GEOLOGICAL AND GEOCHEMICAL REPORT

ON THE

PARK 1-6 CLAIMS

CARIBOO MINING DIVISION

N.T.S. 93A/1W 52°/2.5' 26' (51°12'N, 120°25'W)

BY

J. A. TURNER, GEOLOGIST

NOVEMBER 21, 1984

OWNED BY:

NEWMONT EXPLORATION OF CANADA LIMITED

WORK DONE BY:

NEWMONT EXPLORATION OF CANADA LIMITED

WORK DONE BETWEEN GICAL BRANCH ASSESSMENT REPORT

13,367



Province of British Columbia

Ministry of Energy, Mines and Petroleum Resources

ASSESSMENT REPORT TITLE PAGE AND SUMMARY

TYPE OF REPORT/SURVEY(S)	TOTAL COST
Geological and Geochemical	\$8,151.35
AUTHOR(S) J. A. Turner SIG	NATURE(S)
ACTION(3) 1.2.7. P.C. P.C. P.C. P.C. P.C. P.C. P.C. P	The state of the s
DATE STATEMENT OF EXPLORATION AND DEVELOPMENT FILE	Nov. 17
PROPERTY NAME(S) Park 1 - 6	
	,
COMMODITIES PRESENT None known	***************************************
B.C. MINERAL INVENTORY NUMBER(S), IF KNOWN	***************************************
MINING DIVISIONCariboo	NTS 93A/1W
LATITUDE	NGITUDE120° 25-1
NAMES and NUMBERS of all mineral tenures in good standing (when wo	rk was done) that form the property [Examples: TAX 1-4. FIRE
(12 units); PHOENIX (Lot 1706); Mineral Lease M 123; Mining or Certified	Mining Lease ML 12 (claims involved)]:
Park 1 - 6 48 Units	
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	· · · · · · · · · · · · · · · · · · ·
OWNER(S)	
(1) Newmont Exploration of Canada Limited (2)	
MAILING ADDRESS	
900 - 808 W. Hastings Street	
Vancouver, B.C. V6C 3A4	•••••
	•••••
OPERATOR(S) (that is, Company paying for the work)	
Newmont Exploration of Canada Limited (2)	
••••••	
MAILING ADDRESS	
900 808 .W. Hastings Street	
Vancouver, .B.CV6C.3A4	
•••••	
SUMMARY GEOLOGY (lithology, age, structure, alteration, mineralization,	size, and attitude):
The most widespread unit on the property is a	thick section of north west striking
apper Triassic knotty phyllites. Permain and	
the group. These rocks have been folded into	
quartz veins have formed in the resulting axi	
vas found in these veins.	
EFERENCES TO PREVIOUS WORK An . adit (25 m of .	drifting) was done (in circa. 1932)

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Ground								
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Other				• • • • • • • •	***	• • • • • • • •		
Airborne			• • • • • • • • • • • • • •	· · · · · · · · · · · · · · · · · · ·	**************	*****		• • • • • • • • • • •
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Non-core							• • • • • • • • •	
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Petrographic								
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PROSPECTING (scale, area)								
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PREPARATORY/PHYSICAL								
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Underground (metres)						• • • • • • • • •	• • • • • • • • •	• • • • • • • • • • • • • • • • • • • •
							TOTAL COST	. 8,151.35.
FOR MINISTRY USE ONLY		NAME OF PAC ACCOUNT	DEBIT	CREDIT	REMARKS:			
Value work done (from report) .								
Value of work approved								
Value claimed (from statement).								
Value credited to PAC account .								
Value debited to PAC account								
Accepted Date		Rept. No			Information Class			

TABLE OF CONTENTS

1.0 INTRODUCTION					1
2.0 PROPERTY DESC	RIPTION				5
3.0 HISTORY					6
4.0 GEOLOGY					6
4.1 Regional	Geology				6
4.2 Property	Geology				. 7
4.2.1 Litholog	у				8
4.2.2 Minerali	zation and .	Alteratio	on		12
4.2.3 Structur	e				12
5.0 GEOCHEMISTRY					13
5.1 Analytic	al				13
	and Interpr	etations			14
5.2.1 Soil Res	ults				14
	p Results				16
5.3 Discussi	on				17
6.0 CONCLUSIONS					17
7.0 REFERENCES					18
8.0 STATEMENT OF	QUALIFICATI	ONS			19
9.0 STATEMENT OF	COSTS				20
	LIST	OF FIGUR	RES		
FIGURE 1: INDEX M	AP				2
2: LOCATIO	N MAP				3
2a: REGIONA	L GEOLOGY				4
3: PARK 3:	QUARTZ VEI	N			9
4: PARK 3:	ADIT				10
	LIST	OF PLAT	ES		
	<u>===</u> =				
PLATE 1: ZONE 1					11

