82-248-10311

COMINCO LTD.

EXPLORATION WESTERN DISTRICT

DIAMOND DRILLING REPORT

CLAIR 2 CLAIM

Fort Steele Mining Division

St. Mary Lake Area

N.T.S. 82F/9

Lat: 49° 37' 38" Long: 116° 15' 03"

OWNER

Cominco Ltd.

Kootenay Exploration
1051 Industrial Road No. 2
Cranbrook, B.C.
V1C 4K7

Work Performed during July and August 1981

Report by:

P. Klewchuk
Geologist

Under the Supervision of:

D. Anderson
Project Geologist

COMINCO LTD.

EXPLORATION WESTERN DISTRICT

TABLE OF CONTENTS

COMINCO LTD.

EXPLORATION WESTERN DISTRICT

DIAMOND DRILLING REPORT

CLAIR 2 MINERAL CLAIM

Fort Steele Mining Division

1.00 GENERAL STATEMENT

This report describes the results and expenditures relating to diamond drilling on the Clair No. 2 mineral claim.

Diamond drilling was performed from July 25, 1981 to August 6, 1981.

Total expenditures relating to the diamond drilling program amounted to $56,459.24.

It is requested that $55,800.00 be applied as follows:

Clair 5 (9 units)	at $200/unit - 6 years -	$ 10,800
Clair 14 (18 units)	at $100/unit - 1 year -	1,800
	at $200/unit - 9 years -	32,400
Clair 15 (10 units)	at $100/unit - 3 years -	3,000
Clair 16 (3 units)	at $100/unit - 3 years -	900
	at $200/unit - 3 years -	1,800
Clair 17 (4 units)	at $100/unit - 3 years -	1,200
Clair 18 (10 units)	at $100/unit - 3 years -	3,000
Clair 19 (1 unit)	at $100/unit - 3 years -	300
Fraction	at $200/unit - 3 years -	600
		$ 55,800

It is requested that $659.24 be credited to Cominco P.A.C. account.

2.00 INTRODUCTION

2.10 Status of Ownership

The Clair 2 mineral claim is 100% Cominco owned.

2.20 Location and Access

The Clair 2 mineral claim is located 2 km west of St. Mary Lake and approximately 35 km via good paved and gravel road west from Kimberley.

The drill hole collar is located at Latitude 49° 37' 38" and Longitude 116° 15' 03".

2.30 General Character of the Area

The relief on the Clair 2 mineral claim is flat in the St. Mary River valley to moderately steep on the north side of the valley. Elevation ranges from 980m to 1280m. The valley bottom hosts farmland as well as stands of cedar and cottonwood, while the steeper rocky slopes support a light covering of mixed forest species including fir and larch.

3.00 DIAMOND DRILLING

One NQ diamond drill hole totalling 394.0 meters was drilled to test a sulphide-bearing conglomerate and its host stratigraphy for potentially economic Pb-Zn mineralization and to obtain information on stratigraphy. Drilling activity commenced July 25, 1981 and terminated August 6, 1981.

D.D. Hole C81-1 intersected very minor amounts of pyrrhotite mineralization but no recognized Pb-Zn mineralization.

The drill program was under the direction of P. Klewchuk and supervised by D. Anderson.

A Sperry Sun Single Shot test of DDH C81-1 was taken at 227m Azimuth 019.5° Dip -76.1°.

4.00 CONCLUSIONS

D.D. Hole C81-1, drilled on the Clair 2 mineral claim in July and August, 1981, intersected an extensive conglomerate zone but no sulphides of economic significance.

EXHIBIT "A"

STATEMENT OF EXPENDITURES

DIAMOND DRILLING - CLAIR 2 CLAIM

FORT STEELE MINING DIVISION

Diamond Drilling - Indirect

Salaries (Field)

P. Klewchuk (Geologist) 13 days @ $195/day	$ 2,535.00
D. Anderson (Geologist) 2 days @ $210/day	420.00

Salaries (Office)

P. Klewchuk (Geologist) Report and map preparation - 2 days @ $195/day	390.00

Transportation

4x4 ½ Ton - 16 days @ $25/day	400.00

Mobilization - Demobilization

Henderson Heavy Hauling (transporting bulldozer, drill)	1,048.75
Fiorentino Contracting Ltd. (move drill) 14 hrs @ $83.75/hr.	1,172.50
	$5,966.25

Diamond Drilling - Direct

Longyear Canada Inc., 721 Aldford Avenue
Annacis Industrial Estate, New Westminister, B.C.
V3M 5P5

D.D. Hole C81-1 - 394.0 meters @ $128.15/m $50,492.99

Total Expenditures - Indirect	-$ 5,966.25
Total Expenditures - Direct	- 50,492.99
	$56,459.24

P. Klewchuk

P. KLEWCHUK, Geologist

IN THE MATTER OF THE

B.C. MINERAL ACT

AND

IN THE MATTER OF A DIAMOND DRILL PROGRAMME

CARRIED OUT ON THE CLAIR 2 MINERAL CLAIM

ST. MARY LAKE AREA

in the Fort Steele Mining Division of
the Province of British Columbia

More Particularly N.T.S. 82F/9

A F F I D A V I T

I, P. Klewchuk, of the City of Kimberley, in the Province of British Columbia, make Oath and say:

1. That I am employed as a Geologist by Cominco Ltd. and as such, have a personal knowledge of the facts to which I hereinafter depose:

2. That annexed hereto and marked as Exhibit "A" to this my Affidavit is a true copy of expenditures incurred on a Diamond Drill programme, on the Clair 2 Mineral Claim.

3. That the said expenditures were incurred between the 25th day of July, 1981 and the 6th day of August, 1981, for the purpose of mineral exploration on the above noted claim.

P. Klewchuk

P. KLEWCHUK
Geologist

COMINCO LTD.

EXPLORATION WESTERN DISTRICT

AUTHOR'S QUALIFICATIONS

As author of this report I, Peter Klewchuk certify that:

I am employed by Cominco Ltd. as a geologist active in minerals exploration.

I am a graduate of the University of British Columbia with a degree of Bachelor of Science and a graduate of the University of Calgary with a degree of Master of Science.

I have been continuously engaged in geology and mineral exploration for 10 years.

I am a member of the Geological Association of Canada.

