION	GOLD ppm	SILVER ppm	OTHER METALS `%
	LOCALES WITHI	N BEN MIN	ERAL CLAIMS				
1.	TRENCHES B-1 and B-2	chip	on Ben Creek	A stratabound disseminated sulphide-bearing zone about 1 m in width is hosted by gneiss. Sulphides include galena, sphalerite, stibnite, arsenopyrite, pyrite and pyrrhotite. The sulphide-bearing zone parallels the layering in the gneiss and exists between a shear zone and a linear trend of irregularly shaped quartz boudins. The sulphide-bearing zone is traceable over a strike length of 20 m and is covered by till deposits at both ends.	TRENCH 0.32 across	B-1 108.1 0.96 m	
2.	TRENCH B-3	chip	on Grid 2 near a small pond	A siliceous felsic rock which contains disseminated galena and stibnite, and a massive vein of stibnite with galena, sphalerite and a minor amount of pyrite, is exposed in trench B-3. The trend and width of this zone is not known because barren rock was not exposed in the trench.	0.03 across	90.6 3.27 m	1.47 lead 1.30 antimony

	IDENTIFIER	SAMPLE TYPE	LOCATION	DESCRIPTION	GOLD	SILVER ppm	OTHER . METALS
3.	3PLP051	grab	200 m south of camp	An old trench, which is largely collapsed and filled in, exposes a quartz vein. A dump of massive sulphide vein material exists beside the trench. The sulphides include galena, sphalerite, arsenopyrite and pyrite. Sample 3PLP051 contains abundant arsenopyrite. Sample 2PLM035, which was collected in 1982 from this site, is comprised of galena and sphalerite, and contains 0.94 ppm gold, 4,011.0 ppm silver, 36% lead and 10.6% zinc.	12.45	2,136.0	
4.	3XFP017	grab	300 m northeast of the small lake on BEN 2 mineral claim	This sample was collected from an outcrop where a narrow vein of massive arsenopyrite strikes about 040° and dips 50° southeast. Talus boulders indicate the vein is at least 10 m long.	22.66	8.0	
	3XF0031	chip	300 m northeast of the small lake on BEN 2 mineral claim	This sample was collected from an old trench that is about 25 m northwest of sample 3XFP017. In the trench is a quartz vein that ranges in width from 30 cm to 50 cm, and strikes 040° and dips 55° southeast. The vein is at least 15 m long. The sample is from an arsenopyrite-rich portion of the vein. Sample 3XF0032, which was collected from an arsenopyrite-poor portion of the vein, contains less than 1.00 ppm gold.	6.59 across	28.0 0.30 m	

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	IDENTIFIER	SAMPLE TYPE	LOCATION	DESCRIPTION	GOLD ppm	SILVER ppm	OTHER METALS
5.	3DHP001	grab	on Ben Creek 200 m northeast of trench B-1	Arsenopyrite and pyrite exist in boulders of quartz vein material 10 m north of the creek. Old overburden pits are present, but do not expose bed rock. On the south side of the creek a barren quartz vein 40 cm wide by at least 8 m long strikes 020° and dips 70° east.	9.29	18.0	
6.	3PLP018	grab	about 400 m southeast of trench B-1	Talus boulders of dark green amphibole skarn contain up to 10 volume per cent pyrrhotite and a trace of chalcopyrite. The source of the boulders was not discovered, but probably is upslope and to the west of the sample site in a talus-covered area.	9.91	2.7	
7.	3PLP024	grab	on the north shore of the lake at the toe of the glacier within BEN 4 mineral claim	A boulder of sugary quartz vein material with 20 volume per cent mafic wall rock fragments contains 20 volume per cent arsenopyrite. This boulder was also sampled in 1982; that sample contains 12.51 ppm gold.	10.63	1.8	
8.	3XFP005	grab	less than 100 m north of BEN mineral claims legal corner post	A narrow fracture zone, 2 cm in width, cuts fine grained greywacke and is associated with other fractures and a small quartz vein. The fracture zone has a primary cobalt mineral, erythrite stain, and minor amounts of pyrite.	6.62	1.7	0.37 cobalt

