GEOLOGICAL AND GEOCHEMICAL ASSESSMENT REPORT

ON THE

DEER BAY PROPERTY, ALBERNI, M.D.

NTS 92 F/4, F/5

LAT: 49° 14'; LONG: 125° 35'

BY

ARNE O. BIRKELAND, P.ENG.

ARNEX RESOURCES LIMITED

JULY 31, 1995

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GEOLOGICAL AND GEOCHEMICAL ASSESSMENT REPORT

DEER BAY PROPERTY

1.0 INTRODUCTION

1.1 General

Lithogeochemical rock chip sampling, petrography and orientation grid soil geochemical sampling were conducted on the Deer Bay Property (Tofino Nickel Group) between April 2-3, and May 2-7, 1995. Expenditures totaled $7,562.65 (see Appendix I).

The objective of the field work was to determine the host rock protolith and resulting deposit classification at the Main Showing and to investigate the geochemical dispersion on an Orientation Soil Grid at the Main Showing.

1.2 Property

The Tofino Nickel Mineral Claim Group is comprised of 4 continuous mineral claims totalling 22 units owned by Peter Buckland and Arne Birkeland (See Table 1, Figure 2).

Deer Bay Property

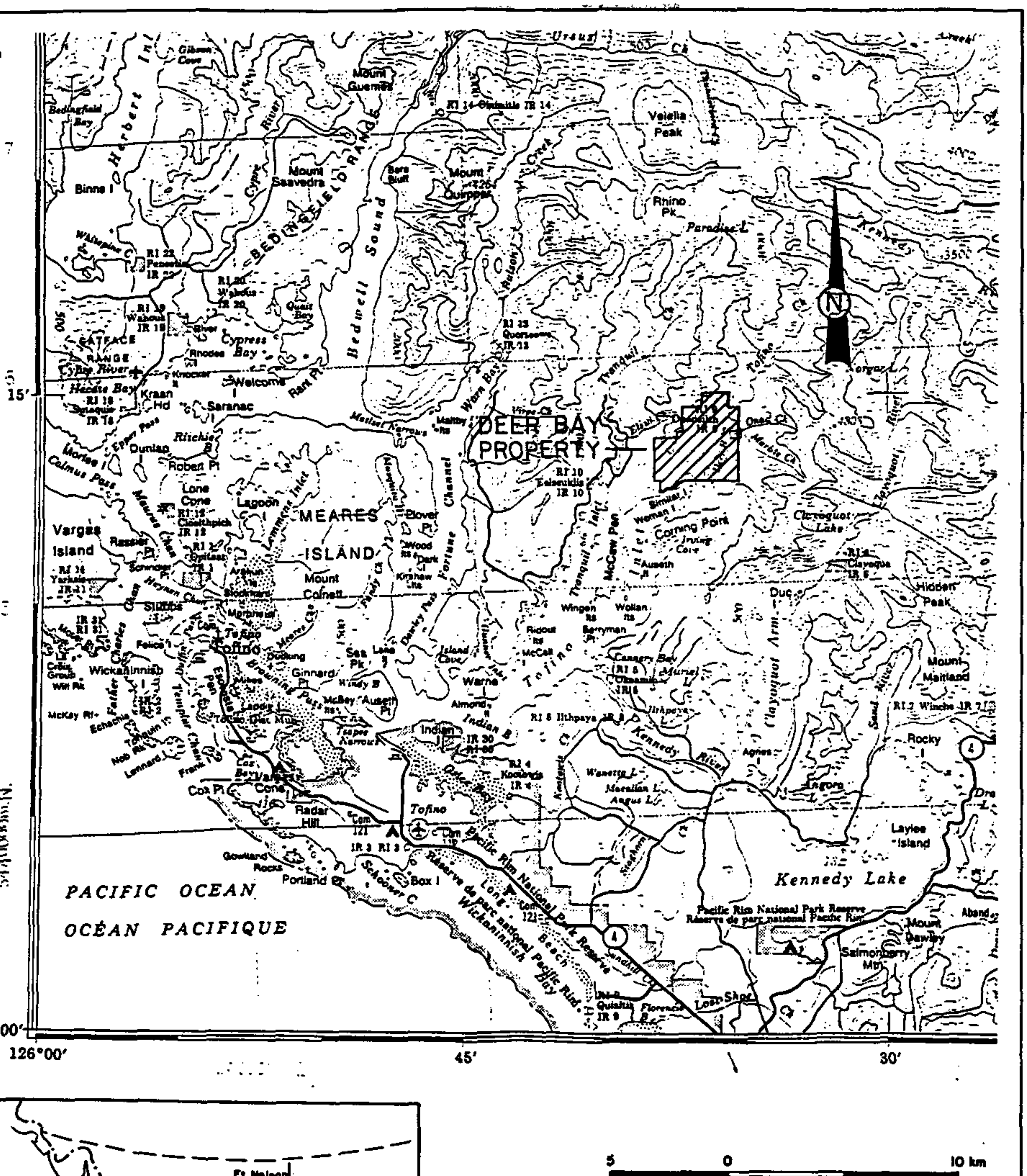
Mineral Tenure

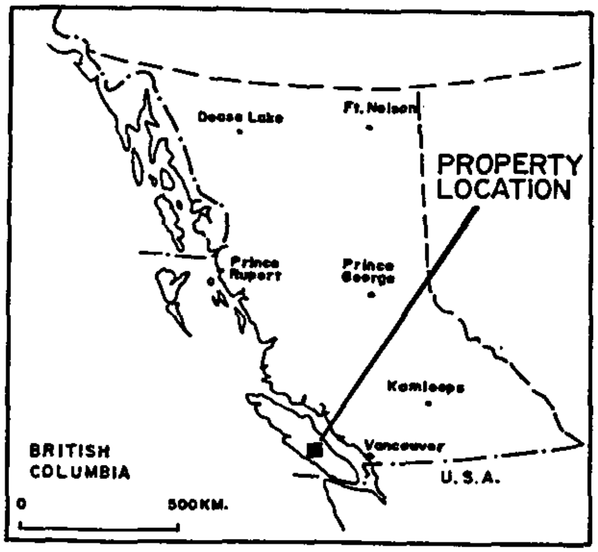
Claim Name	Record #	No of Units	Expiring Date
Nickel 1	200102, 1048	2	Oct. 25/95
Nickel 2	200131, 1338	2	Nov. 13/95
Super 1	200234, 2150	6	May 10/95
Super 2	200235, 2151	12	May 10/95

