BRITISH COLUMBIA

PROSPECTORS ASSISTANCE PROGRAM

MINISTRY OF ENERGY AND MINES

GEOLOGICAL SURVEY BRANCH

PROGRAM YEAR:	2001/2002
REPORT #:	PAP 01-13
NAME:	DAVID PAWLIUK

pg 1 of 2

D. TECHNICAL REPORT

- One technical report to be completed for each project area.
- **Refer to Program Regulations 15 to 17, page 6.**

SUMMARY OF RESULTS

- This summary section must be filled out by all grantees, one for each project area

Information on this form is confidential for one year and is subject to the provisions of the *Freedom of Information Act*.

Name David Pawliuk Reference Number 01/02-P16

LOCATION/COMMODITIES

Project Area (as listed in Part A) ZEBALLOS MINFILE No. if applicable N/A

Location of Project Area NTS 092L/07 Lat 50° 12' N Long 126° 53' W

Description of Location and Access Centre of area located about 23 km north of Zeballos, along Zeballos Road. Access by truck along logging roads.

Prospecting Assistants(s) - give name(s) and qualifications of assistant(s) (see Program Regulation 13, page 6)

none

Main Commodities Searched For platinum, palladium

Known Mineral Occurrences in Project Area ATLUCK copper showing, minfile 092L-260

WORK PERFORMED

1. Conventional Prospecting (area) about 300 ha within 100 km² area
2. Geological Mapping (hectares/scale) about 300 ha @ 1:5000 scale
3. Geochemical (type and no. of samples) 36 stream sediments, 17 rocks
4. Geophysical (type and line km) —
5. Physical Work (type and amount) —
6. Drilling (no. holes, size, depth in m, total m) —
7. Other (specify) —

FEEDBACK: comments and suggestions for Prospector Assistance Program The Prospector Assistance Program enabled me to prospect an under-explored part of Vancouver Island. In addition, I obtained geological consulting work as a direct result of being in the field with PAP funding. A worthwhile program.

D. TECHNICAL REPORT

- One technical report to be completed for each project area.
- **Refer to Program Regulations 15 to 17, page 6.**

SUMMARY OF RESULTS

- This summary section must be filled out by all grantees, one for each project area

Information on this form is confidential for one year and is subject to the provisions of the *Freedom of Information Act*.

Name David Pawliuk Reference Number 01/02 P-16

LOCATION/COMMODITIES

Project Area (as listed in Part A) NIMPKISH MINFILE No. if applicable N/A

Location of Project Area NTS 092L/06 Lat 50° 25'N Long 127° 04'W

Description of Location and Access Area west of central Nimpkish Lake, about 18 Km south of Port McNeill. Access by truck along logging roads

Prospecting Assistants(s) - give name(s) and qualifications of assistant(s) (see Program Regulation 13, page 6)
NONE

Main Commodities Searched For platinum, palladium

Known Mineral Occurrences in Project Area MARINO Minfile 092L 293

WORK PERFORMED

1. Conventional Prospecting (area) about 80 ha within 40 Km², area
2. Geological Mapping (hectares/scale) about 80 ha @ 1:5000 scale
3. Geochemical (type and no. of samples) 6 rocks; 18 stream sediments
4. Geophysical (type and line km) —
5. Physical Work (type and amount) —
6. Drilling (no. holes, size, depth in m, total m) —
7. Other (specify) —

FEEDBACK: comments and suggestions for Prospector Assistance Program see previous page

D. TECHNICAL REPORT (continued)

REPORT ON RESULTS

- Those submitting a copy of an Assessment Report or a report of similar quality that covers all the key elements listed below are not required to fill out this section.
- Refer to Program Regulation 17D on page 6 for details before filling this section out (use extra pages if necessary)
- **Supporting data must be submitted with the following TECHNICAL REPORT or any report accepted in lieu of.**

Information on this form is confidential for one year from the date of receipt subject to the provisions of the *Freedom of Information Act*.

Name DAVID PAWLIUK Reference Number 01/02 - P 16

Assessment - type report being submitted.

1. **LOCATION OF PROJECT AREA** [Outline clearly on accompanying maps of appropriate scale.]

2. **PROGRAM OBJECTIVE** [Include original exploration target.]

3. **PROSPECTING RESULTS** [Describe areas prospected and significant outcrops/float encountered. Mineralization must be described in terms of specific minerals and how they occur. These details must be shown on accompanying map(s) of appropriate scale; prospecting traverses should be clearly marked.]

Prospectors Assistance Program
Reference Number 01/02 - P16

ZEBALLOS AND NIMPKISH AREAS
VANCOUVER ISLAND

REPORT
ON
PROSPECTING, GEOCHEMICAL ROCK SAMPLING,
GEOCHEMICAL STREAM SEDIMENT SAMPLING,
AND
GEOLOGICAL MAPPING

N.T.S.
92 L/02
LATITUDE 50° 12' N, LONGITUDE 126° 54' W (Zeballos area)

N.T.S.
92 L/06
LATITUDE 50° 25' N, LONGITUDE 127° 04' W (Nimpkish area)

Nanaimo Mining Division
And
Alberni Mining Division

Prepared for:
Prospectors Assistance Program
Geological Survey Branch
Ministry of Energy and Mines
Victoria, British Columbia
V8W 9N3

By:

David J. Pawliuk, P. Geo.
December 5, 2001

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SUMMARY

This prospecting report covers reconnaissance exploration carried out for platinum group element (PGE) mineralization in the Zeballos area and in the Nimpkish area of northwestern Vancouver Island. Prospecting, geochemical stream sediment sampling, geochemical rock sampling and geological mapping were performed bbetween June 6 and September 29, 2001.

The prospecting areas were located where Geological Survey of Canada mapping indicates that the bedrock is mainly Triassic Karmutsen Formation subalkaline basalt. Platinum and palladium occur within Karmutsen Formation rocks at the Queen Charlotte Islands. As well, governmental stream sediment geochemical survey results show that stream sediments from both the Zeballos and the Nimpkish areas locally contain anomalous nickel and chromium concentrations. Nickel and chromium are associated with platinum and palladium at various locales in North America.

Previous work in the region has included sporadic exploration for copper and gold. A copper occurrence was discovered in the northwestern corner of the Zeballos prospecting area in the early 1970's. A gold-silver-copper-zinc-molybdenum occurrence, within quartz veins hosted by a shear zone, was explored in the northeastern part of the Nimpkish prospecting area during 1983.

Fifty-four stream sediment samples and 23 rock samples were collected from the two prospecting areas during the current field program. In addition, one soil sample was collected from the Zeballos prospecting area. The highest individual analyses obtained from the stream sediments were 8 ppb platinum, 35 ppb palladium, 195 ppb gold, 204 ppm copper and 259 ppm nickel. The highest individual analyses obtained from the rocks were 12.5 ppb platinum, 35 ppb palladium, 36 ppb gold, 685 ppm copper and 535 ppm nickel. Analytical results indicate that detectable but sub-anomalous concentrations of platinum and palladium occur within the Zeballos prospecting area. Detectable but sub-anomalous concentrations of platinum and palladium also occur within the Nimpkish prospecting area.

Further exploration for platinum and palladium is recommended within areas underlain by Karmutsen Formation basalt at northern Vancouver Island with coincident geochemical stream sediment anomalies for nickel and chromium. The geological environment within the region is favourable for PGE mineralization. Karmutsen Formation basalt is the most abundant rock unit at northern Vancouver Island, and extends for many kilometres.

INTRODUCTION

Prospecting, geochemical stream sediment sampling, geochemical rock sampling and geological mapping were performed in both the Zeballos and the Nimpkish areas of northwestern Vancouver Island. The writer received grant number 2001/2002 P16 under the 2001/2002 British Columbia Prospectors Assistance Program; this grant enabled him to carry out the work.

The prospecting program was carried out by the writer in two episodes: between June 6 and June 27, 2001 in the Zeballos area, and between September 25 and 29, 2001 in the Nimpkish area.

The prospecting program was performed mainly on open ground. The writer holds two mineral claims totalling 23 units within the central portion of the Zeballos work area. No mineral claims are currently recorded within the Nimpkish work area. Both work areas were accessed by truck along logging roads.

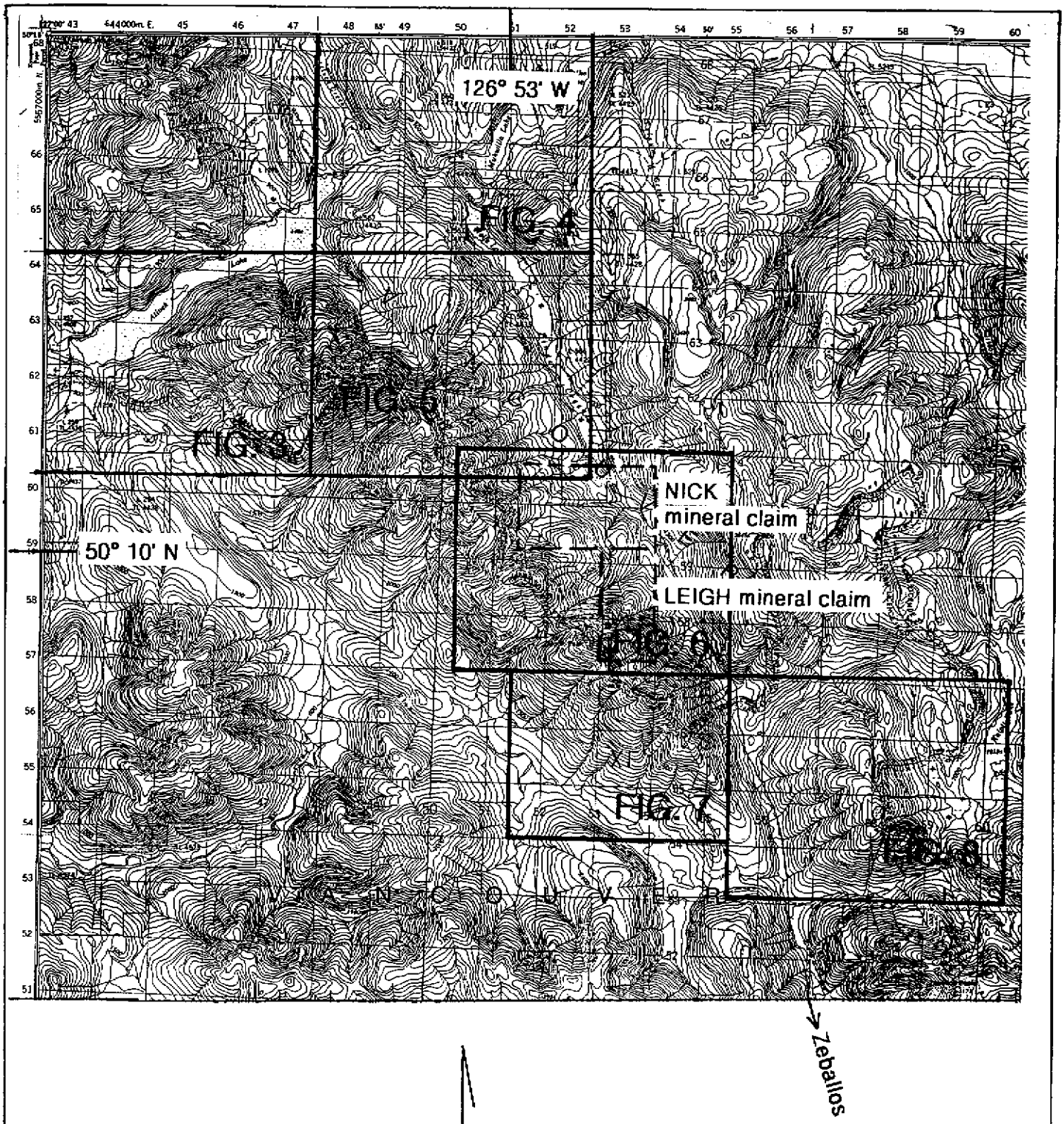
The Zeballos work area is about 20 km long and 6 km wide, and the Nimpkish work area is about 10 km long and 7 km wide. These prospecting areas were selected because Geological Survey of Canada mapping indicated that these areas are underlain by Triassic Karmutsen Formation subalkaline basalt. Platinum and palladium have been found with copper in Karmutsen Formation rocks at the Queen Charlotte Islands (Report of B.C. Minister of Mines, 1921). As well, stream sediments from both prospecting areas locally contain anomalous concentrations of nickel and chromium; these two metals are associated with platinum and palladium.

LOCATION, ACCESS AND PHYSIOGRAPHY

The two prospecting areas are at northwestern Vancouver Island. The Zeballos area is about halfway between the village of Zeballos and the southern end of Nimpkish Lake, and centred at approximately 50° 12' N latitude and 126° 54' W longitude within N.T.S. map-sheet 92L/02 (Figure 1). The Nimpkish area is about 17 km south of the town of Port McNeill, centred at approximately 50° 25' N latitude and 127° 04' W longitude within N.T.S. map-sheet 92L/06 (Figure 2). Motels at Zeballos and at Port McNeill were used for accommodation during the prospecting program.

Access to the prospecting areas is by two- or four-wheel drive pickup truck. An extensive network of logging roads provides good access to both areas.

Local elevations in the Zeballos area range from 134 metres above sea level at Atluck Lake up to 1542 metres a.s.l. at Pinder Peak. Elevations in the Nimpkish area range from 20 metres a.s.l. at Nimpkish Lake up to 1389 metres a.s.l. along the top of the Karmutzen Range in the southeastern corner of the prospecting area. The terrain consists of steep-sided, rugged mountains separated by valleys that are occupied by rivers and creeks with gentle gradients. The highest elevations are above treeline, with rare patches of permanent snowpack. The lower elevations are thickly forested, and both prospecting areas contain active logging operations. Dense second growth is present in many areas that have been logged in recent years. Soils are sparse and poorly developed where present. The climate is generally cool and wet, with windstorms in late fall. There are typically hot, dry spells during early summer when exploration work can be curtailed because of forest fire hazard.