P. Klewchuk

P. KLEWCHUK
Geologist

Report by: P. Klewchuk
P. KLEWCHUK
Geologist

Endorsed by:
D. ANDERSON, P.Eng.
Project Geologist

Approved for
Release by: John Hamilton
J.M. HAMILTON, P.Eng.
Chief Geologist
Sullivan Mine

cc: ✓Mining Recorder, Cranbrook, B.C. (2 copies)
Western District, Exploration
Kootenay Exploration

Scale

Colour Plot & Disc

Drill Hole Record

Cominco

Property	CLAIR	District	Fort Steele	Hole No.	C-81-1
Commenced	July 26, 1981	Location	WNW of St. Mary Lake	Tests at 227m, (390m unsuccessful)	Hor. Comp.
Completed	August 5, 1981	Core Size	NQ	Corr. Dip -80°	Vert. Comp.
Co-ordinates	Lat. 49° 37' 38"			True Brg N90°E	Logged by P.Klewchuk
Objective	Long. 116° 15' 03"			% Recov. >99%	Date November 1981

Claim: CLAIR 2 | T Brg.: N90°E | Collar Dip: -80° | Elev.: 1000m. | Length:

Meters From	Meters To	Description	Sample No.	Length	Analysis
		Lithologic abbreviations used in log: SW – Subwacke.			
		W – Wacke.			
		QcW– Quartzitic Wacke.			
		QW – Quartz Wacke			
0	47.0	Overburden; casing.			
47.0	59.3m.	QcW and minor W. Med. & thin bedded (one thick bed from 51.5m. to 52.4m.), generally dark blue-gray color with lighter colored wacke zones. One 3 mm. x 15 mm. QcW clast is present in a wacke bed top at 48.8m. Siliceous biotitic altered concretions occur at 51.2m. (10 cm. diam.) and at 54.9m. Minor po is associated with the concretions. A few wacke zones near 49.2m. are partially composed of lenses of sediment, some of which look like small scour and fill structures. Bedding planes vary from being indistinct to fairly sharp, and are commonly at 65°-70° to core axis (c.a.).			
59.3	60.2	Pegmatite. Coarse grained, predominantly quartz with 10-15% very pale green muscovite and 5-10% light blue feldspar (Carlsbad-twinned orthoclase). Upper and lower contacts are at ∿ 65° to core axis.			

Scale

Colour Plot & Disc

Drill Hole Record

Cominco

Property		District		Hole No.	
Commenced		Location		Tests at	Hor. Comp.
Completed		Core Size		Corr. Dip	Vert. Comp.
Co-ordinates				True Brg.	Logged by
Objective				% Recov.	Date

Claim | T Brg. | Collar Dip | Elev. | Length

Meters From	Meters To	Description	Sample No.	Length	Analysis
60.2m	94.2m	QcW & W. Med. & thin bedded with few thicker beds. Color is med. dark blue-gray with bed tops more gray colored. Med. grained very pale green muscovite is preferentially developed in more argillaceous bed tops. Below about 72.3m. significant alteration is present; core is generally somewhat (variably) bleached with more intense bleaching along healed fractures. Five altered concretions are present from 81.4m. to 86.0m. ranging in size from 5 cm. to 15 cm. across. These are typically siliceous, concentrically ringed by variable concentrations of biotite, and often contain aggregates of fine grained pink garnets, small blebs of po, and minor chlorite. Another siliceous concretion of similar nature occurs at 91.8m. Aggregates of fine grained pink garnets are present also near 75.6m. and minor disseminated po is not uncommon throughout the interval. Bedding planes are generally quite sharp and are at ∿ 70° to c.a.			
94.2	95.5	Foliated Zone; fault at 95.4m. Seds. – probably originally of about a wacke composition, are moderately to strongly foliated with abundant quartz veining. Quartz veins commonly parallel foliation but a few smaller ones cross-cut. A few cm. of fault gouge at 95.4m. is dark gray-black, chloritic and pyritic. Immediately above the gouge quartz veining is most intense and includes lenses of brecciated sediment, yellow carbonate and irregular lenses of med. grained pyrite. Foliation is at 45° to 55° to core axis.			

Scale

Colour Plot & Dips

Drill Hole Record

Cominco

Property	District	Hole No.	
Commenced	Location	Tests at	Hor. Comp.
Completed	Core Size	Corr. Dip	Vert. Comp.
Co-ordinates		True Brg.	Logged by
Objective		% Recov.	Date

Claim | T Brg. | Collar Dip | Elev. | Length

From	To	Description	Sample No.	Length	Analysis
95.5	98.3	QcW or W			
		Foliated, from moderately intense at 95.4 to weak at 98.3. Some compositional layering is evident but this is parallel to foliation; no bedding planes are recognizable. Minor quartz veining is present. Foliation occurs at 30 to 45° to c.a.			
98.3	107.6	QcW, minor W, QW			
		Predominantly med. bedded with minor thick and thin beds. Bedding planes are generally indistinct; minor alteration effects are evident, giving the core a gross subtle mottled character. From 102.3m. to 106.3m. fractures are rusty stained; Fe oxidation and leaching have permeated the rock adjacent to fractures; evidently a function of surface weathering. Near 103.4m. 10 cm. of core is mottled with aggregates of fine grained pink garnets - this is probably an altered concretion but its boundaries are indistinct. From 104.9m. to 107.0m. alteration is more intense with pale gray-green bleaching of seds., locally restricted to healed fractures. Bedding is typically at 75°-85° to c.a.			
107.6	107.8	Minor fault			
		Foliated zone with quartz veining. 2 cm. wide vein of fine grained pyrite and minor black chloritic, pyritic fault gouge. Minor silvery-gray-black specular hematite occurs at 107.6m. Foliation occurs at 70° to c.a.			

Scale

Colour Plot & Dips

Drill Hole Record

Cominco

Property	District	Hole No.	
Commenced	Location	Tests at	Hor. Comp.
Completed	Core Size	Corr. Dip	Vert. Comp.
Co-ordinates		True Brg	Logged by
Objective		% Recov.	Date

Claim | T Brg. | Collar Dip | Elev. | Length

From	To	Description	Sample No.	Length	Analysis
107.8	124.5	QcW, minor W			
		Thin and med. bedded, bedding planes are more distinct in upper part of zone than in lower part. Local dark blue-gray zones of 6-15 cm. thickness paralleling bedding appear to be alteration effects, in part silicification. Bleached, altered zones which are probably concretions occur from 110.6m to 116.4m. varying in size from 4 cm to 20 cm. These are typically siliceous with symmetrical (presumed concentric) zoning, containing fine-med. grained biotite, minor fine grained po and may contain aggregates of fine grained pink garnets. Bedding planes are at 75-80° to c.a.			
124.5	133.5	Massive QcW & W			
		No distinct beds are present but a fabric is indicated by discontinuous laminations of po (total est. 2-3%) which range from 50° to 70° to c.a. A few sedimentary laminations reminiscent of bedding (start of more regular overlying bedded zone) of W or SW occur near the top of this interval.			
133.5	148.2	Conglomeratic QcW/W zone			
		Generally similar to overlying zone but with more po (est. 5%) and rare indistinct clasts.			