Table 1

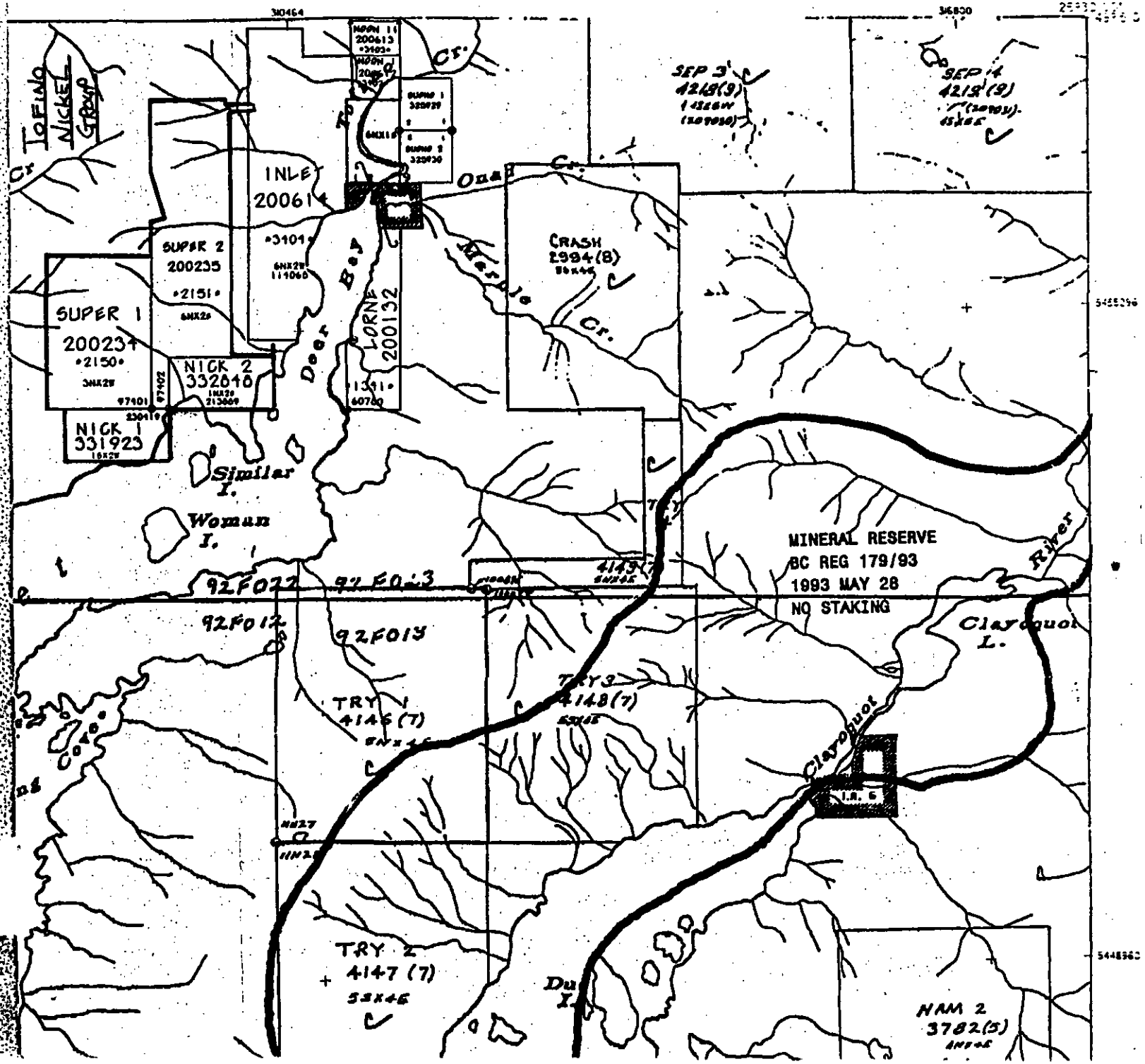
1.3 Location and Access

The property is located 25 km ENE of Tofino near the head of Tofino Inlet in NTS 92F/4E, 49° 14'N, 125° 35'E (Fig 1,2). Access is by logging road (70 km from Tofino via Kennedy Lake bridge) or by boat (30 km from Tofino). The Main Showing is at the 275 m elevation on a steep timbered hillside 0.5 km north of Similar Island.





ARNEX RESOURCES LTD.	
DEER BAY PROPERTY	Area: Vancouver Island
LOCATION MAP	
Scale: 1:250,000	NTS 92F4
	Fig. 1



ARNEX RESOURCES LTD.
DEER BAY PROPERTY
CLAIM LOCATION MAP
Scale: 1:50,000 NTS: 92F/04E
Date: JULY 1995 Figure: 2

MAP 092F04E

U.T.M. ZONE 10

LAST MAP UPDATE: 1994 DEC 19

ORIGINAL PRODUCED AT 1:31680

METRES

500 0 500 1000 1500 2000

ADMINISTRATIVE AREAS

MINING DIVISIONS: ALBERNI

LAND DISTRICTS:

1.4 History

Intermittent exploration has been carried out on the property since discovery in 1898. Gold quartz veins, Cu-Mo porphyry and Ni-Cu-PGM mineralization have variously been evaluated by different operators. The focus of the more recent investigations have been on the Ni-Cu-PGM mineralization. The most significant work was carried out in 1984 and 1985 by Cominco who conducted geological mapping, geochemical, geophysical and trenching programs on the main Cu-Ni-PGM showing area.

2.0 PROPERTY GEOLOGY

2.1 Lithology

Stratigraphy and Lithologic Descriptions are summarized in Table 2, Stratigraphy and Lithology.

The northerly trending, easterly dipping stratigraphic sequence on the Deer Bay Property consists of the following (from west to east, oldest to youngest):

WEST COAST COMPLEX (WC3) - Quartzo-felspathic gneiss; amphibolite

SICKER GROUP (CPs) - Mafic, felsic volcanics; argillite; limestone

Stratigraphy and Lithology

Catface Intrusives (Tg)

Tgdio	-	light grey medium to coarse grained quartz diorite.

Island Intrusives (Jg)

Jgdio	-	grey medium to coarse grained diorite; granodiorite.

Sicker Group (CPs)

1st	-	grey medium grained massive bioclastic limestone; marble locally.
arg	-	alternating light, dark grey thin bedded argillite; pyrite.
and	-	green, grey fine grained massive andesite; chlorite.
bas	-	dark green, grey basalt; calcite epidote veinlets, local py+/-cpy.
meta sed	-	layered dark grey silicified argillite, chert, greywacke.
meta bas	-	dark green basalt; epidote, calcite; amphibolite gneiss.

West Coast Crystalline Complex (WC3)

gab	-	massive medium grained dark grey-green hornblend gabbro.
amp	-	medium to coarse grained black amphibolite.
gns	-	pale green, grey fine to medium grained quartzo-feldspathic gneiss; amphibolite layers common; quartz, feldspar, muscovite chlorite veins.

Table 2

Intruding the Paleozoic strata to the southwest and northeast respectively are intrusive stocks and related dykes and sills as follows:

CATFACE INTRUSIONS (Tg) - Quartz diorite

ISLAND INTRUSIONS (Jg) - Diorite; granodiorite

2.2 Lithologic Descriptions

WEST COAST CRYSTALLINE COMPLEX (WC3)

The principal rock type underlying the Main Showing area consists of quartzo-feldspathic gneiss containing numerous thin foliated amphibolite bands. Gneisses are characteristically fine to medium grained and are pale green to grayish in colour with moderately developed foliation. Dark green chlorite rich bands and amphibolite dykes and sills are common within the gneissic complex and remnant basaltic sills and intercalated felsic volcanics were observed where metamorphism is less prevalent. Chalky white feldspar, light colored muscovite and disseminated pyrite often occur at contacts between gneiss and amphibolite.

The WC3 is interpreted as a migmatic zone of granitized Paleozoic strata. Granitization has occurred at depth and preferentially

along major structures. Uplift and erosion have exposed graded metamorphic fronts as observed on the property.

PALEOZOIC SICKER GROUP (CPs)

A thick sequence of metabasalts are comprised of dark green fine grained basalt and andesite containing local amygdales. Calcite and epidote stringers are common and a wide variety of dykes intrude the metabasalts. Limestone lenses occur near the contacts with metabasalt or diabase in the upper portion of the assemblage. They have been metamorphosed to a coarse grained assemblage of calcite and garnet diopside skarn assemblage. Near the upper portion of the metabasalt sequence the intercalated limestone and metabasalt/diabase unit may represent a metamorphose equivalent of the Sediment Sill unit. This is supported by the presence of a large limestone occurrence in the north central portion of the claim group which may represent an overlying segment of the Buttle Lake formation.

INTRUSIVE ROCKS

Of particular note is a hornblende gabbro intrusive body 400 m southwest of the Main Showing. The hornblende gabbro is a massive medium grained dark green to grey rock consisting of amphibolite and altered feldspar. Several variations of this intrusive include dark grey, black and green amphibolite.

The hornblend gabbro intrusive is considered to be upper Triassic in age and is interpreted to be a subvolcanic magmatic feeder for Karmutsen formation tholeiitic basalts. The numerous amphibolite and hornblend gabbro amphibolite dykes and sills in the area are related to the hornblend gabbro intrusive. A genetic relationship between the gabbro and Cu-Ni-PGM bearing amphibolite is postulated. It is possible that the Main Showing amphibolite may thicken down dip or along strike and allow a substantial accumulation of massive sulphide to form as the hornblend gabbro amphibolite differentiates and magmatic and meteoric (sea water) fluids inter-react.

The head of Tofino Inlet is underlain by Jurassic Island Intrusions (Jg) consisting of a poly-phase sequence of diorite and granodiorite stocks, sills and dykes.

The northern portion of the property in the vicinity of Tofino Creek is underlain by a thick unit of dacite feldspar porphyry which is thought to belong to the Tertiary Catface Intrusive complex (Tg). A body of Tg diorite also has been mapped in the southwestern portion of the property.

3.0 LITHOGEOCHEMISTRY, PETROGRAPHY

Three lithogeochemical samples were taken from metamorphosed host rocks near the Main Showing and are described in Table 3.

Lithogeochemical Sample Descriptions	
VR10103 A	Float boulder from the creek immediately north of the Main Showing. The sample was black and grey, medium grained and layered consisting of gabbroic and pyroxenite bands.
VR10104 A	Hand specimen and random chip sample from a gneissic textured amphibole bearing outcrop well exposed immediately north of the Main Sulphide Lens. Chalcopyrite and magnetite were noted along relatively flat foliation as well as along cross cutting stringers.
VR TNG	From outcrop at the west end of the Main Showing. The rock is described as a medium grained, salt and pepper textured gabbro. This is a predominantly feldspar rich intrusive rock approaching anorthosite, also observed in float.

Table 3

Petrographic Analysis by Vancouver Petrographics Ltd (Appendix V) indicates that the host rocks sampled are altered ultramafic intrusive rocks; formerly mafic hornblend diorites and possibly peridotite. The textures, mafic composition and presence of significant Ti minerals all suggest that the host rocks are altered ultramafic intrusions, not metamorphosed Sicker group rocks as formerly postulated.

The Tofino Nickel occurrence is classified as a Gabbroid Ni-Cu occurrence (BCGS Deposit Profile P2) based on the following criteria:

- Commodities are chiefly Ni and Cu with important Co, PGE and Au as by-products,

- Mineralization occurs as massive lenses and disseminations associated with amphibolite and (upper Triassic) subvolcanic mafic intrusion (anorthosite gabbro),

- The tectonic setting is within a metamorphosed orogenic belt,

- Rock types include gabbro, peridotite and anorthosite,

- The deposit form is within a layered composite intrusive complex with sill and stock like geometry,

- Ore mineralogy includes pyrrhotite, millerite and chalcopyrite with subordinate pentlandite, pyrite and magnetite,

- Hydrothermal alteration assemblages include carbonate (Ferro-dolomite), chlorite, amphibole and biotite,

- Sulphides are concentrated in and adjacent to amphibollite.