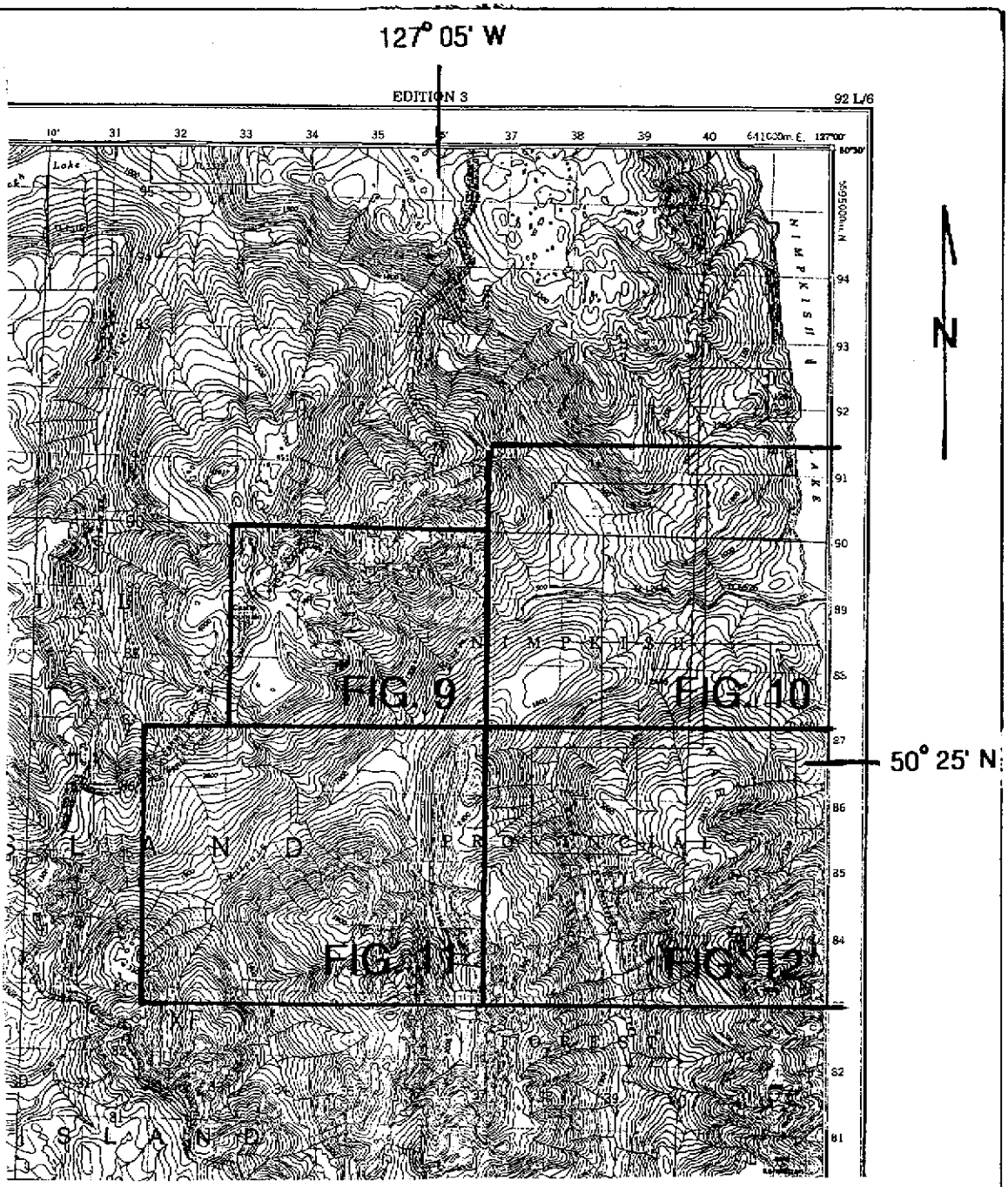


ZEBALLOS PROJECT

LOCATION MAP

Alberni and Nanaimo Mining Divisions

N.T.S. 92L/2	
NOV. 2001	Fig. 1



NIMPKISH PROJECT	
LOCATION MAP	
Alberni and Nanaimo Mining Divisions	
N.T.S. 92L/6	
NOV. 2001	Fig. 2

PROPERTY STATUS

The NICK and LEIGH mineral claims cover a total of 23 metric units in the central part of the Zeballos prospecting area (Figure 6). These claims are owned by the writer, and are in good standing until April 14, 2002.

No mineral claims are currently recorded within the Nimpkish prospecting area.

HISTORY

The Zeballos prospecting area has been sporadically explored for copper and gold. Chalcopyrite occurs as small grains and fracture coatings within Karmutsen Formation basalts at the ATLUCK occurrence, minfile number 092L 260. ATLUCK occurrence is located near the western end of Atluck Lake (Figure 3). Geological mapping and ground magnetic surveying were performed over the occurrence area by Groundstar Resources (Marshall, 1973). The ATLUCK occurrence was not visited during the current prospecting program.

Muller, Northcote and Carlisle (1974) mapped the geology of the region, encompassing both prospecting areas, at 1:250,000 scale for the Geological Survey of Canada.

The Nimpkish prospecting area has also been sporadically explored. The MARINO occurrence, minfile number 092L 293, is in the northeastern part of the Nimpkish prospecting area (Figure 10). Here a quartz vein containing sphalerite, chalcopyrite, pyrite and molybdenite occurs along a shear crosscutting Karmutsen Formation basalts. Falconbridge Limited performed geochemical soil sampling and ground electromagnetic surveying over the occurrence area during 1983 (Bruland, 1983). Select samples of the vein material assayed up to 65.2 g/t silver, 39.1 g/t gold, 11.5 % zinc, 0.83 % copper and up to 0.27 % molybdenum (Walton, 1983). The MARINO occurrence was not visited during the current prospecting program.

The British Columbia Ministry of Energy, Mines and Petroleum Resources and the Geological Survey of Canada performed geochemical stream sediment surveying across northern Vancouver Island (Matysek, Gravel and Jackaman, 1988).

GEOLOGY

Triassic Karmutsen Formation subalkaline basalts are the main rock unit present within both the Zeballos and Nimpkish prospecting areas. These rocks are overlain by Triassic Quatsino Formation limestone; both the Karmutsen and Quatsino formations belong to the Vancouver Group (Muller, Northcote and Carlisle, 1974). The Vancouver Group rocks have locally been intruded by the Jurassic-aged, granitic Island Intrusions. All of the rocks within the prospecting areas have been faulted.

Karmutsen Formation basalt

The Karmutsen Formation subalkaline basalts underlie much of northern Vancouver Island. These rocks are mainly monotonous pillow lavas, with local layered flows and tuffs in the stratigraphically higher portions of the formation. The Karmutsen Formation has a total thickness of about 5,800 m to 6,100 m (Muller, Northcote and Carlisle, 1974). The Karmutsen Formation occurs as a series of large, tilted, fault-bounded blocks that dip gently to the southwest.

The Karmutsen Formation basalts are dark green to greenish black, fine grained, somewhat

porphyritic and often moderately magnetic. Amygdules filled by quartz, epidote and/or carbonate are common. The basalts are often weakly chlorite- and epidote-altered. Both greenish black chlorite and apple green epidote commonly occur as patchy veinlets coating fracture surfaces. Local veinlets of quartz, carbonate and zeolite also occur throughout the Karmutsen Formation.

The pillows within the pillow lavas are ellipsoids or rough spheres that range from about 15 cm to 100 cm or more across. Most of the pillows have chilled, glassy selvages about 1 cm thick. However, some pillow lavas lack chilled selvages; these lavas appear massive in outcrop because the pillow structure is obscure.

Dykes of dark green-black to dark brown, medium grained gabbro crosscut Karmutsen Formation basalts east of NICK mineral claim, in the central part of the Zeballos prospecting area (Figure 6). The writer mapped these gabbro dykes as being a part of the Karmutsen Formation. The age of these gabbro dykes is unknown. The gabbro dykes may have acted as feeders for a portion of the Karmutsen Formation; if so, the dykes are only slightly younger than the adjacent wallrock Karmutsen Formation basalts. More unmapped gabbro bodies are likely present within the area, because numerous pieces of gabbro float were found near the northeastern corner of NICK mineral claim (Figures 5 and 6).

Quatsino Formation limestone

Pale grey to light creamy brown to white, crystalline Quatsino Formation limestone overlies the Karmutsen Formation basalts within the Zeballos prospecting area. The limestone is exposed in roadcuts and also along Pinder Creek in the central part of the Zeballos prospecting area (Figure 6). Quatsino Formation limestone also overlies Karmutsen Formation basalts near the western end of Atluck Lake (Figure 3).

Granitic intrusions

Light grey to creamy pink, medium grained, massive granodiorite-diorite underlies the central part of Nimpkish prospecting area (Figures 10 and 12). This rock intrudes the Karmutsen Formation basalts within the area, and is part of the Jurassic Island Intrusions. Although this granitic intrusion extends over an area at least 2 km by 3.5 km across, it was not mapped by the Geological Survey of Canada (Muller, Northcote and Carlisle, 1974), likely because of difficult ground access prior to the construction of logging roads in the area.

GEOCHEMICAL SAMPLING

One geochemical soil sample, 36 geochemical stream sediment samples and 17 geochemical rock samples were collected from the Zeballos prospecting area. Eighteen geochemical stream sediment samples and 6 geochemical rock samples were collected from the Nimpkish prospecting area.

The samples were submitted to ALS Chemex Laboratories facility at North Vancouver, British Columbia. All samples were analyzed for platinum, palladium and gold; these analyses were carried out by geochemical fire assay with ICPMS finish. In addition, all of the samples were also analyzed for 32 elements by ICP methods.

Most of the rock samples are grab or select samples collected during prospecting. One rock chip sample, number ZR007, was collected within the Zeballos prospecting area. The laboratory sample analysis procedure for rocks includes drying, crushing to minus 2 mm, and then pulverizing a 250 gm split to minus 75 microns. Subsamples of 30 gm from the pulverized split were then analyzed.

The stream sediments were wet sieved in the field to minus 20 mesh to reduce the sample volume required for shipping to the laboratory, while maintaining sample quality. The laboratory sample analysis procedure for stream sediments includes drying then sieving to minus 180 microns. 30 gm subsamples of the minus 180 micron material were analyzed.

Earlier governmental geochemical surveys analyzed the minus 80 mesh (177 micron) size fraction (Matysek, Gravel and Jackaman, 1988).

Certificates of geochemical analysis form Appendix A. A complete listing of geochemical rock sample descriptions with selected results is presented in Appendix B.

Zeballos prospecting area

Geochemical soil sample number ZS001 was collected from limonite-rich, clayey soil overlying a northeasterly trending fault in the northern part of the Zeballos prospecting area (Figure 4). This soil contains 3.5 parts per billion (ppb) platinum, 23 ppb palladium, 6 ppb gold and 165 parts per million (ppm) copper; this soil also contains greater than 10,000 ppm manganese (Appendix A). Geochemical rock sample ZR007 was collected of vein quartz breccia with carbonate and limonite from the underlying fault itself, 100 m along strike from soil sample site ZS001. ZR007 is a continuous chip sample across 30 cm; it contains 1.5 ppb platinum, 7 ppb palladium, 11 ppb gold, 86 ppm copper and 1,090 ppm manganese (Appendix B; Figure 4).

The 17 rock samples from the Zeballos prospecting area contain up to 12.5 ppb platinum, 35 ppb palladium, 36 ppb gold and up to 517 ppm copper (Appendix A). Rock sample sites are plotted on figures 3 through 8 inclusive.

The 36 geochemical stream sediment samples from the Zeballos prospecting area contain up to 8.0 ppb platinum, 35 ppb palladium, 57 ppb gold and up to 208 ppm copper (Appendix A). Stream sediment sample sites are plotted on figures 3 through 8 inclusive.

Nimpkish prospecting area

The 6 rock samples from the Nimpkish prospecting area contain up to 9.5 ppb platinum, 16 ppb palladium, 14 ppb gold and up to 685 ppm copper (Appendix A). Rock sample sites are plotted on figures 9 through 12 inclusive.

The 18 geochemical stream sediment samples from the Nimpkish prospecting area contain up to 6.0 ppb platinum, 16 ppb palladium, 195 ppb gold and up to 204 ppm copper (Appendix A). Stream sediment sample sites are plotted on figures 9 through 12 inclusive.

MINERALIZATION

Detectable but sub-anomalous concentrations of platinum, palladium and gold locally exist within rocks and stream sediments from the Zeballos prospecting area.

Detectable but sub-anomalous concentrations of platinum, palladium and gold locally exist within rocks and stream sediments from the Nimpkish prospecting area.

DISCUSSION

The Karmutsen Formation subalkaline basalts within both the Zeballos and the Nimpkish prospecting areas are mainly pillow lavas. Geological Survey of Canada mapping shows that these pillow lavas occur mainly within the stratigraphically lower portions of the Karmutsen Formation. Detectable but sub-anomalous concentrations of platinum and palladium were found within Karmutsen Formation rocks from the prospecting areas. The gabbro dykes(?) crosscutting Karmutsen Formation basalts at the east-central part of the Zeballos prospecting area are interesting, because they indicate variability within what is otherwise a monotonous sequence of basalts. These dykes may be feeder dykes for a portion of the Karmutsen Formation.

Karmutsen Formation basalt extends over much of northwestern Vancouver Island. These rocks have the potential to host platinum group metal occurrences of economic importance, and should be prospected. Prospective areas underlain by the Karmutsen Formation can be identified by favourable stream sediment geochemistry.

CONCLUSIONS

The prospecting program for PGE mineralization within the Karmutsen Formation subalkaline basalts at northern Vancouver Island found detectable but sub-anomalous concentrations of platinum and palladium within both rocks and stream sediments in the Zeballos prospecting area and the Nimpkish prospecting area.

RECOMMENDATIONS

No further work should be performed within the Zeballos prospecting area, because geochemical sampling to date shows that the rocks and stream sediments from the area contain only sub-anomalous concentrations of platinum and palladium.

No further work should be performed within the Nimpkish prospecting area, because geochemical sampling to date shows that the rocks and stream sediments from the area contain only sub-anomalous concentrations of platinum and palladium.

Areas of Karmutsen Formation basalt that are prospective for PGE mineralization remain to be prospected at northern Vancouver Island. Stream sediments with anomalous concentrations of nickel, chromium, copper and gold can be used identify these prospective areas. Further prospecting should be performed by using techniques similar to those used during the current prospecting program, and include geochemical analysis of the finer-sized fraction of stream sediments. Geochemical rock sampling and geological mapping will also be useful to define the internal stratigraphy and variations within the Karmutsen Formation, because platinum group metals are sometimes confined to particular rock units within a large, layered body of mafic rock.

Respectfully submitted,

David J Pawliuk

David J. Pawliuk, P. Geo.

GEOLOGIST'S CERTIFICATE

I, David J. Pawliuk, of 2960 Anchor Drive, in the Province of British Columbia, V9P 9G2,

DO HEREBY CERTIFY:

1. That I am a graduate of the University of Alberta and hold a Bachelor of Science degree with Specialization in Geology.
2. That I am registered as a Professional Geoscientist with the Association of Professional Engineers and Geoscientists of British Columbia.
3. That I am registered as a Professional Geologist with the Association of Professional Engineers, Geologists and Geophysicists of Alberta.
4. That I have practised geology in Canada, Argentina, Mexico, Ecuador and the United States since 1975.
5. That I have a 100 % interest in the NICK and LEIGH mineral claims within the Zeballos prospecting area.
6. That I personally performed geochemical sampling, prospecting and geological mapping within both the Zeballos prospecting area and the Nimpkish prospecting area.

Dated at Nanoose Bay, British Columbia, Canada this 5th day of December, 2001.

David J. Pawliuk, P. Geo.

REFERENCES

Bruland, T. (1983) Assessment report on geochemical and geophysical surveying prepared for Falconbridge Limited; British Columbia Ministry of Energy & Mines assessment report 11543.

Mackay, G. (1993) Very fine stream sediment sampling for gold; Indian and Northern Affairs Canada, Northern Affairs: Yukon region, Open File 1993 – 9 (G).

Marshall, P. (1973) Geological and Geophysical Report on the Atluck Claim Group, Atluck Lake, Nimpkish Area, Vancouver Island; British Columbia Ministry of Energy & Mines assessment report 04818.

Matysek, P.F., Gravel, J.L. and Jackaman, W. (1988) British Columbia Regional Geochemical Survey, Stream sediment and water geochemical data, NTS 92L/102I – Alert Bay/Cape Scott; MEMPR BC RGS 23, GSC O.F. 2040.

Muller, J.E., Northcote, K.E., and Carlisle, D. (1974) Geology and Mineral Deposits of Alert – Cape Scott Map-area (92L-102I) Vancouver Island, British Columbia; Geological Survey of Canada Paper 74-8.

Report of B.C. Minister of Mines (1921) Swede Group; p. G 39.

Walton, G. (1983) Assessment report on geochemical, geological and geophysical surveying prepared for Chevron Resources Ltd.; British Columbia Ministry of Energy & Mines assessment report 11292.

APPENDIX A

ANALYTICAL CERTIFICATES

ALS Chemex

Aurora Laboratory Services 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: [redacted]

2960 ANCHOR DR.
NANOOSE BAY, BC
V0R 2R0

A0118894

Comments: ATTN: D. PAWLIUK

CERTIFICATE A0118894

(OTC) - NANOOSE GEOSERVICES

Project: ZEBALLOS
P.O. # :

Samples submitted to our lab in Vancouver, BC.
This report was printed on 28-JUN-2001.

SAMPLE PREPARATION

METHOD CODE	NUMBER SAMPLES	DESCRIPTION
LOG-22	7	Samples received without barcode
CRU-31	7	Crush to 70% minus 2mm
SPL-21	7	Splitting Charge
PUL-31	7	Pulv. <250g to >85%/-75 micron
STO-21	7	Reject Storage-First 90 Days
229	7	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 1 of 2

METHOD CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
Au-MS23	7	Au ppb: Fuse 30g - ICPMS Finish	FA-ICPMS	1	1000
Pt-MS23	7	Pt ppb: Fuse 30g - ICPMS Finish	FA-ICPMS	0.5	1000
Pd-MS23	7	Pd ppb: Fuse 30g - ICPMS Finish	FA-ICPMS	1	1000
Ag-ICP41	7	Ag ppm: 32 element, soil & rock	ICP-AES	0.2	100.0
Al-ICP41	7	Al %: 32 element, soil & rock	ICP-AES	0.01	15.00
As-ICP41	7	As ppm: 32 element, soil & rock	ICP-AES	2	10000
B-ICP41	7	B ppm: 32 element, rock & soil	ICP-AES	10	10000
Ba-ICP41	7	Ba ppm: 32 element, soil & rock	ICP-AES	10	10000
Be-ICP41	7	Be ppm: 32 element, soil & rock	ICP-AES	0.5	100.0
Bi-ICP41	7	Bi ppm: 32 element, soil & rock	ICP-AES	2	10000
Ca-ICP41	7	Ca %: 32 element, soil & rock	ICP-AES	0.01	15.00
Cd-ICP41	7	Cd ppm: 32 element, soil & rock	ICP-AES	0.5	500
Co-ICP41	7	Co ppm: 32 element, soil & rock	ICP-AES	1	10000
Cr-ICP41	7	Cr ppm: 32 element, soil & rock	ICP-AES	1	10000
Cu-ICP41	7	Cu ppm: 32 element, soil & rock	ICP-AES	1	10000
Fe-ICP41	7	Fe %: 32 element, soil & rock	ICP-AES	0.01	15.00
Ga-ICP41	7	Ga ppm: 32 element, soil & rock	ICP-AES	10	10000
Hg-ICP41	7	Hg ppm: 32 element, soil & rock	ICP-AES	1	10000
K-ICP41	7	K %: 32 element, soil & rock	ICP-AES	0.01	10.00
La-ICP41	7	La ppm: 32 element, soil & rock	ICP-AES	10	10000
Mg-ICP41	7	Mg %: 32 element, soil & rock	ICP-AES	0.01	15.00
Mn-ICP41	7	Mn ppm: 32 element, soil & rock	ICP-AES	5	10000
Mo-ICP41	7	Mo ppm: 32 element, soil & rock	ICP-AES	1	10000
Na-ICP41	7	Na %: 32 element, soil & rock	ICP-AES	0.01	10.00
Ni-ICP41	7	Ni ppm: 32 element, soil & rock	ICP-AES	1	10000
P-ICP41	7	P ppm: 32 element, soil & rock	ICP-AES	10	10000
Pb-ICP41	7	Pb ppm: 32 element, soil & rock	ICP-AES	2	10000
S-ICP41	7	S %: 32 element, rock & soil	ICP-AES	0.01	10.00
Sb-ICP41	7	Sb ppm: 32 element, soil & rock	ICP-AES	2	10000
Sc-ICP41	7	Sc ppm: 32 elements, soil & rock	ICP-AES	1	10000
Sr-ICP41	7	Sr ppm: 32 element, soil & rock	ICP-AES	1	10000
Ti-ICP41	7	Ti %: 32 element, soil & rock	ICP-AES	0.01	10.00
Tl-ICP41	7	Tl ppm: 32 element, soil & rock	ICP-AES	10	10000
U-ICP41	7	U ppm: 32 element, soil & rock	ICP-AES	10	10000

ALS Chemex

Aurora Laboratory Services 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: [redacted]

2960 ANCHOR DR.
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(OTC) - NANOOSE GEOSERVICES

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CRU-31	7	Crush to 70% minus 2mm
SPL-21	7	Splitting Charge
PUL-31	7	Pulv. <250g to >85%/-75 micron
STO-21	7	Reject Storage-First 90 Days
229	7	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 2 of 2

METHOD CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
V-ICP41	7	V ppm: 32 element, soil & rock	ICP-AES	1	10000
W-ICP41	7	W ppm: 32 element, soil & rock	ICP-AES	10	10000
Zn-ICP41	7	Zn ppm: 32 element, soil & rock	ICP-AES	2	10000

ALS Chemex

Aurora Laboratory Services 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: [redacted]

2960 ANCHOR DR.
NANOOSE BAY, BC
V0R 2R0

Project : ZEBALLOS
Comments: ATTN: D. PAWLIUK

Page Number :1-A
Total Pages :1
Certificate Date: 28-JUN-2001
Invoice No. :I0118894
P.O. Number :
Account :OTC

CERTIFICATE OF ANALYSIS A0118894

SAMPLE	PREP CODE	Au ppb ICP-MS	Pt ppb ICP-MS	Pd ppb ICP-MS	Ag ppm	Al %	As ppm	B ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %
ZR001	9400 267	36	10.0	35	< 0.2	4.61	< 2	< 10	< 10	2.5	16	3.09	< 0.5	31	105	156	5.87	< 10	< 1	< 0.01
ZR003	9400 267	23	12.5	13	< 0.2	5.03	6	< 10	< 10	0.5	< 2	0.96	< 0.5	53	565	13	5.35	< 10	< 1	0.02
ZR005	9400 267	3	3.0	16	< 0.2	4.60	8	< 10	< 10	2.0	20	2.22	< 0.5	39	26	208	7.88	10	< 1	< 0.01
ZR007	9400 267	11	1.5	7	< 0.2	0.44	52	20	30	< 0.5	2	0.27	< 0.5	24	88	86	4.88	< 10	1	0.11
ZR009	9400 267	4	7.5	7	< 0.2	4.29	< 2	< 10	< 10	1.5	< 2	2.98	< 0.5	33	149	69	5.11	< 10	< 1	0.03
ZR011	9400 267	2	8.0	8	< 0.2	4.70	< 2	< 10	10	< 0.5	6	1.94	< 0.5	58	105	63	4.88	< 10	< 1	0.01
ZR012	9400 267	12	9.0	9	< 0.2	2.47	28	< 10	< 10	0.5	12	1.85	< 0.5	33	264	80	3.68	< 10	< 1	< 0.01

CERTIFICATION:

ALS Chemex

Aurora Laboratory Services Ltd.
Analytical Chemists * Geochemists * Registered Assayers
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2960 ANCHOR DR,
NANOOSE BAY, BC
V0R 2R0

Project : ZEBALLOS
Comments: ATTN: D. PAWLIUK

Page Number :1-B
Total Pages :1
Certificate Date: 28-JUN-2001
Invoice No. : I0118894
P.O. Number :
Account :OTC

CERTIFICATE OF ANALYSIS A0118894

SAMPLE	PREP CODE	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	S %	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
ZR001	9400 267	< 10	2.46	605	< 1	0.02	75	630	< 2	0.06	< 2	10	25	0.52	< 10	< 10	165	< 10	68
ZR003	9400 267	< 10	8.83	1250	< 1	0.07	363	190	< 2	< 0.01	< 2	9	32	0.14	< 10	< 10	65	< 10	50
ZR005	9400 267	< 10	2.78	780	< 1	0.02	59	700	2	0.19	< 2	8	13	0.49	< 10	< 10	178	< 10	82
ZR007	9400 267	< 10	0.19	1090	1	< 0.01	52	250	< 2	< 0.01	22	15	6	< 0.01	< 10	< 10	61	< 10	44
ZR009	9400 267	< 10	3.93	990	< 1	0.04	104	400	< 2	0.04	< 2	24	65	0.30	< 10	< 10	143	< 10	62
ZR011	9400 267	< 10	6.75	745	< 1	0.08	535	190	< 2	< 0.01	6	5	35	0.05	< 10	10	21	< 10	34
ZR012	9400 267	< 10	1.41	250	< 1	0.01	162	210	6	1.96	< 2	2	8	0.13	< 10	< 10	43	< 10	20

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2960 ANCHOR DR.
NANOOSE BAY, BC
V0R 2R0

A0119346

Comments: ATTN: DAVE PAWLIUK

CERTIFICATE A0119346

(OTC) - NANOOSE GEOSERVICES

Project: ZEBALLOS
P.O. # :

Samples submitted to our lab in Vancouver, BC.
This report was printed on 11-JUL-2001.

SAMPLE PREPARATION

METHOD CODE	NUMBER SAMPLES	DESCRIPTION
LOG-22	10	Samples received without barcode
CRU-31	10	Crush to 70% minus 2mm
SPL-21	10	Splitting Charge
PUL-31	10	Pulv. <250g to >85%/-75 micron
STO-21	10	Reject Storage-First 90 Days
229	10	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 1 of 2

METHOD CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
1433	10	Weight in kilograms	BALANCE	0.01	1000.0
Au-MS23	10	Au ppb: Fuse 30g - ICPMS Finish	FA-ICPMS	1	1000
Pt-MS23	10	Pt ppb: Fuse 30g - ICPMS Finish	FA-ICPMS	0.5	1000
Pd-MS23	10	Pd ppb: Fuse 30g - ICPMS Finish	FA-ICPMS	1	1000
Ag-ICP41	10	Ag ppm: 32 element, soil & rock	ICP-AES	0.2	100.0
Al-ICP41	10	Al %: 32 element, soil & rock	ICP-AES	0.01	15.00
As-ICP41	10	As ppm: 32 element, soil & rock	ICP-AES	2	10000
B-ICP41	10	B ppm: 32 element, rock & soil	ICP-AES	10	10000
Ba-ICP41	10	Ba ppm: 32 element, soil & rock	ICP-AES	10	10000
Be-ICP41	10	Be ppm: 32 element, soil & rock	ICP-AES	0.5	100.0
Bi-ICP41	10	Bi ppm: 32 element, soil & rock	ICP-AES	2	10000
Ca-ICP41	10	Ca %: 32 element, soil & rock	ICP-AES	0.01	15.00
Cd-ICP41	10	Cd ppm: 32 element, soil & rock	ICP-AES	0.5	500
Co-ICP41	10	Co ppm: 32 element, soil & rock	ICP-AES	1	10000
Cr-ICP41	10	Cr ppm: 32 element, soil & rock	ICP-AES	1	10000
Cu-ICP41	10	Cu ppm: 32 element, soil & rock	ICP-AES	1	10000
Fe-ICP41	10	Fe %: 32 element, soil & rock	ICP-AES	0.01	15.00
Ga-ICP41	10	Ga ppm: 32 element, soil & rock	ICP-AES	10	10000
Hg-ICP41	10	Hg ppm: 32 element, soil & rock	ICP-AES	1	10000
K-ICP41	10	K %: 32 element, soil & rock	ICP-AES	0.01	10.00
La-ICP41	10	La ppm: 32 element, soil & rock	ICP-AES	10	10000
Mg-ICP41	10	Mg %: 32 element, soil & rock	ICP-AES	0.01	15.00
Mn-ICP41	10	Mn ppm: 32 element, soil & rock	ICP-AES	5	10000
Mo-ICP41	10	Mo ppm: 32 element, soil & rock	ICP-AES	1	10000
Na-ICP41	10	Na %: 32 element, soil & rock	ICP-AES	0.01	10.00
Ni-ICP41	10	Ni ppm: 32 element, soil & rock	ICP-AES	1	10000
P-ICP41	10	P ppm: 32 element, soil & rock	ICP-AES	10	10000
Pb-ICP41	10	Pb ppm: 32 element, soil & rock	ICP-AES	2	10000
S-ICP41	10	S %: 32 element, rock & soil	ICP-AES	0.01	10.00
Sb-ICP41	10	Sb ppm: 32 element, soil & rock	ICP-AES	2	10000
Sc-ICP41	10	Sc ppm: 32 elements, soil & rock	ICP-AES	1	10000
Sr-ICP41	10	Sr ppm: 32 element, soil & rock	ICP-AES	1	10000
Ti-ICP41	10	Ti %: 32 element, soil & rock	ICP-AES	0.01	10.00
Tl-ICP41	10	Tl ppm: 32 element, soil & rock	ICP-AES	10	10000

ALS Chemex

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2960 ANCHOR DR.
NANOOSE BAY, BC
V0R 2R0

A0119346

Comments: ATTN: DAVE PAWLIUK

CERTIFICATE A0119346

(OTC) - NANOOSE GEOSERVICES

Project: ZEBALLOS
P.O. # :

Samples submitted to our lab in Vancouver, BC.
This report was printed on 11-JUL-2001.

SAMPLE PREPARATION

METHOD CODE	NUMBER SAMPLES	DESCRIPTION
LOG-22	10	Samples received without barcode
CRU-31	10	Crush to 70% minus 2mm
SPL-21	10	Splitting Charge
PUL-31	10	Pulv. <250g to >85%/-75 micron
STO-21	10	Reject Storage-First 90 Days
229	10	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 2 of 2

METHOD CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
U-ICP41	10	U ppm: 32 element, soil & rock	ICP-AES	10	10000
V-ICP41	10	V ppm: 32 element, soil & rock	ICP-AES	1	10000
W-ICP41	10	W ppm: 32 element, soil & rock	ICP-AES	10	10000
Zn-ICP41	10	Zn ppm: 32 element, soil & rock	ICP-AES	2	10000

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Project : ZEBALLOS
Comments: ATTN: DAVE PAWLIUK

Page Number :1-A
Total Pages :1
Certificate Date: 11-JUL-2001
Invoice No. :I0119346
P.O. Number :
Account :OTC

CERTIFICATE OF ANALYSIS A0119346

SAMPLE	PREP CODE		Weight Kg	Au ppb ICP-MS	Pt ppb ICP-MS	Pd ppb ICP-MS	Ag ppm	Al %	As ppm	B ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm
ZRO 13	9400	267	1.50	2	7.5	9	< 0.2	5.15	< 2	< 10	40	< 0.5	4	1.88	< 0.5	59	114	113	5.03	< 10	< 1
ZRO 14	9400	267	1.40	1	7.5	9	< 0.2	5.82	< 2	< 10	20	< 0.5	< 2	2.41	< 0.5	50	139	90	4.58	< 10	< 1
ZRO 15	9400	267	0.90	2	8.5	13	< 0.2	4.08	< 2	< 10	20	< 0.5	2	1.29	< 0.5	46	517	423	5.21	< 10	1
ZRO 17	9400	267	0.92	1	0.5	< 1	< 0.2	2.90	2	< 10	10	< 0.5	< 2	1.77	< 0.5	21	30	83	5.49	< 10	< 1
ZRO 18	9400	267	1.52	2	7.5	6	< 0.2	5.61	< 2	< 10	< 10	< 0.5	4	2.53	< 0.5	53	30	122	5.64	< 10	1
ZRO 19	9400	267	1.02	1	2.5	3	< 0.2	5.57	< 2	< 10	< 10	< 0.5	2	2.25	< 0.5	61	67	91	5.76	< 10	< 1
ZRO 20	9400	267	2.54	1	3.0	3	< 0.2	5.98	< 2	< 10	< 10	< 0.5	2	1.99	0.5	68	77	95	6.13	< 10	1
ZRO 21	9400	267	1.40	2	7.0	6	< 0.2	6.46	2	< 10	10	< 0.5	< 2	2.34	< 0.5	55	29	123	5.39	< 10	1
ZRO 22	9400	267	2.06	2	6.5	6	< 0.2	6.09	< 2	< 10	< 10	< 0.5	2	2.22	< 0.5	51	28	102	5.30	< 10	1
ZRO 24	9400	267	1.38	2	7.0	7	< 0.2	6.14	8	< 10	< 10	< 0.5	4	1.60	< 0.5	60	346	72	5.13	< 10	< 1

CERTIFICATION: [signature]

ALS Chemex

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[redacted]
2960 ANCHOR DR.
NANOOSE BAY, BC
V0R 2R0

Project : ZEBALLOS
Comments: ATTN: DAVE PAWLIUK

Page Number :1-B
Total Pages :1
Certificate Date: 11-JUL-2001
Invoice No. :10119346
P.O. Number :
Account :OTC

CERTIFICATE OF ANALYSIS A0119346

SAMPLE	PREP CODE	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	S %	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
ZRO 13	9400 267	< 0.01	< 10	7.78	720	1	0.06	496	170	< 2	< 0.01	< 2	3	37	0.05	< 10	< 10	20	< 10	42
ZRO 14	9400 267	0.03	< 10	6.00	690	1	0.21	432	170	< 2	< 0.01	< 2	1	46	0.08	< 10	< 10	24	< 10	38
ZRO 15	9400 267	0.01	< 10	5.78	930	< 1	0.11	326	170	< 2	< 0.01	2	4	29	0.13	< 10	< 10	71	< 10	60
ZRO 17	9400 267	0.07	< 10	1.79	855	3	0.07	17	1190	< 2	0.11	< 2	1	23	0.24	< 10	< 10	167	< 10	74
ZRO 18	9400 267	0.02	< 10	5.38	855	2	0.38	316	230	< 2	< 0.01	2	3	51	0.03	< 10	< 10	25	< 10	58
ZRO 19	9400 267	0.01	< 10	7.20	760	< 1	0.13	373	200	< 2	< 0.01	< 2	3	39	0.05	< 10	< 10	28	< 10	46
ZRO 20	9400 267	0.01	< 10	6.96	835	1	0.26	445	190	< 2	< 0.01	< 2	2	59	0.05	< 10	< 10	24	< 10	52
ZRO 21	9400 267	0.02	< 10	3.99	680	2	0.36	354	220	< 2	< 0.01	< 2	3	52	0.07	< 10	< 10	30	< 10	52
ZRO 22	9400 267	0.02	< 10	4.36	700	3	0.34	325	230	< 2	< 0.01	8	2	56	0.08	< 10	< 10	27	< 10	50
ZRO 24	9400 267	< 0.01	< 10	7.36	765	< 1	0.15	520	160	< 2	< 0.01	< 2	10	33	0.10	< 10	< 10	76	< 10	40

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2960 ANCHOR DR.
NANOOSE BAY, BC
V0R 2R0

A0119347

Comments: ATTN: DAVE PAWLIUK

CERTIFICATE A0119347

(OTC) - NANOOSE GEOSERVICES

Project: ZEBALLOS
P.O. # :

Samples submitted to our lab in Vancouver, BC.
This report was printed on 09-JUL-2001.

SAMPLE PREPARATION

METHOD CODE	NUMBER SAMPLES	DESCRIPTION
SCR-42	2	-180 micron screen - Save Minus
SCR-01	2	Screen - Save Plus Charge
229	2	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 1 of 2

METHOD CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
1433	2	Weight in kilograms	BALANCE	0.01	1000.0
Au-MS23	2	Au ppb: Fuse 30g - ICPMS Finish	FA-ICPMS	1	1000
Pt-MS23	2	Pt ppb: Fuse 30g - ICPMS Finish	FA-ICPMS	0.5	1000
Pd-MS23	2	Pd ppb: Fuse 30g - ICPMS Finish	FA-ICPMS	1	1000
Ag-ICP41	2	Ag ppm: 32 element, soil & rock	ICP-AES	0.2	100.0
Al-ICP41	2	Al %: 32 element, soil & rock	ICP-AES	0.01	15.00
As-ICP41	2	As ppm: 32 element, soil & rock	ICP-AES	2	10000
B-ICP41	2	B ppm: 32 element, rock & soil	ICP-AES	10	10000
Ba-ICP41	2	Ba ppm: 32 element, soil & rock	ICP-AES	10	10000
Be-ICP41	2	Be ppm: 32 element, soil & rock	ICP-AES	0.5	100.0
Bi-ICP41	2	Bi ppm: 32 element, soil & rock	ICP-AES	2	10000
Ca-ICP41	2	Ca %: 32 element, soil & rock	ICP-AES	0.01	15.00
Cd-ICP41	2	Cd ppm: 32 element, soil & rock	ICP-AES	0.5	500
Co-ICP41	2	Co ppm: 32 element, soil & rock	ICP-AES	1	10000
Cr-ICP41	2	Cr ppm: 32 element, soil & rock	ICP-AES	1	10000
Cu-ICP41	2	Cu ppm: 32 element, soil & rock	ICP-AES	1	10000
Fe-ICP41	2	Fe %: 32 element, soil & rock	ICP-AES	0.01	15.00
Ga-ICP41	2	Ga ppm: 32 element, soil & rock	ICP-AES	10	10000
Hg-ICP41	2	Hg ppm: 32 element, soil & rock	ICP-AES	1	10000
K-ICP41	2	K %: 32 element, soil & rock	ICP-AES	0.01	10.00
La-ICP41	2	La ppm: 32 element, soil & rock	ICP-AES	10	10000
Mg-ICP41	2	Mg %: 32 element, soil & rock	ICP-AES	0.01	15.00
Mn-ICP41	2	Mn ppm: 32 element, soil & rock	ICP-AES	5	10000
Mo-ICP41	2	Mo ppm: 32 element, soil & rock	ICP-AES	1	10000
Na-ICP41	2	Na %: 32 element, soil & rock	ICP-AES	0.01	10.00
Ni-ICP41	2	Ni ppm: 32 element, soil & rock	ICP-AES	1	10000
P-ICP41	2	P ppm: 32 element, soil & rock	ICP-AES	10	10000
Pb-ICP41	2	Pb ppm: 32 element, soil & rock	ICP-AES	2	10000
S-ICP41	2	S %: 32 element, rock & soil	ICP-AES	0.01	10.00
Sb-ICP41	2	Sb ppm: 32 element, soil & rock	ICP-AES	2	10000
Sc-ICP41	2	Sc ppm: 32 elements, soil & rock	ICP-AES	1	10000
Sr-ICP41	2	Sr ppm: 32 element, soil & rock	ICP-AES	1	10000
Ti-ICP41	2	Ti %: 32 element, soil & rock	ICP-AES	0.01	10.00
Tl-ICP41	2	Tl ppm: 32 element, soil & rock	ICP-AES	10	10000
U-ICP41	2	U ppm: 32 element, soil & rock	ICP-AES	10	10000
V-ICP41	2	V ppm: 32 element, soil & rock	ICP-AES	1	10000
W-ICP41	2	W ppm: 32 element, soil & rock	ICP-AES	10	10000

ALS Chemex

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To: [redacted]
2960 ANCHOR DR.
NANOOSE BAY, BC
V0R 2R0

A0119347

Comments: ATTN: DAVE PAWLIUK

CERTIFICATE A0119347

(OTC) - NANOOSE GEOSERVICES

Project: ZEBALLOS
P.O. # :

Samples submitted to our lab in Vancouver, BC.
This report was printed on 09-JUL-2001.

SAMPLE PREPARATION

METHOD CODE	NUMBER SAMPLES	DESCRIPTION
SCR-42	2	-180 micron screen - Save Minus
SCR-01	2	Screen - Save Plus Charge
229	2	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 2 of 2

METHOD CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
Zn-ICP41	2	Zn ppm: 32 element, soil & rock	ICP-AES	2	10000

ALS Chemex
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To: [redacted]

2960 ANCHOR DR.
NANOOSE BAY, BC
V0R 2R0

Project : ZEBALLOS
Comments: ATTN: DAVE PAWLIUK

Certificate Date: 09-JUL-2001
Invoice No. : I0119347
P.O. Number :
Account : OTC

CERTIFICATE OF ANALYSIS A0119347

SAMPLE	PREP CODE	Weight Kg	Au ppb ICP-MS	Pt ppb ICP-MS	Pd ppb ICP-MS	Ag ppm	Al %	As ppm	B ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm
Z[illegible]O 35	9406 9407	1.48	3	8.0	35	< 0.2	4.76	2	< 10	20	< 0.5	6	0.94	< 0.5	37	109	127	5.29	< 10	1
Z[illegible]O 36	9406 9407	1.54	4	4.0	11	< 0.2	3.57	2	10	< 10	< 0.5	2	1.21	< 0.5	36	128	114	4.82	< 10	1

CERTIFICATION:

ALS Chemex
Aurora Laboratory Services Ltd.
Analytical Chemists * Geochemists * Registered Assayers
212 Brooksbank Ave., North Vancouver
British Columbia, Canada V7J 2C1
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To: [redacted]

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NANOOSE BAY, BC
V0R 2R0

Project : ZEBALLOS
Comments: ATTN: DAVE PAWLIUK

Certificate Date: 09-JUL-2001
Invoice No. : I0119347
P.O. Number :
Account : OTC

CERTIFICATE OF ANALYSIS A0119347

SAMPLE	PREP CODE	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	S %	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
ZYO 35	94069407	0.01	< 10	2.70	1460	2	0.01	194	340	< 2	0.03	2	8	29	0.28	< 10	< 10	135	< 10	78
ZYO 36	94069407	0.01	< 10	2.58	880	1	0.02	103	470	6	0.07	6	7	25	0.29	< 10	< 10	129	< 10	68

CERTIFICATION:

ALS Chemex

Aurora Laboratory Services 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: [redacted]
2960 ANCHOR DR.
NANOOSE BAY, BC
V0R 2R0

A0118893

Comments: ATTN: D. PAWLIUK

CERTIFICATE A0118893

(OTC) - NANOOSE GEOSERVICES

Project: ZEBALLOS
P.O. # :

Samples submitted to our lab in Vancouver, BC.
This report was printed on 18-JUL-2001.

SAMPLE PREPARATION

METHOD CODE	NUMBER SAMPLES	DESCRIPTION
LOG-22	35	Samples received without barcode
SCR-42	35	-180 micron screen - Save Minus
SCR-01	35	Screen - Save Plus Charge
229	35	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 1 of 2

METHOD CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
1433	35	Weight in kilograms	BALANCE	0.01	1000.0
Au-MS23	35	Au ppb: Fuse 30g - ICPMS Finish	FA-ICPMS	1	1000
Pt-MS23	35	Pt ppb: Fuse 30g - ICPMS Finish	FA-ICPMS	0.5	1000
Pd-MS23	35	Pd ppb: Fuse 30g - ICPMS Finish	FA-ICPMS	1	1000
Ag-ICP41	35	Ag ppm: 32 element, soil & rock	ICP-AES	0.2	100.0
Al-ICP41	35	Al %: 32 element, soil & rock	ICP-AES	0.01	15.00
As-ICP41	35	As ppm: 32 element, soil & rock	ICP-AES	2	10000
B-ICP41	35	B ppm: 32 element, rock & soil	ICP-AES	10	10000
Ba-ICP41	35	Ba ppm: 32 element, soil & rock	ICP-AES	10	10000
Be-ICP41	35	Be ppm: 32 element, soil & rock	ICP-AES	0.5	100.0
Bi-ICP41	35	Bi ppm: 32 element, soil & rock	ICP-AES	2	10000
Ca-ICP41	35	Ca %: 32 element, soil & rock	ICP-AES	0.01	15.00
Cd-ICP41	35	Cd ppm: 32 element, soil & rock	ICP-AES	0.5	500
Co-ICP41	35	Co ppm: 32 element, soil & rock	ICP-AES	1	10000
Cr-ICP41	35	Cr ppm: 32 element, soil & rock	ICP-AES	1	10000
Cu-ICP41	35	Cu ppm: 32 element, soil & rock	ICP-AES	1	10000
Fe-ICP41	35	Fe %: 32 element, soil & rock	ICP-AES	0.01	15.00
Ga-ICP41	35	Ga ppm: 32 element, soil & rock	ICP-AES	10	10000
Hg-ICP41	35	Hg ppm: 32 element, soil & rock	ICP-AES	1	10000
K-ICP41	35	K %: 32 element, soil & rock	ICP-AES	0.01	10.00
La-ICP41	35	La ppm: 32 element, soil & rock	ICP-AES	10	10000
Mg-ICP41	35	Mg %: 32 element, soil & rock	ICP-AES	0.01	15.00
Mn-ICP41	35	Mn ppm: 32 element, soil & rock	ICP-AES	5	10000
Mo-ICP41	35	Mo ppm: 32 element, soil & rock	ICP-AES	1	10000
Na-ICP41	35	Na %: 32 element, soil & rock	ICP-AES	0.01	10.00
Ni-ICP41	35	Ni ppm: 32 element, soil & rock	ICP-AES	1	10000
P-ICP41	35	P ppm: 32 element, soil & rock	ICP-AES	10	10000
Pb-ICP41	35	Pb ppm: 32 element, soil & rock	ICP-AES	2	10000
S-ICP41	35	S %: 32 element, rock & soil	ICP-AES	0.01	10.00
Sb-ICP41	35	Sb ppm: 32 element, soil & rock	ICP-AES	2	10000
Sc-ICP41	35	Sc ppm: 32 elements, soil & rock	ICP-AES	1	10000
Sr-ICP41	35	Sr ppm: 32 element, soil & rock	ICP-AES	1	10000
Ti-ICP41	35	Ti %: 32 element, soil & rock	ICP-AES	0.01	10.00
Tl-ICP41	35	Tl ppm: 32 element, soil & rock	ICP-AES	10	10000
U-ICP41	35	U ppm: 32 element, soil & rock	ICP-AES	10	10000
V-ICP41	35	V ppm: 32 element, soil & rock	ICP-AES	1	10000

ALS Chemex

Aurora Laboratory Services 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: [redacted]

2960 ANCHOR DR.
NANOOSE BAY, BC
V0R 2R0

A0118893

Comments: ATTN: D. PAWLIUK

CERTIFICATE A0118893

(OTC) - NANOOSE GEOSERVICES

Project: ZEBALLOS
P.O. # :

Samples submitted to our lab in Vancouver, BC.
This report was printed on 18-JUL-2001.

SAMPLE PREPARATION

METHOD CODE	NUMBER SAMPLES	DESCRIPTION
LOG-22	35	Samples received without barcode
SCR-42	35	-180 micron screen - Save Minus
SCR-01	35	Screen - Save Plus Charge
229	35	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 2 of 2

METHOD CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
W-ICP41	35	W ppm: 32 element, soil & rock	ICP-AES	10	10000
Zn-ICP41	35	Zn ppm: 32 element, soil & rock	ICP-AES	2	10000

ALS Chemex

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To: [redacted]
2960 ANCHOR DR.
NANOOSE BAY, BC
V0R 2R0

Project : ZEBALLOS
Comments: ATTN: D. PAWLIUK

Page Number :1-A
Total Pages :1
Certificate Date: 05-JUL-2001
Invoice No. :I0118893
P.O. Number :
Account :OTC

CERTIFICATE OF ANALYSIS A0118893

SAMPLE	PREP CODE	Weight Kg	Au ppb ICP-MS	Pt ppb ICP-MS	Pd ppb ICP-MS	Ag ppm	Al %	As ppm	B ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm
ZV001	94009406	0.64	2	5.0	7	< 0.2	3.53	8	< 10	10	< 0.5	< 2	1.02	< 0.5	43	128	57	4.83	< 10	< 1
ZV002	94009406	2.00	7	4.5	11	< 0.2	3.49	8	< 10	< 10	< 0.5	< 2	1.33	< 0.5	27	77	118	5.18	< 10	< 1
ZV003	94009406	1.82	2	3.5	4	0.2	3.07	10	< 10	30	< 0.5	< 2	4.36	1.5	32	105	69	4.52	< 10	< 1
ZV004	94009406	1.06	6	2.5	7	0.2	3.95	6	< 10	50	< 0.5	< 2	1.42	< 0.5	23	86	174	5.45	< 10	< 1
ZV005	94009406	1.40	4	5.5	9	< 0.2	4.65	12	< 10	10	< 0.5	< 2	0.78	1.0	38	192	89	5.02	< 10	< 1
ZV006	94009406	1.70	5	4.0	12	< 0.2	4.03	10	< 10	10	< 0.5	< 2	0.93	< 0.5	35	131	164	5.97	< 10	< 1
ZV007	94009406	1.98	3	3.0	5	0.2	2.39	8	< 10	20	< 0.5	< 2	7.47	< 0.5	21	56	61	3.39	< 10	< 1
ZV008	94009406	0.86	5	4.0	6	< 0.2	4.47	8	< 10	40	< 0.5	< 2	1.28	< 0.5	37	111	107	5.69	< 10	< 1
ZV009	94009406	2.64	4	4.5	12	< 0.2	3.41	10	< 10	< 10	< 0.5	< 2	1.43	0.5	25	57	115	4.87	< 10	< 1
ZV010	94009406	2.94	3	4.0	11	< 0.2	3.80	8	< 10	< 10	< 0.5	< 2	1.55	0.5	29	94	119	5.38	< 10	< 1
ZV011	94009406	2.36	3	5.0	9	< 0.2	5.02	10	< 10	30	< 0.5	< 2	1.02	0.5	44	152	120	5.70	< 10	< 1
ZV012	94009406	0.64	3	3.5	9	0.2	4.63	6	< 10	20	< 0.5	< 2	0.55	0.5	55	96	142	6.35	< 10	< 1
ZV013	94009406	2.28	3	5.0	11	< 0.2	4.01	6	< 10	< 10	< 0.5	< 2	1.43	0.5	34	149	113	5.17	< 10	< 1
ZV014	94009406	1.74	16	5.5	8	< 0.2	3.83	10	< 10	10	< 0.5	< 2	0.95	0.5	36	186	97	4.53	< 10	< 1
ZV015	94009406	1.16	2	4.5	7	< 0.2	4.19	12	< 10	60	< 0.5	< 2	2.74	1.5	41	130	100	4.80	< 10	< 1
ZV016	94009406	1.66	5	5.5	7	< 0.2	4.18	8	< 10	20	< 0.5	< 2	0.89	< 0.5	31	104	113	5.66	< 10	< 1
ZV017	94009406	1.20	4	3.0	10	< 0.2	3.63	10	< 10	10	< 0.5	< 2	1.02	0.5	30	60	114	5.29	< 10	< 1
ZV018	94009406	1.38	5	3.5	11	< 0.2	4.25	14	< 10	30	< 0.5	< 2	1.18	0.5	33	77	167	6.00	< 10	< 1
ZV019	94009406	1.54	4	3.5	13	< 0.2	4.02	14	< 10	< 10	< 0.5	< 2	0.98	< 0.5	36	74	208	6.44	< 10	< 1
ZV020	94009406	1.64	13	5.0	14	< 0.2	3.81	46	< 10	10	< 0.5	< 2	1.08	0.5	38	185	115	5.10	< 10	< 1
ZV021	94009406	1.36	6	4.5	10	< 0.2	3.37	16	< 10	< 10	< 0.5	< 2	1.05	< 0.5	31	117	95	4.82	< 10	< 1
ZV022	94009406	2.04	5	5.5	11	< 0.2	3.85	16	< 10	< 10	< 0.5	< 2	1.48	1.0	31	124	110	4.86	< 10	< 1
ZV023	94009406	1.24	3	3.0	8	< 0.2	4.23	10	< 10	< 10	< 0.5	< 2	1.36	0.5	30	120	121	5.73	< 10	< 1
ZV024	94009406	2.10	3	5.0	11	< 0.2	4.55	8	< 10	< 10	< 0.5	< 2	1.35	1.0	41	178	121	5.49	< 10	< 1
ZV025	94009406	1.78	3	4.5	12	< 0.2	4.25	10	< 10	10	< 0.5	< 2	1.62	1.0	33	66	130	6.12	< 10	< 1
ZV026	94009406	2.28	6	4.0	10	< 0.2	3.50	12	< 10	10	< 0.5	< 2	1.14	1.0	32	67	108	5.85	< 10	< 1
ZV027	94009406	2.42	5	5.5	8	< 0.2	2.99	8	< 10	< 10	< 0.5	< 2	0.60	< 0.5	35	172	63	3.91	< 10	< 1
ZV028	94009406	2.18	3	5.0	9	< 0.2	4.25	14	< 10	40	< 0.5	< 2	1.48	0.5	40	140	123	6.05	< 10	< 1
ZV029	94009406	2.78	20	5.0	11	< 0.2	4.11	14	< 10	< 10	< 0.5	< 2	1.49	1.0	35	146	128	5.78	< 10	< 1
ZV030	94009406	2.12	4	5.0	10	< 0.2	4.35	16	< 10	10	< 0.5	< 2	1.01	1.0	38	224	122	5.40	< 10	< 1
ZV031	94009406	2.30	4	5.0	10	< 0.2	4.08	12	< 10	10	< 0.5	< 2	1.07	0.5	46	209	103	5.95	< 10	< 1
ZV032	94009406	1.88	25	2.5	6	< 0.2	3.95	12	< 10	10	< 0.5	< 2	0.78	0.5	53	67	111	5.36	< 10	< 1
ZV033	94009406	1.46	57	3.0	8	< 0.2	3.86	14	< 10	10	< 0.5	< 2	1.14	0.5	37	70	92	5.58	< 10	< 1
ZV034	94009406	1.68	5	5.0	11	< 0.2	4.23	12	< 10	< 10	< 0.5	< 2	1.29	0.5	30	64	158	6.69	< 10	< 1
ZS001	94009406	0.40	6	3.5	23	0.2	4.48	94	< 10	190	1.5	14	0.11	5.5	55	29	165	>15.00	< 10	< 1

CERTIFICATION: _____

ALS Chemex

Aurora Laboratory Services 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: [redacted]

2960 ANCHOR DR.
NANOOSE BAY, BC
V0R 2R0

Project : ZEBALLOS
Comments: ATTN: D. PAWLIUK

Page Number :1-B
Total Pages :1
Certificate Date: 05-JUL-2001
Invoice No. : I0118893
P.O. Number :
Account :OTC

CERTIFICATE OF ANALYSIS A0118893

SAMPLE	PREP CODE	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	S %	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
ZV001	94009406	0.01	< 10	2.01	2620	< 1	0.01	108	250	< 2	0.02	< 2	7	21	0.40	< 10	< 10	153	< 10	66
ZV002	94009406	0.01	< 10	2.22	800	< 1	0.01	80	420	< 2	0.05	2	10	29	0.38	< 10	< 10	153	< 10	60
ZV003	94009406	0.01	< 10	3.39	725	< 1	0.04	186	320	< 2	0.06	< 2	8	103	0.14	< 10	< 10	84	< 10	68
ZV004	94009406	0.02	< 10	1.44	1435	< 1	0.03	88	650	2	0.12	< 2	9	46	0.13	< 10	< 10	95	< 10	56
ZV005	94009406	0.01	< 10	2.59	960	< 1	0.01	164	270	< 2	0.04	< 2	10	19	0.25	< 10	< 10	128	< 10	66
ZV006	94009406	0.01	< 10	2.23	965	< 1	0.02	114	420	< 2	0.09	< 2	8	22	0.37	< 10	< 10	152	< 10	88
ZV007	94009406	0.01	< 10	2.18	520	< 1	0.05	112	320	< 2	0.01	< 2	7	179	0.15	< 10	< 10	73	< 10	30
ZV008	94009406	0.03	< 10	3.23	1195	< 1	0.03	189	380	< 2	0.03	< 2	11	47	0.16	< 10	< 10	110	< 10	56
ZV009	94009406	0.01	< 10	1.76	840	< 1	0.01	65	420	< 2	0.03	< 2	9	22	0.37	< 10	< 10	138	< 10	58
ZV010	94009406	0.01	< 10	2.35	830	< 1	0.01	80	350	< 2	0.01	< 2	11	24	0.42	< 10	< 10	160	< 10	60
ZV011	94009406	0.01	< 10	4.15	1085	< 1	0.02	246	240	< 2	0.01	< 2	11	35	0.27	< 10	< 10	112	< 10	54
ZV012	94009406	0.01	< 10	1.81	5410	< 1	< 0.01	154	790	< 2	0.06	< 2	9	15	0.31	< 10	< 10	149	< 10	142
ZV013	94009406	< 0.01	< 10	2.67	1045	< 1	0.01	118	390	< 2	0.03	< 2	11	23	0.40	< 10	< 10	145	< 10	60
ZV014	94009406	0.01	< 10	2.58	1245	< 1	0.02	161	370	< 2	0.03	< 2	8	18	0.26	< 10	< 10	116	< 10	46
ZV015	94009406	0.01	< 10	4.66	1100	< 1	0.05	259	280	< 2	0.03	< 2	7	140	0.15	< 10	< 10	67	< 10	44
ZV016	94009406	0.01	< 10	2.38	1230	< 1	0.02	170	330	< 2	0.03	< 2	10	31	0.28	< 10	< 10	141	< 10	56
ZV017	94009406	0.03	< 10	1.68	1335	< 1	0.01	64	420	< 2	0.05	< 2	11	28	0.24	< 10	< 10	151	< 10	66
ZV018	94009406	0.01	< 10	2.41	1105	< 1	0.03	118	310	< 2	0.03	6	13	37	0.37	< 10	< 10	163	< 10	56
ZV019	94009406	0.02	< 10	2.03	1520	< 1	0.01	66	470	< 2	0.09	< 2	14	31	0.27	< 10	< 10	157	< 10	66
ZV020	94009406	0.01	< 10	2.17	1485	< 1	< 0.01	120	430	< 2	0.08	< 2	11	22	0.32	< 10	< 10	148	< 10	68
ZV021	94009406	0.01	< 10	2.46	885	< 1	0.04	105	380	2	0.05	< 2	8	26	0.32	< 10	< 10	128	< 10	66
ZV022	94009406	0.01	< 10	2.70	915	< 1	0.03	115	380	< 2	0.13	< 2	9	23	0.28	< 10	< 10	125	< 10	62
ZV023	94009406	0.02	< 10	2.32	1185	< 1	0.02	94	380	< 2	0.04	< 2	12	35	0.42	< 10	< 10	181	< 10	132
ZV024	94009406	0.02	< 10	4.01	1255	< 1	0.05	222	330	< 2	0.03	< 2	8	33	0.23	< 10	< 10	110	< 10	62
ZV025	94009406	0.02	< 10	2.03	1330	< 1	0.01	81	430	< 2	0.03	< 2	12	36	0.47	< 10	< 10	191	< 10	74
ZV026	94009406	0.01	< 10	1.78	1155	< 1	0.01	62	450	< 2	0.06	< 2	11	27	0.51	< 10	< 10	198	< 10	72
ZV027	94009406	0.01	< 10	1.93	1220	< 1	0.02	137	230	< 2	0.04	< 2	6	14	0.21	< 10	< 10	100	< 10	54
ZV028	94009406	0.01	< 10	3.62	1115	< 1	0.04	201	340	< 2	0.03	< 2	11	49	0.32	< 10	< 10	134	< 10	58
ZV029	94009406	0.01	< 10	2.75	835	< 1	0.03	120	360	< 2	0.04	< 2	11	28	0.41	< 10	< 10	158	< 10	58
ZV030	94009406	0.01	< 10	2.56	1355	< 1	0.03	170	330	< 2	0.05	< 2	10	23	0.28	< 10	< 10	157	< 10	68
ZV031	94009406	0.01	< 10	2.47	1695	< 1	0.04	146	370	< 2	0.06	< 2	9	25	0.37	< 10	< 10	173	< 10	64
ZV032	94009406	0.01	< 10	1.17	2580	< 1	< 0.01	54	430	< 2	0.06	< 2	9	26	0.35	< 10	< 10	164	< 10	110
ZV033	94009406	0.01	< 10	1.62	1510	< 1	0.01	63	320	< 2	0.04	< 2	10	50	0.40	< 10	< 10	180	< 10	112
ZV034	94009406	0.01	< 10	1.68	1065	< 1	0.01	56	440	< 2	0.03	< 2	13	25	0.56	< 10	< 10	208	< 10	64
ZS001	94009406	< 0.01	< 10	0.34	>10000	< 1	< 0.01	59	830	10	0.05	< 2	45	16	0.02	< 10	< 10	493	< 10	70

CERTIFICATION: [signature]

ALS Chemex

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Analytical Chemists * Geochemists * Registered Assayers
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To: PAWLIUK, DAVID

2960 ANCHOR DR.
NANOOSE BAY, BC
V9P 9G2

A0126108

Comments: ATTN: DAVE PAWLIAK

CERTIFICATE A0126108

(TDU) - PAWLIUK, DAVID

Project: NIMPKISH
P.O. # :

Samples submitted to our lab in Vancouver, BC.
This report was printed on 24-OCT-2001.

SAMPLE PREPARATION

METHOD CODE	NUMBER SAMPLES	DESCRIPTION
SCR-42	18	-180 micron screen - Save Minus
SCR-01	18	Screen - Save Plus Charge
LOG-22	18	Samples received without barcode
229	18	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 1 of 2

METHOD CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
WEI-21	18	Weight of received sample	BALANCE	0.01	1000.0
Au-MS23	18	Au ppb: Fuse 30g - ICPMS Finish	FA-ICPMS	1	1000
Pt-MS23	18	Pt ppb: Fuse 30g - ICPMS Finish	FA-ICPMS	0.5	1000
Pd-MS23	18	Pd ppb: Fuse 30g - ICPMS Finish	FA-ICPMS	1	1000
866	18	Fusion weight in grams	BALANCE	0.01	60.00
Ag-ICP41	18	Ag ppm: 32 element, soil & rock	ICP-AES	0.2	100.0
Al-ICP41	18	Al %: 32 element, soil & rock	ICP-AES	0.01	15.00
As-ICP41	18	As ppm: 32 element, soil & rock	ICP-AES	2	10000
B-ICP41	18	B ppm: 32 element, rock & soil	ICP-AES	10	10000
Ba-ICP41	18	Ba ppm: 32 element, soil & rock	ICP-AES	10	10000
Be-ICP41	18	Be ppm: 32 element, soil & rock	ICP-AES	0.5	100.0
Bi-ICP41	18	Bi ppm: 32 element, soil & rock	ICP-AES	2	10000
Ca-ICP41	18	Ca %: 32 element, soil & rock	ICP-AES	0.01	15.00
Cd-ICP41	18	Cd ppm: 32 element, soil & rock	ICP-AES	0.5	500
Co-ICP41	18	Co ppm: 32 element, soil & rock	ICP-AES	1	10000
Cr-ICP41	18	Cr ppm: 32 element, soil & rock	ICP-AES	1	10000
Cu-ICP41	18	Cu ppm: 32 element, soil & rock	ICP-AES	1	10000
Fe-ICP41	18	Fe %: 32 element, soil & rock	ICP-AES	0.01	15.00
Ga-ICP41	18	Ga ppm: 32 element, soil & rock	ICP-AES	10	10000
Hg-ICP41	18	Hg ppm: 32 element, soil & rock	ICP-AES	1	10000
K-ICP41	18	K %: 32 element, soil & rock	ICP-AES	0.01	10.00
La-ICP41	18	La ppm: 32 element, soil & rock	ICP-AES	10	10000
Mg-ICP41	18	Mg %: 32 element, soil & rock	ICP-AES	0.01	15.00
Mn-ICP41	18	Mn ppm: 32 element, soil & rock	ICP-AES	5	10000
Mo-ICP41	18	Mo ppm: 32 element, soil & rock	ICP-AES	1	10000
Na-ICP41	18	Na %: 32 element, soil & rock	ICP-AES	0.01	10.00
Ni-ICP41	18	Ni ppm: 32 element, soil & rock	ICP-AES	1	10000
P-ICP41	18	P ppm: 32 element, soil & rock	ICP-AES	10	10000
Pb-ICP41	18	Pb ppm: 32 element, soil & rock	ICP-AES	2	10000
S-ICP41	18	S %: 32 element, rock & soil	ICP-AES	0.01	10.00
Sb-ICP41	18	Sb ppm: 32 element, soil & rock	ICP-AES	2	10000
Sc-ICP41	18	Sc ppm: 32 elements, soil & rock	ICP-AES	1	10000
Sr-ICP41	18	Sr ppm: 32 element, soil & rock	ICP-AES	1	10000
Ti-ICP41	18	Ti %: 32 element, soil & rock	ICP-AES	0.01	10.00
Tl-ICP41	18	Tl ppm: 32 element, soil & rock	ICP-AES	10	10000
U-ICP41	18	U ppm: 32 element, soil & rock	ICP-AES	10	10000

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2960 ANCHOR DR.
NANOOSE BAY, BC
V9P 9G2

A0126108

Comments: ATTN: DAVE PAWLIAK

CERTIFICATE A0126108

(TDU) - PAWLIUK, DAVID

Project: NIMPKISH
P.O. # :

Samples submitted to our lab in Vancouver, BC.
This report was printed on 24-OCT-2001.

SAMPLE PREPARATION

METHOD CODE	NUMBER SAMPLES	DESCRIPTION
SCR-42	18	-180 micron screen - Save Minus
SCR-01	18	Screen - Save Plus Charge
LOG-22	18	Samples received without barcode
229	18	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 2 of 2

METHOD CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
V-ICP41	18	V ppm: 32 element, soil & rock	ICP-AES	1	10000
W-ICP41	18	W ppm: 32 element, soil & rock	ICP-AES	10	10000
Zn-ICP41	18	Zn ppm: 32 element, soil & rock	ICP-AES	2	10000

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CERTIFICATE OF ANALYSIS A0126108

SAMPLE	PREP CODE	Weight Kg	Au ppb ICP-MS	Pt ppb ICP-MS	Pd ppb ICP-MS	fusion wt. gm	Ag ppm	Al %	As ppm	B ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm
NV001	94069407	0.82	44	5.0	14	15.04	< 0.2	3.48	< 2	10	20	< 0.5	< 2	1.15	< 0.5
NV002	94069407	0.66	8	4.0	16	30.05	< 0.2	5.50	6	< 10	10	< 0.5	< 2	1.13	< 0.5
NV003	94069407	0.98	79	5.0	9	15.03	< 0.2	4.23	2	< 10	10	< 0.5	< 2	1.77	< 0.5
NV004	94069407	0.72	10	5.0	13	30.10	< 0.2	4.63	< 2	< 10	10	< 0.5	8	1.84	< 0.5
NV005	94069407	0.94	4	2.0	7	30.08	< 0.2	2.25	2	< 10	40	< 0.5	2	1.31	< 0.5
NV006	94069407	0.62	195	4.0	12	30.04	< 0.2	3.67	4	< 10	10	< 0.5	< 2	1.19	< 0.5
NV007	94069407	0.84	5	4.0	9	15.04	< 0.2	2.75	< 2	< 10	10	< 0.5	< 2	1.47	< 0.5
NV009	94069407	1.02	3	3.0	9	30.05	< 0.2	3.98	10	< 10	30	< 0.5	2	1.10	< 0.5
NV010	94069407	1.66	3	3.0	9	30.07	< 0.2	2.73	< 2	< 10	30	< 0.5	4	1.20	< 0.5
NV011	94069407	1.26	6	4.0	8	30.05	< 0.2	3.64	< 2	< 10	10	< 0.5	4	1.55	< 0.5
NV012	94069407	2.16	3	4.0	8	30.03	< 0.2	3.11	< 2	< 10	10	< 0.5	< 2	1.70	< 0.5
NV014	94069407	0.84	21	5.0	12	15.02	< 0.2	4.23	< 2	< 10	30	< 0.5	< 2	1.03	< 0.5
NV015	94069407	1.16	13	5.0	13	30.05	< 0.2	4.49	< 2	< 10	20	< 0.5	8	1.10	< 0.5
NV016	94069407	0.84	3	4.0	11	30.05	< 0.2	4.27	< 2	< 10	10	< 0.5	< 2	1.53	< 0.5
NV017	94069407	0.90	10	5.0	11	10.01	< 0.2	4.11	2	< 10	10	< 0.5	2	1.72	< 0.5
NV018	94069407	1.74	4	5.0	10	30.06	< 0.2	3.54	< 2	< 10	< 10	< 0.5	2	1.73	< 0.5
NV019	94069407	0.88	5	6.0	12	30.09	< 0.2	6.53	2	10	20	< 0.5	< 2	1.19	< 0.5
NV020	94069407	1.38	3	4.0	10	30.04	< 0.2	4.06	< 2	< 10	< 10	< 0.5	< 2	1.74	< 0.5

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Page Number : 1-B
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CERTIFICATE OF ANALYSIS A0126108

SAMPLE	PREP CODE	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm
NV001	94069407	37	119	195	5.34	10	< 1	0.01	< 10	2.03	1210	1	0.03	99	450
NV002	94069407	44	239	192	6.74	10	< 1	0.01	< 10	1.70	1025	1	0.01	114	450
NV003	94069407	37	153	132	6.06	10	< 1	0.01	< 10	2.72	1025	< 1	0.02	111	320
NV004	94069407	36	102	156	7.03	10	< 1	0.01	< 10	1.99	1265	2	0.01	71	460
NV005	94069407	18	38	92	3.79	< 10	< 1	0.02	< 10	1.11	730	1	0.03	34	530
NV006	94069407	29	121	112	5.41	10	< 1	0.01	< 10	1.83	1255	< 1	< 0.01	66	410
NV007	94069407	21	51	97	4.45	< 10	< 1	0.01	< 10	1.56	630	< 1	0.01	49	400
NV009	94069407	32	64	141	5.90	10	< 1	0.01	< 10	1.39	1330	1	0.01	55	410
NV010	94069407	23	50	91	4.41	< 10	< 1	0.01	< 10	1.18	1450	1	0.01	38	500
NV011	94069407	30	112	123	5.25	10	< 1	0.01	< 10	2.17	860	1	0.03	88	390
NV012	94069407	24	57	118	4.87	10	< 1	0.01	< 10	1.71	760	< 1	0.02	53	440
NV014	94069407	39	163	186	6.07	10	9	0.02	< 10	2.37	1220	1	0.04	120	450
NV015	94069407	38	130	204	6.07	10	< 1	0.01	< 10	2.11	1415	< 1	0.04	108	480
NV016	94069407	31	99	154	5.80	10	< 1	< 0.01	< 10	1.79	1140	1	0.01	71	410
NV017	94069407	35	82	150	6.26	10	5	0.01	< 10	2.44	1255	< 1	0.02	84	430
NV018	94069407	28	66	143	5.48	10	< 1	0.01	< 10	2.10	1030	1	0.02	74	360
NV019	94069407	46	252	173	5.82	10	< 1	0.03	< 10	2.77	1485	< 1	0.03	180	480
NV020	94069407	31	75	123	6.01	10	< 1	0.01	< 10	2.34	1275	< 1	0.01	65	410

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CERTIFICATE OF ANALYSIS A0126108

SAMPLE	PREP CODE	Pb ppm	S %	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
NV001	94069407	< 2	0.03	6	9	26	0.43	< 10	< 10	155	< 10	80
NV002	94069407	< 2	0.04	14	13	29	0.41	< 10	< 10	225	< 10	106
NV003	94069407	< 2	0.01	12	16	28	0.49	< 10	< 10	198	< 10	72
NV004	94069407	< 2	0.03	12	17	28	0.61	< 10	< 10	252	< 10	72
NV005	94069407	< 2	< 0.01	6	8	31	0.30	< 10	< 10	122	< 10	42
NV006	94069407	< 2	0.04	8	14	29	0.38	< 10	< 10	186	< 10	76
NV007	94069407	< 2	0.01	10	9	23	0.40	< 10	< 10	147	< 10	56
NV009	94069407	< 2	0.02	10	11	27	0.53	< 10	< 10	220	< 10	100
NV010	94069407	< 2	0.03	6	7	35	0.31	< 10	< 10	161	< 10	58
NV011	94069407	< 2	0.02	6	12	29	0.42	< 10	< 10	162	< 10	64
NV012	94069407	< 2	0.01	10	11	27	0.45	< 10	< 10	171	< 10	56
NV014	94069407	< 2	0.03	10	11	38	0.44	< 10	< 10	159	< 10	96
NV015	94069407	< 2	0.04	12	11	42	0.46	< 10	< 10	166	< 10	90
NV016	94069407	< 2	0.04	10	14	23	0.53	< 10	< 10	198	< 10	66
NV017	94069407	< 2	0.03	10	15	27	0.49	< 10	< 10	187	< 10	88
NV018	94069407	< 2	0.02	6	10	24	0.46	< 10	< 10	177	< 10	70
NV019	94069407	< 2	0.04	8	15	44	0.33	< 10	< 10	145	< 10	78
NV020	94069407	< 2	0.02	2	14	33	0.49	< 10	< 10	196	< 10	74

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CERTIFICATE A0126178

(TDU) - PAWLIUK, DAVID

Project: NIMPKISH
P.O. # :

Samples submitted to our lab in Vancouver, BC.
This report was printed on 22-OCT-2001.

SAMPLE PREPARATION

METHOD CODE	NUMBER SAMPLES	DESCRIPTION
PUL-31	6	Pulv. <250g to >85%/-75 micron
STO-21	6	Reject Storage-First 90 Days
LOG-22	6	Samples received without barcode
CRU-31	6	Crush to 70% minus 2mm
SPL-21	6	Splitting Charge
229	6	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 1 of 2

METHOD CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
WEI-21	6	Weight of received sample	BALANCE	0.01	1000.0
Au-MS23	6	Au ppb: Fuse 30g - ICPMS Finish	FA-ICPMS	1	1000
Pt-MS23	6	Pt ppb: Fuse 30g - ICPMS Finish	FA-ICPMS	0.5	1000
Pd-MS23	6	Pd ppb: Fuse 30g - ICPMS Finish	FA-ICPMS	1	1000
Ag-ICP41	6	Ag ppm: 32 element, soil & rock	ICP-AES	0.2	100.0
Al-ICP41	6	Al %: 32 element, soil & rock	ICP-AES	0.01	15.00
As-ICP41	6	As ppm: 32 element, soil & rock	ICP-AES	2	10000
B-ICP41	6	B ppm: 32 element, rock & soil	ICP-AES	10	10000
Ba-ICP41	6	Ba ppm: 32 element, soil & rock	ICP-AES	10	10000
Be-ICP41	6	Be ppm: 32 element, soil & rock	ICP-AES	0.5	100.0
Bi-ICP41	6	Bi ppm: 32 element, soil & rock	ICP-AES	2	10000
Ca-ICP41	6	Ca %: 32 element, soil & rock	ICP-AES	0.01	15.00
Cd-ICP41	6	Cd ppm: 32 element, soil & rock	ICP-AES	0.5	500
Co-ICP41	6	Co ppm: 32 element, soil & rock	ICP-AES	1	10000
Cr-ICP41	6	Cr ppm: 32 element, soil & rock	ICP-AES	1	10000
Cu-ICP41	6	Cu ppm: 32 element, soil & rock	ICP-AES	1	10000
Fe-ICP41	6	Fe %: 32 element, soil & rock	ICP-AES	0.01	15.00
Ga-ICP41	6	Ga ppm: 32 element, soil & rock	ICP-AES	10	10000
Hg-ICP41	6	Hg ppm: 32 element, soil & rock	ICP-AES	1	10000
K-ICP41	6	K %: 32 element, soil & rock	ICP-AES	0.01	10.00
La-ICP41	6	La ppm: 32 element, soil & rock	ICP-AES	10	10000
Mg-ICP41	6	Mg %: 32 element, soil & rock	ICP-AES	0.01	15.00
Mn-ICP41	6	Mn ppm: 32 element, soil & rock	ICP-AES	5	10000
Mo-ICP41	6	Mo ppm: 32 element, soil & rock	ICP-AES	1	10000
Na-ICP41	6	Na %: 32 element, soil & rock	ICP-AES	0.01	10.00
Ni-ICP41	6	Ni ppm: 32 element, soil & rock	ICP-AES	1	10000
P-ICP41	6	P ppm: 32 element, soil & rock	ICP-AES	10	10000
Pb-ICP41	6	Pb ppm: 32 element, soil & rock	ICP-AES	2	10000
S-ICP41	6	S %: 32 element, rock & soil	ICP-AES	0.01	10.00
Sb-ICP41	6	Sb ppm: 32 element, soil & rock	ICP-AES	2	10000
Sc-ICP41	6	Sc ppm: 32 elements, soil & rock	ICP-AES	1	10000
Sr-ICP41	6	Sr ppm: 32 element, soil & rock	ICP-AES	1	10000
Ti-ICP41	6	Ti %: 32 element, soil & rock	ICP-AES	0.01	10.00
Tl-ICP41	6	Tl ppm: 32 element, soil & rock	ICP-AES	10	10000

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SAMPLE PREPARATION

METHOD CODE	NUMBER SAMPLES	DESCRIPTION
PUL-31	6	Pulv. <250g to >85%/-75 micron
STO-21	6	Reject Storage-First 90 Days
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* 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 2 of 2

METHOD CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
U-ICP41	6	U ppm: 32 element, soil & rock	ICP-AES	10	10000
V-ICP41	6	V ppm: 32 element, soil & rock	ICP-AES	1	10000
W-ICP41	6	W ppm: 32 element, soil & rock	ICP-AES	10	10000
Zn-ICP41	6	Zn ppm: 32 element, soil & rock	ICP-AES	2	10000

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CERTIFICATE OF ANALYSIS A0126178

SAMPLE	PREP CODE	Weight Kg	Au ppb ICP-MS	Pt ppb ICP-MS	Pd ppb ICP-MS	Ag ppm	Al %	As ppm	B ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm
NR001	94139402	1.20	3	5.0	9	0.6	2.17	6	< 10	10	< 0.5	6	1.05	2.0	33	54	685	3.45	< 10	< 1
NR002	94139402	1.46	2	9.5	11	< 0.2	3.90	< 2	< 10	50	< 0.5	2	2.21	0.5	14	143	118	1.02	< 10	< 1
NR003	94139402	1.22	2	4.0	16	0.2	2.76	14	< 10	< 10	< 0.5	12	1.23	2.5	38	66	217	6.74	< 10	1
NR004	94139402	1.28	3	3.5	11	< 0.2	1.96	4	< 10	< 10	< 0.5	2	2.52	1.0	12	21	154	2.61	< 10	< 1
NR005	94139402	1.52	4	4.0	14	0.2	4.84	8	< 10	< 10	< 0.5	6	2.28	3.5	31	70	175	6.16	< 10	< 1
NR006	94139402	1.22	14	2.0	12	0.2	2.52	2	< 10	< 10	< 0.5	2	1.78	1.0	10	35	401	2.09	< 10	< 1

CERTIFICATION:

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CERTIFICATE OF ANALYSIS A0126178

SAMPLE	PREP CODE	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	S %	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
NR001	94139402	0.03	< 10	0.85	635	80	0.19	46	440	< 2	1.21	< 2	4	73	0.14	< 10	< 10	75	< 10	130
NR002	94139402	0.08	< 10	1.02	90	4	0.37	141	190	6	0.06	< 2	2	129	0.05	< 10	< 10	21	< 10	8
NR003	94139402	0.03	< 10	1.59	1110	3	0.03	77	570	14	< 0.01	8	20	33	0.29	< 10	< 10	158	< 10	100
NR004	94139402	0.01	< 10	0.84	260	3	0.04	29	370	4	< 0.01	4	4	8	0.37	< 10	< 10	106	< 10	24
NR005	94139402	0.03	< 10	3.08	665	5	0.11	60	410	10	< 0.01	2	15	31	0.55	< 10	< 10	208	< 10	78
NR006	94139402	0.04	< 10	0.63	220	2	0.39	20	600	6	0.06	< 2	5	114	0.18	< 10	< 10	97	< 10	18

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APPENDIX B

ROCK SAMPLE

DESCRIPTIONS

	ZEBALLOS	AREA								
Sample	UTM North	UTM East	Sample type	Suphides	Pt	Pd	Au	Cu	Ni	Notes
`ZR001	5561230	644267	grab	py, cpy, po(?)	10	35	36	156	75	o/c; medium maroonish green f. gr. massive K with ep- and qtz-filled amygdules; patchy pervasive brick red hematite altered. Flow. Sulphides as irreg disseminations and faint masses; sulphides most abundant where amygdules largest and most abundant.
ZR003	5561091	645131	grab	none seen	12.5	13	23	13	363	Brick red, hematite-rich (~85 %) K with 3 % calcite-qtz-ep amygdules. In borrow pit.
ZR005	5561021	645862	grab	cpy, py	3	16	3	208	59	Roadcut. Medium greenish grey, f. gr. amygdaloidal basalt with traces cpy as round blebs to 3 mm; py as blebs and irreg masses Non mag rock with abundant lmnt on wxd fracture sfcs.
ZR007	5565413	649130	30 cm chip	none seen	1.5	7	11	86	52	Bxd, milled, re-silicified vein quartz breccia band along fault str. 082 / 72 N. Calcite. Lmnt rind to 2 cm thick on vein material. Kpb wallrocks. 100 m from ZS001 soil site.
ZR009	5554810	656560	grab	py, po?	7.5	7	4	69	104	Grab sample from ~ 15 sites across 9 m in roadcut. Dark green-black, somewhat schistose and friable; possible intrusive dyke trending 011 / vertical. Weakly serpentinized; non mag rock. Adjacent K flows are mod magnetic. Rare traces f. diss py (and po?).
ZR011	5560378	653118	grab	none seen	8	8	2	63	535	Sample of 8 pebble-size pieces of gabbro float from creek bed. Medium grained, green-black gabbro. No sulphides seen; non mag.
ZR012	5561127	652793	grab	0.5 - 1 % py	9	9	12	80	162	About 1/2 of float bldr sampled. Light grey to light greenish grey, v. f. gr., sugary andesite with brown lmnt on wxd sfc. Py v. finely diss. Rock more like Bonanza Fm than K.
ZR013	5560080	654255	grab	trace(?) sulphide	7.5	9	2	113	496	Grab from several locales across 3 m exposure. Dark green-black m.-c. gr. Non mag gabbro; likely trace v. f. diss sulphide. Location approximate.
ZR014	5560085	654260	grab	none seen	7.5	9	1	90	432	Grab from 10 sites within 2 m by 2 m area. 7 m upstream from ZR013; rock as for ZR014 Location approximate.
ZR015	5560090	654275	grab	none seen	8.5	13	2	423	326	Grab from several sites within 1 m by 1 m area. K basalt weakly altered by brick red hematite. Hematite throughout K as well as more abundant within brick red, crosscutting irregular "veins" that form about 10 % of rock volume. Location approximate.

ZR017	5560339	652759	grab	cpy, py	0.5	<1	1	83	17	From K basalt(?) along creek bed. Dark grey to dark greenish grey, v. f. gr., dense, wkly mag rock. Traces diss cpy and py.
ZR018	5560271	652830	grab of float	sulphide?	7.5	6	2	122	316	Grab from 3 large (>1m) bldrs of dark brown weathering, very dark brown-grey to black-brown gabbro; non mag; local lmnt; f. gr.; local trace diss sulphide? Likely local float.
ZR019	5561081	653112	grab; float	none seen	2.5	3	1	91	373	Grab subangular float 1 m across; dark green to black, m.-c. gr., massive, v. wk mag gabbro. Likely local source.
ZR020	5561117	653120	grab; float	none seen	3	3	1	95	445	Dark reddish brown to black, massive, non mag gabbro; wkly hem altd; float bldr.
ZR021	5560673	653302	grab; float	none seen	7	6	2	123	354	Grab from several pieces fist-sized float in roadcut. Dark brown, friable, m. gr., gabbro. Non mag.
ZR022	5560555	653428	grab; float	none seen	6.5	6	2	102	325	Dark brown, m. - f. gr., non mag gabbro; float from bank 2 m above road. Matrix wkly, pervasively hematite-altered.
ZR024	5559601	654494	grab	none seen	7	7	2	72	520	M. gr., friable gabbro; pervasive wkly hematite altered. Non mag.
	NIMPKISH	**AREA**								
Sample	**UTM North**	**UTM East**	**Sample type**	**Suphides**	**Pt**	**Pd**	**Au**	**Cu**	**Ni**	**Notes**
NR001	5589431	640818	select	py, gn, cpy, po	5	9	3	685	46	Select sample of material from borrow pit. Quartz vein 12 mm wide crosscuts K amygd basalt. Traces diss py, cp, po within K bslt; traces py and gn within quartz vein. K in quarry walls chloritic shears 10 cm wide trend 124 / 80 NE. K non mag; relatively abundant carbonate and zeolite as patchy veinlets. Fractures str. 159 / 76 E.
NR002	5586108	638136	grab	cpy, py	9.5	11	2	118	141	Grab from Kpb(?) o/c in roadcut. Medium to dark grey, aphanitic basalt with faint pillows(?) Non mag; traces diss cpy; traces py as irreg flakes to 2 mm across along fracture sfcs.
NR003	5586355	637515	grab	lmnt	4	16	2	217	77	Grab from fault str. 147 / subvertical marked by 3 cm pale yellow brown limonitic, clayey gouge. Kpb to SW of fault.
NR004	5583990	632790	grab; float	cpy	3.5	11	3	154	29	Kbxa/agglomerate float with traces diss cpy; minor lmnt on wxd sfc.
NR005	5584725	632383	grab	py, po	4	14	4	175	60	Kbxa o/c in roadcut. Patchy light brownish orange on wxd fracture sfcs; non mag; wk chl-altered. Rare traces diss py and po.
NR006	5585485	638646	grab	py, cpy	2	12	14	401	20	Dark greenish grey to black, aphanitic Kpb o/c in roadcut; mod mag; wk chl-altd; traces diss py; rare splash blebby cpy.

N

LEGEND

Jurassic

J Island Intrusions granitic intrusive rocks
  Jg granodiorite
  Jqd quartz diorite
  Jd diorite

Triassic

Vancouver Group
Q Quatsino Formation limestone

K Karmutsen Formation; mainly subalkaline basalt
  Ka amygdaloidal basalt
  Kands andesite
  Kb basalt
  Kbx breccia
  Kfb flow breccia
  Kg gabbro
  Kpb pillow lavas
  Kt lapilli tuff

SYMBOLS

outcrop area
70 fault; dip indicated
30 geological contact; defined, assumed; dip indicated
15 bedding, pillow structure; dip indicated
△ ZV017; 3.0,10, 4 geochemical stream sediment sample site, number; Pt ppb, Pd ppb, Au ppb
● ZR014; 7.5, 9, 1 geochemical rock sample site, number; Pt ppb, Pd ppb, Au ppb

ABBREVIATIONS

carb	carbonate
cpy	chalcopyrite
chl	chlorite
ep	epidote
f. gr.	fine grained
m. gr.	medium grained
c. gr.	coarse grained
gn	galena
hem	hematite
lmnt	limonite
mag	magnetite
py	pyrite
qtz	quartz
vns	veins
diss	disseminated

D. J. PAWLIUK

David J. Pawliuk
December 5, 2001

To accompany a report by David J. Pawluk, P.Geo.

ZEBALLOS PROJECT

Atluck Lake Area

SAMPLING, GEOLOGY

01-13

N.T.S. 92L/2	0 200 400 m	FIG.
OCT. 2001		3

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December 5, 2001

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SEE FIG. 3 FOR LEGEND

To accompany a report by David J. Pawliuk, P.Geo.

ZEBALLOS PROJECT

Mukwilla Lake Area

SAMPLING, GEOLOGY

01-13

N.T.S. 92L/02
OCT. 2001

FIG.
4

Wolfe Lake

Pinder Peak

5060

SNOW

SNOW

SNOW

1000

2500

3000

Kpb

Kb

L 562
TL 4435

L 566
TL 4422

road

ZV010
4-0,11,3

ZV004
2-5,7,6

ZV006
4-0,13,5

ZV005
5-5,9,4

ZV031
5-0,10,4

ZV007
3-0,5,3

ZV008
4-0,6,5

ZV030
5-0,10,4

ZV016
2-5,7,3

Zeballos

ZR012
7-0,9,12

ZV035
8-0,35,3

ZR020
3-0,3,1

ZV027
2-0,11,20

ZV028
2-0,9,3

ZR019
2-5,3,1

50°12' N

126°53' W

SEE FIG. 3 FOR LEGEND

To accompany a report by David J. Pawliuk, P.Geo.

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ZEBALLOS PROJECT

Wolfe Lake (South) Area

SAMPLING, GEOLOGY

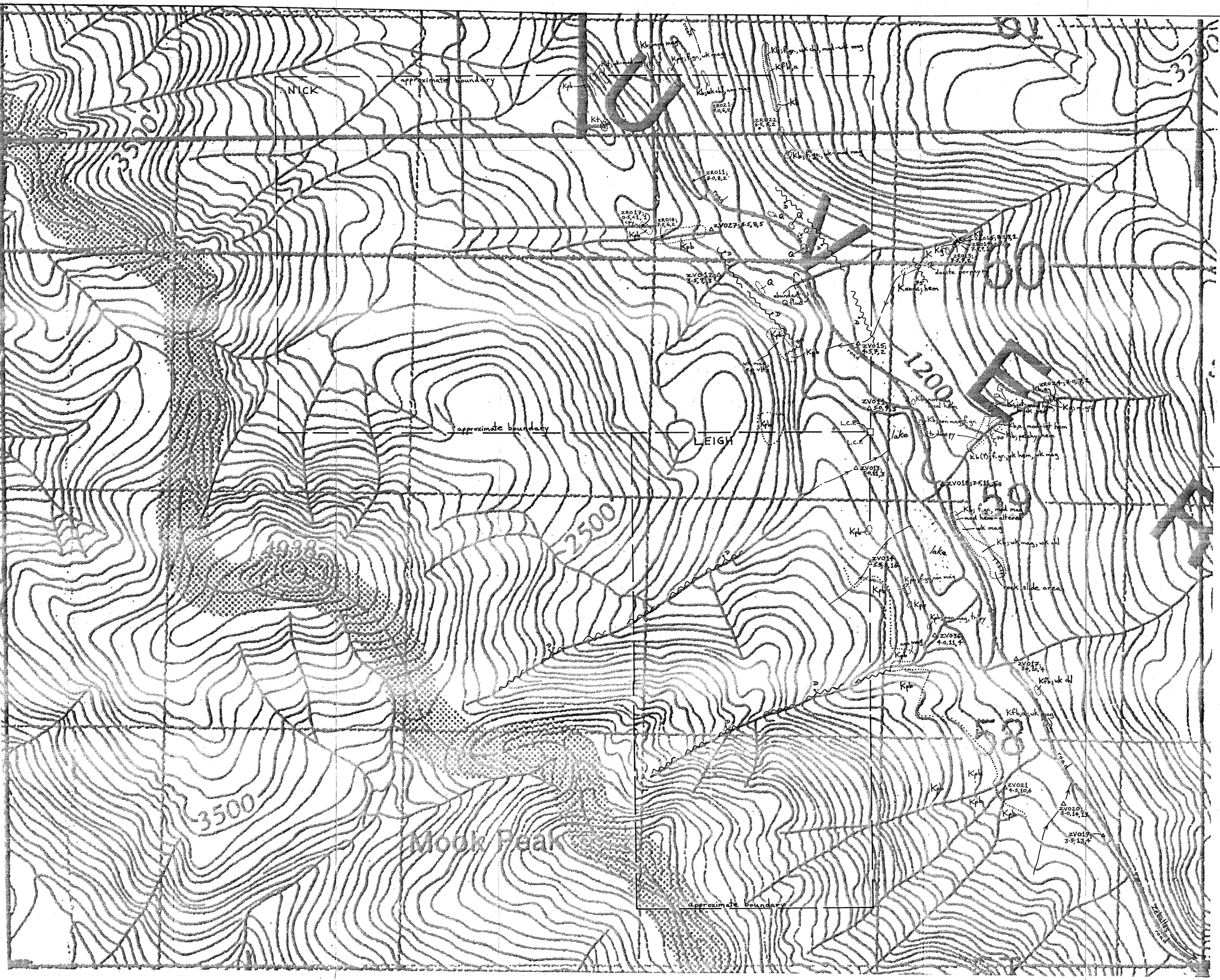
01-13

N.T.S. 92L/02

OCT. 2001

0 200 400 m

FIG. 5



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SEE FIG. 3 FOR LEGEND

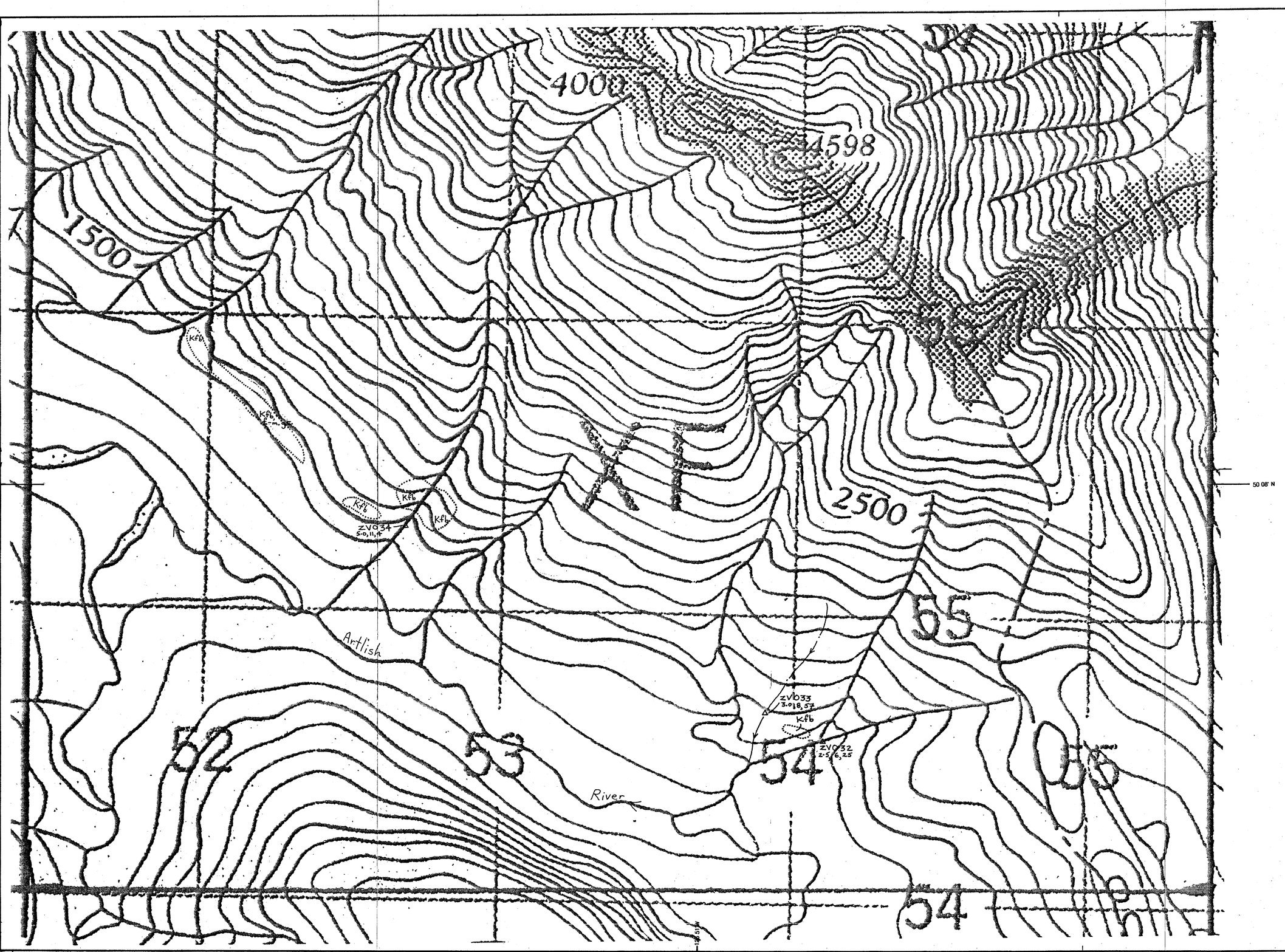
ZEBALLOS PROJECT

NICK and LEIGH mineral claims Area

SAMPLING, GEOLOGY

01-13

N.T.S. 92L/02	0 200 400 m	FIG.
OCT. 2001		6



N

SEE FIG. 3 FOR LEGEND

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December 5 2001

ZEBALLOS PROJECT

Artlish River Area

SAMPLING, GEOLOGY

01-13

N.T.S. 92L/2	0 200 400 m	FIG. 7
OCT. 2001		

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SEE FIG. 3 FOR LEGEND

ZEBALLOS PROJECT

Zeballos River (North) Area

SAMPLING, GEOLOGY

01-13

N.T.S. 92L/02	0 200 400 m	FIG. 8
OCT. 2001		

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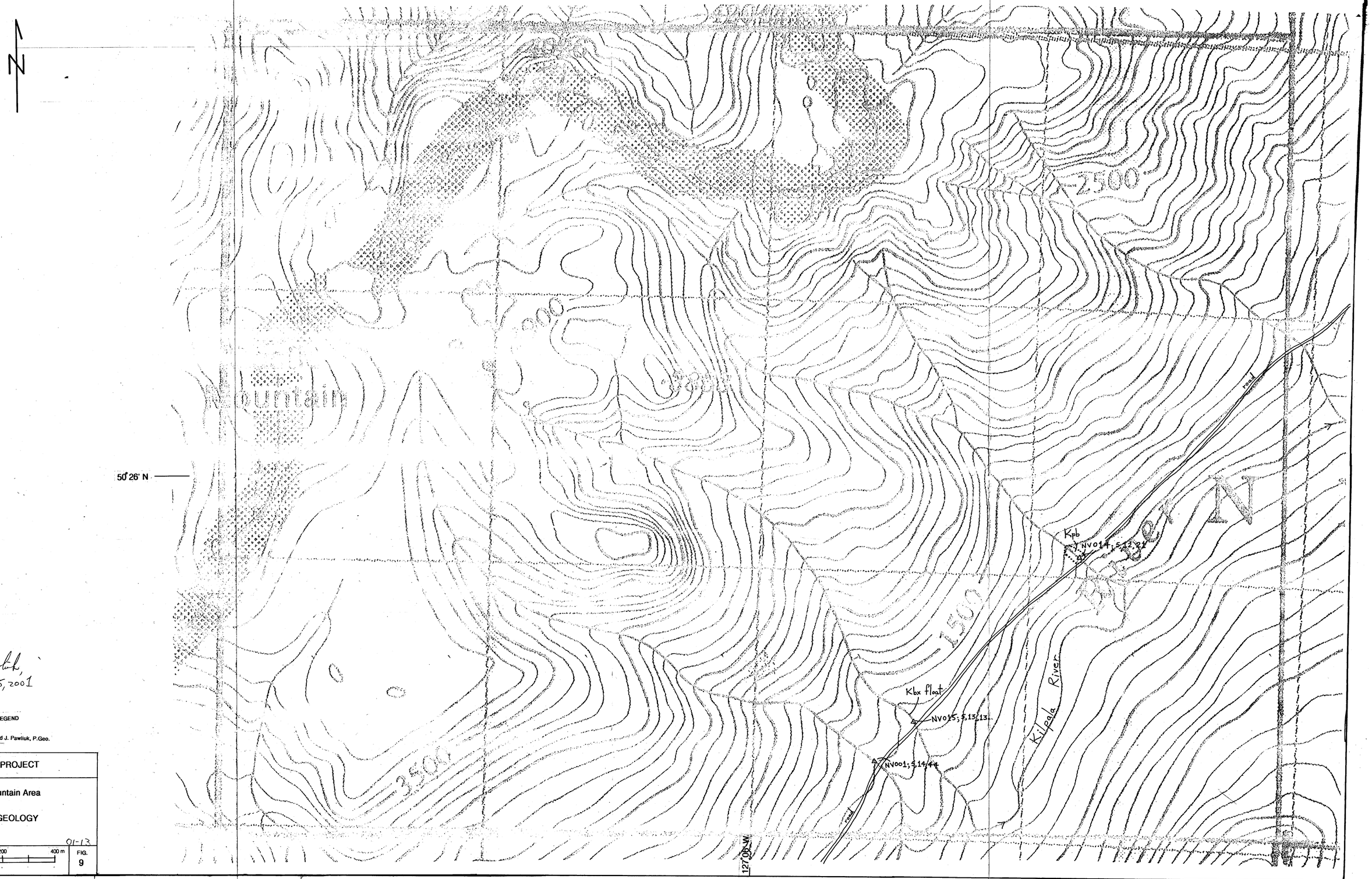

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SEE FIG. 3 FOR LEGEND

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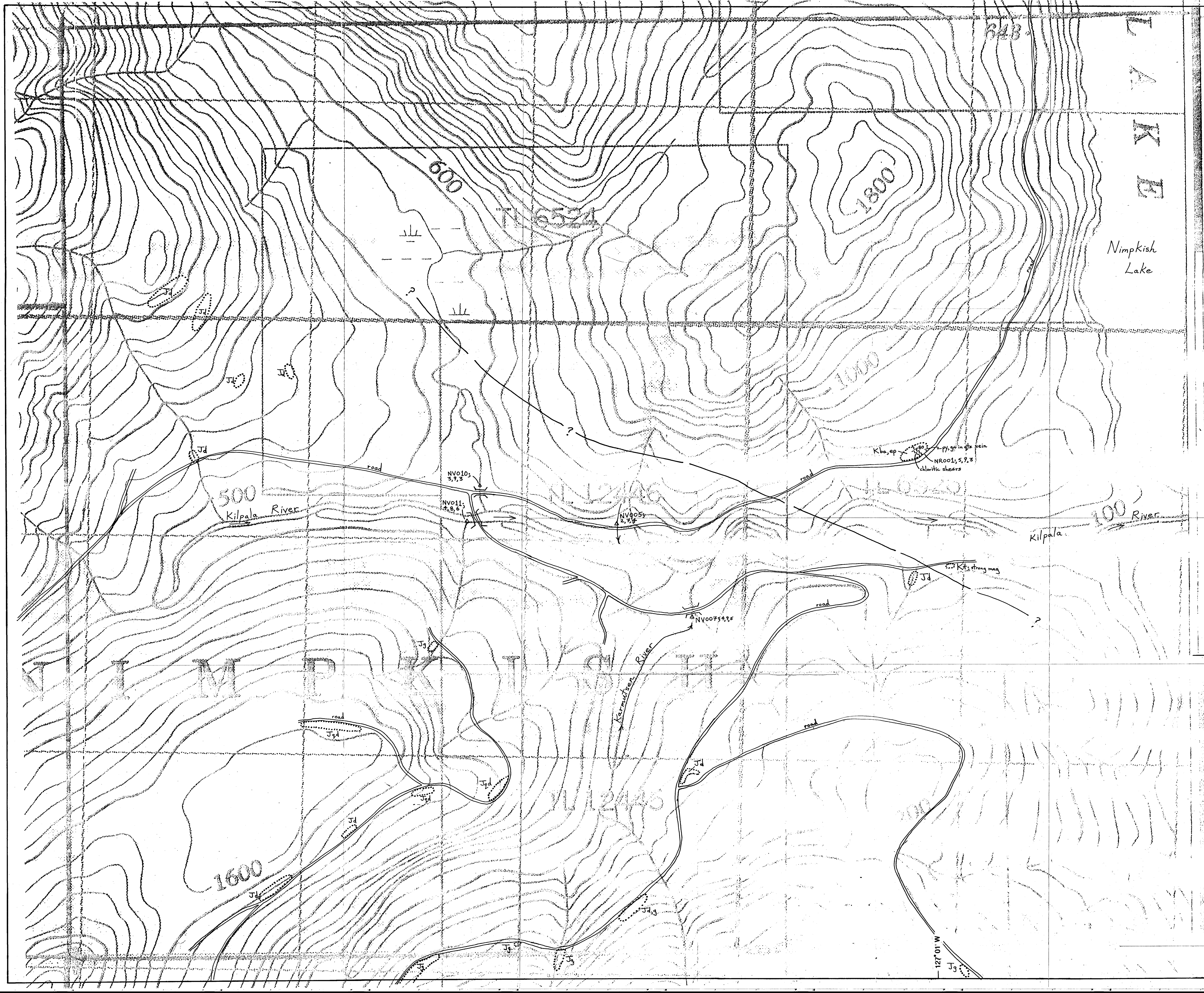
NIMPKISH PROJECT		
Castle Mountain Area		
SAMPLING, GEOLOGY		
01-13		
N.T.S. 92L/6	0 200 400 m	FIG.
NOV. 2001		9



SEE FIG. 3 FOR LEGEND

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NIMPKISH PROJECT		
Lower Kilpala River Area — SAMPLING, GEOLOGY		01-13
N.T.S. 92L/6	0 — 200 — 400 m	FIG. 10
NOV. 2001		

TREE FARM LICENCE

TREE FARM LICENCE

2800

1600

Kilpala River

road

NV002; 4,16,8

K float

NV020; 4,10,3

NV003; 5,9,9

NV017; 6,12,5

road

A N D

Klbx

NR005; 4,14,4

1900

50° 24' N

NV017; 5,11,10

NV004; 5,13,10

road

Kpb

NR004; 5,14,3

NV016; 4,11,5

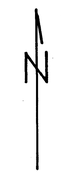
NV018; 5,10,4

1800

Kpb

Kpb

127° 06' W



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SEE FIG. 3 FOR LEGEND

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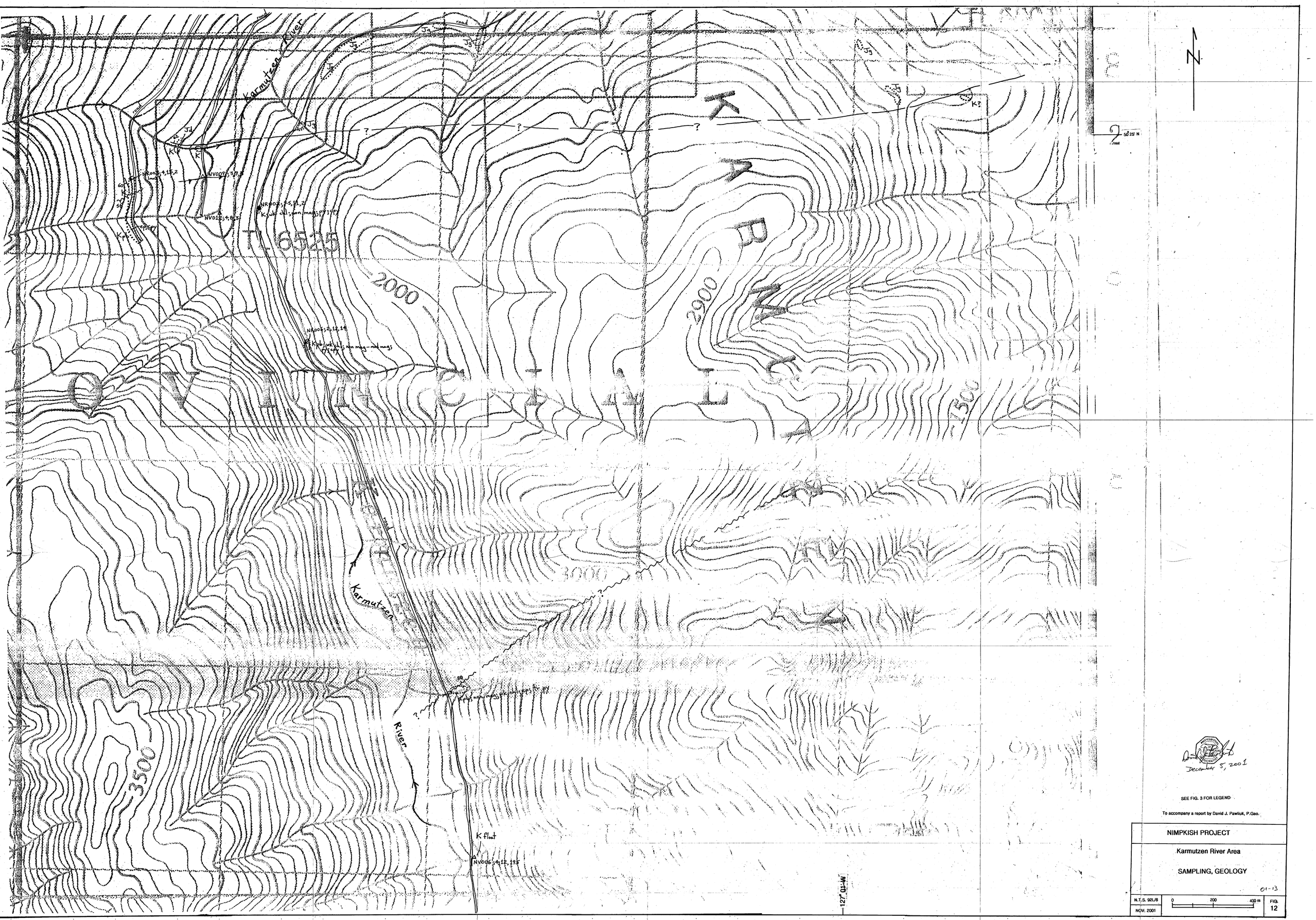
NIMPKISH PROJECT

Upper Kilpala River Area

SAMPLING, GEOLOGY

01-13

N.T.S. 92L/6	0 200 400m	FIG.
NOV. 2001		11



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SEE FIG. 3 FOR LEGEND

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NIMPKISH PROJECT	
Karmutzen River Area	
SAMPLING, GEOLOGY	
01-13	
N.T.S. 92L/6	0 200 400 m
NOV. 2001	FIG. 12