GEOLOGICAL & GEOCHEMICAL

REPORT

ON THE

ORION MINERAL CLAIMS

N.T.S. 106-E-1

65°02'N 134°20'W

November, 1977

C. Ikona, P.Eng.

R. Yorston, Geologist

090302

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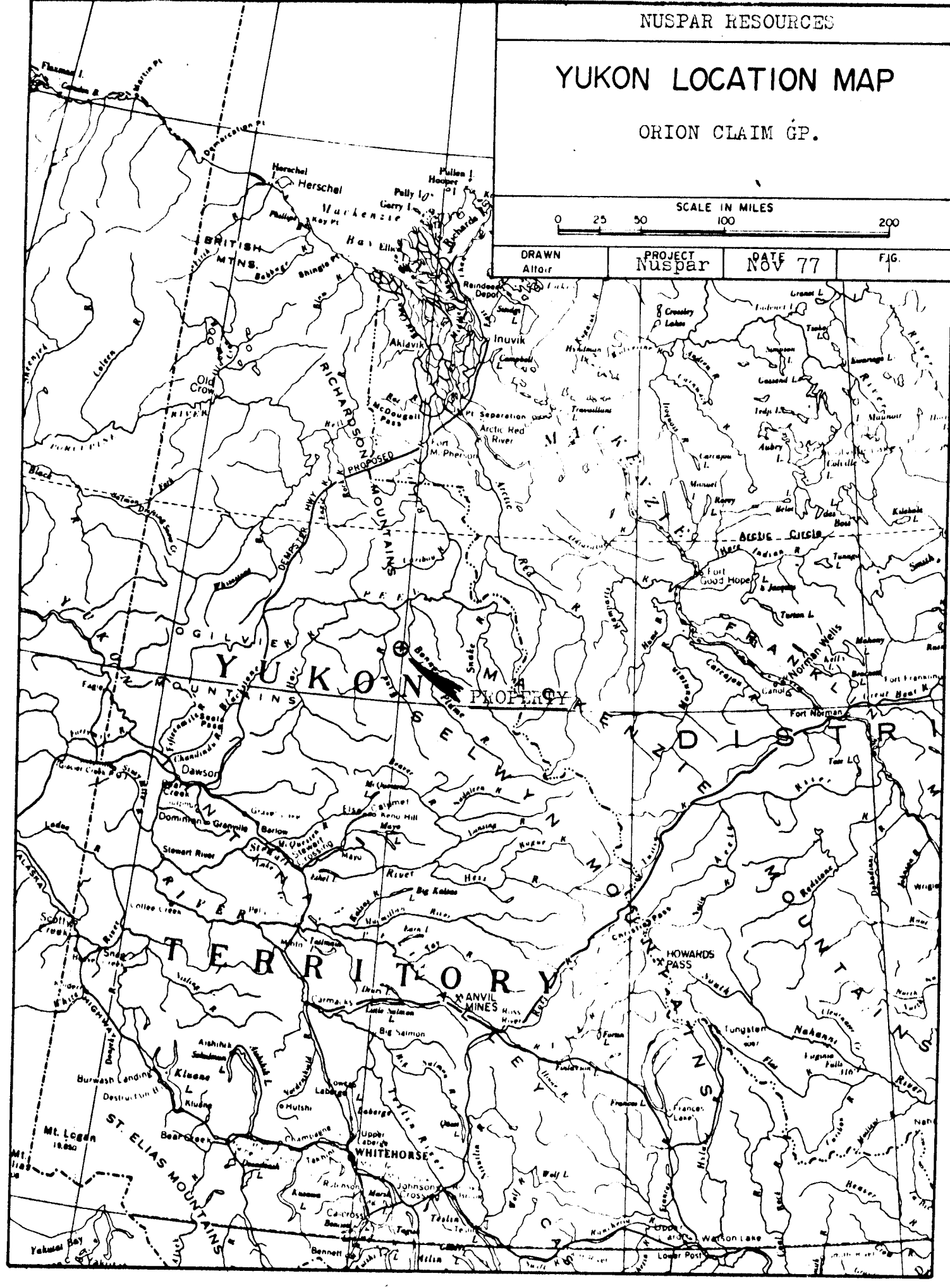
NUSPAR RESOURCES

YUKON LOCATION MAP

ORION CLAIM GP.

SCALE IN MILES
0 25 50 100 200

DRAWN	PROJECT	DATE	FIG.
Altair	Nuspar	Nov 77	1



INTRODUCTION

The ORION mineral claims were staked in January, 1976 by Andrew Harman to cover geologic units in the Quartet Lakes region favourable to copper and uranium mineralization.

During the period July 30 to August 6, 1976, a preliminary prospecting and geochemical investigation was carried out by Harman Management Ltd. Results of this indicated that portions of the claim gorup were underlain by rocks considered favorable for mineralization in the area.

Consequently the claim group was acquired by Nuspar Resources Ltd. under an option agreement with Mr. Harman. This report presents the results of a follow-up program on the claim group done for Nuspar in 1977.

LIST OF CLAIMS

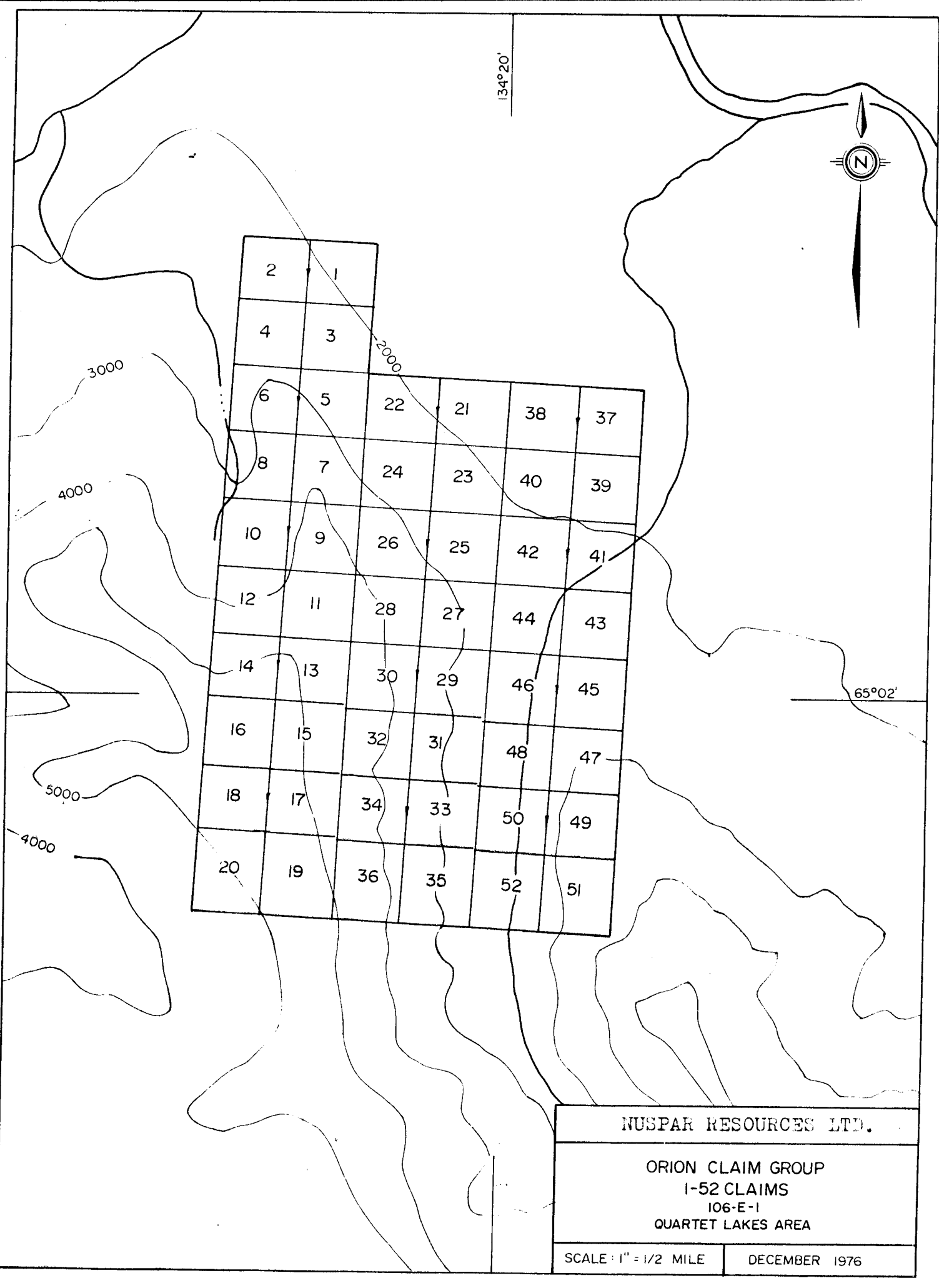
Claim Name	Recording Date	Grant No.
ORION 1-52	February 3, 1976	YA1703-YA1754

LOCATION AND ACCESS

The ORION claims are located in the Mayo Mining District at 65°02'N latitude and 134°20'W longitude on N.T.S. 106-E-1.

Access to the property is by float equipped aircraft from the town of Mayo, Y.T. to Quartet Lakes, a distance of 115 miles. Both helicopter and fixed wing aircraft as well as full expediting services are available in Mayo.

From Quartet Lakes it is approximately 8 miles southwest to the property. Helicopter support from Quartet Lakes is necessary to establish a camp within the claims area.



NUSPAR RESOURCES LTD.

ORION CLAIM GROUP
1-52 CLAIMS
106-E-1
QUARTET LAKES AREA

SCALE : 1" = 1/2 MILE | DECEMBER 1976

REGIONAL GEOLOGY

The Quartet-Fairchild region lies in the Wernecke Mountains of the north eastern Yukon Territory. In the general area, the Werneckes consist of local ranges which include the Rackla Range, Bonnet Plume Range and Knorr Range. Topography is normally moderate to rugged with elevations ranging from 2000 to 6500 feet. The major river valleys are broad, timbered and extensively overburden covered, while most mountain slopes present greater than 60% outcrop above the 4000 foot level.

The entire area has been mapped by the Geological Survey of Canada and three separate publications are presented. The following memoir and open file reports give 1"=4 miles geological coverage of the Nash Creek, Nadaleen River, Wind River and Snake River map areas.

(1) Geology of Nash Creek, Larsen Creek and Dawson Map-Area, Yukon Territory by L.H. Green 1972 (Memoir 364).

(2) Open File 205 (Geology of Nadaleen River and Bonnet Plume Lake Map sheets by S. Blusson) 1975.

(3) Open File 279 (Geology of Snake River and Wind River sheets by D.K. Norris) 1975.

In the Quartet-Fairchild-Gillespie Lakes region Helikian rocks are exposed over an area of some 1500 sq. miles in a roughly circular fashion centered near Longitude 134°00W and

Latitude 65°00'N.

These rocks have been described as Units 1 & 2 by L. Green on the Nash Creek Sheet.

Recent stratigraphic work by Bell and Delaney (1976) has redesignated Units 1a, 1 and 2 (Green, 1972) as Units A, B, and C respectively. The unit designations as established by Bell and Delaney will be used in this report.

Unit A, whose base is not exposed, is composed of a thick succession of moderately metamorphosed fine grained clastic sediments with interbedded carbonates. The overlying Unit B consists of thinly interbedded slates and argillites with occasional quartzite beds.

Unit C, which conformably overlies the uppermost slate-quartzite section of Unit B, consists mainly of thickly bedded orange weathering dolomites. The base of the unit is marked by a series of transitional beds of alternating buff weathering dolomites and interbedded slates and quartzites.

Erratically distributed throughout the Proterozoic metasediments are irregularly shaped breccia bodies. The breccia zones vary from tens of feet to several thousand feet in size and appear as cross cutting pipe-like features at all levels in the stratigraphic column. Several varieties exist, but all exhibit an assortment of angular clasts derived from rock types common to the area. Hornfels margins observed at several localities indicate an intrusive origin.

A common association with many of the breccia bodies are zones of veining or locally pervasive feldspar alteration seen as internal features within the breccias or in host rocks adjacent to them.