Drill Hole Record

Cominco

Property	District	Hole No.	
Commenced	Location	Tests at	Hor. Comp.
Completed	Core Size	Corr. Dip	Vert. Comp.
Co-ordinates		True Brg.	Logged by
Objective		% Recov.	Date

Claim | T Brg. | Collar Dip | Elev. | Length

From	To	Description	Sample No.	Length	Analysis
148.2	162.1	Conglomerate			
		Open framework conglomerate with an est. 25% clasts, locally up to 40%. Clasts are generally very distinct, typically lenticular, rounded, a few are sub angular. Size ranges from about 1 mm to > 4.5 cm (i.e. > core diameter) with average size about 5 mm x 15 mm. Clast composition is variable ranging from pale dull gray-green argillite or SW to dark blue-gray QcW. W and QcW composition clasts are most common. Most clasts are internally homogeneous or massive but a few are distinctly laminated (and clast axis is usually parallel to the laminations). Matrix is of W-SW composition. Below 157.7m alteration strongly masks the nature of the conglomerate - faint clasts (occasionally more distinct) are recognizable through to 162.1m and it is apparent that this zone is all conglomerate even though textures are very indistinct. Po occurs in minor quantities (est. 1-2%). At 152.0m a 15 cm diam. bleached siliceous concretion is present with abundant biotite and an est. 3-4% po. There are a few narrow zones of about 10 cm core length which do not contain any clasts.			
162.1	162.7	Contact zone			
		Siliceous, chloritic, mottled texture, in part conglomerate with obvious clasts but strongly altered by gabbro. Brecciation in association with quartz veining occurs over 15-20 cm adjacent to gabbro contact at 162.7m.			

Drill Hole Record

Cominco

Property	District	Hole No.	
Commenced	Location	Tests at	Hor. Comp.
Completed	Core Size	Corr. Dip	Vert. Comp.
Co-ordinates		True Brg.	Logged by
Objective		% Recov.	Date

Claim | T Brg. | Collar Dip | Elev. | Length

From	To	Description	Sample No.	Length	Analysis
162.7	168.8	Gabbro			
		Upper contact is at 40° to c.a. Generally fine-grained; med. grained development of amphibole crystals near 163.5m. A number of narrow quartz veins are present, at various attitudes, typically with minor po &/or py. A 3 cm. wide med. grained feldspar-quartz vein at 40° to c.a. occurs at 167.7m. Minor shearing near 167.1m. is at 35°-40° to c.a.			
168.8	170.4	Foliated contact zone			
		Locally brecciated sediments and slicken sided fault gouge with narrow quartz veins occur at 169.2m. Intensity of foliation dies out above and below this fault. Foliated seds are contorted immediately below the fault. Minor po & py occur along fracture surfaces. Most intense foliation is at 30-45° to c.a.			
170.4	175.9	QcW & W			
		Irregularly laminated, with a few vague bedding plane like features evident; generally similar to zone above overlying conglomerate zone from 124.1m. to 148.2m. Discontinuous laminations are caused by dark blue-gray material with minor po, within (predominantly) light-med. gray wacke host. Light purplish alteration and silicification is present from 175.2m. to 175.9m. at contact with gabbro. Laminations occur at 60° to c.a. Contact with gabbro at 175.9m is at 50° to c.a. but at approx. 90° to laminations in immediately overlying sediments.			

Scale

Colour Plot & Dips

Drill Hole Record

Cominco

Property	District	Hole No.	
Commenced	Location	Tests at	Hor. Comp.
Completed	Core Size	Corr. Dip	Vert. Comp.
Co-ordinates		True Brg.	Logged by
Objective		% Recov.	Date

Claim | T Brg. | Collar Dip | Elev. | Length

Meters From	To	Description	Sample No.	Length	Analysis
175.9	202.8	Gabbro Light green, massive. Generally fine grained throughout, indicating a dike rather than a sill. Grain size is medium and coarse at lower contact zone. Numerous narrow quartz veins (few mm. to 3 cm. wide) cut through the gabbro, typically at high angles (60°-90°) to the core axis. The wider quartz veins commonly contain blebs of po, to 2 cm. diam. At 186m a 10 cm. wide vein of yellow calcite occurs with minor quartz.			
202.8	204.3	Gabbro – Sediment contact zone Bleached, generally light greenish-blue-gray color, with local development of coarse grained amphibole crystals. Appears to be mixed gabbro and strongly altered sediments without distinct contacts to the individual lithologies. Annealed breccia throughout, with quartz veining common.			
204.3	207.9	Altered sediments. May in part be conglomeratic Med. blue-gray colored, locally annealed breccia with gray-green alteration along healed fractures. No bedding distinguishable; occasional discontinuous lenses of darker blue-gray material occur at high angle (85°-90°) to c.a. May be similar to massive zones seen above overlying conglomerate.			

Scale

Colour Plot & Dips

Drill Hole Record

Cominco

Property	District	Hole No.	
Commenced	Location	Tests at	Hor. Comp.
Completed	Core Size	Corr. Dip	Vert. Comp.
Co-ordinates		True Brg	Logged by
Objective		% Recov.	Date

Claim | T Brg. | Collar Dip | Elev. | Length

Meters From	To	Description	Sample No.	Length	Analysis
207.9	212.5	Massive W-QcW zone Occasional darker blue-gray lenses and bands (at 85-90° to c.a.) occur within lighter blue-gray W & QcW. Less altered than immediately overlying interval; looks generally similar to interval from 124.1m. to 148.2m. which overlies the upper conglomerate intersection. May in part be conglomeratic: small vague clast-like forms are locally present.			
212.5	220.7	Conglomeratic QcW & W About 5% fairly distinct to quite vague clasts. Lenticular, rounded clasts are small, ranging from ∿ 1 mm. to 2 cm. long, averaging 2-3 mm. by 7-8 mm. Clast composition varies from SW to QcW. Matrix is a med. blue-gray colored QcW or W which shows effects of mild alteration. A weak fabric composed of subtle compositional layering & laminations occurs at 65° to 80° to c.a. throughout most of the interval.			
220.7	233.5	Conglomerate Mainly matrix-supported (clasts isolated by matrix) but locally clast-supported (clasts in contact with each other) conglomerate. Est. 30% clasts overall but variable from 5% to 50% over core lengths of 30 cm. Clasts range in size from 1 mm. to > 4.5 cm. Most are elongate and rounded although a few are subangular. In a gross sense this conglomerate is similar in character to the conglomerate from 148.2m. to 162.1m. but clast concentration is more variable here. Elongate or tabular clasts are strongly preferentially aligned parallel			