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	IDENTIFIER	SAMPLE TYPE	LOCATION	DESCRIPTION	GOLD ppm	SILVER ppm	OTHER METALS %
9.	3PLP022	grab	at the toe of the glacier within BEN 2 and BEN 3 mineral claims	A boulder of quartz siderite vein material that contains arsenopyrite and galena. This boulder was also sampled in 1982; that sample contains 1.58 ppm gold, 373.7 ppm silver and 2.07% lead.	1.99	145.7	1.13 lead
	3XFP022	grab	at the toe of the glacier within BEN 2 and BEN 3 mineral claims	A boulder of massive pyrrhotite with a minor amount of carbonate material was collected from moraine. A sample, which was collected in 1982 from a similar boulder nearby, contains 1.54 ppm gold.	7.69	1.9	
10.	3DHP004	grab	300 m southeast of ME 3 mineral claim legal corner post	Arsenopyrite exists in a quartz vein which is less than 1 m wide, that is exposed in an old trench. Shears exist nearby.	1.02	1.8	
11.	3PLP016	grab	on Ben Creek 300 m east of camp	A rusty quartz vein, 10 cm in width, is poorly exposed in the creek bank. The vein strikes 015° and dips 72° west, and is hosted by fractured gneiss.	0.49	296.6	1.00 lea

	IDENTIFIER	SAMPLE TYPE	LOCATION	DESCRIPTION	GOLD	SILVER ppm	OTHER METALS %
12.	3DHO001	chip	on Ben Creek near ME 3 mineral claim legal corner post	Chip sample across a quartz vein which contains galena, pyrite, sphalerite, chalcopyrite and arsenopyrite. Sulphides comprise 4 to 7 volume per cent of the quartz vein. The vein strikes 033° and dips 57° east and is exposed in the creek bed over a length of 7 m; it varies in width from 0.40 to 0.80 m. An old trench is present, as are several pits along strike which failed to expose the vein.	1.69 across	124.5 0.80 m	
	3DHP002	grab	50 m upstream of 3DHO001	A well mineralized grab sample from an old rock dump. Material in the dump probably came from a trench near 3DHO001. The sample comprises quartz vein material containing galena, pyrite, sphalerite and arsenopyrite.	3.66	337.7	2.26 leac
13.	3xF0034	chip	300 m southeast of	This sample was collected from a 30 cm wide vain that is at least 20 m in length. The vein contains from 5 to 10 volume per cent arsenopyrite and 2 to 3 volume per cent pyrite, and strikes 015° and dips 80° west.	0.35 . across	76.1 0.30 m	

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:	IDENTIFIER	SAMPLE TYPE	LOCATION	DESCRIPTION	GOLD ppm	SILVER ppm	OTHER METALS %
	LOCALES EAST	OF BEN MI	NERAL CLAIMS				
14.	3DHP005	grab	just outside the northeast corner of BEN 1 mineral claim	Massive arsenopyrite exists in three parallel fracture zones which trend 058° and dip 84° southeast and are hosted by volcanic flows. The arsenopyrite-bearing portions of the fracture zones are up to 30 cm wide and 11 m long.	13.37	1.2	
15.	3DHP007	grab	about 400 m east of BEN 1 mineral claim	Galena and chalcopyrite exist in a vuggy quartz vein which strikes 060° and dips vertically. The vein is about 30 cm wide and is covered by talus at one end and pinches out at the other end.	0.07	253.7	1.34 lead
	LOCALES WITH	HIN GAUG MI	INERAL CLAIMS				
16.	3PLP025	grab	within GAUG 3 mineral claim	A sample of silicified, sheared granodiorite which contains 10 volume per cent arsenopyrite and 3 volume per cent pyrite was collected from muck at the entrance to an old adit. The dimensions of the sulphide-bearing zone in the sheared granodiorite are unknown.	15.91	394.3	