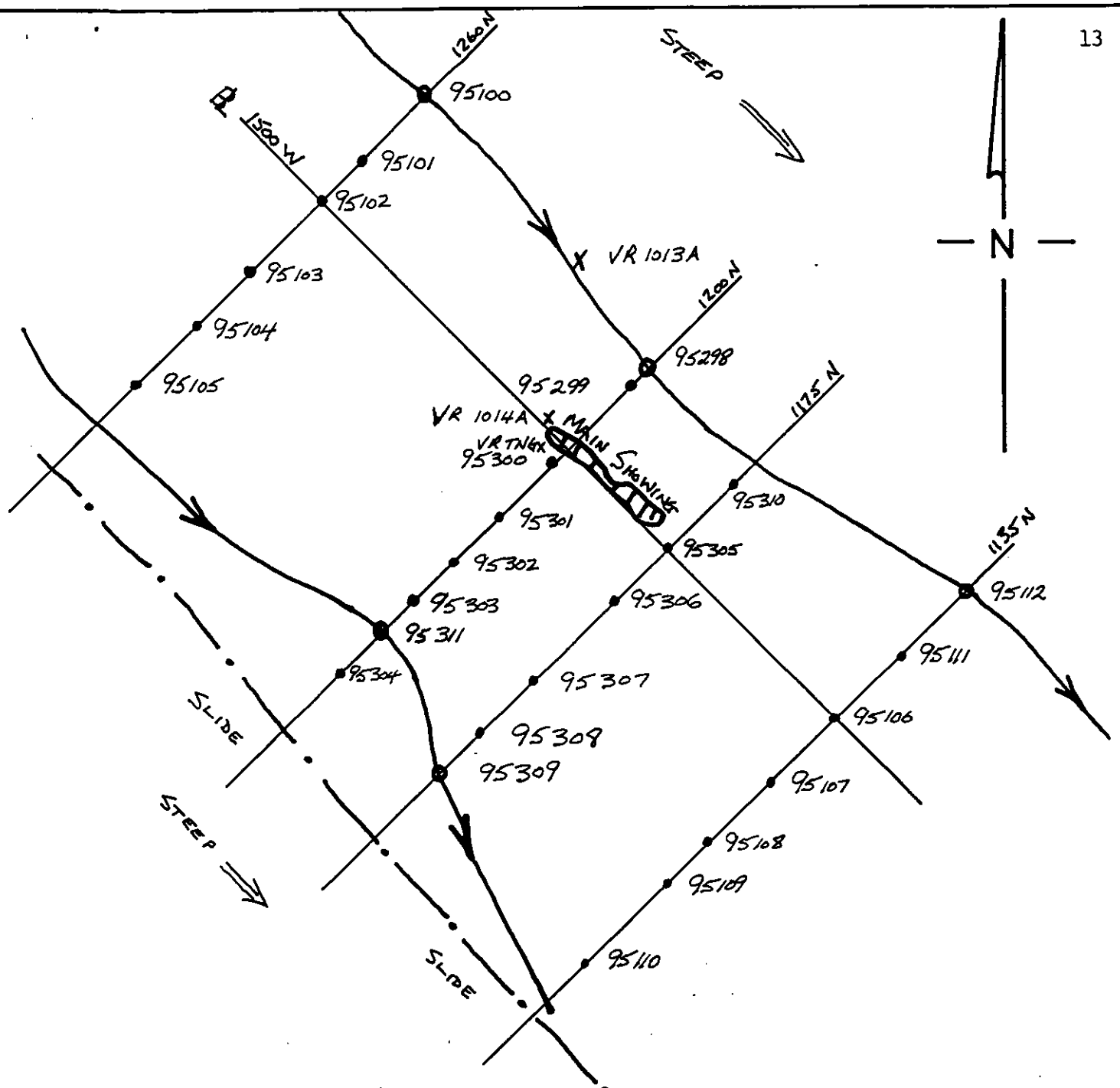
4.0 GEOCHEMISTRY

4.1 Procedure

Rock chip lithogeochemical samples taken from the Main Showing were analyzed by Chemex Labs using ICP and wet assay techniques.

Orientation soil sampling was conducted at the Main Showing (Figure 3, Sample Location Map). Soil samples were taken from the B horizon, from residual soil profiles where possible. Soils were analyzed by Chemex Labs utilizing multi-element ICP and fire assay analytical techniques.

Orientation stream sediment samples (moss mats) were taken in two drainages adjacent to the Main Showing and analyzed by Chemex Labs using ICP and fire assay analytical techniques.



LEGEND

- ● 95101 — Soil Sample Location Number
- o 95100 — Stream Sediment Location Number
- x VR1014A — Lithogeochemical Sample for Petrography

0 10 50 m

ARNEX RESOURCES LTD.
DEER BAY PROPERTY
SAMPLE LOCATION MAP
Scale: 1:1,000 NTS: 92F/04E
Date: JULY 1995 Figure: 3

4.2 Results

Analytical procedures and Certificates are included in Appendix IV and key elements are plotted on Figures 4 and 5.

Rock Geochemistry

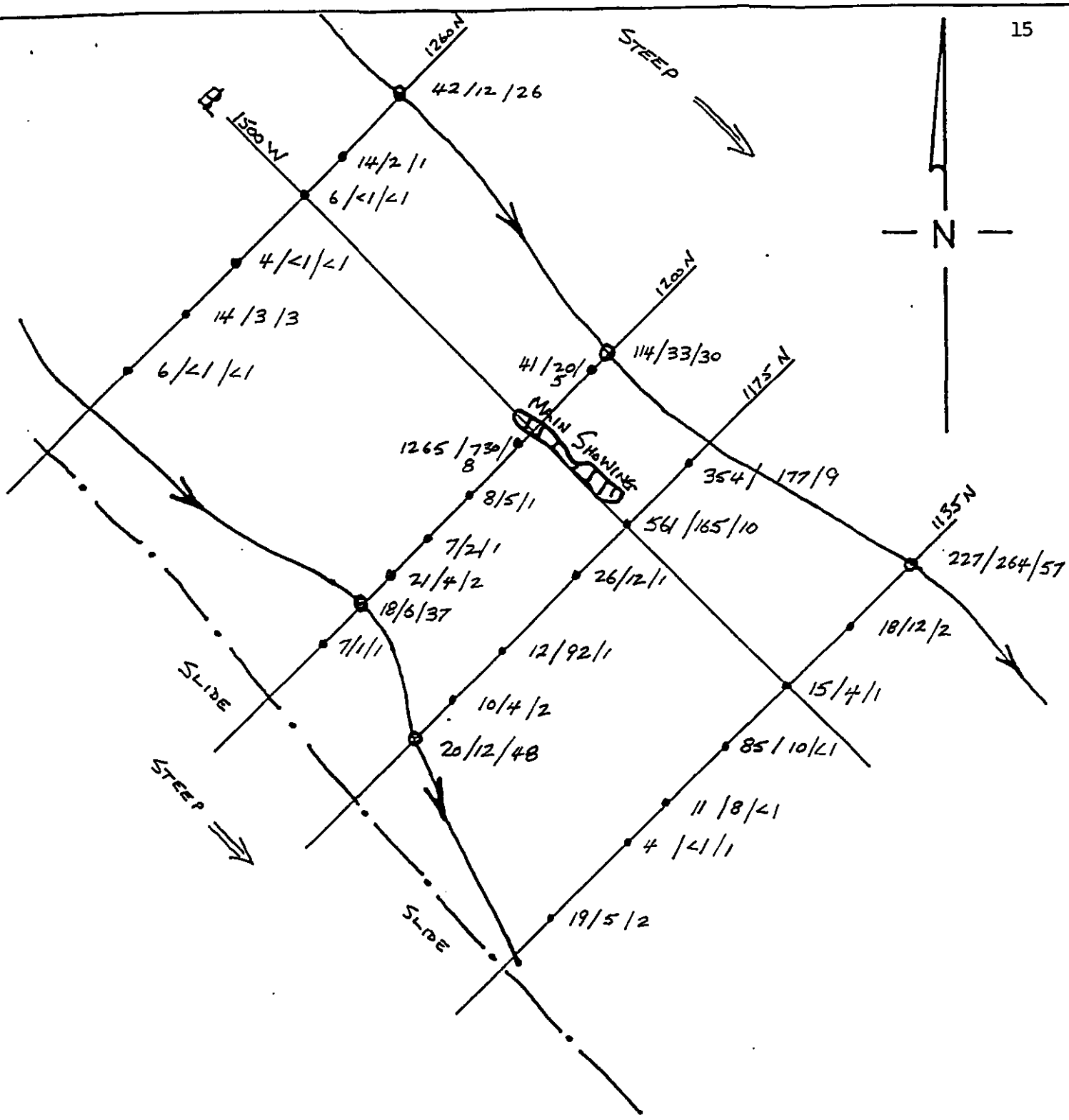
Values of up to 0.6% Cu, 0.6% Ni and 230 ppm Co were obtained from the lithogeochemical samples. No Pt, Pd or Au analysis was done, but from previous sampling it is known that significant Precious Metals are present.