Scale

Cover Plot & Dips

Drill Hole Record

Cominco Page 9

Property	District	Hole No.	
Commenced	Location	Tests at	Hor. Comp
Completed	Core Size	Corr. Dip	Vert. Comp.
Co-ordinates		True Brg	Logged by
Objective		% Recov.	Date

m. From	To	Description	Sample No.	Length	Claim	T Brg.	Collar Dip	Elev.	Length	Analysis
220.7	233.5	to each other at 75°-80° to c.a. Locally over a few cm a group of clasts may occur at lower angles to the core axis (60°-65°) and a few elongate clasts are more randomly oriented. The upper contact occurs in a zone of broken core and its nature is uncertain. The lower contact appears fairly sharp.								
cont'd										
233.5	236.1	W Massive, "Conglomeratic" Fairly homogeneous, medium to dark blue-gray color. Occasional faint (some discontinuous) compositional layering. Very few small (few mm diam.) rounded clasts < 1%. Minor dissem. po is present. Contact at 236.1m is irregular - it occurs at approx. 65° to c.a.								
236.1	239.3	Conglomerate Est. 20-25% clasts. Generally clasts are rounded, elongate; a few are subangular. Clast composition is typically W and QcW with a few light gray SW. Clast size ranges from 1 mm diam. to > 3 cm. Clasts are aligned along a preferred orientation at 75°-85° to c.a. Dissem. po occurs within both matrix and clasts. The contact at 293.3m appears gradational over a few mm and appears parallel to fabric of clasts.								

211-84

Scale

Cover Plot & Dips

Drill Hole Record

Cominco Page 10

Property	District	Hole No.	
Commenced	Location	Tests at	Hor. Comp.
Completed	Core Size	Corr. Dip	Vert. Comp.
Co-ordinates		True Brg.	Logged by
Objective		% Recov.	Date

m. From	To	Description	Sample No.	Length	Claim	T Brg.	Collar Dip	Elev.	Length	Analysis
239.3	243.7	W Massive to vaguely banded, locally laminated, "conglomeratic". Dark gray, slightly bluish color. Compositional layering is evident but differences in lithologies are slight. A 1 cm wide band of SW at 240.2m is evidence of some change in conditions during deposition of this interval (appears to be a typical bed top with sharp boundaries). Minor in situ brecciation of narrow zones is evident. Few distinct and indistinct small clasts are scattered through the interval-est. 1%. Laminations at 239.7m are at 75° to c.a.								
243.7	246.6	Conglomeratic W Massive W matrix is uniformly med.-dark gray colored. Clasts comprise 4-5% of the rock; these are generally small, few mm to 2.5 cm long, averaging < 1 cm long. Shapes are typically elongate and rounded. A few clasts are light gray SW, most are dark blue-gray W or QcW, a few are laminated W or QcW. Clasts generally have a preferred orientation at about 80° to c.a. Both upper and lower contacts are gradational; upper one is quite indistinct; lower one is gradational over few cm to higher clast volume and larger clasts of conglomerate below.								

211-84

Scale

Colour Plot & Dips

Drill Hole Record

Cominco

Property	District	Hole No.	
Commenced	Location	Tests at	Hor. Comp.
Completed	Core Size	Corr. Dip	Vert. Comp.
Co-ordinates		True Brg.	Logged by
Objective		% Recov.	Date

Claim | T Brg. | Collar Dip | Elev. | Length

~~XXXX~~ m. From	To	Description	Sample No.	Length	Analysis
246.6	257.0	Conglomerate			
		Clast shape is rounded and elongate, a few are subangular. Average clast size varies within the zone as described below. Within the zones of larger clasts the conglomerate is clast-supported but where clasts are smaller the conglomerate is matrix-supported. Matrix is typically a med. blue-gray colored wacke. Clasts range in color and composition from light gray SW to dark blue-gray W or QcW. At least 5 distinct lithologies are easily recognizable and there may be numerous lithologies present within the SW-QcW range. Most clasts are internally quite massive in character but a few are laminated. Elongate clasts typically show a preferred orientation at about 85° to c.a. although a few clasts do occur at more random angles. Po is dissem. within the matrix.			
		246.6 – 250.1m Conglomerate. Est. 15% clasts of approx. 6 mm x 12 mm average size. Contact at 250.1m is at 75° to c.a.			
		250.1 – 250.5m Massive QcW. Dark blue-gray colored. Contact at 250.5m is at 55° to c.a. with minor irregularities.			
		250.5 – 251.7m Conglomerate. 30% clasts which are fairly large, averaging 1½ x 2 cm. A preferred orientation of clasts is 70° to c.a.			

211-84

Scale

Colour Plot & Dips

Drill Hole Record

Cominco

Property	District	Hole No.	
Commenced	Location	Tests at	Hor. Comp.
Completed	Core Size	Corr. Dip	Vert. Comp.
Co-ordinates		True Brg.	Logged by
Objective		% Recov.	Date

Claim | T Brg. | Collar Dip | Elev. | Length

~~XXXX~~ m. From	To	Description	Sample No.	Length	Analysis
246.6	257.0	251.7 – 252.4m Conglomerate. 15-20% clasts. 251.7m is the point of rapid change from large, numerous clasts above to smaller, fewer clasts below. The contact is irregular and is formed largely by the bases of large clasts. Clast size averages 1½ x 1 cm. Preferred orientation of the clasts is at 80° to c.a.			
		252.4 – 252.8m Altered zone: massive dark blue-gray colored QcW with clasts faintly evident.			
		252.8 – 256.0 Conglomerate. Est. ave. 40% clasts, up to 60% locally. Average clast size 1½ x 2½ cm. Lowermost 70 cm of this interval has notably fewer large clasts and notably fewer total clasts.			
		256.0 – 257.0m Conglomerate. Gradational contact at 256.0m over 20 cm with large clasts concentrated on one side of core, small clasts on opposite side. Conglomerate here contains 20% clasts which are small-ave. ~ 3 mm x 8 mm. Clasts are fairly equant in shape with no obvious preferred orientation. These clasts are commonly subangular in shape, notably less well rounded than zones higher up. The lower contact is at 55° to c.a. with some clasts oriented parallel to the contact in the first few cm adjacent to the contact.			