17. 3PLP026 grab on GAUG 2 mineral A fractured and silicified zone in 1.43 3.8 claim granodiorite, less than 1 m in width, locally contains up to 20 volume per cent arsenopyrite and 10 volume per cent pyrite.  The zone trends 109° and dips vertically.  The sample is a well mineralized piece from the fractured zone.	•	IDENTIFIER	SAMPLE TYPE	LOCATION	DESCRIPTION	GOLD	SILVER	METALS %
	17	7. 3PLP026	grab		granodiorite, less than 1 m in width, locally contains up to 20 volume per cent arsenopyrite and 10 volume per cent pyrite. The zone trends 109° and dips vertically. The sample is a well mineralized piece from	1.43	3.8	

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#### APPENDIX II

ROCK SAMPLE VALUES - DESCRIPTIONS AND LOCATIONS

1987 - 1988

Sample No.	Sample Type	Location	Description	Au (oz/ton)	Ag (oz/ton)	(ppm) Pb	/ ppm) - 7n Xxxxxxx xxxxxxxxxxxxxxxxxxxxxxxxxxxxx
63838	50	BEN #1 claim, Ben Creek, 4,600' ASL	Chip sample across quartz vein outcropping in creek bed; 15% arsenopyrite, 5% galena, 5% sphalerite, less chalcopyrite	8,590	>50.0	10,000	6,580
88-262	60	LQ claim	white quartz vein with 10% sulphides	1,540	60.2		
88-263	20	PAVEY-main gully	quartz vein, open boxwork	100	1.2		
88-264	40	PAVEY-main gully	quartz vein with 10% pyrite and arsenopyrite bands	3,700	8.0		:
88-265	40	PAVEY-main gully	quartz vein above the portal with 10% arsenopyrit	e 7,280	960.0		
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Sample Number	Sample Type	Location	Description	Au (ppb)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	As (ppm)	Sb (ppm)	Ba (ppm)	Mn (ppm)
34521	grab	PAVEY #3 claim, main gully, 4,500' ASL	Hand pit, sample of quartz, limonite with minor sulphides	780	2.1	2	110	286	>2,000	516	217	1,399
34522	grab	n . n	Quartz-sulphide vein, stibnite	10,000	>50	594	1,010	1,569	662	20,000	<15	386
34523	grab	, ,	Quartz-sulphide vein, stibnite, galena, arsenopyrite, pyrite	5,400	>50	204	10,000	1,556	>2,000	20,000	<15	38
34524	grab	• •	Quartz-sulphide vein, stibnite, galena, arsenopyrite	4,300	>50	485	10,000	5,538	>2,000	20,000	<15	94
34525	grab	PAVEY #3 claim, upland surface	Blast pit, massive stibnite vein in volcanics	2,100	49.2	42	83	165	151	20,000	<15	306
63831	grab	BEN #2 claim	Chert containing 20% pyrite, rusty red weathering zone	38	1.3							
63832	grab	LQ Claim, 5000' ASL	Shear zone in andesite porphyry, limonite and calcite veining	6	0.4							
63833	grab	n n	Porphyritic andesite containing pyrite blopbs and quartz eyes	10	1.1							
63834	grab	LQ claim, 4,700 ASL	Pyritic shear zone in andesite porphyry	<5	1.0							
63835	grab	LQ claim, beside Ben Creek, 4,300' ASL	Cherty limestone containing pyrite and arsenepyrite on fractures	17	1.6		ł					
63836	grab	LQ claim, beside Ben Creek, 4,400" ASL	Massive pyrrhotite vein (10 cm) at contact of dacitic dyke with argillite	t 52	1.8							
63837	100	LQ claim, Ben Creek 4,500' ASL	Chip sample across quartz vein out- cropping in creek bed: 10% arsenopyrite, 5% galena, 5% sphalerite, less chalcopyrite	3021	>50.0	1800	>10,00	4,690				