Orientation Soil Sampling

Orientation soil sampling achieved anomalous results immediately adjacent to and below the Main Showing, but geochemical dispersion appears extremely limited. Anomalous values from three samples ranged up to 1265 ppm Cu, 730 ppm Ni, 10 ppm Co, 964 ppb Pd, 265 ppb Pt and 36 ppb Au in close proximity to the mineralization but sampling as close as 10 m away failed to return anomalous values.

Stream Sediment Geochemistry

Stream sediment samples were taken from drainages to the north and south of the Main Showing area (Fig 3, 4, 5). Samples were moss mat sediments from steep creek channels.

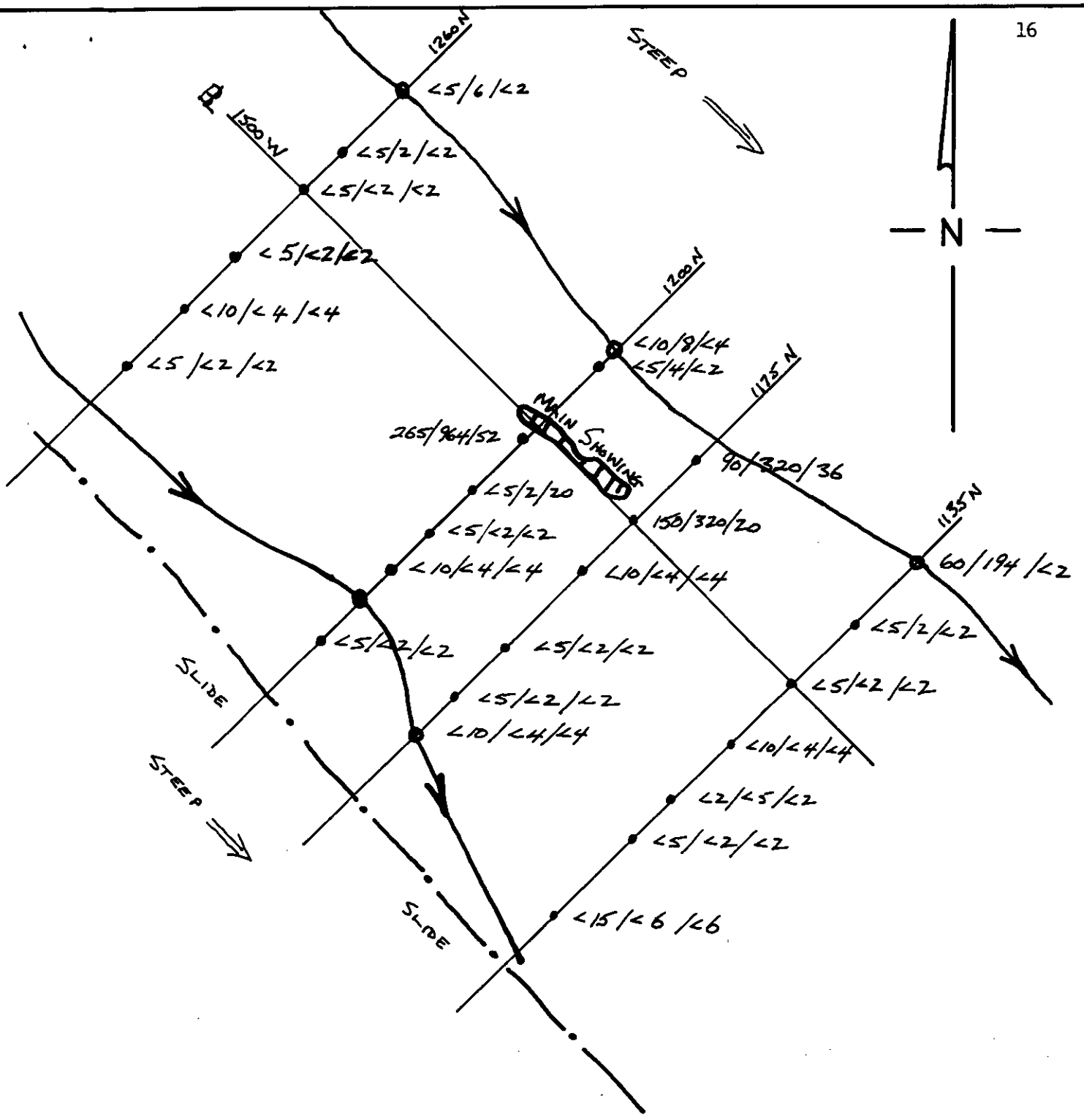


LEGEND

1265 / 730 / 8 **Cu (ppm) / Ni (ppm) / Co (ppm)**

ARNEX RESOURCES LTD.	
DEER BAY PROPERTY	
Cu / Ni / Co VALUES	
Scale: 1:1,000	NTS: 92F/04E
Date: JULY 1995	Figure: 4

0 10 50 m



LEGEND

265/964/52 **Pt (ppb) / Pd (ppb) / Au (ppb)**

0 10 50 m

ARNEX RESOURCES LTD.	
DEER BAY PROPERTY	
Pt / Pd / Au VALUES	
Scale: 1:1,000	NTS: 92F/04E
Date: JULY 1995	Figure: 5

As expected, strongly anomalous values in Cu, Ni, Co, Pt and Pd were obtained from the drainage to the north and directly below the Main Showing. Moderately anomalous values in Cu, Ni, Co and Pd were obtained in this creek up-drainage from the Main Showing indicating additional mineralization is present probably along strike to the northwest. Similar anomalies (particularly Co of 37 and 48 ppm) were found to be present in the creek south of the Main Showing. This is particularly encouraging in that all dispersion from mineralization at the Main Showing is to the north creek, thus the south creek anomalies indicate the presence of additional mineralization up-drainage, again to the northwest.

4.0 CONCLUSIONS

The Deer Bay property is associated with an altered, metamorphosed high level, subvolcanic ultramafic intrusive complex. The deposit is classified as a Gabbroid Ni-Cu-PGE occurrence.

Orientation soil sampling returned anomalous results immediately adjacent to the Main Showing but metal dispersions are very restricted and are not present as near as 10 m away.

Drainage sampling indicates that the creeks up-slope north and south and from the Main Showing are anomalous, indicating the presence of mineralization to the northwest.

Dated this 31st day of July, 1995

By: A.O. Birkeland

Arne O. Birkeland, P.Eng.

APPENDIX I

STATEMENT OF EXPENDITURES

ARNEX RESOURCES LTD.
4005 BROCKTON CRES.
NORTH VANCOUVER, B.C., V7G 1E5

APPENDIX I
STATEMENT OF EXPENDITURES
DEER BAY PROPERTY - 1994-1995 GEOLOGICAL - GEOCHEMICAL PROGRAM

DESCRIPTION		UNITS	COST/UNIT	AMOUNT
Fees	Geological Engineer	7 field day	$425.00 / day	$2,975.00
	Geological Engineer	3 report day	$425.00 / day	$1,275.00
Rentals	Truck	2 day	$75.00 / day	$150.00
	Camper	2 day	$25.00 / day	$50.00
	Boat	4 day	$142.67 / day	$570.68
	Field Equip	4 day	$15.00 / day	$60.00
	Subtotal			$5,080.68
	GST			$355.65
SUBTOTAL - FEES, RENTALS				$5,436.33
Expenses	Chemex Labs - Analytical	15 soils	$26.75 / day	$401.25
	Chemex Labs - Analytical	6 st seds	$26.75 / day	$160.50
	Chemex Labs - Analytical	9 rocks	$32.35 / day	$291.15
	Petrographic Report			$321.00
	Drafting, Copying			$107.00
	Expense Report			$845.42
TOTAL				$7,562.65

WAGES	$3,183
RENTALS	$888
EXPENSE	$845
ANALYSE	$853
PETROGR	$321
REPORT	$1,471
TOTAL	$7,562

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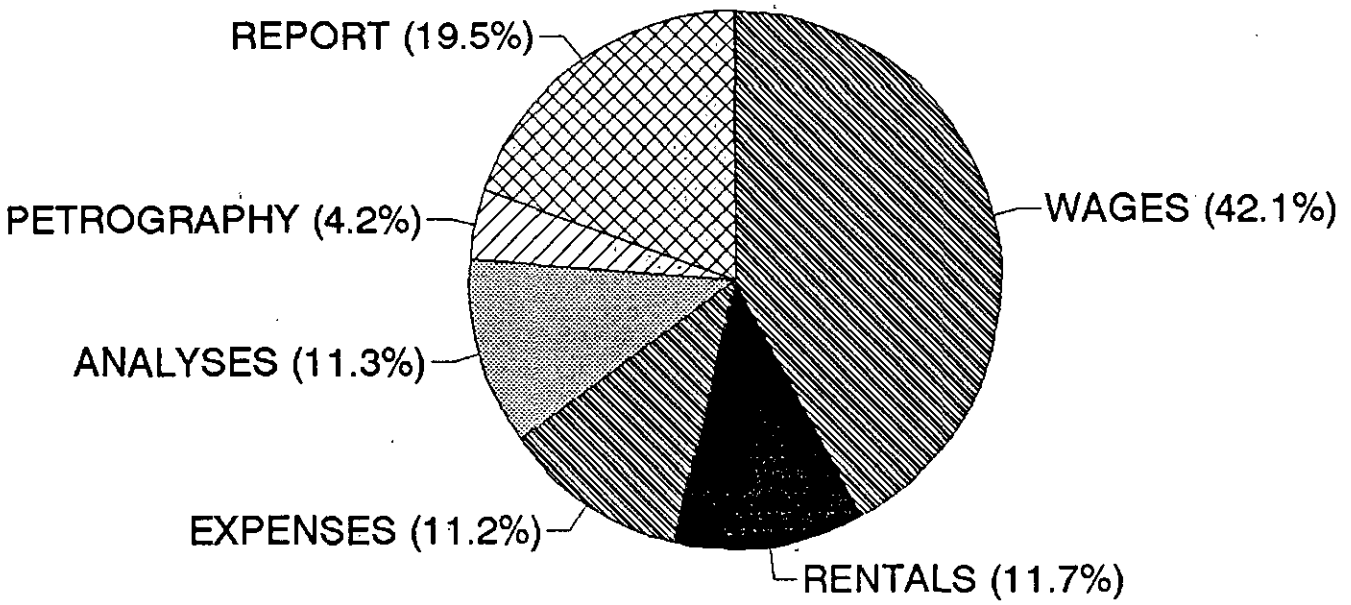
1994-1995 ASSESSMENT EXPENSES
TOFINO NICKEL CLAIM GROUP