211-84

Scale

Colour Print & Dupe

Drill Hole Record

Cominco Page 13

Property	District	Hole No.	
Commenced	Location	Tests at	Hor. Comp.
Completed	Core Size	Corr. Dip	Vert. Comp.
Co-ordinates		True Brg.	Logged by
Objective		% Recov.	Date

From	To	Description	Sample No.	Length	Claim	T Brg.	Collar Dip	Elev.	Length	Analysis
257.0	258.8	W. minor QcW								
		Massive, compositionally layered, and laminated.								
		257.0 - 257.5m is quite massive with some faint irregular laminations.								
		257.5 - 258.6m is compositionally layered with individual layers usually < 3 cm thick, with a discontinuous, lensey character.								
		258.6 - 258.8m fairly uniformly laminated.								
258.8	263.6	QcW & W minor Conglomerate								
		Med. & thin bedded. Bedding planes are not particularly distinct, some show minor disruption - may be compaction features. 40 cm of core from 259.4 - 259.8 is conglomeratic with an est. 10% rounded clasts ranging from 2 mm to 2.5 cm diam. A preferred orientation is only evident in the lowermost few cm where clasts are at 80° to c.a. this conglomerate zone is generally similar to overlying conglomerate sections with regard to po occurrence and clast composition. Alteration increases from 258.8 towards 263.6 with notable gray-green bleaching along healed fractures. Bedding occurs at 80° to c.a.									
263.6	268.7	Altered sediments, minor conglomerate								
		Broken core with chloritic fracture surfaces; much of it is annealed breccia with small scale stockwork of narrow (< 5 mm wide) quartz veinlets. Core is somewhat bleached, typically greenish-gray-brown color. At 264.0m 10 cm of core is annealed breccia where								

211-8437

Scale

Colour Print & Dupe

Drill Hole Record

Cominco Page 14

Property	District	Hole No.	
Commenced	Location	Tests at	Hor. Comp.
Completed	Core Size	Corr. Dip	Vert. Comp.
Co-ordinates		True Brg	Logged by
Objective		% Recov.	Date

From	To	Description	Sample No.	Length	Claim	T Brg.	Collar Dip	Elev.	Length	Analysis
263.6	268.7	angular fragments of altered seds. sit isolated within a quartz vein. Most prominent								
cont'd.		fractures occur at low angles (10-15°) to c.a., but fractures at 30° and 40° to c.a. are also present. Lowermost few cm of this interval contain a few recognizable clasts but extent of conglomerate is uncertain due to alteration.								
268.7	272.7	Conglomerate								
		Est. 15% clasts but variable with up to 25% clasts locally. Matrix is med. gray colored wacke. Clast lithologies vary from light gray SW to dark blue-gray QcW, with W-QcW compositions predominating. Clasts typically are rounded and elongate with the long axis approx. 90° to c.a. Clast size varies from few mm to 4 cm long, average size is about 5 mm x 12 mm. Alteration is strong in the uppermost 0.8m. In the lowermost 50 cm or so of the interval, clasts are notably more concentrated but alteration masks the texture to some degree. Bleaching and chloritization are evident with clasts typically more bleached than matrix.									
272.7	275.3	Altered, brecciated sediments (conglomeratic character not evident)								
		Brecciation occurs in association with quartz-feldspar veins particularly near the gabbro contact. Seds. are variably green & gray colored with a banded character evident, bands (beds) at 85° to c.a. Amphibole &/or chlorite development is common in banded altered seds. for 50 cm. near 273.8m.								

211-843

Scale

Colour Plot & Date

Drill Hole Record

Cominco

Property	District	Hole No.	
Commenced	Location	Tests at	Hor. Comp.
Completed	Core Size	Corr. Dip	Vert. Comp.
Co-ordinates		True Brg.	Logged by
Objective		% Recov.	Date

Claim | T Brg. | Collar Dip | Elev. | Length

XXXXX m. From	To	Description	Sample No	Length	Analysis
275.3	297.9	Gabbro			
		Typically fine grained with numerous narrow, commonly irregular, quartz and quartz - feldspar veins (locally with coarse-grained amphibole developed adjacent to veins). Locally quite biotitic, may be indicative of assimilated sediments. Minor po is present, locally as narrow irregular veinlets and more disseminated as tiny elongate blebs. The fine grained nature and generally variable character along with the numerous narrow veins indicate this is a dike. The gabbro is more mafic (biotite and horn blende) below 293m.			
297.9	300.9	Conglomerate and conglomeratic, W, QcW			
		Generally quite strongly altered; 35% of the interval appears quite massive with rare small clasts and, where numerous clasts are present, their boundaries are difficult to distinguish because of alteration. Most clasts are fairly large (est. ¼ x 2 cm average). Clast composition is similar to matrix - all W & QcW. Within the lowermost 60 cm are angular elongate clasts with a preferred orientation of about 70° to c.a.			
300.9	302.6	W, SW bed tops			
		Thin and very thin to laminated sediments, few medium thick beds. Locally conglomerate - clasts comprise 5-10% of a 20 cm thick zone at 301.8m. Moderate alteration is evident. Core angle is 75°.			

211-843

Scale

Colour Plot & Date

Drill Hole Record

Cominco

Property	District	Hole No.	
Commenced	Location	Tests at	Hor. Comp.
Completed	Core Size	Corr. Dip	Vert. Comp.
Co-ordinates		True Brg.	Logged by
Objective		% Recov.	Date

Claim | T Brg. | Collar Dip | Elev. | Length

XXXXX m. From	To	Description	Sample No.	Length	Analysis
302.6	306.7	QcW			
		Thick bedded, some internal irregular banding is evident. A siliceous biotite-rich 8 cm length of core at 303.6m is probably a concretionary feature. Moderate alteration is present with bleaching along healed fractures.			
306.7	308.6	QcW and W			
		Thin and med. bedded. Moderately altered. Lowermost few cm. are foliated.			
308.6	309.1	Fault zone			
		Strongly foliated, locally unhealed breccia with quartz veining. Chloritic fracture surfaces with slickensides and minor pyrite. Foliation is at 35°-40° to c.a.			
309.1	313.8	Conglomerate			
		Uppermost 40-50 cm is greenish colored from fault alteration. Rounded eliptical clasts, a few are sub rounded or sub angular, a few are of irregular shape. Clasts form 25-30% of the rock except for lowermost 1m of the interval which is more massive W-QcW matrix with < 5% clasts.			

211-843

Scale

Colour Plot & Dips

Drill Hole Record

Cominco Page 17

Property	District	Hole No.	
Commenced	Location	Tests at	Hor. Comp.
Completed	Core Size	Corr. Dip	Vert. Comp.
Co-ordinates		True Brg	Logged by
Objective		% Recov.	Date

Claim | T Brg. | Collar Dip | Elev. | Length

XXXXX m. From	To	Description	Sample No.	Length	Analysis
309.1	313.8	Clast size ranges from few mm. to > 4.5 cm across, averaging about 1 cm x 2 cm. Clast composition varies from light gray colored SW and W to dark blue-gray QcW. A preferred orientation at ~ 80° to c.a. is evident but there are numerous more randomly oriented clasts. This conglomerate interval has a less well developed fabric than overlying conglomerate intervals. Most clasts are internally massive but a few are laminated. A few clasts contain disseminated po and minor irregular pods of po occur in the W matrix. Py occurs locally along narrow quartz-feldspar filled fractures.			
cont'd.					
313.8	316.5	QcW & W, minor conglomerate Thin & med. bedded. Locally small scale disruption is evident by small offsets across bedding planes (few mm displacement), angular clasts are local annealled brecciation. Alteration has silicified the sediments but they appear to originally have been QcW & W with SW bed tops. Chlorite and muscovite are developed in light gray-green SW bed tops. One rounded fine-grained siliceous clast (5 mm x 1.5 cm) occurs at 315.1m.			