LIST OF MAPS (in back pocket)

MAP 1: GEOLOGY MAP

MAP 2: AU, AG, AS GEOCHEMISTRY

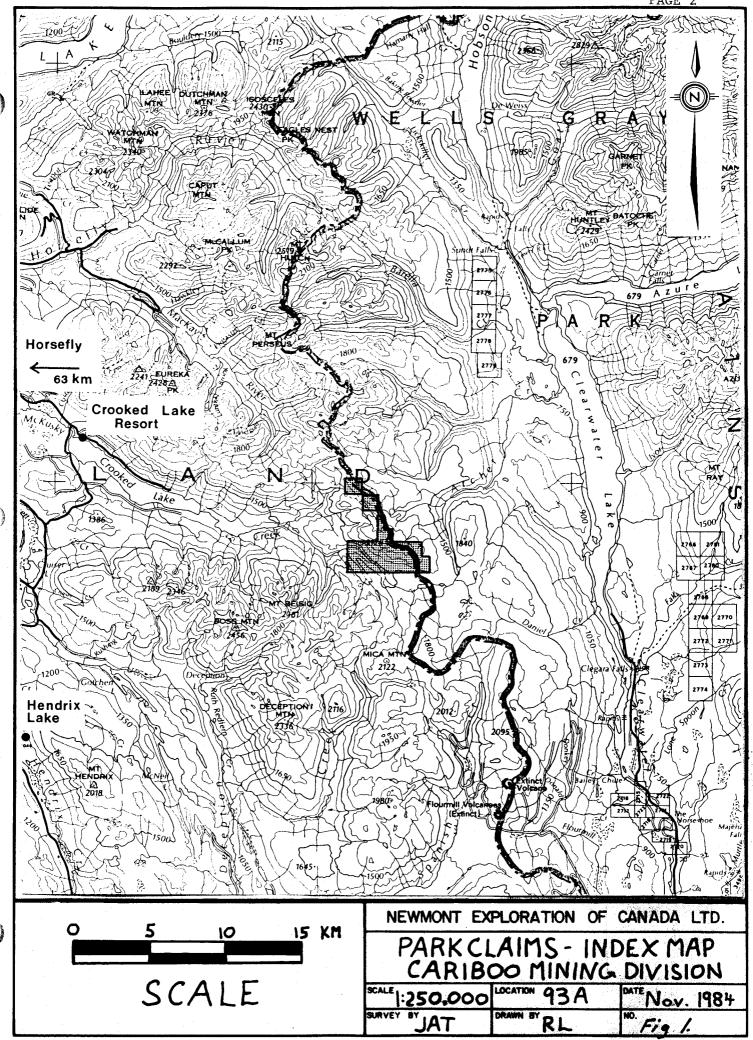
MAP 3: CU, PB, ZN GEOCHEMISTRY

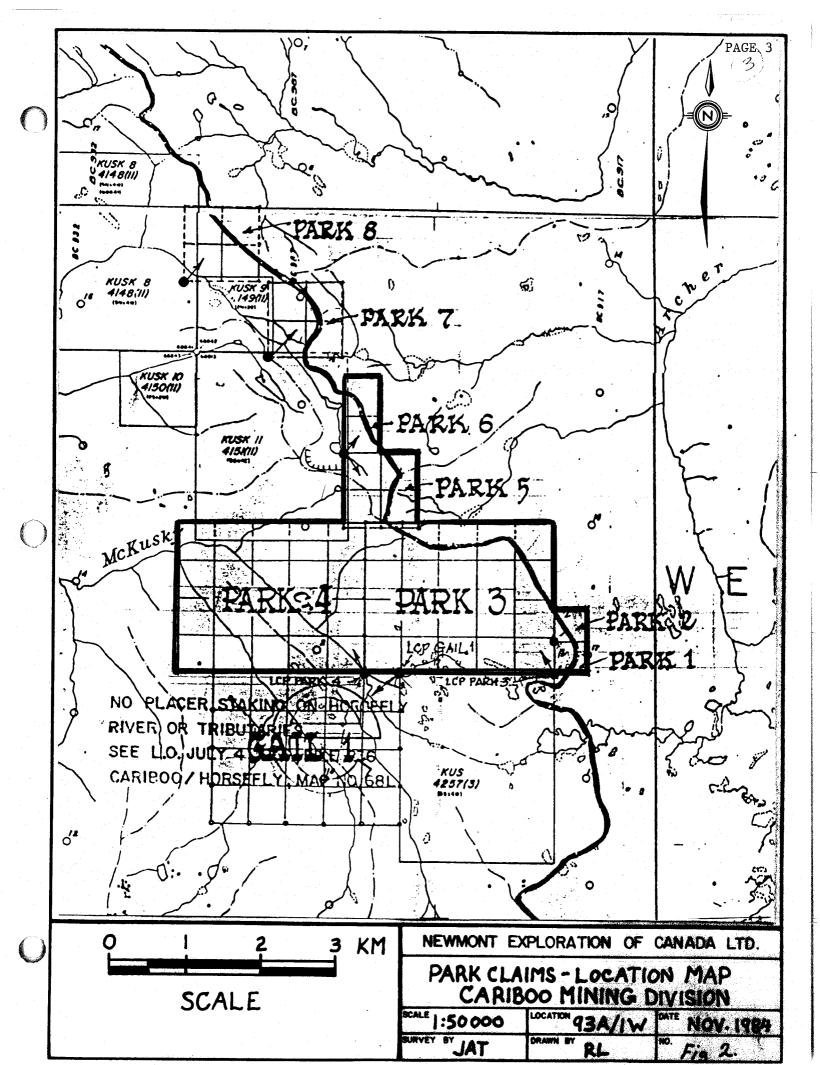
1.0 INTRODUCTION

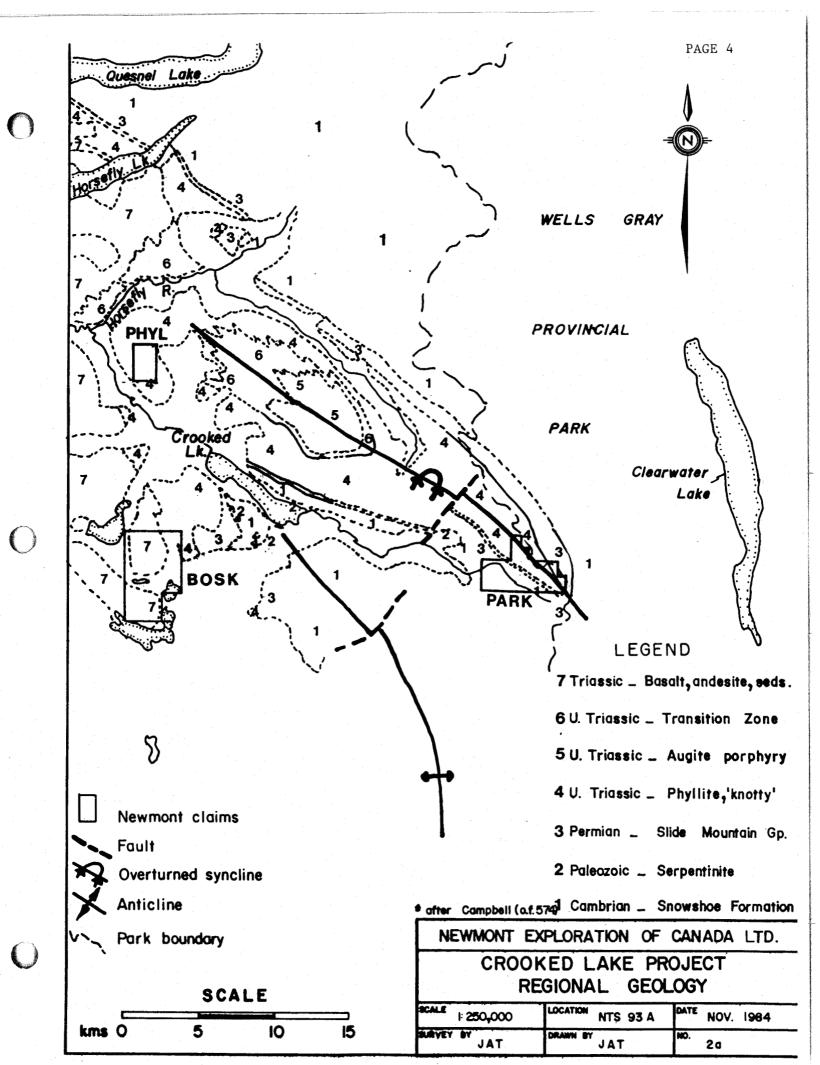
The Park claims are located in subdued alpine terrane in the eastern most part of the Intermontane Belt, near its boundary with the Omineca Crystalline Belt. They are situated approximately 360 km northeast of Vancouver in the Cariboo region of British Columbia. The town of Horsefly is 70 km to the west. Access to the claims in 1984 was provided by helicopter from Jacobson's logging camp, 60 km northwest of the claims. A base camp for crews was located at the Crooked Lake Resort 40 km west of the claims.

The six claims comprise forty-eight units covering a section of alpine ridges, intervening cirque valleys and a few lower vegetated creek valleys. McKusky Creek runs east-west through the lower portion of the Park 4 and 5 claims. The claims border Wells Gray Park and the Fraser River - Thompson River Divide. Elevations within the claim group range from 1219 metres (4000 feet) in McKusky Creek to 2120 metres (6957 feet) on the edge of Wells Gray Park.

Newmont geologist, J. Turner, supervised a crew of three men; Bob Lane, Senior Assistant, Lyndsay Martin and Rob Kowalski both Junior Assistants, to carry out a reconnaissance geological and geochemical survey. Mapping was done in conjunction with contour and grid soil sampling. A total of 196 soil and 33 rock were collected from the Park 1-3 and 5 claims. Total area surveyed is approximately 300 hectares.







A 1:5000 scale enlargement of a portion of the topographic map sheet 93Al was used as a base map for this project. Aerial photographs no. BC 7346, 144-146 and 167-169 provide a complete stereo coverage of the area.

The purpose of the project was to outline favourable geology and geochemistry for gold mineralization. The type of deposit sought is similar to the Frasergold gold deposit, where Amoco have outlined gold bearing horizons within a "knotty phyllite" member of the Intermontane Belt. This horizon should continue to the south onto the Park group as indicated on the G.S.C. Open File 574. Work in 1984 has revealed that this 'knotty phyllite' occurs on the claims. Several large quartz veins were found but soil and rock sampling showed only low gold and silver content.

2.0 PROPERTY DESCRIPTION Figure 1 & 2

The claims covered in this report are recorded in the Cariboo Mining Division. They comprise 4 modified grid claims and 2-two post claims, 48 units total. They are 100% owned and operated by Newmont Exploration of Canada Limited.

CLAIN	1	UNITS	RECORD	DATE	RECORD NO.
Park	1	1	November	21, 1983	5533
Park	2	1	November	21, 1983	5534
Park	3 ,	20	November	21, 1983	5525
Park	4	20	November	21, 1983	5526
Park	5	4	November	21, 1983	5527
Park	6	2	November	21, 1983	5528

3.0 HISTORY

The only evidence of any previous work having been done on the property is some old (c. 1932) workings consisting of a small adit, at 6000' elevation on Park 3, and a trench further up slope. The adit was put in to investigate a large quartz vein; approximately 25 m of drifting were done. This activity is not recorded in the B.C.D.M. Annual Reports nor is the adit recorded on the B.C. Mineral Inventory map 93A. The only other work in evidence are the survey stations for the location of Wells Gray Park boundary (Map 1). The Park claims were staked in October 1983 and were covered by a reconnaissance survey in July 1984.

4.0 GEOLOGY

4.1 Regional Geology Figure 2a

The Park property is situated along the eastern margin of the Quesnel structural terrane (Intermontane Belt) in the Quesnel Lake Map area. The most recent mapping of sheet 93A by the G.S.C. is by Campbell (1978), and the geology of the claims is largely projected from there. Geologic descriptions are also taken from Belik (1983) and Daughtry (1983).

The Quesnel terrane is underlain, for the most part, by a sequence of volcanic and sedimentary rocks of Upper Triassic age. The most wide-spread lithologies are alkaline augite porphyry basalts and andesites that are spacially related to coeval plutons, which may be mineralized with Cu and/or Au (Cariboo Bell, QR etc). These lavas are submarine fissure flows and breccias associated with regional faults. The Upper Triassic

rocks grade easterly into a more calc-alkaline volcanic and a black fine grained phyllite suite, which overlie Upper Paleozoic rocks of the Slide Mt. Group. The whole Quesnel terrane (trough), along with slices of the older, oceanic Slide Mt. Group formed a composite terrane which was obducted eastward onto the continental Omineca or Cariboo terrane, (Monger et al, 1972) and Struik 1982).

For the most part, Quesnel Belt rocks are only weakly deformed. The eastern phyllites however are strongly foliated and tightly folded.

4.2 Property Geology Map 1

The most wide-spread unit on the property is a thick section of Upper Triassic dark grey to black lustrous phyllite. The unit is composed of pyrite, garnet or biotite phenocrysts and is known as a 'knotty phyllite'. Along the south and east boundaries of the property the phyllite conformably overlies a section of andesite to basalt meta-volcanics, of the Slide Mt. Group. This unit can be traced around the perimeter of the Crooked Lake Syncline. Underlying Proteozoic rocks were not seen on the claims.

Quartz occurs as veins in fractures or faults and as pods or sweats parallel to foliation within the phyllite unit. All units have been subject to upper greenshist metamorphism but locally higher i.e. biotite-garnet, grades occur. The biotite-garnet isograds follows approximately the lower phyllitic sequence.

4.2.1 Lithology

Permian-Slide Mountain Group

Andesite

These rocks are well exposed on the Park 1 and 2 claims and on the southern half of the Park 3 claim. They are fine grained, dark green, soft and well foliated. Noticeable mineral assemblages are chlorite + calcite as amygdale fillings and as groundmass material. Garnets and biotite occur as phenocrysts. Quartz pods, sweats and tension gashes are common. On the Park 3 the andesite has a rusty appearance indicating oxidized pyrite.

Phyllite Upper Triassic - Quesnel River Group

These rocks are well exposed over the ridge area on the northern half of the Park 3 claim and in scattered outcrops over the map area. They are fine grained dark grey to black, medium hard and well foliated. Most exposures mapped contain dark biotite or garnet phenocrysts, and are probably the southern extension of the 'knotty phyllite' that Belik (1983) has mapped on the Frasergold property. The phyllite contains irregular pods, veins and sweats of quartz which parallels foliation. Two veins in particular are quite large and occupy fault zones. Minor lenses of white limestone occur locally. The phyllites appear shaley towards the bottom of the unit.

Quartz

The quartz material is exposed in scattered outcrops throughout the map area. The quartz is white, well fractured and very resistant. Most outcrops have a rounded appearance. Two large veins stand out on Park 3 and seem to occupy fault zones. One vein, called zone 1, was carefully mapped and sampled. See figures 3, 4 and Plate 1.



PLATE 1: Zone 1 - Adit area showing dump (yellow) and vein material (white) looking northeast Scale 1:400

PAGE

This vein outcrops in a north trending fault zone and is approximately 240 m long by up to 23 m wide. It occurs at about the 6000' contour and extends to about the 6200' contour. The vein is not continuous along strike and is not parallel to the enclosing 'knotty phyllite'.

An adit and some trenching was done in about 1932-33. Approximately 25 m of drifting was completed. Trenching was carried out on the north extension of the vein, probably the beginnings of another adit.

4.2.2 Mineralization and Alteration

Very little mineralization was seen on the property. Most of the phyllite contains fine disseminated pyrite. On the Park 5 the phyllite resembles a shale and contains up to 5% disseminated pyrite. No mineralization was seen in the quartz material. While sampling underground a strong arsenic smell was noted. Common alteration minerals are biotite-garnet and limonite in the phyllite and chlorite-calcite and minor limonite in the andesite. There is no alteration halo around any quartz material found on the property.

4.2.3 Structure

The Park claims are situated at the nose of the Crooked Lake Syncline. Lineation and 's' fold measurements show it to be very tightly folded and northwest plunging, Belik (1983), and Campbell (1978). The axis of this syncline runs northwest-southeast through the claims. The Cariboo Terrane rocks (not exposed) are in thrust fault contact with the overlying Slide Mountain rocks. The units are tightly folded, are northwesterly striking at about 140°, steeply dipping and well foliated. Bedding-cleavage relationships are rarely seen but they are probably parallel.

In the nose area strong axial fractures have developed and some are high angle thrust faults. At least two of these fractures are filled with quartz. Sweats and pods of quartz are parallel to foliation and are the result of regional metamorphism.

5.0 GEOCHEMISTRY

Geochemical sampling on the Park group was limited to 7.6 km of contour and 4.5 km of grid sampling. Rock samples were chip samples. The contour sampling was done on the Park 3 at 50 m stations along the 5700, 6000, 6500 foot contours and along the ridge. Survey control was by hip chain and altimeter, for contour lines and by chain and compass for grid lines.

Soil samples were collected from a weakly developed B horizon, and in part C horizon over areas of gentle to medium slope. Samples were collected from pits at 20-30 cm depths, dug by a mattock.

5.1 Analytical

The samples were placed in numbered Kraft paper bags and sent to Acme Analytical Labs in Vancouver where they were dried, sieved to -35 mesh, pulverized and analysed for 5 elements (Cu, Pb, Zn, Ag, As) by the Inductively Coupled Plasma (I.C.P.) technique. In this method a 0.5 gm sample is digested with 3 ml of 3:1:3 nitric acid to hydrochloric acid to water at 90° for 1 hour and the sample is diluted with water to 10 ml and then analysed in the I.C.P. unit.

For Au, a 10 gm sample that has been ignited overnight at 600° is digested with hot dilute aqua regia, and the clear solution obtained is extracted with Methyl Isobutal Ketone (MIBK). Au is determined in the MIBK extract by atomic absorption, using a background correction (detection limit = 5 ppb). For rocks Au is determined by separate fire assay.

5.2 Results and Interpretation

Results quoted in parts per million (ppm) for Cu, Pb, Zn, and As and in parts per billion (ppb) for Au are plotted on Maps 2 & 3 at a scale of 1:5,000. Field notes taken by personnel record the nature and colour of soil sampled, depth of sample, slope, vegetation and any outcrop encountered in order that the data could be interpreted accordingly. Threshold values were arbitrarily chosen for Cu at 100 ppm, Pb at 25 ppm, Zn at 300 ppm, Ag at 0.6 ppm, As at 30 ppm and Au at 25 ppb for both soil and rock.

5.2.1 Soil Results

Copper

The values for Cu were generally low and did not yield any targets. The values overall ranged from 11-238 ppm Cu, with most samples running in the 11-50 ppm range. Two samples which ran 205 and 238 ppm were taken from the dump near the adit mentioned above. Rock chip samples taken from the quartz vein there revealed low Cu. These two samples were also anomalous in Zn at 345 and 418 ppm Zn respectively. There is little correlation between Cu and either Pb, Zn, Ag, As or Au.

Lead

The values for Pb were also low and did not yield any targets. The values overall ranged from 1-41 ppm Pb, with most running in the 1-15 ppm range. Four anomalous values of 30-31-33 and 41 ppm occur along the ridge area on Park 3 claim.

Two of these samples are also anomalous in As. Generally there is a weak correlation of Pb and As. Other anomalous Pb samples are 'spotty' and occur erratically distributed throughout the map area.

Zinc

The values for Zn were moderate and except for two areas of interest, did not yield any targets. The values overall ranged from 10-1215 ppm Zn, with most in the 10-125 ppm range. Two anomalous samples are from the dump mentioned above and three anomalous samples of 1215-502-378 ppm occur near a fault zone near the eastern boundary of the Park 3 claim. All other anomalous Zn values are 'spotty' and are erratically distributed throughout the map area. There is no correlation between Zn and either Cu, Pb, Ag, As or Au.

Silver

The values for Ag were generally low and did yield any targets. The values overall ranged from 0.1-1.9 ppm Ag. Nine anomalous samples occur along the ridge area of the Park 3 claim. Other anomalous Ag values are erratically distributed throughout the map area and are not considered for follow-up work. There is only a weak correlation between Ag and Pb, i.e. at the ridge area.

Go1d

The values for Au were all low and did not yield any targets. The values overall ranged from 5-15 ppb Au. Only two samples had Au values over the detection limit of 5 ppb.

Arsenic

The values for As were generally low and did not yield any targets. The values overall ranged from 2-49 ppm As. Only three values are anomalous and they occur in the ridge area where there is only a weak correlation with Cu.

5.2.2 Rock Chip Results

The values for the six elements were generally low and did not yield any targets. The values overall ranged for Cu 2-61 ppm, for Pb 1-56 ppm, for Zn 1-137 ppm, for Ag 0.1-9.9 ppm (98% in the 0.1-0.2 ppm range), for As 2-85 ppm (most in the 2-5 ppm range) and for Au 1-5 ppb. Two samples are anomalous in both Pb and As. One is from a 1 m chip across a graphitic shale horizon with 1-3% bedded pyrite; it is located on the ridge area on the Park 5 claim. Soils taken nearby reveal elevated values in both Pb and As. The other was taken from a 1/2 m chip across a graphitic shale horizon with ~1% bedded pyrite; it is located on the 6450' contour in Park 3. Soils taken nearby reveal only slightly elevated values for Pb, Zn and Ag.

Adit Sampling

Six rock chip samples were taken over intervals of 1/2-2 meters. The results are plotted on Figure 4. Only one sample is anomalous in Ag at 9.9 ppm Ag over 1.1 m of quartz vein material. No Ag mineralization was seen. A slight arsenic 'rotten egg' smell was noticed when chip sampling. All other results from either surface or underground sampling of this vein revealed low or barely detectable results.

5.3 Discussion

The anomalous geochemical samples on the Park group are 'spotty' and erratically distributed, however, two areas stand out; the ridge area and the adit area. There is a weak correlation between Pb and As. The high silver result in the adit may be due to galena mineralization in quartz that can be found elsewhere in the Belt.

6.0 CONCLUSIONS

From the limited survey that was done it is apparent that there are large quartz veins located on the Park group. Further work including prospecting, mapping and sampling is needed to determine if any have precious metal values. The idea of a sediment hosted syngenetic gold deposit is not favoured for the Park claims.

7.0 REFERENCES

- BELIK, G.D., 1982, Summary Report on the Frasergold Property for Eureka Resources Ltd. in Prospectus dated June 1/83
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- STRUIK 1982, Swift River Geology, G.S.C. Open File 858.

J. A. TURNER STATEMENT OF QUALIFICATIONS

I, James A. Turner, residing at 14149 17 A Avenue, Surrey British Columbia, state that:

- 1. I have graduated from the University of British Columbia with a B.Sc. degree in physics with geology in 1973 and further academic work in geological sciences in 1976.
- 2. I have been employed by Newmont Exploration of Canada Limited, Vancouver, British Columbia as a Project Geologist since 1980.
- 3. I am a member of the Geological Association of Canada (Cordilleran Section).
- 4. I supervised the exploration project at the PARK property during July 24-29, 1984.



J. A. Turner, B.Sc.

I, Terrence N. Macauley, do hereby certify that the work described in this report was done under my direction.

In Macauley, P. Eng.

STATEMENT OF COSTS

1. PERSONNEL			
Project Geologist July 24, 26, 27, 29, 1984 Oct. 29, 30, 31, 1984 Nov. 19-21, 1984 10 days @ \$125/day	= \$1250.00		
Senior Assistant (Geologist) July 24-27, 29, 1984 Nov. 19-21, 1984 8 days @ \$97.50/day	= \$ 780.00		
Junior Assistants 1. July 25-26, 29, 1984 3 days @ \$72.50 2. July 25-26, 1984 2 days @ \$82.50	= \$ 217.50 = \$ 165.00		
2. FOOD AND ACCOMMODATION			2,412.50
14 man-days @ \$36/man-day 3. ASSAYS		\$	504.00
196 soils @ \$ 9.85 for Cu, 33 rocks @ \$12.25 sample supplies (bags, flagg sample shipping	Pb, Zn, Ag, Au, As ing, etc)	\$ \$ \$	1,930.60 404.25 50.00 50.00
4. HELICOPTER			
4.8 hr @ \$500/hr		\$	2,400.00
5. REPORT PREPARATION		\$	400.00
	TOTAL	\$	8,151.35