# TABIE II (cont'd)

Sample Number	Sample Type	Location	Description	Au (ppb)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	As (ppm)	Sb (ppm)	Ba (ppm)	Mn (ppm)
34510	grab	PAVEY #2 claim, 5,100' ASL	Metasedimentary rock, dark, fine grained, cherty, disseminated pyrite, arsenopyrite, pyrrhotite	5	1.2	236	78	60	>2,000	25	722	872
34511	grab	PAVEY #2 claim, 4,700' ASL	Buff weathering feldspar porphyry dyke, 4 m wide, narrow vuggy quartz veins	75	3.0	2	106	50	> 2,000	40	21	32
34512	grab	PAVEY #1 claim, 5,100' ASL	Quartz vein, bands of arsenopyrite occur in quartz feldspar porphyry dyke 3 m wide		11	25	9	12	>2,000	398	60	27
34513	grab	PAVEY    claim, 4,400' ASL	Quartz vein, subhedral, 2% pyrite and arsenopyrite, minor chlorite	520	0.6	<1	88	85	>2,000	34	3336	108
34514	grab	PAVEY #4 claim, 600 m west of tarn	Quartz-feldspar porphyry dyke containing minor arsenopyrite	500	<0.5	6	75	8	>2,000	36	920	14
34515	grab		Quartz-feldspar porphyry dyke cut by narrow quartz veins containing arseno- pyrite and galena	860	22.4	63	174	1,227	1,004	20,000	<15	1,604
34516	grab	PAVEY #3, top of main gully	Banded quartz-limonite veins in felsic tuff, minor pyrite, arsenopyrite and galena	>10,000	>50	445	663	1,160	>2,000	>20,000	<15	252
34517	grab	PAVEY #3 claim, main gully, 4,500' ASL	Massive sulphide in quartz vein	40	1.2	40	56	46	302	205	324	1,101
34518	grab	PAVEY #3 claim, main gully, 4,400' ASL	Quartz vein containing arsenopyrite, pyrite, limonite	2,900	0.6	3	47	66	>2,000	531	246	450
34519	grab	•	Quartz-sulphide vein in porphyritic rock, wuggy, arsenopyrite, pyrite, sphalerite, galena	6,000	>50	299	8,569	19,883	>2,000	20,000	<15	468
34520	3 m chip	PAVEY #3 claim, main gully, 4,500' ASL	Hand pit in gossan zone, narrow sulphide bearing quartz veins in gossan	800	5.6	8	563	552	>2,000	114	654	2,959
			·									

### TABLE II: ROCK SAMPLE VALUES, DESCRIPTIONS AND LOCATIONS

Sample Number	Sample Type	Location	Description	Au (ppb)	Ag (ppm)	Cu (ppm)	Pb (ppm)	2n (ppm)	As (ppm)	Sb (ppm)	Ba (ppm)	Mn (ppm)
17891	70 cm chip	PAVEY #4 claim, sample from blast pit	Quartz veins in quartz porphyry, massive galena, stibnite, sphalerite and arsenopyrite	30	>50	28	>10,000	14,804	>2,000	>20,000	282	987
17892	grab		Massive sphalerite and stibnite	55	>50	103	4,032	>20,000	67	>20,000	<15	8277
17893	100 cm chip	PAVEY #4 claim, second blast pit	Quartz vein and quartz porphyry, arseno- pyrite	85	29.6	43	5,868	4,807	> 2,000	293	776	337
17894	50 cm chip	PAVEY #4 claim, blast pit	Narrow quartz veins in cherty meta- sedimentary rock, pyrite, arsenopyrite	35	8.1	157	1,398	306	1,697	1,043	880	578
17895	150 cm chip	LQ claim	Massive quartz vein, arsenopyrite, galena	5,900	>50	614	8,582	3,207	>2,000	3,385	<15	44
34501	grab	PAVEY #2 claim, ridge above the main adit	Quartz vein in granitic rocks, up to 5% arsenopyrite and pyrite	300	7.1	15	293	131	>2,000	367	615	51
34502	grab	• •	Granitic rock containing 10% pyrite	10	4.4	84	220	91	442	52	<15	627
34503	grab		Metasedimentary rock (chert), 5% fine grained disseminated sulphides	130	2.1	36	156	67	>2,000	340	1,170	155
34504	grab	PAVEY #1 claim, 100 m west of previous sample	Subhedral quartz vein, bands of massive arsenopyrite	780	7.4	26	301	91	>2,000	521	<15	15
34505	grab		Silicified metasedimentary rocks, 10% disseminated pyrite and arsenopyrite	75	1.1	30	85	89	>2,000	119	185	505
34506	grab	PAVEY #1 claim, ridge top at 5,700' ASL	Massive platey pyrrhotite from quartz gouge zone in cherts	10	2.8	884	49	39	>2,000	18	<15	153
34507	grab		Quartz gouge vein, 10% arsenopyrite, pyrite	400	6.1	209	256	22	>2,000	668	<15	129
34508	grab	PAVEY #2 claim, ridge top at 5,600' ASL	Quartz vein talus, massive arsenopyrite	1,050	1.0	20	<b>c5</b>	17	>2,000	392	882	114
34509	grab	PAVEY #2 claim, 5,100' ASL	Granitic rock, hornfels, 2% pyrite, pyrrhotite, arsenopyrite	45	0.9	36	86	75	>2,000	25	464	651

APPENDIX III

CERTIFICATES OF ANALYSIS

Bondar-Clegg & Company Ltd. 130 Pemberton Ave. lorth Vancouver, B.C. '71' 2R5 (604) 985-0681 Telex 04-352667



PHOTO COPY

Geochemical Lab Report

A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES LODESTAR EXPLORATION LID. 19-4078 4TH AVENUE WHITEHORSE, Y.T. Y1A 4K8

Bondar-Clegg & Company Ltd. 130 Pemberton Ave. ''orth Vancouver, B.C. 7P 2R5 804) 985-0681 Telex 04-352667



# Geochemical Lab Report

A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

REPORT: V8	9-043	BII3.N ( COMPLETE )			REFERENCE INFO:  SUBMITTED BY: B. LUFCK DATE PRINTED: 15-AUG-89					
CLIFNT: LO PROJECT: N		R EXPLORATION LID. GLVEN								
ORDER		ELEMENT	NUMBER OF ANALYSES	LOHER DETECTION LIMIT	EXTRACTION	METHOD				
1	Αu	Gold '	26	10 PPB	NOT APPLICABLE	Inst. Neutron Activ.				
2	Ag	Silver	26	0.1 PPM	HN03-HCL HOT EXTR	Atomic Absorption				
.3	Cu	Copper	26	1 PPM	HN03-HCI HOT EXTR	Atomic Absorption				
4	Mo	Nolybdenum	26	1 PPM	HNO3-HCL HOT EXTR	Atomic Absorption				
5	Рb	Lead	26	2 PPM	HN03-HCL HOT EXTR	Atomic Absorption				
6	Zn	Zinc	26	1 PPM	HN03-HCL HOT EXTR	Atomic Absorption				
7	As	Arsenic	23	2 PPM	NOT APPLICABLE	Inst. Neutron Activ.				
8	Ba	Barium	26	100 PPM	NOT APPLICABLE	Inst. Neutron Activ.				
9	Sb	Ant.imony	26	1 PPM	NOT APPLICABLE	Inst. Neutron Activ.				
10	Ц	Tungsten	23	2 PPM	NOT APPLICABLE	Inst. Neutron Activ.				
11	Hg	Mercury	26	5 PPB	HN03-HC1-SnS04	Cold Vapour AA				
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	• •	,	· · · · · · · · · · · · · · · · · · ·							



# Geochemical Lab Report

	A D	IVISION OF INCHCAPE INSPECTI	ON & TESTING SERVIC	res	
REPORT: V89-H43H3.A (	COMPLETE )			REFERENCE INFO:	
CLIENT: LODESTAR EXPLO PROJECT: NONE GIVEN	DRATION LID.			SUBMITTED BY: B. LUECK DATE PRINTED: 15-AUG-89	
SAMPLE TYPES	NUMBER	SIZF FRACTIONS	NUMBER	SAMPLE PREPARATIONS NUMBER	
S SOILS R ROCK OR BED RO	1 OCK 25	1 -80 2 -150	1 25	DRY, SIEUF -80 1 CRUSH,PULVERIZE -150 25	
NOTES: = indicat	es SEE REMARKS				
	DETECTION LIMITS	DUF TO HIGH As			
Assay of V89-043(	high Ag and Pb to 13.6	o follow on			
= not ab	le to be analysed	due to interference.			
REPORT COPIES (0)	: LODESTAR EXPLORA Lodestar fxplora Lodestar explora	ITON LID.	INV	OICE TO: LODESTAR EXPLORATION LID.	
		·			
					-

Bondar-Clegg & Company Ltd. 130 Pemberton Ave. North Vancouver, B.C. y7P 2R5

(604) 985-0681 Telex 04-352667



### Geochemical Lab Report

A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

REPORT: V89-114	303.0						1	PROJECT: N	IONE GEVE	·	PAGE 1	
SAMPLE	FLEMENT	Au	Ag	Cu	Мo	Pb	Zn	As	Ba,	Sb	н	Hg
NUMBER	UNITS	PPB	PPH	PPN	PPM	PPH	PPM	PPN	PPH	PPM	PPM	PPB
S1 06-23-08 FA	ULT GORGE	5110	1.0	49	6	29	17	1300	18(10)	46	5	110
R2 06-22-02		180	1.0	35	123	25	10	<b>9</b> 90	200	17	<2	700
R2 06-22-03		<10	<0.1	18	6	25	30	21	56110	6	<2	270
R2 06-23-05		320	0.5	134	32	10	24	18800	430	99	<25	355
R2 06-23-07		96911	0.8	33	3	14	28	>30000	<1300	1440	<160	85
R2 06-23-08		1411	1.3	18	9	12	4	904	1900	24	4	90
R2 06-23-08B		. 13	<0.1	73	7	44	20	229	34110	24	2	90
R2 06-23-09		20	0.1	39	6	18	7	495	2700	18	. 5	165
R2 06-23-10		234(1	>50.0	246	6	2000	13	956	400	1440	<49	150
R2 06-23-108	<u> </u>	2520	35.4	75	12	1180	8	300	4211	`435	3	110
R2 06-23-11		330	1.7	23	4	59	18	71	1400	43	<2	140
R2 06-23-12		77	0.8	71	13	. 29	15	160	420	28	4	55
R2 06-24-02		2230	>50.0	601	5	3479	18(1	289UN	<310	229[1	<44(10)	75
R2 06-24-03		1270	4.N	28	2	182	5	22400	<100	147	<24	55
R2 06-24-06	-	<141111	49.3	88	3	>1000	3660	>30000	<1800	12400	<23000	105
R2 D6-24-07		4820	>50.0	425	2	1060	64811	>30000	<b>&lt;550</b>	344	<72	50
R2 06-24-08		110	5.6	635	2	63	148	2050	220	30	<2	50
R2 06-24-09		110	1.6	106	4	56	81	3290	2911	64	<2	50
R2 06-24-1U		150	32.3	3550	3	35	188	551	26UN	31	<2	250
R2 06-24-11		<10	n.8	45	7	22	39	201	21400	70	2	75
R2 06-25-02	***************************************	159110	>50.0	284	1	>10000	229	=	<47(If)	>30000	=	130
R2 06-25-03		870	>50.0	122	1	>10000	5714	>30000	< <b>8</b> 50	7790	<12000	300
R2 06-25-04		1450	1.9	5	1	147	89	139110	34(1	2016	<20	30
R2 06-25-06		<13000	>50.0	197	1	2156	456	=	<10000	>30000	=	75
R2 06-25-06 SP	111	<189110	>50.0	410	1	1510	196	:	<10000	>30000	=	70
R2 N6-XX-N1		2220	1.3	14	4	42	38	2010	7611	718	<28	41]

12500