211-0

Scale

Colour Plot & Dips

Drill Hole Record

Cominco Page 18

Property	District	Hole No.	
Commenced	Location	Tests at	Hor. Comp.
Completed	Core Size	Corr. Dip	Vert. Comp.
Co-ordinates		True Brg.	Logged by
Objective		% Recov.	Date

Claim | T Brg. | Collar Dip | Elev. | Length

XXXXX m. From	To	Description	Sample No	Length	Analysis
316.5	320.7	Conglomerate and breccia This conglomerate-breccia is of different character than overlying conglomerate zones; numerous clasts are angular and sub angular with irregular shapes, although many clasts are well rounded. Clast composition varies from light gray colored SW to dark blue-gray QcW. Bedding is evident by compositional layering which occurs locally, with wavy bedding planes. Within this zone clasts are generally more rounded higher up in the sequence but well rounded and angular clasts do occur in close association.			
320.7	333.7	W, minor QcW, conglomerate Predominantly thin bedded seds. with narrow (.5-2 cm thick) SW bed tops within which chlorite and muscovite are developed. Narrow conglomerate zones vary from being matrix supported to being clast supported. Bedding planes are commonly at 75° to c.a. but locally within conglomerate zones the fabric is at steeper angles i.e. 50° to c.a. the lowermost 15 cm of the interval is quite strongly altered, with bleaching and silicification caused by the adjacent gabbro dike. Some bedding is evident in this zone with occasional clasts.			

211-0

Scale

Colour Plot & Data

Drill Hole Record

Cominco

Property	District	Hole No	
Commenced	Location	Tests at	Hor. Comp.
Completed	Core Size	Corr. Dip	Vert. Comp.
Co-ordinates		True Brg	Logged by
Objective		% Recov.	Date

Claim | T Brg. | Collar Dip | Elev. | Length

XXXXX m. From	To	Description	Sample No.	Length	Analysis
333.7	338.7	Gabbro			
		Fine grained with a somewhat mottled character and common quartz and quartz-feldspar veins.			
		Minor po is present locally. Evidently a dike.			
338.7	342.1	Altered sediments			
		Bleached and silicified, locally annealled breccia; alteration masks texture considerably.			
		Lowermost 30 cm is "conglomerate" but with angular elongate clasts which are subparallel			
		to each other, like flaser structure. Po occurs locally as irregular narrow veinlets.			
342.1	347.0	W			
		Thin bedded, few medium beds. Upper 1.2m has rather vague bedding planes and is altered,			
		may be of QcW composition. Below this, beds are quite distinct with narrow light gray SW			
		bed tops. Beds are at 80°-85° to c.a.			
347.0	356.1	QcW & W			
		Thick and med. bedded with a few thin beds. Locally conglomeratic. Bedding planes are			
		generally vague - masked considerably by alteration which is moderate throughout much			
		of the interval. Po occurs commonly as fine disseminations. Seds. are typically micaceous			
		with fine grained biotite and miscovite. Conglomerate with alteration - masked vague			
		rounded clasts of various sizes, mostly small varying from few mm to 2 cm long, occurs near			
		354.9m and near 355.3m. In both cases clasts can be distinguished over only 15 or 20 cm.			

211-44

Scale

Colour Plot & Data

Drill Hole Record

Cominco

Property	District	Hole No.	
Commenced	Location	Tests at	Hor. Comp.
Completed	Core Size	Corr. Dip	Vert. Comp.
Co-ordinates		True Brg.	Logged by
Objective		% Recov.	Date

Claim | T Brg. | Collar Dip | Elev. | Length

XXXXX Meters From	To	Description	Sample No.	Length	Analysis
347.0	356.1	of core. Bedding is at 75°-80° to c.a.			
356.1	360.2	W and QcW			
		Thin and med. bedded. Typically micaceous, pyrrhotitic. Most beds have distinct very fine			
		grained subwacke or argillite bed tops and W bases; a few med. thickness beds are QcW.			
		Medium grained light greenish mica (muscovite?) is preferentially developed in the bed tops.			
		Alteration, bleaching and silicification becomes more intense towards the base of the			
		interval, with bedding planes largely obliterated in the last ½ meter. Bedding is at 75-80°			
		to c.a.			
360.2	370.3	Zone of strongly altered sediments			
		Fairly intense bleaching and silicification is present. Few bedding planes can be			
		recognized; some thin, very thin beds are evident but most of the interval is probably			
		med., possibly even thick bedded. Po occurs as fine disseminations and as small blebs			
		of a few mm. diam. Annealled breccia is evident from 361m. to 363m.; numerous healed			
		fractures are bleached. Narrow veins with light yellow carbonate (predominantly dolomite			
		with minor calcite) occur from 360.4m. to 363.7m. Some fracture surfaces are chloritic;			
		a few with slickensides.			
370.3	378.8	W, QcW			
		Med. and thin bedded. Moderate alteration is evident. Argillaceous (SW) bed tops commonly			

211-44

Scale

Colour Plot & Date

Drill Hole Record

Cominco

Property	District	Hole No.	
Commenced	Location	Tests at	Hor. Comp.
Completed	Core Size	Corr. Dip	Vert. Comp.
Co-ordinates		True Brg.	Logged by
Objective		% Recov.	Date

Claim | T Brg. | Collar Dip | Elev. | Length

~~Meters~~ m. From	To	Description	Sample No.	Length	Analysis
370.3	378.8	contain med. – coarse grained light gray-green mica (likely muscovite). Disseminated po occurs throughout the interval. Near 377.1m 10 cm of core is of annealled breccia. Individual fragments are generally in contact with other fragments & comprise about 60% of the interval. Matrix is more siliceous, probably QcW. At 378.8 are 2 fracture surfaces at 30°–45° to c.a. with black slickensides (looks like graphite but is probably very dark chloritic). A 2-3 cm wide quartz vein at approx. 90° to fractures contains masses of chlorite. Core angle is 85-90°.			
378.8	381.7	QcW Thick bedded. Only one bedding plane is recognizable within the unit, at 381m. Beds internally are quite massive, dark blue-gray colored. Coarse grained pale gray-green muscovite is developed preferentially along 1 cm wide zones (which may be bedding planes) of argillaceous material near 380.5m. Alteration, with bleaching along healed fractures, is evident from 381m to 381.7m.			
381.7	394.0	W & QcW Est. 60% thin-very thin bedded, 40% med. bedded. Thicker beds are generally more siliceous. Some of the very thin beds have associated with them lenses of material indicating discontinuous sedimentation. Minor compaction features such as small scale flame structures, are present.			