APPENDIX II

CERTIFICATE OF QUALIFICATION

APPENDIX II

CERTIFICATE OF QUALIFICATION

I, ARNE O. BIRKELAND, DO HEREBY CERTIFY THAT:

1. I am a Geological Engineer in the employ of Arnex Resources Ltd. with offices at 4005 Brockton Crescent, North Vancouver, British Columbia.
2. I am a 1972 graduate of the Colorado School of Mines with a Bachelor of Science Degree in Geological Engineering.
3. I have been a registered Professional Engineer with the Association of Professional Engineers of British Columbia (Registration No. 9870) since 1975.
4. My primary employment since 1966 has been in the field of mineral exploration, namely as a Geological Engineer.
5. My experience has encompassed a wide range of geological environments and has allowed considerable familiarization with geophysical, geochemical and diamond drilling techniques.
6. I have conducted the exploration work on the property reported on herein. This report is based on data acquired and also draws from researched published information available on the area.

DATED at North Vancouver, British Columbia,

this 31 day of July, 1995

A. O. Birkeland

ARNE O. BIRKELAND, P.ENGINEER

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
A. O. BIRKELAND

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APPENDIX III

GEOCHEMICAL DATA SHEETS

ARNEX RESOURCES LTD.

GEOCHEMICAL DATA SHEET - SOIL SAMPLING

SAMPLER: A. Birkeland PROJECT: DBP NTS: 92F/4

DATE: 05/95

SAMPLE NO.	DEPTH (CM)	HORIZ	COLOUR	PARTICLE SIZE	% ORG	SLOPE GRADIENT	REMARKS
95101	20	B	or br	loam	low	very st	Gn
95102	15	B	or, tan gr	clay soil	low	mod	
95103	15	B	or, tan gr	clay soil	low	mod	
95104	30	B	or gr	soil clay	low	mod	Thick A; Gn
95105	35	B	or	soil	low	st	Gn
95106	25	B	or tan	soil clay	mod	st	Gn
95107	15	A	bl	humus	very high	st	On top of Gn o.c.; no B
95108	15	A	bl	humus	very high	st	On top of Gn o.c.; no B
95109	15	B, A	gr	clay	mod	mod	
95110	15	A	bl	humus	very high	mod	
95111	25	A, C	bl	humus	mod	mod	

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ARNEX RESOURCES LTD.

GEOCHEMICAL DATA SHEET - SOIL SAMPLING

SAMPLER: P. Buckland PROJECT: DBP NTS: 92F/4

DATE: 05/95

SAMPLE NO.	DEPTH (CM)	HORIZ	COLOUR	PARTICLE SIZE	% ORG	SLOPE GRADIENT	REMARKS
95299	15	B	med br	grit silt	low	mod	South edge of North Creek beside showing
95300	10	B	tan br	sand silt	low	mod	South edge of Main Showing
95301	25	B	gr or	clay soil	low	mod	Poor soil development
95302	10	B, C	or br	silt	low	mod	Rubble, broken o.c.
95303	10	B	br	sand silt	mod	mod	Rubble alongside
95304	20	B	lt br gr	sand silt	low	mod	Old Grid tag: 1200 N, 1550 W
95305	10	B	lt br	gritty sand	low	mod st	Arnex Grid 1200N 1475W
95306	8	B	med br	sand clay	mod	mod st	
95307	10	B	lt br	clay sand	mod	mod	
95308	20	B	med br	clay sand	mod	mod	
95310	5	A, B	br	sand soil	mod	mod	

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ARNEX RESOURCES LTD.

GEOCHEMICAL DATA SHEET - STREAM SEDIMENTS

SAMPLER: A. Birkeland PROJECT: DBP NTS: 92F/4

DATE: 05/95

SAMPLE NO.	VOLUME WD(M)	DP(M)	TYPE OF SAMPLE	COLOUR	TEXTURE	% ORG	DRAINAGE GRADIENT	REMARKS
95100	1	.2	MM	dk br	silt	low	st	North Creek above Main Showing
95112	1	.3	MM	dk br	silt	low	mod	North Creek above Main Showing; Gn, amp, minor sulphides

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ARNEX RESOURCES LTD.

GEOCHEMICAL DATA SHEET - STREAM SEDIMENTS

SAMPLER: P. Buckland PROJECT: DBP NTS: 92F/4

DATE: 05/95

SAMPLE NO.	VOLUME WD(M)	DP(M)	TYPE OF SAMPLE	COLOUR	TEXTURE	% ORG	DRAINAGE GRADIENT	REMARKS
95298	1.3	.4	MM	dk gr	silt	mod	mod st	North Creek above Main Showing
95309	<1	dry	MM	gr bl	silt	mod	mod	Moss and silt from dry gully, under water during freshette
95311	<1	dry	MM	gr bl	silt	mod	mod	Moss and silt from dry gully, under water during freshette

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APPENDIX IV

ANALYTICAL CERTIFICATES

Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers

212 Brooksbank Ave., North Vancouver
British Columbia, Canada V7J 2C1
PHONE: 604-984-0221 FAX: 604-984-0218

To: ARNEX RESOURCES LIMITED

4005 BROCKTON CR.
N.VANCOUVER, BC
V7G 1E5

A9517793

Comments: ATTN: A.O.BIRKELAND

CERTIFICATE A9517793

(AN) - ARNEX RESOURCES LIMITED

Project: DBP
P.O. # :

Samples submitted to our lab in Vancouver, BC.
This report was printed on 26-MAY-95.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
201	27	Dry, sieve to -80 mesh
202	27	save reject
229	27	ICP - AQ Digestion charge

* NOTE 1:

The 32 element ICP package is suitable for trace metals in soil and rock samples. Elements for which the nitric-aqua regia digestion is possibly incomplete are: Al, Ba, Be, Ca, Cr, Ga, K, La, Mg, Na, Sr, Ti, Tl, W.

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
975	27	Au ppb: ICP-fluorescence package	FA-ICP-AFS	2	10000
976	27	Pt ppb: ICP-fluorescence package	FA-ICP-AFS	5	10000
977	27	Pd ppb: ICP-fluorescence package	FA-ICP-AFS	2	10000
2118	27	Ag ppm: 32 element, soil & rock	ICP-AES	0.2	200
2119	27	Al %: 32 element, soil & rock	ICP-AES	0.01	15.00
2120	27	As ppm: 32 element, soil & rock	ICP-AES	2	10000
2121	27	Ba ppm: 32 element, soil & rock	ICP-AES	10	10000
2122	27	Be ppm: 32 element, soil & rock	ICP-AES	0.5	100.0
2123	27	Bi ppm: 32 element, soil & rock	ICP-AES	2	10000
2124	27	Ca %: 32 element, soil & rock	ICP-AES	0.01	15.00
2125	27	Cd ppm: 32 element, soil & rock	ICP-AES	0.5	100.0
2126	27	Co ppm: 32 element, soil & rock	ICP-AES	1	10000
2127	27	Cr ppm: 32 element, soil & rock	ICP-AES	1	10000
2128	27	Cu ppm: 32 element, soil & rock	ICP-AES	1	10000
2150	27	Fe %: 32 element, soil & rock	ICP-AES	0.01	15.00
2130	27	Ga ppm: 32 element, soil & rock	ICP-AES	10	10000
2131	27	Hg ppm: 32 element, soil & rock	ICP-AES	1	10000
2132	27	K %: 32 element, soil & rock	ICP-AES	0.01	10.00
2151	27	La ppm: 32 element, soil & rock	ICP-AES	10	10000
2134	27	Mg %: 32 element, soil & rock	ICP-AES	0.01	15.00
2135	27	Mn ppm: 32 element, soil & rock	ICP-AES	5	10000
2136	27	Mo ppm: 32 element, soil & rock	ICP-AES	1	10000
2137	27	Na %: 32 element, soil & rock	ICP-AES	0.01	5.00
2138	27	Ni ppm: 32 element, soil & rock	ICP-AES	1	10000
2139	27	P ppm: 32 element, soil & rock	ICP-AES	10	10000
2140	27	Pb ppm: 32 element, soil & rock	ICP-AES	2	10000
2141	27	Sb ppm: 32 element, soil & rock	ICP-AES	2	10000
2142	27	Sc ppm: 32 elements, soil & rock	ICP-AES	1	10000
2143	27	Sr ppm: 32 element, soil & rock	ICP-AES	1	10000
2144	27	Ti %: 32 element, soil & rock	ICP-AES	0.01	5.00
2145	27	Tl ppm: 32 element, soil & rock	ICP-AES	10	10000
2146	27	U ppm: 32 element, soil & rock	ICP-AES	10	10000
2147	27	V ppm: 32 element, soil & rock	ICP-AES	1	10000
2148	27	W ppm: 32 element, soil & rock	ICP-AES	10	10000
2149	27	Zn ppm: 32 element, soil & rock	ICP-AES	2	10000

Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers

212 Brooksbank Ave., North Vancouver
British Columbia, Canada V7J 2C1
PHONE: 604-984-0221 FAX: 604-984-0218

To: ARNEX RESOURCES LIMITED

4005 BROCKTON CR.
N.VANCOUVER, BC
V7G 1E5

Project : DBP
Comments: ATTN: A.O.BIRKELAND

Page Number : 1-A
Total Pages : 1
Certificate Date: 26-MAY-95
Invoice No. : I9517793
P.O. Number :
Account : AN

CERTIFICATE OF ANALYSIS A9517793

SAMPLE	PREP CODE		Au ppb AFS	Pt ppb AFS	Pd ppb AFS	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm
95100	201	202	< 2	< 5	6	< 0.2	3.02	8	90	0.5	< 2	0.43	< 0.5	26	27	42	2.63	< 10	< 1	0.07	< 10
95101	201	202	< 2	< 5	2	0.2	3.76	10	10	< 0.5	< 2	0.11	< 0.5	1	53	14	6.97	20	< 1	0.02	< 10
95102	201	202	< 2	< 5	< 2	< 0.2	0.80	2	10	< 0.5	< 2	0.11	< 0.5	< 1	20	6	3.55	10	1	0.01	< 10
95103	201	202	< 2	< 5	< 2	< 0.2	0.88	4	< 10	< 0.5	2	0.12	< 0.5	< 1	15	4	3.97	10	< 1	0.01	< 10
95104	201	202	< 4	< 10	< 4	< 0.2	2.83	4	20	< 0.5	< 2	0.17	< 0.5	3	14	14	3.50	< 10	< 1	0.04	< 10
95105	201	202	< 2	< 5	< 2	< 0.2	1.46	4	20	< 0.5	< 2	0.10	< 0.5	< 1	22	6	6.77	20	1	0.01	< 10
95106	201	202	< 2	< 5	< 2	< 0.2	2.28	6	10	< 0.5	2	0.17	< 0.5	1	26	15	4.90	10	1	0.03	< 10
95107	201	202	< 4	< 10	< 4	< 0.2	0.33	2	30	< 0.5	< 2	0.23	< 0.5	< 1	2	85	0.33	< 10	< 1	0.10	< 10
95108	201	202	< 2	< 5	< 2	< 0.2	0.53	< 2	30	< 0.5	< 2	0.11	< 0.5	< 1	3	11	0.27	< 10	< 1	0.06	< 10
95109	201	202	< 2	< 5	< 2	< 0.2	0.80	< 2	20	< 0.5	< 2	0.17	< 0.5	1	8	4	1.38	< 10	< 1	0.01	< 10
95110	201	202	< 6	< 15	< 6	< 0.2	0.27	< 2	80	< 0.5	< 2	0.62	< 0.5	1	2	19	0.27	< 10	< 1	0.08	< 10
95111	201	202	< 2	< 5	2	< 0.2	1.23	8	50	< 0.5	< 2	0.32	< 0.5	2	22	18	1.90	< 10	< 1	0.04	< 10
95112	201	202	< 2	60	194	0.2	2.79	12	80	0.5	< 2	0.46	< 0.5	57	32	227	2.92	< 10	< 1	0.07	< 10
95298	201	202	< 4	< 10	8	< 0.2	3.27	10	100	0.5	< 2	0.55	< 0.5	30	26	114	2.27	< 10	1	0.06	< 10
95299	201	202	< 2	< 5	4	< 0.2	2.10	12	60	< 0.5	< 2	0.33	< 0.5	5	26	41	3.43	10	1	0.04	< 10
95300	201	202	52	265	964	< 0.2	2.07	22	30	< 0.5	4	0.15	< 0.5	8	69	1265	6.64	20	< 1	0.02	< 10
95301	201	202	20	< 5	2	< 0.2	0.81	< 2	10	< 0.5	< 2	0.09	< 0.5	1	13	8	2.34	10	< 1	0.01	< 10
95302	201	202	< 2	< 5	< 2	< 0.2	1.60	4	20	< 0.5	< 2	0.11	< 0.5	1	21	7	4.21	10	< 1	0.01	< 10
95303	201	202	< 4	< 10	< 4	0.2	2.84	6	10	< 0.5	< 2	0.11	0.5	2	23	21	4.14	10	< 1	0.02	< 10
95304	201	202	< 2	< 5	< 2	< 0.2	1.24	2	30	< 0.5	< 2	0.12	< 0.5	1	14	7	2.11	10	< 1	0.02	< 10
95305	201	202	20	150	320	< 0.2	5.85	20	30	< 0.5	< 2	0.17	< 0.5	10	78	561	6.95	10	1	0.03	< 10
95306	201	202	< 4	< 10	< 4	< 0.2	2.15	2	20	< 0.5	< 2	0.16	< 0.5	1	23	26	2.88	10	< 1	0.02	< 10
95307	201	202	< 2	< 5	< 2	< 0.2	1.43	2	10	< 0.5	< 2	0.17	< 0.5	1	25	12	5.03	10	< 1	0.01	< 10
95308	201	202	< 2	< 5	< 2	< 0.2	1.52	< 2	40	< 0.5	< 2	0.15	< 0.5	2	11	10	1.79	< 10	< 1	0.04	< 10
95309	201	202	< 4	< 10	< 4	1.6	2.07	4	70	< 0.5	< 2	0.41	< 0.5	48	19	20	1.52	< 10	< 1	0.22	< 10
95310	201	202	36	90	320	9.0	3.27	18	30	< 0.5	< 2	0.10	< 0.5	9	48	354	3.74	10	< 1	0.03	< 10
95311	201	202	< 4	< 10	< 4	6.8	2.29	2	70	< 0.5	< 2	0.50	< 0.5	37	11	18	1.45	< 10	< 1	0.09	< 10

CERTIFICATION: Stewart Buchler

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To: ARNEX RESOURCES LIMITED

4005 BROCKTON CR.
N.VANCOUVER, BC
V7G 1E5

Project : DBP
Comments: ATTN: A.O.BIRKELAND

Page Number : 1-B
Total Pages : 1
Certificate Date: 26-MAY-95
Invoice No. : I9517793
P.O. Number :
Account : AN

CERTIFICATE OF ANALYSIS A9517793

SAMPLE	PREP CODE		Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
95100	201	202	0.71	1680	1	0.01	12	700	6	< 2	5	26	0.07	< 10	< 10	55	< 10	94
95101	201	202	0.10	60	1	< 0.01	2	260	6	< 2	3	7	0.26	< 10	< 10	178	< 10	6
95102	201	202	0.04	60	1	< 0.01	< 1	90	4	< 2	1	7	0.21	< 10	< 10	176	< 10	2
95103	201	202	0.04	60	< 1	< 0.01	< 1	90	4	2	1	10	0.25	< 10	< 10	162	< 10	2
95104	201	202	0.17	155	< 1	0.01	3	590	6	< 2	2	19	0.11	< 10	< 10	44	< 10	12
95105	201	202	0.07	65	< 1	< 0.01	< 1	130	6	2	1	11	0.32	< 10	< 10	208	< 10	2
95106	201	202	0.25	110	1	0.01	4	170	4	< 2	2	13	0.16	< 10	< 10	87	< 10	12
95107	201	202	0.06	115	< 1	0.01	10	720	8	< 2	< 1	18	0.04	< 10	< 10	5	< 10	18
95108	201	202	0.03	55	< 1	0.01	8	420	4	< 2	< 1	8	0.03	< 10	< 10	12	< 10	8
95109	201	202	0.07	70	< 1	< 0.01	< 1	110	2	< 2	1	10	0.11	< 10	< 10	94	< 10	4
95110	201	202	0.17	45	< 1	0.02	5	460	6	< 2	< 1	51	< 0.01	< 10	< 10	7	< 10	22
95111	201	202	0.46	175	< 1	0.01	12	410	6	< 2	2	22	0.09	< 10	< 10	64	< 10	30
95112	201	202	0.72	1450	1	0.01	264	650	8	< 2	4	26	0.08	< 10	< 10	66	< 10	56
95298	201	202	0.52	2040	1	0.01	33	1030	8	< 2	3	25	0.07	< 10	< 10	47	< 10	70
95299	201	202	0.41	185	1	0.01	20	310	4	2	3	20	0.12	< 10	< 10	99	< 10	28
95300	201	202	0.47	215	4	< 0.01	730	340	10	< 2	1	9	0.14	< 10	< 10	86	< 10	12
95301	201	202	0.04	50	1	< 0.01	5	90	2	2	1	8	0.18	< 10	< 10	168	< 10	2
95302	201	202	0.13	70	1	< 0.01	2	140	4	2	1	8	0.17	< 10	< 10	144	< 10	8
95303	201	202	0.16	90	1	< 0.01	4	380	28	2	3	8	0.14	< 10	< 10	110	< 10	88
95304	201	202	0.13	75	1	< 0.01	1	60	4	< 2	2	9	0.12	< 10	< 10	109	< 10	12
95305	201	202	0.20	125	3	< 0.01	165	400	6	< 2	5	12	0.19	< 10	< 10	127	< 10	14
95306	201	202	0.13	65	1	< 0.01	12	220	4	2	2	10	0.15	< 10	< 10	105	< 10	8
95307	201	202	0.10	65	< 1	< 0.01	92	140	24	2	1	11	0.22	< 10	< 10	183	< 10	12
95308	201	202	0.14	80	< 1	< 0.01	4	230	4	< 2	1	15	0.09	< 10	< 10	63	< 10	12
95309	201	202	0.33	3210	1	0.01	12	780	14	2	1	31	0.06	< 10	< 10	32	< 10	36
95310	201	202	0.35	185	1	< 0.01	177	460	22	2	3	8	0.08	< 10	< 10	68	< 10	24
95311	201	202	0.20	1445	< 1	0.01	6	780	24	< 2	< 1	34	0.04	< 10	< 10	24	< 10	36

CERTIFICATION: Ian Bichler

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KENNECOTT CANADA, INC.

354 - 200 GRANVILLE ST.
VANCOUVER, BC
V6C 1S4

A9515194

Comments: ATTN: DAVE FLEMING

CERTIFICATE A9515194

(KAV) - KENNECOTT CANADA, INC.

Project: 03-349
P.O. #: Tofino Nickel / Jasper Properties.

Samples submitted to our lab in Vancouver, BC.
This report was printed on 24-APR-95.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
208	3	Assay ring to approx 150 mesh
226	3	0-3 Kg crush and split
3202	3	Rock - save entire reject
233	3	Assay AQ ICP digestion charge
* NOTE	1:	

The 32 element ICP package is suitable for trace metals in soil and rock samples. Elements for which the nitric-aqua regia digestion is possibly incomplete are: Al, Ba, Be, Ca, Cr, Ga, K, La, Mg, Na, Sr, Ti, Tl, W.

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
301	3	Cu %: Reverse Aqua-Regia digest	AAS	0.01	100.0
316	1	Zn %: Reverse Aqua-Regia digest	AAS	0.01	100.0
321	2	Ni %: HClO4-HNO3 digestion	AAS	0.01	100.0
4001	3	Ag ppm : A30 ICP package	ICP-AES	1	200
4002	3	Al %: A30 ICP package	ICP-AES	0.01	15.00
4003	3	As ppm: A30 ICP package	ICP-AES	10	50000
4004	3	Ba ppm: A30 ICP package	ICP-AES	20	200000
4005	3	Be ppm: A30 ICP package	ICP-AES	5	100
4006	3	Bi ppm: A30 ICP package	ICP-AES	10	50000
4007	3	Ca %: A30 ICP package	ICP-AES	0.01	30.0
4008	3	Cd ppm: A30 ICP package	ICP-AES	5	1000
4009	3	Co ppm: A30 ICP package	ICP-AES	5	50000
4010	3	Cr ppm: A30 ICP package	ICP-AES	10	20000
4011	3	Cu ppm: A30 ICP package	ICP-AES	5	50000
4012	3	Fe %: A30 ICP package	ICP-AES	0.01	30.0
4013	3	Hg ppm: A30 ICP package	ICP-AES	10	10000
4014	3	K %: A30 ICP package	ICP-AES	0.01	20.0
4015	3	Mg %: A30 ICP package	ICP-AES	0.01	30.0
4016	3	Mn ppm: A30 ICP package	ICP-AES	10	50000
4017	3	Mo ppm: A30 ICP package	ICP-AES	5	50000
4018	3	Na %: A30 ICP package	ICP-AES	0.01	20.0
4019	3	Ni ppm: A30 ICP package	ICP-AES	5	50000
4020	3	P ppm: A30 ICP package	ICP-AES	100	10000
4021	3	Pb ppm: A30 ICP package	ICP-AES	5	50000
4022	3	Sb ppm: A30 ICP package	ICP-AES	10	10000
4023	3	Sc ppm: A30 ICP package	ICP-AES	5	10000
4024	3	Sr ppm: A30 ICP package	ICP-AES	5	10000
4025	3	Ti %: A30 ICP package	ICP-AES	0.01	10.00
4026	3	Tl ppm: A30 ICP package	ICP-AES	20	10000
4027	3	U ppm: A30 ICP package	ICP-AES	20	10000
4028	3	V ppm: A30 ICP package	ICP-AES	20	50000
4029	3	W ppm: A30 ICP package	ICP-AES	20	10000
4030	3	Zn ppm: A30 ICP package	ICP-AES	5	50000

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Project : 03-349
Comments: ATTN: DAVE FLEMING

Page Num :1-A
Total Pages :1
Certificate Date: 24-APR-95
Invoice No. :I9515194
P.O. Number :
Account :KAV

CERTIFICATE OF ANALYSIS A9515194

SAMPLE	PREP CODE		Cu %	Zn %	Ni %	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Hg ppm	K %	Mg %	Mn ppm
VR10103A	208	226	0.26	-----	0.66	< 1	2.64	30	60	< 5	< 10	1.04	< 5	230	70	2580	7.49	< 10	0.24	1.72	550
VR10104A	208	226	0.59	-----	0.05	3	2.12	< 10	20	< 5	< 10	1.61	< 5	20	70	5570	3.37	< 10	0.25	1.13	710
VR10105A	208	226	1.38	6.43	-----	7	2.33	< 10	540	< 5	< 10	0.09	350	15	50	13720	21.7	10	0.21	1.58	2520

CERTIFICATION: Stewart Buchler

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Project : 03-349
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Page Num. :1-B
Total Pages :1
Certificate Date: 24-APR-95
Invoice No. :I9515194
P.O. Number :
Account :KAV

CERTIFICATE OF ANALYSIS A9515194

SAMPLE	PREP CODE		Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
VR10103A	208	226	< 5	0.16	6680	400	40	10	< 5	35	0.07	< 20	< 20	< 20	20	20
VR10104A	208	226	< 5	0.22	500	800	35	< 10	10	20	0.22	< 20	< 20	20	< 20	75
VR10105A	208	226	5	0.02	10	300	225	< 10	5	10	0.01	< 20	< 20	20	40	44400

CERTIFICATION: Stuart Bichler

APPENDIX V

PETROGRAPHIC REPORT

Vancouver Petrographics Ltd.

JAMES VINNELL, Manager
JOHN G. PAYNE, Ph.D. Geologist
CRAIG LEITCH, Ph.D. Geologist
JEFF HARRIS, Ph.D. Geologist
KEN E. NORTHCOTE, Ph.D. Geologist

P.O. BOX 39
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PETROGRAPHIC REPORT ON THREE POLISHED THIN SECTIONS

Report for: Dave Fleming, Project Geologist
Kennecott Canada Ltd.
#354- 200 Granville Street
Vancouver, B.C.
V6C 1S4.

Job # 950240

April 28, 1995.

Samples submitted: VR10103A, VR10104A, VRTNG.

VR10103A: CHLORITE-?SERPENTINE, CHLORITE ALTERED ?ULTRAMAFIC ROCK, POSSIBLY FORMER PERIDOTITE, CUT BY QUARTZ-MINOR CHALCOPYRITE STRINGERS

Dark green, fine-grained igneous rock that is softer than steel, shows no reaction to cold dilute HCl and no stain for K-feldspar. There is a trace of magnetism. Minor sulfides (pyrite and chalcopyrite) are present. In polished thin section, mineralogy is:

Chlorite (1) (?or serpentine)	75%
Chlorite (2)	10%
Quartz (?secondary)	10%
Chalcopyrite	1%
Hydrobiotite (?after biotite)	1%
Sericite	1%
Limonite	1%
Epidote (?)	<1%
Sphene, rutile, ?zircon	<1%

This rock consists of massive, very pale green ?chlorite or serpentine containing patches of slightly darker chlorite and cut by irregular stringers of quartz and minor sulfide. The major mineral has the appearance of serpentine, forming very fine (mainly 25 micron) flakes with random orientation replacing a mineral that originally occurred as rounded crystals about 0.5 mm in diameter. The texture of these former crystals strongly suggests a former crystalline, possibly cumulate-textured rock, possibly ultramafic. However, the fine flakey mineral replacing them is more like a chlorite than serpentine, since it is pale green rather than colourless, and length-fast like a magnesium-rich chlorite, not length-slow like serpentine. In many places, particularly along the quartz-sulfide stringers, the chlorite-?serpentine is coarsened to subhedral crystals up to 0.5 mm diameter. Small flakes of brown ?biotite to 0.1 mm diameter, partially altered to hydrobiotite, occur scattered throughout the chlorite-?serpentine matrix. Rare euhedral crystals of ?epidote to 1 mm long (no pleochroism, so low Fe content) and traces of ?zircon to 70 microns long occur in the matrix.

More coarsely crystalline masses of a second distinctly different chlorite occur up to 1 mm long. These are composed of eu- to subhedral crystals up to 0.5 mm in diameter with anomalous blue interference colours that are length-slow and slightly darker green, indicating higher Fe content than the host fine chlorite-?serpentine. Fine rutile and/or sphene as minute 25 micron crystals are associated with this more Fe-rich chlorite, suggesting the precursor mineral also contained significant titanium. The more Fe-rich chlorite could represent alteration of a different mafic such as pyroxene that was contained in a matrix of a mineral such as olivine. This suggests a former ultramafic rock with a composition near peridotite. There are also rounded bleb-like areas of sphene with fine lamellar rutile inclusions that could be after former ?ilmenite.

The stringers consists of sub- to anhedral quartz as crystals up to 0.7 mm diameter that look secondary. These crystals are clear and subhedral at the centers of the stringers, but at the margins are intimately mixed with fine chlorite-?serpentine. Sulfides consist entirely of chalcopyrite, forming fine anhedral blebs to subhedral crystals up to 1 mm diameter. They are closely associated with the quartz.

Although the major mineral of this rock is hard to call serpentine, the ?cumulate texture, mafic composition, presence of significant Ti-minerals all suggest this was indeed an ultramafic rock. However, the mineralization is copper-rich, lacking pyrrhotite, and controlled along stringers of secondary quartz; these are not typical of massive sulfides associated with ultramafics.

VR10104A: CLAY-SERICITE-CHLORITE-EPIDOTE ALTERED, BIOTITE QUARTZ DIORITE CUT BY QUARTZ-EPIDOTE-CALCITE-CHALCOPYRITE VEINLETS

Grey, fine- to medium-grained intermediate to felsic igneous rock, harder than steel, showing no stain for K-feldspar. There is minor reaction to cold dilute HCl along fractures, and traces of magnetism. Veinlets of sulfide, mainly chalcopyrite, occur along a faint foliation and cross-cutting them. In polished thin section, mineralogy is:

Plagioclase (?oligoclase)	60%
Quartz (partly secondary)	20%
Chlorite (after biotite)	7%
Sericite/muscovite (after ?biotite)	7%
Epidote	3%
Chalcopyrite, trace pyrite	1%
Ilmenite, trace sphene	1%
Calcite	<1%
Pyrophyllite	<1%
Apatite	<1%

This rock consists of an aggregate of plagioclase and lesser quartz hosting flakes of chlorite-sericite altered biotite, cut by stringers of quartz-epidote-chalcopyrite-chlorite. Plagioclase forms sub- to anhedral crystals up to 0.7 mm diameter with relief about the same as that of quartz, and extinction angles Y^010 about 10 degrees indicating oligoclase composition near An_{25-30}. Most plagioclase is slightly altered to very fine (5-10 micron) clay-sericite. Quartz occurs as subhedral to anhedral crystals up to 0.5 mm diameter, somewhat concentrated along crude layers alternating with feldspar-rich layers. Biotite occurs as euhedral flakes up to 1 mm in diameter that are mainly altered to interleaved chlorite and sericite; in some crystals traces of former brown pleochroism remain. The chlorite is length-slow, with anomalous blue interference colours and bright green pleochroism indicating high Fe content. Orientation of the biotite and to a lesser degree the quartz imparts a faint foliation to the rock.

Fine euhedral crystals of apatite to 0.15 mm long are scattered throughout the rock, and are likely primary. Rounded to amoeboid subhedral crystals of ilmenite to 0.35 mm diameter, altered to traces of sphene plus hematite, occur in intergranular position to the major rock-forming minerals.

Veinlets consist of either epidote-quartz-calcite-chalcopyrite-chlorite (sub-parallel to the weak foliation) or ?pyrophyllite-quartz-caclite-epidote crossing the foliation. The ?pyrophyllite occurs as radiating rosettes up to 0.2 mm diameter (note: this may be merely muscovite). Epidote occurs as subhedral crystals up to 0.25 mm diameter with no pleochroism, indicating low Fe content. Epidote is intimately mixed with chalcopyrite as subhedral crystals up to 1 mm across, and minor calcite up to 0.5 mm across. Chlorite in the veins forms subhedral Fe-rich crystals up to 0.3 mm diameter. Pyrite is rare, as sub- to euhedral crystals to 0.2 mm diameter.

This appears to be a slightly foliated biotite quartz diorite with accessory ilmenite and apatite, mildly altered to chlorite-sericite and veined by quartz-epidote-chlorite-chalcopyrite.

VR TNG: HORNBLENDE-TRACE ?OLIVINE-BIOTITE DIORITE WITH MINOR MAGNETITE, AND CHLORITE ALTERATION

Granular, slightly foliated, white and black medium-grained plutonic rock containing rare K-feldspar (stained yellow in etched slab). No reaction to cold dilute HCl; moderately magnetic in places. In polished thin section, the modal mineralogy is:

Plagioclase (andesine)	80%
Amphibole (hornblende)	15%
Clay-sericite (after plagioclase)	3%
Magnetite	1%
Chlorite, sericite (after biotite and ?olivine)	1%
Ilmenite, sphene	<1%
Zircon, apatite	tr

This sample consists mainly of plagioclase and amphibole; no quartz is visible. A central portion of the section is richer in plagioclase, poorer in amphibole, and contains minor opaque (mainly magnetite, as rounded to euhedral crystals up to 1 mm diameter).

Plagioclase occurs as subhedral to rounded, polygonal (recrystallized) crystals up to 1 mm diameter. They look to be the product of metamorphic recrystallization, with only minor concentric zoning in wide, diffuse zones. Compostion appears to be about andesine (An_{35}) based on extinction angle Y^010 about 19 degrees. Some crystals show minor incipient alteration to fine clay-sericite along fractures, cleavages and around margins.

Amphibole occurs as subhedral to anhedral crystals up to 1 mm long interstitial to the plagioclase. Strong pale yellow to olive-green pleochroism and moderate extinction angles about 15 degrees suggest hornblende. In the amphibole aggregates, rare flakes of sericitized or chloritized biotite to 0.25 mm diameter occur. Some chlorite-magnetite pseudomorphs with euhedral outlines suggest former ?olivine crystals up to 0.8 mm in diameter.

Accessory minerals include the magnetite, lesser ilmenite altered to sphene, and traces of zircon and apatite as euhedral crystals up to 100 and 50 microns long respectively. Minor chlorite as minute rosettes up to 20 microns in diameter, aggregating to needle-like areas up to 0.3 mm long, is associated with the magnetite and with pyrite as subhedral crystals to 0.5 mm diameter.

This is a somewhat unusual plutonic rock, ostensibly a hornblende diorite but with traces of former more mafic character, such as chlorite-magnetite pseudomorphs after ?olivine, and common magnetite-ilmenite crystals; the composition of the plagioclase could have originally been more calcic, and been made more sodic during greenschist facies metamorphism and tectonic recrystallization, evident in the rock.

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APPENDIX VI

BIBLIOGRAPHY

SELECTED REFERENCES

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Birkeland, A.O. (Dec 12, 1992): Geochemical and Geological Assessment Report, Deer Bay Property.

Birkeland, A.O. (Jan 15, 1994): Geochemical and Geological Assessment Report, Deer Bay Property.

Carsan, D.J.T. (1973): Plutonic Rocks of Vancouver Island, GSC Paper 72-44.

EMPR MINFILE, (1990): 092F - Albernie.

EMPR AR 1898, 1899, 1902, 1916,1955, 1961, 1966, 1967.

EMPR GEM 1969.

EMPR EXPL 1972, 1973, 1974, 1980, 1986, 1987.

EMPR ASS RT 8106, 8138, 14807, 16220, 17284, 18751.

Lamb, J. (1981): The Island Copper Mine, CIM District 6 Paper.

Matysek, P.F., Gravel, J.L. Jackanun, W., Feulgen, S., (1990): NTS 92F - Albernie, MEMPR BC RGS 25, GSC O.F. 2183.

Muller,J.E. (1977): Geology of Vancouver Island, GSC O.F. 463.

Muller, J.E. (1980): The Paleozoic Sicker Group of Vancouver Island, GSC Paper 79-30.

Muller, J.E., Carson, D.J.T., (1968): Geology and Mineral Deposits of Albernie Map Area, GSC Paper 68-50.

Roddick, J.A., Muller, J.E., and Okulitch, A.V. (1979): Frazer River, Sheet 92, GSC Map 1386A.

Sutherland Brown, A., (1988): Mineral Inventory of the Albernie Region, EMPR OF 1988-24.

Walker, R.R., (1980): Western Mines - Lynx, Myra and Price Deposits, CIM Bulletin Vol. 73, No. 824.

Wheeler, J.O., McFeely, P., (1991): Tectonic Assembledge Map, GSC Map 1712A.

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BIBLIOGRAPHY (CON'T)

SELECTED REFERENCES

Wilton, P. (1989): Sicker Group Workshop and Personal Communication, B.C.G.S.