The alteration zones are pink in colour due to either K- spar or strong hematization and in some instances contain varying amounts of specularite, chalcopyrite and minor uranium mineralization.

Structure

Two major periods of deformation have taken place within the Wernecke Mountain region. During the first period or Racklan Orogeny, the Proterozoic rocks of Units A, B, and C underwent intense folding and faulting. Folds are tight to isoclinal with the development of strong axial plane cleavage and commonly an almost vertical foliation.

A major unconformity of Lower Hadrynian age forms the upper contact of Unit C. In many localities, erosion beneath this unconformity has resulted in the complete removal of Unit C and the strong angular relationship between the relatively flat lying Cambrian and younger rocks directly overlying Units A and B is apparent.

Further unconformities near the Upper Hadrynian, Lower Cabrian and Upper Cambrian margins leave Devonian carbonates directly over the Helikian section.

The second period of deformation, which involves both Paleozoic and Proterozoic strata, is weak compared to the first. This is particularily evident in the younger Carbonate sections to the west and southwest where deformation consists mainly of broad open folding and minor overthrusting.

Lithology

The claim block primarily covers a monotonous dark grey to black silty slate. The slate is thin bedded, occasionally papery splitting and pyritiferous. Locally it is strongly pyritic with a rust weathering gossan which can be seen from a distance.

The black slate is the very lowermost part of the "B" group of rocks of the geologic section.

Underlying the black slate and outcropping on the southeastern end of the claim group is a light grey altered and brecciated calcarcous siltstone. The siltstone is part of the "A" group of rocks of the geologic column. "A" rocks are also present on the south western and north eastern ends of the claim group. These rocks underlie the black slate and consist of dark grey siltstone, dolomitic siltstone, thinly interbedded brown to orange weathering dolomite, grey siltstone with a white limestone marker bed up to 20 feet in thickness.

Structure and Stratigraphy

The black slate appears to be comparatively undeformed. Minor folding and warping is common and intense fracturing and cross fracturing is present throughout.

The slate strikes generally N-S and appears to generally dip at a low angle to the east although folding has produced dips up to 45°.

Deformation is more intense near the contact of the black slate and the Unit "A" rocks and is very intense with the Unit "A" rocks themselves. Both major and minor faulting is present and tight to isoclinal folding is common. Alteration and bleaching are associated with the faulting. Property geology is presented on Figure 3, this report.

MINERALIZATION

Prospectors using scintillometers were unable to discover any uranium mineralization.

Geochemistry

Fifteen water samples and twenty three silt samples were taken from creeks draining the Orion claim area and all samples were analysed for uranium by Chemex Labs Ltd. in North Vancouver, B.C. Detailed method of analysis is presented in Appendix II. The water sample values range from <.2 PPB to .5 PPB and the silt samples range from <.5 PPM to 4 PPM. Locations and results of this sampling are presented in Figure 3, this report.

DISCUSSION

Some slightly anomalous silt sample values occur at the southeast and northwest corners of the claim group. These

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anomalous values are associated with the contact between the overlying black slate and the underlying grey siltstone. The siltstone appears to be a more favourable rock unit than the black slate.

CONCLUSIONS

Geolcgical and geochemical surveys of the Orion Claim indicates the southern end of the group to be underlain by favorable "A" unit rocks which are associated with silt geochemical values considered high for the area.

The northern and central portions of the group are underlain by shales of the "B" unit and report background geochemical values.

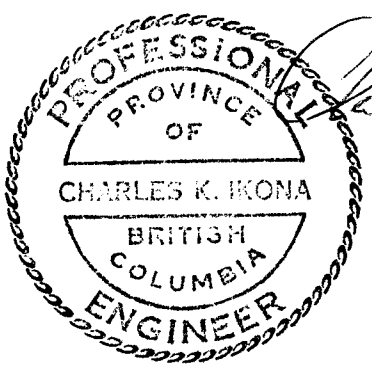
Consequently it is recommended that the southern twelve claims of the group be retained pending further results from the general area.

Yours sincerely,

Charles K. Ikona, P.Eng.

R. Yorston, Geologist

November, 1977



APPENDIX I

ENGINEERS CERTIFICATE

I, CHARLES K. IKONA of 2614 St. Johns St., Port Moody, in the Province of British Columbia DO HEREBY CERTIFY that:

1. I am a Consulting Mining Engineer with offices at 610 - 850 West Hastings St., Vancouver, B.C.

2. I am a graduate of the University of British Columbia with a degree in Mining Engineering.

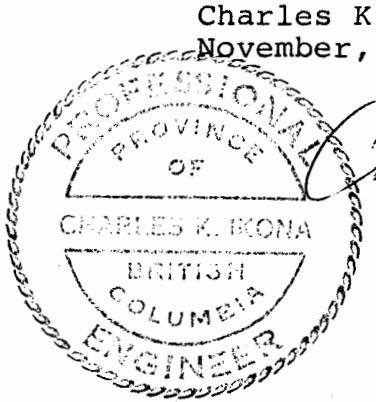
3. I am a member in good standing of the Association of Professional Engineers of British Columbia.

4. I am familiar with the area in which the ORION claim group is located.

5. The accompanying report is based upon the work of R. Yorston, Geologist, whom I have worked with for several years and in whom I have complete confidence.

6. I have examined the data upon which this report is based and am satisfied that the work reported on was conducted in a satisfactory manner.

Charles K. Ikona, P.Eng.
November, 1977



URANIUM

Analytical methods for uranium presently in use at Chemex have been modified from procedures developed by the USGS and GSC. For uranium at PPB and PPM level, fluorometric methods of analyses are highly acceptable in terms of accuracy, cost and turn around time.

The following methods are used extensively to determine uranium potential in a variety of material.

(a) Water Samples - By Fluorescence Analysis

Clean 100 or 200 ml plastic bottles are provided for field use. If a portion of the water is to be stored we require a 200 ml sample.

A 75 ml aliquot is transferred to a clean 100 ml pyrex beaker. 3 ml of concentrated HNO_3 is added and the solution is evaporated to dryness at low uniform temperature. The dry residue after ashing is dissolved in 3 ml of warm 4M HNO_3. An aliquot of the dissolved residue is transferred to a small platinum dish, dried, and fused with an 0.50g tablet of carbonate-fluoride flux at 650° C. The fused disc is removed from the platinum dish and uranium fluorescence is determined using a G. K.Turner III Fluorometer or Jarrell-Ash 26-000 Fluorometer. Detection limit is 0.20 PPB U. Analytical capability approx. 200 samples per day including check samples and quality control standards.

(b). Soil, Silt, Lake Bottom Sediments & Rocks - By Fluorescence Analysis

These materials normally arrive unprepared. Preparation requires drying @ 60° C and screening to obtain the -80 mesh fraction. Coarse material is retained if the screened fraction is small. A 0.25 gm sample of -80 mesh material is weighed into a 100 ml pyrex beaker. The sample is ashed at 550° C to remove organics. The ashed residue is digested in 5 mls 4M HNO_3 and taken to dryness twice. The residue is leached in 50 mls 1% HNO_3. The solution is swirled and allowed to settle. A few microlitres of

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the clear solution is transferred by micropipette to a platinum dish. The sample is evaporated to dryness and an 0.50 gm tablet of carbonate - fluoride flux is added to the sample dish. Fusion and fluorometric determination of uranium is as described for water samples. Detection limit is 0.50 PPM U. Analytical volume approx. 400 samples per day including duplicates and quality control standards. Upper limit of analytical method - 400 PPM U.

(c). Assay Materials (% U_3O_8) By Colorimetric Methods

1 gram of homogenized sample pulp is weighed into a Teflon dish and digested with 10 mls 52% HF, 5 mls 70% $HClO_4$ and 5 mls conc. HNO_3 to dryness. The residue is dissolved in 25 mls 9M HCl. The uranium is separated from interfering elements by anion exchange procedures. The adsorbed uranium is eluted form the resin and a suitable portion of the uranium bearing solution is reduced, filtered and then complexed using Arsenazo III reagent. Absorbance is measured using "Spectronic 700" Spectrophotometer. The U_3O_8 concentration is evaluated by correlation with a standard reference curve. Analytical volume - 40 samples/day. Concentration range 0.001% U_3O_8 to 10.0% U_3O_8.

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 985-0648
AREA CODE: 604
TELEX: 043-52597

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 40575

INVOICE NO. 21002

RECEIVED July 25, 1977

ANALYSED July 27, 1977

TO: Pamicon Developments Ltd.,
612 - 850 W. Hastings St.,
Vancouver, B.C.
V6B 1P1

ATTN: Mr. Chuck Ikona

SAMPLE NO. :	ppm U	Sample #	
0.1	1.0	021	<.2 ppb
0.2	0.5	022	<.2 "
0.3	1.5	023	<.2 "
0.4	1.0	024	<.2 "
0.5	2.5	025	<.2 "
0.6	2.0	026	<.5 "
7000	<.5	7006	<.2 ppb
7001	<.5	7008	<.2 ppb
7002	<.5	7009	<.2 ppb
7003	<.5	7010	<.2 ppb
7004	<.5	7011	<.2 ppb
7005	<.5		
2051	.5 ppb		
2052	<.5 ppm		
2053	.5 ppm		
2054	1.0 ppm		
2055	1.0 ppm		
2056	<.2 ppm		
2057	4.0 ppm		
2058	<.5 ppm		
2059	<.5 ppm		
2060	<.5 ppm		
2061	<.2 ppb		
2062	.5 ppm		
2063	<.2 ppb		
2064	<.2 ppb		
2065	<.5 ppm		

Std. 21

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: B. Lewis

APPENDIX IV

LIST OF PERSONNEL

V. Guinet Prince George, B.C.	Prospector	July 19, 20
R. Quesnel, Vancouver, B.C.	"	July 19, 20
G. Douglas, Vancouver, B.C.	"	August 19, 21
P. Risby, Whitehorse, Y.T.	"	August 19, 21
R. Yorston, Vancouver, B.C.	Geologist	August 18, 21 November 1
C. Ikona, Port Moody, B.C.	P. Eng.	August 3, November 2

PAMICON DEVELOPMENTS LIMITED

610 - 850 West Hastings Street
Vancouver, B.C. V6C 1E1
Telephone: (604) 687-8028

Mr. H.S. Aikins
NuSpar Resources Ltd.
305-535 Thurlow St.,
Vancouver, B.C.

Dear Sam,

The following is a list of our expenditures on your behalf for work performed on the Orion Mineral Clai m group. As we were operating several programs in the area it is difficult to supply receipts on an individual basis, accordingly some of the costs have been prorated on a man day basis. Should you care to exa mine our books to ensure the accuracy of these figures please contact me.

Wages	$1073.25
Field Support	
12 man days @ $10/	120.00
Equipment and supplies	
12 man days @ $3/	36.00
Equipment Rentals	100.00
Analysis	77.40
Report Prep	275.00

Helicoptor Flying

Aug 18	1 hr
" 19	1 hr
" 21	2 hr
July 19	1 hr
July 20	1 hr
	6 hr

6 hr @ $155.00/
plus fuel (16 gal/hr)
($3.00/gal)

Total 6hr @ $203/hr 1218.00

$ 2899.65

CKD

LEGEND

- GEOLOGIC CONTACT
- FAULT
- BEDDING ATTITUDE
- 7006 O.5 — WATER SAMPLE No. p.p.b. URANIUM
- ST2053 □.5 — SILT SAMPLE No. p.p.m. URANIUM

LITHOLOGY

- A — PROTEROZOIC, Light grey siltstone, Interbedded siltstone and dolomite, Dolomitic siltstone, Black shale.

PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — CHARLES K. IKONA

NUSPAR RESOURCES LTD.

ORION CLAIMS

GEOLOGY & GEOCHEMISTRY

106-E-1

YUKON TERRITORY

SCALE IN FEET: 1000 0 1000 2000

SCALE IN METRES: 200 0 100 200 300 400 500

PAMICON DEVELOPMENTS LTD.

DRAWN	PROJECT	DATE	FIGURE
ALTAIR	FAIR CHILD-QUARTET	NOV. 1977	3