211-6437

Scale

Colour Plot & Date

Drill Hole Record

Cominco

Property	District	Hole No.	
Commenced	Location	Tests at	Hor. Comp.
Completed	Core Size	Corr. Dip	Vert. Comp.
Co-ordinates		True Brg.	Logged by
Objective		% Recov.	Date

Claim | T Brg. | Collar Dip | Elev. | Length

~~Meters~~ From	To	Description	Sample No.	Length	Analysis
381.7	394.0	Minor po. usually as fine disseminations < 1 mm. diam. but locally as small 1-2 mm. blebs, occurs throughout the interval, most prevalently in the thin bedded W zones. Po occurs also as rare narrow irregular veinlets. The W zones are micaceous with coarsening of the grains locally within more argillaceous bands. Bedding is typically at 80° to c.a.			
394.0m.		End of Hole			
		Sperry Sun Single Shot Surveys 2 attempts at 390m. were unsuccessful. 227m. Azimuth 019.5° Dip -76.1° Collar Attitude Azimuth 090° Dip -80°			
		Core to be stored at Kootenay Exploration, Cominco Cranbrook, B.C.			

211-6437

Overburden

Med & thin bedded

QcW

Pegmatite vein

QcW & W

Med & thin bedded

FAULT, chloritic gouge, qtz veining

QcW

100 m

QcW & W

Thin & med bedded

QcW

Massive QcW-W

Est 2-3% po

Est 5% po

Conglomeratic QcW-W

pebbles rare, indistinct

25% pebbles, wacke matrix

Conglomerate

Brecciation, qtz veining

Gabbro

Fault contact, chloritic, brecciated

Massive QcW & W

Gabbro

200 m

Bleached contact zone

Altered Sediments

Massive W - QcW

Est ≤ 3% pebbles

Conglomerate

25% pebbles

Massive Conglomeratic QcW

1% pebbles

20% pebbles

5% pebbles

Conglomerate

25 - 30% pebbles

Thin - med. bedded

QcW

Altered Sediments

Conglomerate

15% pebbles

Altered, Bleached Sediments

Gabbro

Altered Conglomerate

300 m

Thin bedded

W & QcW

Fault, chloritic, brecciated

Conglomerate

25% pebbles

QcW & QW

Conglomerate

irregular fragments

W, QcW & Conglomerate

Thin bedded with conglomerate zones

Gabbro

Altered Sediments

W

Thin bedded

Med - thin bedded

W & QcW

394m

0 50

meters

CLAIR PROPERTY

Drawn by: PK

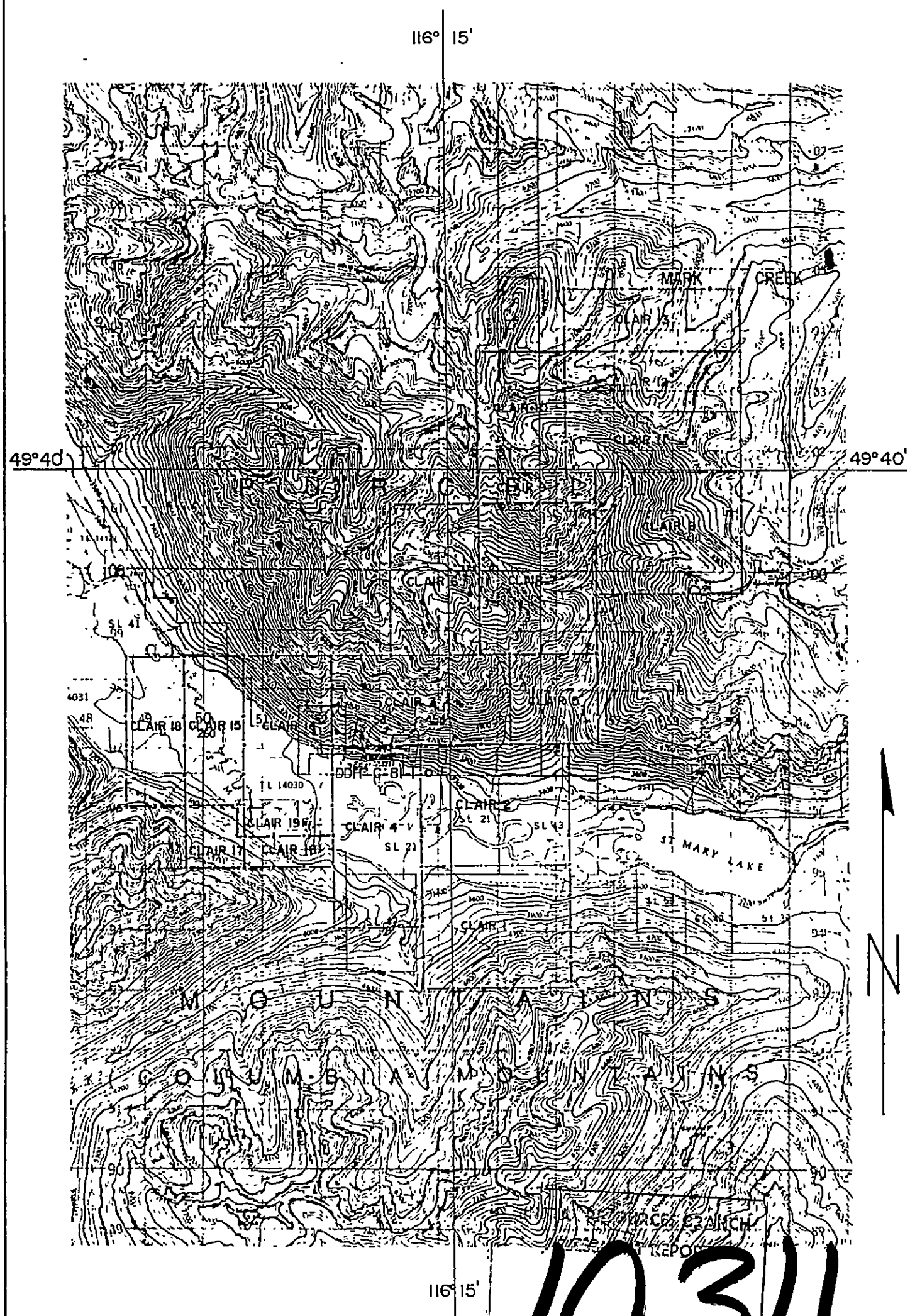
Traced by.

DDH C-81-1

Scale 1:1000

Date. NOV 1981

Plate



1031

NO.

Comm

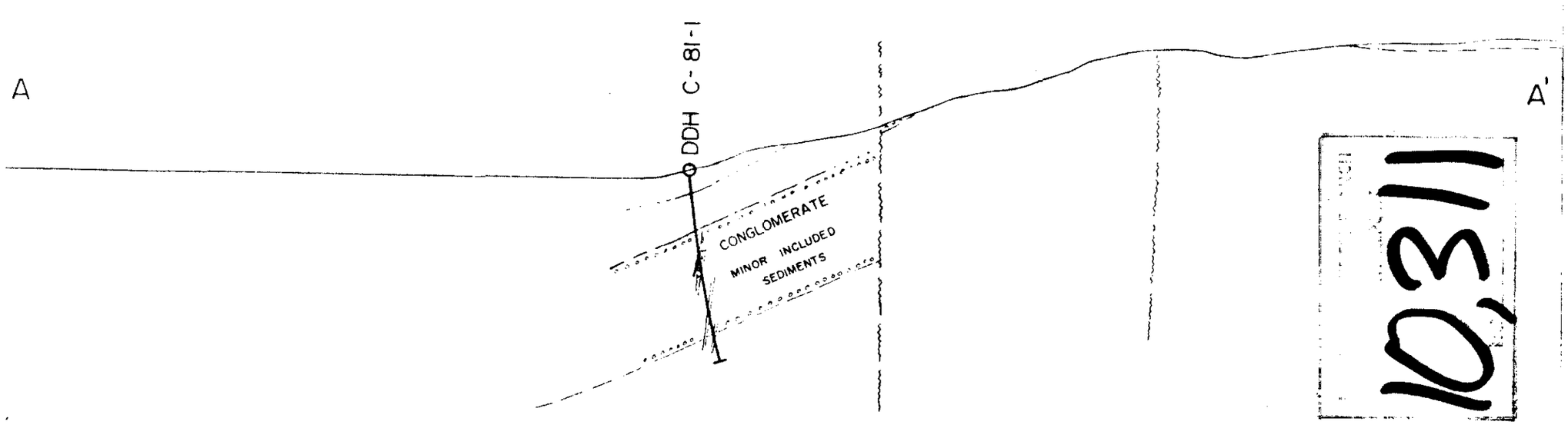
Drawn by: PK		Traced by:	
Revised by	Date	Revised by	Date

CLAIR CLAIMS
LOCATION MAP

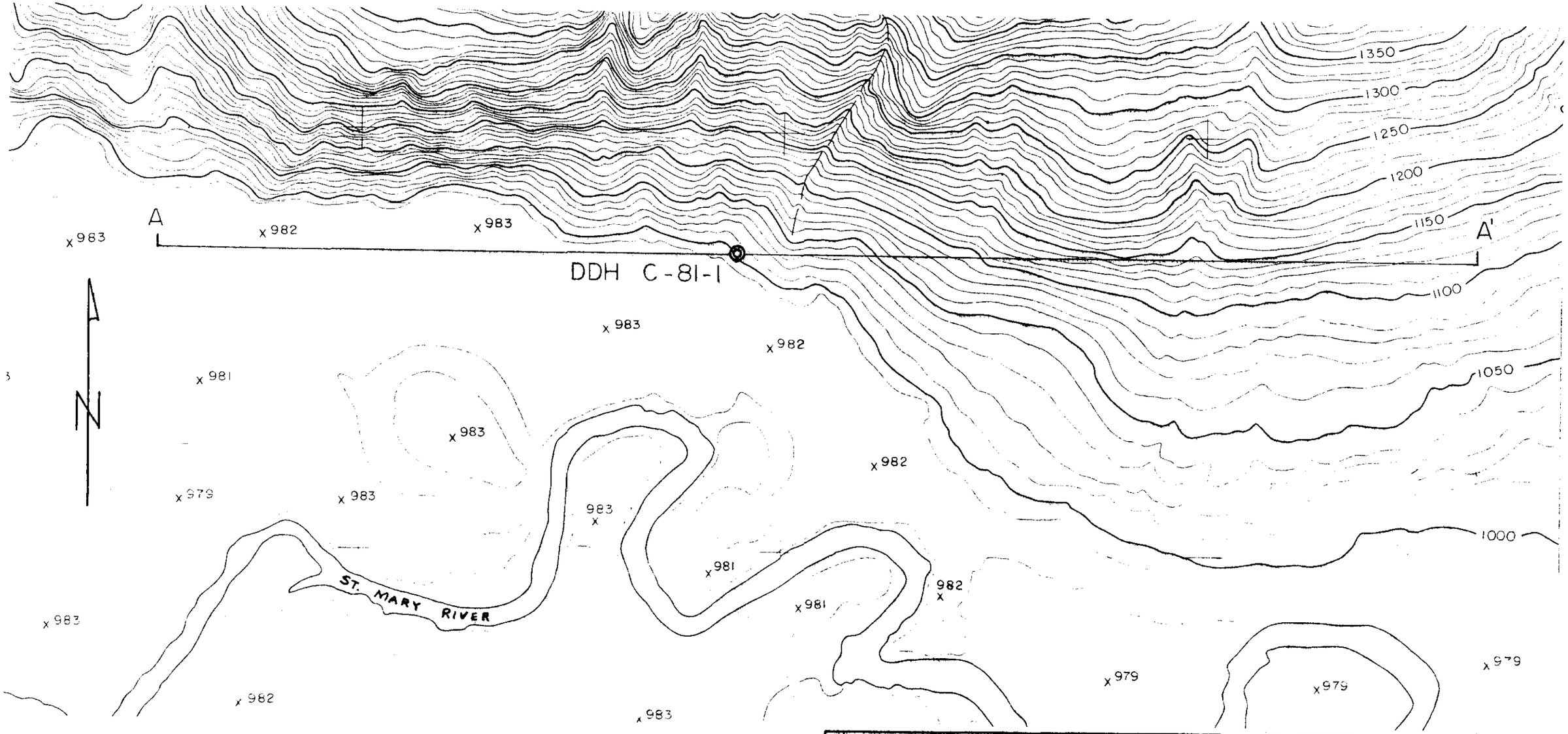
NTS 82 F/9

Scale: Approx. 1: 8000	Date: MARCH 1982	Plate:

210-0610



10,311



Drawn by: PK | Traced by:

Revised by	Date	Revised by	Date

Canmore

DDH C-81-1
LOCATION MAP & SECTION

NTS 82 F/9

Scale: 1: 10,000 | Date: MARCH 1982 | Plate: