COMINCO LTD.

EXPLORATION

WESTERN DISTRICT

DIAMOND DRILLING

Telfer and Burgess Groups

Fort Steele Mining Division

Mark Creek Area

N.T.S. 82F/9

- Assessment Report -

LATITUDE: 49° 44.5′ N

LONGITUDE: 116° 03′ W

OWNER

Cominco Ltd.

Box 2000
Kimberley, B.C.
V1A 2G3

Work performed during August to October, 1988

Report by:

P.W. Ransom
Project Geologist

TABLE OF CONTENTS

COMINCO LTD.

EXPLORATION
NTS 82F/9

WESTERN DISTRICT

DIAMOND DRILLING REPORT

ASSESSMENT REPORT

TELFER AND BURGESS GROUPS

Fort Steele Mining Division

January, 1989

P.W. Ransom

1.00 INTRODUCTION

1.10 Specific Location

DDH 6464, the hole being reported on, was drilled 4 kilometers northwest of Sullivan Mine. Access to the drill site is by exploration access roads.

1.20 Property Description

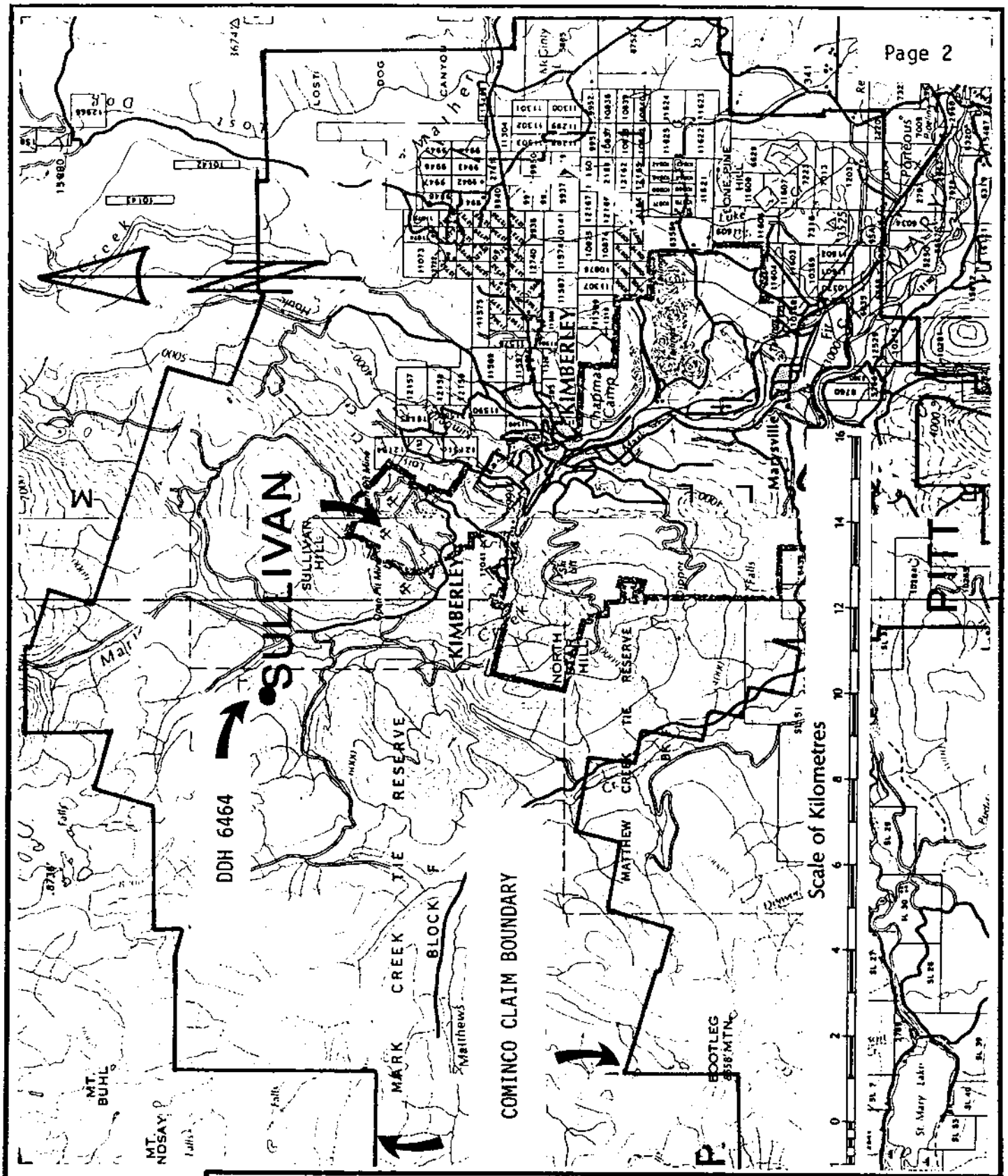
The property being investigated forms part of the Sullivan Mine claim group, owned by Cominco Ltd. Cominco has operated the mine for about 75 years. The Sullivan stratiform Ag-Pb-Zn-Fe sulphide deposit is one of the most important of its type worldwide and has contributed significantly to the mineral wealth generated in the province of British Columbia.

1.30 Drilling

The drilling of one hole below 1738 meters is being reported on. It was collared at -68° dip and was drilled to a depth of 2,649 meters using H and N wireline tools.

1.40 Claims Explored

DDH 6464 was drilled on the Telfer and Burgess Crown Granted Mineral Claims.

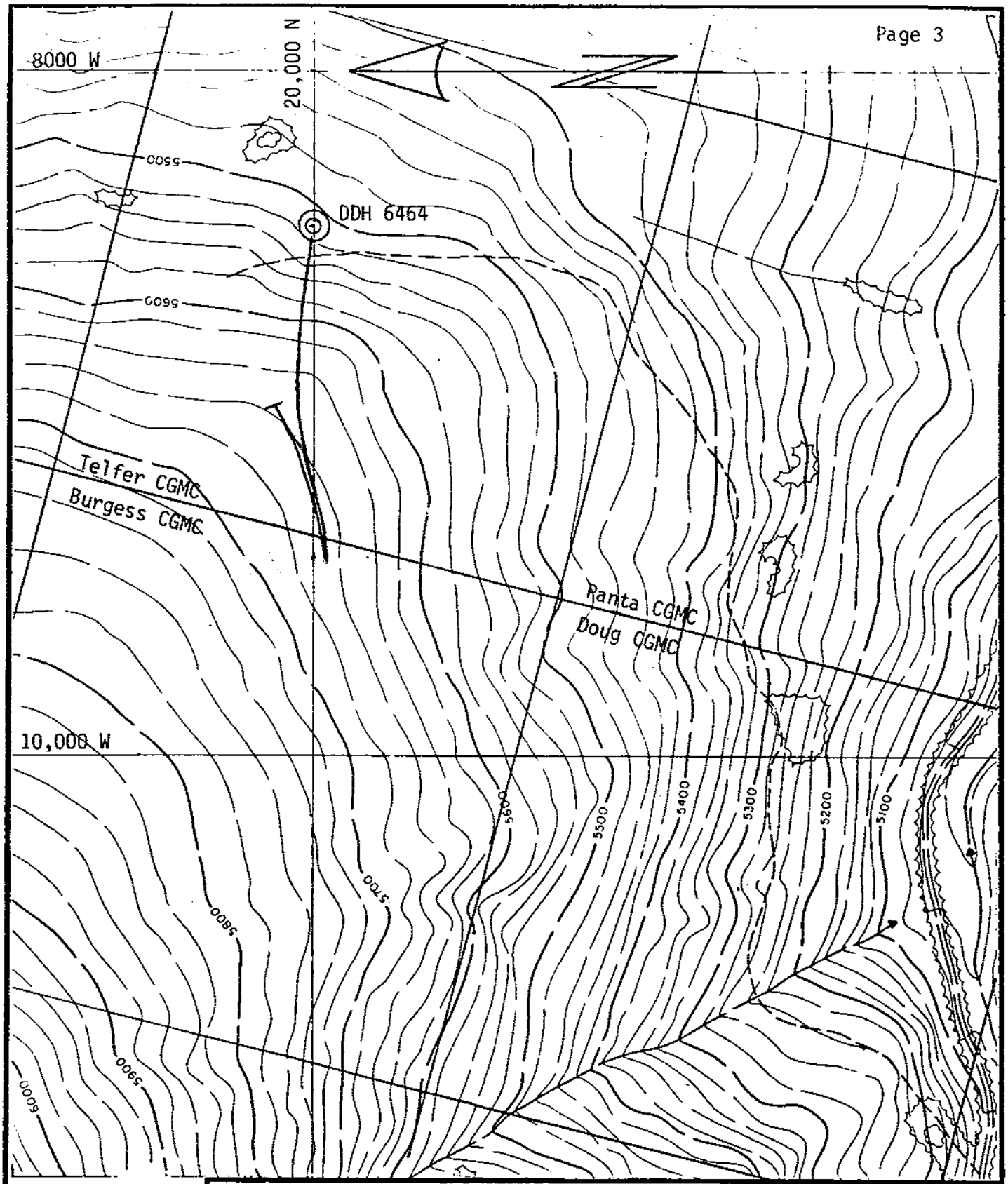


Iss'd To:	Date:

INDEX MAP

COMINCO LTD. SULLIVAN CLAIM BLOCK

Drawn by:	Scale:	Date:	Plate:
PWR	Shown	Feb. 1988	1



100 m

Iss'd To:	Date:
Revised	JAN '89

DRILLING SURFACE PLAN

DDH 6464

Drawn by:	Scale:	Date:	Plate:
PWR	400'	Feb. 1988	2

2.00 DETAILED TECHNICAL DATA AND INTERPRETATION

2.10 Drilling

2.11 Objective

The Objective of drilling DDH 6464 was to locate the offset continuation of the Sullivan orebody north of the Kimberley Fault.

2.12 Results

DDH 6464 was drilled to a depth of 8688 feet (2649 m). Rocks cored are siliciclastic and argillaceous sediments, gabbro and "granophyre". A detailed lithologic description is given in the log, Appendix A. The interval from 8139.8 to 8534.5 feet (2481.6 - 2602.0 m) has a true stratigraphic thickness of 105.3 m and contains unique sedimentation units, in particular very thick graded beds, thick dissaggregated argillaceous units, laminites and at 2592.7 m 30 cm of deformed bedded sulphides.

2.13 Interpretation

The sedimentary rocks cored to a depth of 2481.6 m belong to the Middle Aldridge Fm. and below that to the Lower Aldridge Formation. The gabbros are typical of Moyie intrusions commonly found within the Aldridge. The "granophyre" is equated with similar rock associated with the footwall gabbro intrusions at Sullivan. The unique sediments in the 105.3 m stratigraphic interval are interpreted to comprise turbidites thickened by virtue of deposition in a local sub-basin, slumps, rapidly deposited sediment associated with sub-basin formation including re-sedimentation of unstable accumlations and exhalitive sulphides. This distinctive package of sediments is correlated with the stratigraphic sequence enclosing ore at Sullivan and the 30 cm of bedded sulphides are the fringe of the offset portion of the Sullivan deposit north of the Kimberley Fault.

2.14 Conclusion

DDH 6464 penetrated portions of the Middle and Lower Aldridge Formations, the faulted continuation of the Sullivan ore hosting stratigraphic sequence and intrusive rocks similar to that at Sullivan. Most significant is the 30 cm of deformed bedded pyrrhotite and sphalerite proving the presence of Sullivan type sulphides north of the Kimberley Fault.

Report by: P. Ransom

P.W. RANSOM
Project Geologist
Cominco Ltd.

Endorsed by: John Hamilton

J.M. HAMILTON
Manager, Exploration
Western Canada
Cominco Ltd.

Copies: Mining Recorder (2 copies)
Western District
Kootenay Exploration

APPENDIX A

Diamond Drill Geological Log For D.D.H. 6464

LAT. 20,000'N DEP. 8,450'W ELEV. 5,500 feet
DIP: -68.5° AZIM.: 270° LENGTH: 8,688 feet
HORIZ. COMP. VERT. COMP.
DATE COLLARED: Nov. 3, 1987 DATE COMPLETED: Feb. 2, 1988
CORE STORAGE: Sullivan Mine Deepened: Aug 6 to Oct. 9, 1988
DRILLED ON CLAIM(S): Telfer and Burgess
OBJECTIVE: To explore for the continuation of the Sullivan orebody north of the Kimberley Fault.
PLANNED LENGTH: 6,500 feet
TERMINATION COMMENTS: Rig not capable of lowering NQ rods safely below 5,700 feet. Considering replacing rig. Larger drill installed, started deepening hole Aug. 9, 1988 and completed to 8,688' on Oct. 9, 1988.

DRILLED BY: Connors Drilling Ltd.
TYPE DRILL: 56HD (Boyles) to 5701'; Connors modified Longyear 55 with 40' pull
CORE SIZE: HQ, NQ and Boyles chuck and 76 mm rod string + C.B.
PERFORMANCE COMMENTS:
BOYLES 56HD performed well but was not used much beyond rated capacity.
LONGYEAR 55 performed very well. Except for the bottom 100', up to 7170 feet of NCQ rods were used in the string, above which stronger 6 m long 76 mm rods were used. This combination with the smaller 76 mm core tube resulted in substantially reduced time necessary to cycle the tube below 5700 feet.

CASING REMAINING IN HOLE (LENGTH & SIZE): 42' HW

TYPE CAP & SEALING METHOD: 2' HW welded cap.

OTHER MATERIAL REMAINING IN HOLE: None
Drillers on completing hole 5701 - 8688': J. Corsi and R. Druske, helpers - R. Brown and J. Rankin. Second drillers added to each shift for about last 10 days - M. Rousselle and R. Thelland.
SURVEY INSTRUMENT USED: Sperry Sun. See results to right.

ADDITIONAL DOWN HOLE TESTS: Temperature

Depth	Time thermometer on bottom	Temperature
5,578 feet	2 hours	115.5° F
5,701 feet	3 hours	118.5° F
7,490 feet	2 hours	147.0° F
8,170 feet	2 hours	158.00 F

GENERAL COMMENTS: Crew and first load arrived Oct. 28, rig arrived Oct. 31. Field Supervisor John Cantin, Drilling Forman John Corsi, Driller Richard Druske, helpers D. Goforth, Bill Gilroy, Rob Brown, cook C. Coomes. Residence at Kimbrook Crescent.

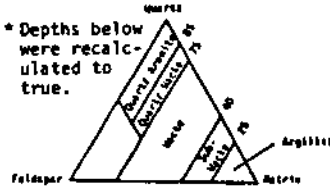
SPERRY SUN SURVEYS

Depth	Dip	Azm	Angle Unit	Depth	Dip	Azm	Angle Unit
0'	-68.0	270	90°	3901'	-84.3	260	20°
88'	-67.5	273	"	4111'	-84.1	not used	6°
498'	-70.5	279	"	4311'	-85.4	251	"
751'	-70.5	278	"	4521'	-86.0	243	"
1001'	-74.25	276	"	4719'	-86.2	261	"
1191'	-74.1	273	20°	4898'	-86.6	255	"
1391'	-75.0	268.5	"	5099'	-87.3	255	"
1611'	-77.0	262.5	"	5310'	-87.3	252	"
1801'	-77.5	261.5	"	5500'	-88.1	254	"
2011'	-78.1	261	"	5848'	-87.7	271	"
2321'	-79.1	264	"	6211'*	-88.0	023	"
2521'	-80.4	262	"	6586'	-84.15	0735	"
2701'	-80.4	264	"	6996'	off scale	0977	"
2911'	-80.5	263	"	7115'	-80.0	077	20°
3121'	-81.5	260	"	7295'	-78.3	079	"
3311'	-82.2	262	"	7483'	-76.8	079	"
3521'	-83.0	262	"	7677'	-75.7	076	"
3701'	-84.0	260	"	7882'	-75.1	073.5	"
				8165'	-74.5	068	"
				8486'	-73.4	061	"
				8675'	-73.9	061.5	"

BED THICKNESS CLASSIFICATION

BEDS	Very Thick Bedded
	100 cm
	Thick Bedded
	30 cm
	Medium Bedded
	10 cm
	Thin Bedded
	3 cm
	Very Thin Bedded
	1 cm
LAMINAE	Laminated
	0.3 cm
	Thinly Laminated

* Depths below were recalculated to true.



LITHOLOGIC CLASSIFICATION

D.D.H. 6464

Diamond Drill Geological Log For D.D.H. 6464

LAT. 20,000'N DEP. 8,450'W ELEV. 5,500 feet
DIP: -68.5° AZIM.: 270° LENGTH: 8,688 feet
HORIZ. COMP. VERT. COMP.
DATE COLLARED: Nov. 3, 1987 DATE COMPLETED: Feb. 2, 1988
CORE STORAGE: Sullivan Mine Deepened: Aug 6 to Oct. 9, 1988
DRILLED ON CLAIM(S): Telfer and Burgess
OBJECTIVE: To explore for the continuation of the Sullivan orebody north of the Kimberley Fault.
PLANNED LENGTH: 6,500 feet
TERMINATION COMMENTS: Rig not capable of lowering NQ rods safely below 5,700 feet. Considering replacing rig. Larger drill installed, started deepening hole Aug. 9, 1988 and completed to 8,688' on Oct. 9, 1988.

DRILLED BY: Connors Drilling Ltd.
TYPE DRILL: 56HD(Boyles) to 5701'; Connors modified Longyear 55 with 40' pull
CORE SIZE: HQ, NQ and Boyles chuck and 76 mm rod string + C.B.
PERFORMANCE COMMENTS:
BOYLES 56HD performed well but was not used much beyond rated capacity.

LONGYEAR 55 performed very well. Except for the bottom 100', up to 7170 feet of NCQ rods were used in the string, above which stronger 6 m long 76 mm rods were used. This combination with the smaller 76 mm core tube resulted in substantially reduced time necessary to cycle the tube below 5700 feet.

CASING REMAINING IN HOLE (LENGTH & SIZE): 42' HW

TYPE CAP & SEALING METHOD: 2' HW welded cap.

OTHER MATERIAL REMAINING IN HOLE: None
Drillers on completing hole 5701 - 8688': J. Corsi and R. Druske, helpers - R. Brown and J. Rankin. Second drillers added to each shift for about last 10 days - M. Rousselle and R. Thelland.
SURVEY INSTRUMENT USED: Sperry Sun. See results to right.

ADDITIONAL DOWN HOLE TESTS: Temperature

Depth	Time thermometer on bottom	Temperature
5,578 feet	2 hours	115.5° F
5,701 feet	3 hours	118.5° F
7,490 feet	2 hours	147.0° F
8,170 feet	2 hours	158.0° F

GENERAL COMMENTS: Crew and first load arrived Oct. 28, rig arrived Oct. 31. Field Supervisor John Cantin, Drilling Forman John Corsi, Driller Richard Druske, helpers D. Goforth, Bill Gilroy, Rob Brown, cook C. Coomes. Residence at Kimbrook Crescent.

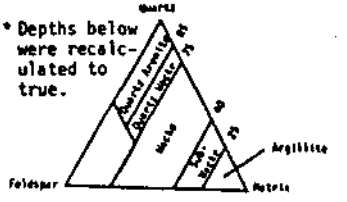
SPERRY SUN SURVEYS

Depth	Dip	Azm	Angle Unit	Depth	Dip	Azm	Angle Unit
0'	-68.0	270	90°	3901'	-84.3	260	20°
88'	-67.5	273	"	4111'	-84.1	not used	6°
498'	-70.5	279	"	4311'	-85.4	251	"
751'	-70.5	278	"	4521'	-86.0	243	"
1001'	-74.25	276	"	4719'	-86.2	261	"
1191'	-74.1	273	20°	4898'	-86.6	255	"
1391'	-75.0	268.5	"	5099'	-87.3	255	"
1611'	-77.0	262.5	"	5310'	-87.3	252	"
1801'	-77.5	261.5	"	5500'	-88.1	254	"
2011'	-78.1	261	"	5848'	-87.7	271	"
2321'	-79.1	264	"	6211'*	-88.0	023	"
2521'	-80.4	262	"	6586'	-84.15	0735	"
2701'	-80.4	264	"	6996'	off scale	097?	"
2911'	-80.5	263	"	7115'	-80.0	077	20°
3121'	-81.5	260	"	7295'	-78.3	079	"
3311'	-82.2	262	"	7483'	-76.8	079	"
3521'	-83.0	262	"	7677'	-75.7	076	"
3701'	-84.0	260	"	7882'	-75.1	073.5	"
				8165'	-74.5	068	"
				8486'	-73.4	061	"
				8675'	-73.9	061.5	"

BED THICKNESS CLASSIFICATION

BEDS	Very Thick Bedded	100 cm
	Thick Bedded	30 cm
	Medium Bedded	10 cm
	Thin Bedded	3 cm
	Very Thin Bedded	1 cm
LAMINAE	Laminated	0.3 cm
	Thinly Laminated	

* Depths below were recalculated to true.



LITHOLOGIC CLASSIFICATION

D.D.H. 6464

Drill Hole Record

Cominco Page 27

Property Sullivan District Western Hole No. DDH6464
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 | Analysis

Footage From	To	Description
5007.0	5053.0	Quartz wacke, quartz arenite, with a fair amount of wacke and minor subwacke and argillite; thick bedded; bed contacts sharp and flat, some slightly wavy. Predominantly argillite 5020 - 5023.5' has a 10 cm fault of gouge and rock chips, upper contact of fault cuts core at 40°. Bedding to core: curves from 35° to 15° @ 5020', cleavage is opposite at 63°, 45° @ 5033'.
5053.0	5065.0	Wacke, subwacke and argillite; medium grey; thin bedded, rarely laminated; bed contacts sharp and wavy (folding?); beds are graded. Core is broken from 5060 - 5065'. Slickensides noted on some bedding planes, but not common. Bedding/cleavage (opposite?) 42°/02° @ 5057'.
5065.0	5069.0	Quartz wacke, light grey, fine sand, single thick bed. Sparse fine white flecks are calcareous. Mottled alteration - biotite and bleaching.
5069.0	5074.0	Wacke, Subwacke, Argillite, medium to dark grey, thin bedded to laminated, contacts sharp and flat. One 40 cm bed of Quartz wacke, light grey, internally convoluted. Large rip-up clast within one thin bed. Bedding to core 42° to 56°, cleavage to core 05° in opposite sense to bedding.
5074.0	-5140.0	Quartz wacke, light to medium grey, thick bedded, rare fine sand, short weak calcareous patches (one strong), medium grey, thin bedded to laminated. Contacts generally sharp and flat however deep scour(?) and large detached flake at 5115 and 5120'. Bedding to core 63° at 5123'.
5140.0	- 5287.0	Wacke, minor Subwacke and Argillite, occasional isolated thick bed of Quartz arenite or Quartz wacke. Medium grey, thick and medium bedded, bed contacts sharp to distinct and flat, some wavy. The subwacke and argillite are thin bedded to laminated or rarely wavy laminated and cross bedded; subwacke and argillite intervals rarely exceed 40 cm. Bedding to core 55° @ 5154', 70° @ 5192', 54° @ 5253' with cleavage 45° in opposite sense, 70° @ 5287'.

Scale

Colour Plot & Dips

Drill Hole Record

Page 28

Property Sullivan	District Western	Hole No. DDH6464	
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 | Hole No. | Sheet

Analysis

Footage From	To	Description
5287.0	5586.0	Wacke with moderate Subwacke and Argillite; minor occasional Quartz wacke and Quartz arenite. Fold zone, drilling essentially parallel to core. Bedding/cleavage/sense O = opposite, S = same as bedding: 07°/37°/O @ 5304'; 0° +/- 9°/43°/O+S @ 5447'; 15°/41°/O @ 5547'; 21°/60°/O @ 5584'. Bed contacts up to 30° on short wave-length folds, however primarily and predominantly bedding is sub-parallel to core. Gouge zone with shears of 30° and 48° from 5394.0 to 5394.5'; 1.5' short occurs at 5394.5'.
5586.0	5588.3	Diabase(?) dike - fine grained, greener fairly uniform rock, both contacts 60°.
5588.3	5598.5	Quartz arenite, light grey, single? or amalgamated unit. Basal contact 50°.
5598.5	5682.0	Wacke, Subwacke, and Argillite with a few single quartz wacke or quartz arenite beds at regular intervals, medium grey, intervals of thin bedded and laminated subwacke and argillite up to 3' long alternate with several medium and thick Wacke, quartz wacke and quartz arenite beds, bed contacts are sharp to distinct and flat (although folded by later tectonic activity). Distinct cross bedded interval @ 5602'. Bedding/cleavage/sense of cleavage to bedding: 54°/35°/O @ 5607', 20°/34°/O @ 5624', 60°/35°/O @ 5644', 80°/45°/O @ 5657', 75° @ 5678'.
5682.0	5691.5	Quartz arenite, light grey, thick and very thick bedded, contacts sharp and wavy.
5691.5	5791.0	Wacke, 20% Quartz wacke and Quartz arenite, 10% Subwacke/Argillite, medium grey, medium and thick bedded with a few thin bedded intervals, bed contacts distinct to diffuse, generally flat. Up to 3 quartz wacke and quartz arenite beds occur in clusters at irregular intervals. 3 cm thick quartz seam with flanking gouge in bedding parallel fault (minor) at 5775.7'. Bedding to core: 78° @ 5694', 78° @ 5730', 81° @ 5757', 65° @ 5787'.

Scale

Colour Plot & Dips

Drill Hole Record

Page 29

Property Sullivan	District Western	Hole No. DDH6464	
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 | Hole No. | Sheet

Analysis

Footage From	To	Description
5791.0	5861.0	Wacke/Subwacke/Argillite with minor Quartz wacke/Quartz arenite, medium to light grey, medium, thin bedded and laminated, some of the quartz wacke/quartz arenite occurs in thick beds, bed contacts are sharp to distinct, most are flat. Bedding to core: 74° @ 5791', 80° @ 5820', 80° @ 5857'.
		NOTE: Below 5854', started to add 6 meter long rods to the string instead of 10 foot rods. Depths according to footage blocks assume these rods are 20 feet long and these are depths shown first. Depths in brackets are true Imperial feet. At least twice 10 foot rods were added to the middle of the rod strings in numbers that were equivalent to a whole number of metric rods (plus or minus 1 foot). True depths are rounded to nearest 0.5 or 0.1 feet as per depths based on footage blocks.
5861.0	5868.5	Quartz arenite, white, medium to coarse grained, two beds, contacts distinct, flat.
5868.5 (5868.5	5878.5 5878.0)*	Wacke/Subwacke, minor Argillite, minor quartz wacke, medium grey, thin and medium bedded with short laminated intervals, contacts are sharp and flat. Fine weak disseminations of pyrrhotite noted. Bedding to core 77° @ 5878'.
5878.5 (5878.0	5914.0 5913.0)*	Quartz wacke, occasionally Quartz arenite with tops up to 40% of bed thickness of Wacke/Subwacke/Argillite, light grey, fine and medium grained, thick and very thick bedded with rare thin bed, contacts distinct flat to irregular. Bedding to core 80° @ 5890'.
5914.0 (5913.0	5986.0 5984.0)*	Wacke with Subwacke/Argillite tops, with 40% typically calcareous Quartz wacke, medium grey, thick and medium bedded, some beds have disseminated and scattered small patches of pyrrhotite, intervals of medium and thin beds with occasional laminated units alternate with thick beds (usually Quartz wacke), bed contacts sharp to distinct and flat. Several sets of cross laminae noted, both in laminated

* First set of footages as per footage blocks, bracketed footages are true feet.

Scale

Colour Plot & Dips

Drill Hole Record

Cominco

Property Sullivan	District Western	Hole No. DDH6464	
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 | Sheet

Analysis

Footage From	To	Description
		intervals and within the Quartz wacke. Bedding to core 70° @ 5938', 80° @ 5967', 80° @ 5984'.
5986.0	6038.0	Quartz wacke (50%), Quartz arenite (25%), Wacke/Subwacke/Argillite 25%, medium
(5984.0-6035.0)*		grey, fine grained, below 6030' Quartz wacke/Quartz arenite is calcareous, some Wacke/Subwacke/Argillite in wavy and planar laminated intervals up to 40 cm long, predominantly thick (rare very thick) bedded with few medium and thin beds. Bedding to core 78° @ 5996', 80° @ 6030'.
6038.0	6075.0	Wacke/Subwacke/Argillite 85%, Quartz wacke 15%, medium grey, medium and thin bedded
(6035.0-6071.0)*		and weakly laminated, the quartz wacke is usually in thick beds, contacts sharp to vague and usually flat. Pyrrhotite common at the base of some beds; some quartz wacke is weakly calcareous. Bedding to core: 85° @ 6845', 75° @ 6872'.
6075.0	6114.0	Quartz wacke/some Quartz arenite, minor Wacke/Subwacke/Argillite, medium grey,
(6071.0-6110.0)*		thick bedded with a few medium, thin and laminated beds, contacts sharp to vague and flat to wavy. No calcareous beds noted. Bedding to core 75° @ 6101'.
6114.0	6132.0	Wacke/Subwacke/Argillite, minor Quartz wacke, medium grey, medium bedded, some
(6110.0-6127.5)*		thin and laminated beds (core broken).
6132.0	6182.5	Quartz wacke with a few Quartz arenite beds at start, minor Wacke/Subwacke/Argillite
(6127.5-6177.0)*		usually as bed tops, medium grey, thick and medium bedded, contacts distinct to vague, some flat, a few cross beds noted. Wacke interval 6160 - 6166', several beds but almost all is laminated. One laminated quartz wacke is calcareous as are light laminations, and cross laminations in the Wacke interval. Bedding to core 75° @ 6133', 80° @ 6164', 81° @ 6174'.
6182.5	6192.0	Subwacke/Argillite with minor Wacke/Quartz wacke, medium grey, thin and medium
(6177.0-6187.0)*		bedded, some laminated. Bedding to core 75° @ 6192.0'.

* First set of footages as per footage blocks, bracketed footages are true feet.

811-0437

Scale

Colour Plot & Dips

Drill Hole Record

Cominco

Property Sullivan	District Western	Hole No. DDH6464	
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 | Sheet

Analysis

Footage From	To	Description
6192.0	6215.0	Quartz arenite, minor quartz arenite with some Quartz wacke/Subwacke/Argillite
(6187.0-6209.0)*		in upper portions of beds, medium grey, fine, some medium grained, thick bedded, bed contacts sharp to distinct. Bedding to core 72° @ 6204'.
6215.0	6239.0	About 7' short in this interval, Wacke/Subwacke/Argillite, medium grey, medium
(6209.0-6233.0)*		and thick bedded with short interval of thin beds. About 40% of interval is broken core. Bedding to core: 77° @ 6219'.
6239.0	6248.0	Wacke/Quartz wacke/(quartz arenite) with minor Subwacke/Argillite, medium grey,
(6233.0-6242.0)*		thick (one very thick) bedded (medium beds present), bed contacts distinct to vague, wavy. Some quartz wacke + quartz arenite is weakly to moderately calcareous.
6248.0	6275.0	Wacke, some Subwacke/Argillite, minor Quartz wacke over very short lengths, moderately
(6242.0-6268.0)*		calcareous, medium grey, primarily medium bedded (some thick and thin beds), bed contacts sharp to distinct and flat, many beds internally laminated. Pyrrhotite is present disseminated along laminations within argillite and some bed bases and may be weakly disseminated elsewhere. Both laminated and some massive looking Wacke are generally moderately calcareous as are abundant white laths noted over 30% of interval. Bedding to core: 75° @ 6250', 75° @ 6273', cleavage 24° in opposite sense to bedding @ 6256'.
6275.0	6300.0	Quartz arenite, minor Quartz wacke/Wacke/Subwacke/Argillite, medium to light grey,
(6268.0-6293.0)*		fine grained, thick bedded, bed contacts sharp and flat to wavy, some are deformed, graded tops generally quite thin, most beds are massive in appearance. Only one quartz arenite bed is calcareous. Pyrrhotite masses up to 1X3 cm with associated chlorite and coarse biotite noted in zones of silicification (?within quartz arenite/ quartz wacke) between 6283 and 6284'. Bedding to core: 76° @ 6296'.

* First set of footages as per footage blocks, bracketed footages are true feet.

Drill Hole Record

Property: Sullivan | District: Western | Hole No.: DDH6464

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 | Hole No. | Sheet

Analysis

Footage From	To	Description
6300.0 (6293.0)	6314.0 (6307.0)*	Argillite and subwacke with some wacke, medium grey, thin to medium bedded, some contacts sharp and flat. Mild sheering parallel to cleavage, several minor fractures. Dark grey argillite clasts noted near 6310'. Bedding to core 70° with cleavage 59° in opposite sense @ 6305'.
6314.0 (6307.0)	6339.0 (6331.0)*	Wacke, minor subwacke/argillite, medium to dark grey, thick bedded, contacts distinct to vague, some flat, some deformed, many have slickenside development, one has a few mm of gouge. Most beds are massive and some have thick argillite tops containing pyrrhotite. Moderately folded in places. Bedding/cleavage/sense to bedding/to core: 72°/46°/Opp. @ 6315', 39° @ 6320', 65° @ 6332'.
6339.0 (6331.0)	6353.0 (6345.0)*	Wacke, minor subwacke/argillite, medium to dark grey, thin bedded with a few medium beds, bed contacts sharp to distinct and flat, several beds are dark laminites, cross-beds noted at 6348'. A few short intervals have weakly disseminated pyrrhotite. Bedding/cleavage/sense to bedding/to core: 56°/46°/Opp @ 6346'.
6353.0 (6345.0)	6390.0 (6381.0)*	Quartz wacke/wacke 75%, subwacke/argillite 25%, medium grey, thick bedded, contacts sharp and distinct and flat, some folded, long intervals are uniform in texture appearance, most are massive, some argillites have argillaceous wisps and disseminated pyrrhotite in cleavage. Bedding to core 70° @ 6353', 70° @ 6368', 65° - 20° O.T. - 32° on small overturned fold @ 6375', 54° @ 6387'.
6390.0 (6381.0)	6455.0 (6445.0)*	Wacke/subwacke/argillite, medium grey, thick and very thick bedded with thin beds only from 6390' - 6393', bed contacts sharp to distinct, wavy to tectonically shredded, rarely flat, most beds are fairly homogeneous with long intervals of a single lithotype predominating. The upper portions of several beds, and in some cases the bottom parts, are disaggregated and shredded; rip-up clasts and isolated rounded clasts, although rare, are present. These features indicate some pre-consolidation disturbance affected some beds. Pyrrhotite is common within silty layers and disaggregated wisps and appears to be aligned, now, with cleavage.

* First set of footages as per footage blocks, bracketed footages are true feet.

Drill Hole Record

Property: Sullivan | District: Western | Hole No.: DDH6464

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

Analysis

Footage From	To	Description
		Bedding/cleavage and sense relative to bedding, to core: 55°/34°/Opp @ 6391', 40°/45°/Opp @ 6434', 0°/50° over 2' in fold @ 6449'.
6455.0 (6445.0)	6482.0 (6472.0)*	Subwacke/argillite with 10% wacke, light grey, 4 very thick re-sedimented units (the lowest could be numerous thinner units, contacts of the bases of these units are fairly distinct wavy to somewhat irregular, each unit is graded, the basal wacke portion is fairly homogeneous with only rare clasts and constitutes no more than 20% of the overall thickness of the unit, the upper subwacke/argillite portions contain an abundance of floating lithic clasts-argillaceous clasts (very few) have distinct outlines though often shredded in appearance, subwacke clasts contain disseminated pyrrhotite and have very irregular outlines, the presence of grains of pyrrhotite and slightly silty composition of the very argillaceous matrix is indicative of complete disaggregation and incorporation of material similar in composition to the subwacke clasts. Pyrrhotite content diminishes downward in this interval. The lowest sedimentation unit comprises several medium and thin beds all containing elongate clasts and shreds and having an overall shredded appearance, this unit may be a submarine slide/slump deposit; the 3 units above were probably eroded within the basin and resedimented in a local sub-basin. Basal contacts of these units to core: 55° @ 6462', 70° @ 6467', and 77° @ 6472', the preferred alignment of pyrrhotite, and therefore cleavage, appears to sub-parallel these contacts.
6482.0 (6472.0)	6523.0 (6512.0)*	Quartz arenite/quartz wacke/wacke/subwacke/argillite, medium to light grey, fine grained, thick bedded, bed contacts sharp to gradual and wavy to irregular, graded, with bases generally textureless forming up to 60% of some beds, the tops of all beds have an intensely sheared appearance and some intervals are alternating wacke and erratic shredded argillite. It is not clear what the relative impacts of pre- and post-consolidation tectonic activity are. Bedding to core: 52° @ 6498', 24° (shredded) @ 6507'.

* First set of footages as per footage blocks, bracketed footages are true feet.

Drill Hole Record

Cominco Page 34

Property Sullivan	District Western	Hole No. DDH6464	
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 | Hole No. | Sheet

Analysis

Footage From	To	Description
6523.0 - 6594.0	(6512.0-6582.0)*	Subwacke/argillite minor wacke with 2' quartz arenite 6579' - 6582', medium to dark grey, very few indications of bedding: may faint silty remnants with disseminated pyrrhotite suggest coring was across bedding for most of the interval, shredded subwacke/argillite from 6574' - 6577' indicates coring was parallel to bedding and from 6577' - 6579' was about 65°. Two dark grey argillite clasts noted near 6555'. The quartz arenite is fine grained, base contact is ground however prominent parting of underlying argillite is 60°. Below 6582' is about 25% wacke/subwacke as convoluted beds in a subwacke/argillite matrix. Post-consolidation tectonic features (cleavage) overprints a probable pre-consolidation deformation texture.
6594.0 - 6629.0	(6582.0-6617.0)*	Quartz wacke/quartz arenite/wacke (subwacke/argillite), medium to light grey, fine grained, appears thick to very thick bedded (only 5 beds recognized, core angles are rare, irregular, sometimes broken and uncertain in that some could be on erratic argillite clasts), graded over long intervals. Upper 4 feet of bed from 6609 - 6617.5' contains argillite rip-ups and ragged subwacke clasts and is somewhat similar to preceeding units interpreted as slumps. One limy, altered, section near 6600' and the quartz arenite from 6623' - 6629' has white mottling that is weakly calcareous. Bedding to core: 75° @ 6606.5', 55° @ 6617.5'.
6629.0 - 6642.0	(6617.0-6629.0)*	Thirteen foot interval from which about 2' of broken core was recovered, some quite solid, some very friable with intense slickensides and some gouge.
6642.0 - 6667.0	(6629.0-6654.0)*	Quartz wacke (quartz arenite), medium to light grey, fine grained, appears that only one bed is present below 6646', top contact(?) of thin argillite (clast?) at 58° to core. Fairly homogeneous appearance, occasional white mottling (fine) and rare flecks.
6667.0 - 6684.0	(6654.0-6671.0)*	Seventeen feet of which 4 feet were recovered, most broken, some solid to 4" long, minor friable material and minor gouge noted. Considerable grinding and over-coring noted. Argillite portion of this interval represents a fault.

* First set of footages as per footage blocks, bracketed footages are true feet.

811-0437

Drill Hole Record

Cominco Page 35

Property Sullivan	District Western	Hole No. DDH6464	
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 | Hole No. | Sheet

Analysis

Footage From	To	Description
6684.0 - 6718.0	(6671.0-6704.0)*	Subwacke/argillite minor wacke, medium to dark grey, original sedimentary character masked by post lithification tectonic activity. Suspect original sediment was a disaggregated deposit of white lensoid subwacke in a argillite matrix. Considerable shearing along cleavage is characterized by slickensides and moderate chlorite development. The subwacke now displays very complex fold patterns. Shearing to core: average is about 50°, range is from 30° to 65°.
6718.0 - 6742.0	(6704.0-6728.0)*	Wacke, Quartz wacke minor subwacke, medium grey, appears thick bedded, broken at several locations. Fifteen cm gouge zone (recovered, not much lost) cutting core at 48° @ 6730 - 6730.5'.
6742.0 - 6757.0	(6728.0-6742.5)*	Same lithotype as 6684.0 - 6718.0', possibly the same unit repeated across the fault. Although intensely folded with shearing parallel to cleavage, much of bedding is sub-parallel to core. Shearing to core 50°, 50°, 52°.
6757.0 - 6848.0	(6742.5-6832.0)*	Wacke, a few beds grade from quartz wacke, most have good subwacke/argillite graded tops. From 6782 - 6838' (6767-6822'*) coring was sub-parallel to bedding. Thin laminite units are involved in the folding. Note that in a subwacke from 6806 - 6810' with pyrrhotite disseminated along parallel discontinuous planes, these planes are cleavage, not bedding. Bedding/cleavage and sense to bedding to core: 56°/56°/opp @ 6768', 71° @ 6780', 18°-0°/73°/opp @ 6782', 10°/13°/opp @ 6790', 0°-90°/74°/opp @ 6796', 71° @ 6818.5', 50° @ 6819', 0° @ 6819.5', 30° @ 6820'(opposite to that at 6819'), 28° @ 6824', 6°/55°/opp @ 6826', 31° @ 6831', 54° @ 6828', 60° @ 6847'.
6848.0 - 6864.5	(6832.0-6848.0)*	Quartz arenite, Quartz wacke, wacke, minor subwacke/argillite, medium to light grey, medium and fine grained, thick to very thick bedded, bed contacts distinct and wavy, beds are generally uniform in appearence. Minor quartz veins, some chlorite. Bedding to core 77° @ 6850', 72° @ 6864.5'.

* First set of footages as per footage blocks, bracketed footages are true feet.

Drill Hole Record

Cominco Page 36

Property SULLIVAN	District Western	Hole No. DDH6464	
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 | Hole No. | Sheet

Analysis

Footage From	To	Description
6864.5 (6848.0	6868.5 6852.0)*	Subwacke/Argillite, wacke, medium to dark grey, thin (with one medium) bedded, bed contacts sharp and flat, 10% thin beds of dark laminite, two small gouge zones near base.
6868.5 (6852.0	6881.0 6864.5)*	Quartz wacke minor, quartz arenite, with subwacke/argillite tops, medium to light grey, fine grained, thick bedded with some thin beds and laminated argillite, bed contacts distinct and wavy, possible flame structures (may be tectonic).
6881.0 (6864.5	6884.0 6867.5)*	Argillite, medium grey, thin bedded and laminated, sheared sub-parallel to bedding which is 77° to core.
6884.0 (6867.5	6887.0 6870.5)*	Wacke, medium and dark grey, 75% is very faint laminate.
6887.0 (6870.5	6917.0 6900.0)*	Quartz arenite/quartz wacke with 40% wacke/subwacke/argillite, light and medium grey, medium grained, thick bedded, bed contacts distinct and flat to irregular. Small cross-bedded zone at 6891', dark wacke laminate 6903-04'. Coarse pyrrhotite in bedding-parallel quartz vein in thin bedded argillite interval 6893 - 94.5'. Bedding to core 77° @ 6904'.
6917.0 (6900.0	6926.0 6909.0)*	Argillite/Subwacke, medium and dark grey, 60% very thin bedded, contacts sharp and flat at 75° @ 6924'.
6926.0 (6909.0	6937.0 6919.5)*	Wacke/Subwacke/Argillite, medium to dark grey, medium bedded, bed contacts vague and distinct and wavy to irregular, some flat. Bedding to core 69° @ 6929'.
6937.0 (6915.5	6939.5 6922.0)*	Wacke, dark grey, even parallel laminated, upper portion calcareous (light grey), only a few calcite grains elsewhere. Bedding to core 67° @ 6937', 43° @ 6939.5'.

* First set of footages as per footage blocks, bracketed footages are true feet.

811-6447

Drill Hole Record

Cominco Page 37

Property SULLIVAN	District Western	Hole No. DDH6464	
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 | Hole No. | Sheet

Analysis

Footage From	To	Description
6939.5 (6922.0	6946.0 6928.5)*	Wacke/Subwacke/Argillite, medium grey, medium bedded with several thin beds of Subwacke/Argillite last 0.5', bed contacts distinct to sharp and flat, beds homogeneous and many are graded. Bedding to core 65° at 6942'.
6946.0 (6928.5	6970.0 6952.0)*	Wacke/(Quartz Wacke)/Subwacke/Argillite, light grey, one bed is fine grained, thick bedded, rare thin and laminated beds, contacts sharp to distinct, flat, wavy and irregular (flame?) and tectonic deformation in some argillite. Bedding to core 55° with cleavage 60° in opposite sense.
6970.0 (6952.0	6976.5 6958.5)*	Wacke/Subwacke/Argillite, medium to dark grey, thin bedded with 40% of interval faintly and thinly laminated, bed contacts sharp and flat, one small fold. Bedding to core 59° @ 6985'.
6976.5 (6958.5	6996.5 6978.0)*	Wacke, (Quartz Wacke)/Subwacke/Argillite, medium grey, thick bedded with rare thin and medium bed, contacts sharp to distinct and flat to irregular with offsets and cusps on argillite related to cleavage. One small overturn at 6891'. Bedding to core: 61° @ 6986', 45° with cleavage 55° in opposite sense to 6995'.
6996.5 (6978.0	6998.0 6979.5)*	Wacke, dark grey, laminite, bedding to core 53°.
6998.0 (6979.5	7030.0 7011.0)*	Quartz arenite/Quartz wacke/Wacke/Subwacke/Argillite, medium to light grey, some beds fine grained, thick bedded with occasional thin bed and laminated argillite/subwacke tops, bed contacts sharp to distinct and usually flat, some broken. Argillaceous clasts noted in thin beds at 7018'. Bedding to core 40° (cleavage 60° opp.) @ 7003', 53° 7021'.
7030.0 (7011.0	7032.0 7013.0)*	Argillite/Subwacke, medium grey, thin bedded to medium bedded, bedding to core 65° @ 7031.5'.

* First set of footages as per footage blocks, bracketed footages are true feet.

Drill Hole Record

Cominco Page 38

Property SULLIVAN	District Western	Hole No. DDH6464	
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 | Hole No. | Sheet

Analysis

Footage From	To	Description
7032.0 - 7076.0 (7013.0-7056.5)•		Wacke/(Quartz Wacke)/a little Quartz Arenite/Subwacke/Argillite, medium grey, thick bedded with rare thin laminites, entering major fold as bedding to core is 35° @ 7034', 20° @ 7044', 10°, 45°, 0° and O.T. at 7065 - 7066', 30° with cleavage of 55° @ 7070'.
7076.0 - 7130.0 (7056.5-7109.5)•		Quartz Wacke/Quartz Arenite/Wacke, medium to light grey, evidently drilling parallel to thick beds. Wispy bedding to core in an argillite interval at 7096' is at 25° to sub-parallel to core with cleavage 70° in same sense indicating part of this interval is overturned. Bedding/ Cleavage and sense: 45°/23°/opp at 7110', 35°/73°/same at 7113' (possibly clast or irregular detached limb).
7130.0 - 7202.0 (7109.5-7180.5)•		Quartz Arenite, minor Quartz Wacke, light grey, probably thick bedded however drilling must be parallel to bedding. Bedding contacts recognized only below 7183'. Bedding /cleavage and sense: 40°-0°/63°/opp. in detached thin interval of argillite @ 7183'. 40° @ 7189' (wavy), 35° @ 7192', 65° very irregular and beneath which is an argillite clast or detached layer dipping in the opposite sense at 22° at 7195'. Minor chlorite alteration and remobilized(?) pyrrhotite from 7199.0 - 7202.0'.
7202.0 - 7239.0 (7180.5-7217.0)•		Gabbro, medium grained, rather highly altered, cut by planar and irregular quartz veins and veinlets. Intensely altered sediment 7202 - 7204' and apparent sediment contamination, indicated by presence of biotite, 7204 - 7206' mask the upper contact, however contact also masked, the gabbro is chloritized and biotitized from 7227 to 7239' however some igneous texture recognizable. Minor coarse pyrrhotite at 7213'.
7239.0 - 7243.0 (7217.0-7221.0)•		Altered sediment, cut by irregular quartz and calcite veinlets, minor biotite and chlorite.

• First set of footages as per footage blocks, bracketed footages are true feet.

811-042

Drill Hole Record

Cominco Page 39

Property SULLIVAN	District Western	Hole No. DDH6464	
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 | Sheet

Analysis

Footage From	To	Description
7243.0 - 7248.5 (7221.0-7324.5)•		Subwacke/Argillite, some Wacke, medium to light grey, rarely dark, laminated, thin and medium bedded, however such of coring is parallel to bedding, bed contacts sharp to vague. Intensely folded with abundant pyrrhotite cleavage indicating only rare overturned intervals however there are lengthy sections where bedding is sub-parallel to core. Bedding to core: 0°±20° 7256' - 7275', 55°-75° 7275 - 7282', abundant small folds 0-90° 7282 - 7291', 40°-65° 7291-7307', 0°±20° 7307 - 7314', irregular from 65°-0°-75° to 7348'. Numerous offsets noted on cleavage planes throughout the interval.
7348.5 - 7405.0 (7324.5-7380.0)•		Quartz wacke, minor subwacke/argillite, medium grey, some fine grained beds, thick bedded, contacts sharp and flat, some possible flames or wisps. Several irregular small quartz veins with minor chlorite and calcite. Small gouge zone cuts core at 27° at 7361'. Bedding to core 68° (probably in a fold) at 7349', 30° to 56° with cleavage 28° in opposite sense at 7361.5', although core is good no contacts until 7380' (fold?), 61° @ 7380', 57° with what appears to be a complete reversal in dip 10 cm below @ 7391', 39° @ 7396', 68° @ 7404'.
7405.0 - 7416.5 (7380.0-7391.5)•		Quartz wacke, wacke with 40% subwacke/argillite, medium grey, medium and thin bedded, bed contacts sharp and flat to wavy. Bedding/cleavage and sense to bedding to core 68°/68° opp. at 7415'.
7416.5 - 7421.5 (7391.5-7396.5)•		Wacke/subwacke/argillite, dark and medium grey, the wacke is dark and thinly laminated, the main argillite interval is thin bedded with some wacke, some argillite mud flakes and rare pyrrhotite. Bedding to core 60° @ 7417'.
7421.5 - 7459.5 (7396.5-7434.0)•		Quartz arenite/quartz wacke/wacke/subwacke/argillite, medium to light grey, fine grained, thick and medium bedded, bed contacts sharp to vague, irregular due to folding. Some bedding is sub-parallel to the core. Bedding to core: 70° @ 7428',

• First set of footages as per footage blocks, bracketed footages are true feet.

Drill Hole Record

Cominco

Property SULLIVAN | District Western | Hole No. DDH6464

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 | Sheet Hole No.

Analysis

Footage From	To	Description
		0°-40° (convoluted) @ 7443', 13° @ 7446', 43° @ 7458'. Note small offsets on cleavage where bedding and cleavage both present.
7459.5	7466.0 (7434.0-7440.0)*	Subwacke/argillite, dark grey, thin, medium? bedded and laminated, about 30% (most of upper part of interval) is shredded into very fine clasts by post lithification tectonic activity with slight shearing at 70° to core.
7466.0	7524.0 (7440.0-7497.5)*	Quartz arenite/quartz wacke 60%, Wacke 20%, and subwacke/argillite, light grey, medium and fine grained, thick bedded, bed contacts vague (often broken) to sharp, no reliable bed contacts above 7505'. Core broken with about 6' lost 7440-7485', some core in this interval appears crushed with minor gouge, one slickenside surface with pyrrhotite coating. Core also broken with some gouge recovered and 2 feet of core loss 7518.5 - 7521.0. Bedding to core: 54° @ 7510', 60° @ 7517' (but shredded), 57° @ 7523'.
7524.0	7530.0 (7497.5-7503.0)*	Wacke/subwacke/argillite, dark and medium grey, thin and medium bedded, about 50% is dark grey thinly laminated wacke. Bedding to core 56° @ 7525', 60° @ 7527', 28° with cleavage 60° opposite to bedding at 7529', 75° in opposite sense to that at 7529' @ 7530'.
7530.0	7533.6 (7503.0-7506.7)*	Quartz arenite, very calcareous, biotitic, medium grey, medium sand, single bed. Bedding to core 65° @ 7533.5'.
7533.6	7546.0 (7506.7-7519.0)*	Quartz arenite/quartz wacke/wacke/subwacke/argillite, light grey, fine (possibly medium near bases) grained, thick bedded, contacts sharp and flat to wavy, beds are graded with argillite tops up to 20 cm thick. Only portions of beds are weakly calcareous; one strongly calcareous zone appears to be a series of vague tension fillings. Bedding/cleavage and sense to core: 60°/35° opp. at 7536.5', 55° @ 7543', 50° @ 7546'.

* First set of footages as per footage blocks, bracketed footages are true feet.

811-0437

Drill Hole Record

Cominco

Property SULLIVAN | District Western | Hole No. DDH6464

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 | Sheet Hole No.

Analysis

Footage From	To	Description
7546.0	7551.0 (7519.0-7524.0)*	Quartz arenite/quartz wacke/wacke/subwacke/argillite, light to dark grey, thin to medium bedded and laminated, contacts sharp and flat to irregular due to folding. Bedding to core 0°-63° at 7549.5', 56° @ 7550.5'.
7551.0	7593.0 (7524.0-7565.0)*	Quartz arenite/quartz wacke/(wacke/subwacke/argillite), light grey, short moderately and weakly calcareous sections with one strongly calcareous section 7589 - 7591.5'(many have altered appearance), fine grained, thick bedded, contacts sharp to distinct and flat to irregular, beds are graded, a few have internal laminations. Argillaceous clasts noted in wacke at 7557'. Argillaceous interval 7563 - 7565' is convoluted and a small sudstone dike deformed during compaction and late shearing noted at 7570'. Minor brecciation and shearing (post lithification) noted at 7575'. Bedding to core 48° @ 7571' (erratic above this), 90° @ 7576', 25°-60° @ 7584', 43° @ 7587'.
7593.0	7599.0 (7565.0-7571.0)*	Argillite/subwacke/wacke/quartz wacke, medium grey, thin to (rarely) medium bedded, bed contacts sharp, flat (in some cases folded).
7599.0	7618.0 (7571.0-7590.0)*	Quartz wacke/wacke (argillite/subwacke tops), light grey, fine grained, thick and medium bedded. One argillite/subwacke thin bedded interval from 7607.5 - 7608.0'. Increasingly argillaceous with depth.
7618.0	7625.0 (7590.0-7596.5)*	Wacke/subwacke/argillite, medium grey, thick, medium and thin bedded and short segments are laminated, bed contacts are sharp and flat. Some beds appear uniformly graded. Three beds contain argillite rip-up clasts. Bedding to core 71° @ 7621'.
7625.0	7628.0 (7596.5-7599.5)*	Quartz arenite, (quartz wacke --> argillite), light grey, fine grained, thick and medium bedded, only the thick bed is (very) calcareous.

* First set of footages as per footage blocks, bracketed footages are true feet.

Drill Hole Record

Property SULLIVAN | District Western | Hole No. DDH6464

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 | Hole No. | Sheet

Analysis

Footage From	To	Description
7628.0 (7599.5)	7634.5 (7606.0)*	Wacke/subwacke/argillite, medium grey, medium bedded, contacts from sharp and undulating to indistinct (broken). Fault with 1 cm of gouge at 7634', brecciated 7633 - 7634'.
7634.5 (7606.0)	7637.0 (7608.5)*	Quartz wacke, single thick bed, minor alteration (bleaching/calcite).
7637.0 (7608.5)	7645.5 (7617.0)*	Wacke/subwacke/argillite, some beds verge on quartz wacke, light to medium grey, medium and thin bedded, contacts flat to wavy, most beds have sharp contacts between the wacke and argillite top. All the wacke (quartz wacke?) has a soft "chalky" surface and a few have weak calcareous portions. The 25 cm bed between 7643.5 - 7644.5' contains numerous elongate argillite rip-ups throughout the wacke and the top argillaceous portion is shredded and the top contact varies from 27° to 57° to core and is offset on small faults. Bedding to core 67° @ 7638'.
7645.5 (7617.0)	7649.5 (7621.0)*	Single graded bed, wacke/quartz wacke/quartz arenite, with weakly to moderately calcareous zones, light grey, fine grained, broken basal contact, uniform texture, minor bleaching, scattered pyrrhotite.
7649.5 (7621.0)	7651.0 (7622.0)*	Subwacke, medium to dark grey, laminite with a few very thin beds, contacts are sharp and flat. Pyrrhotite scattered throughout thin beds aligned along cleavage at 70° to core in opposite sense to bedding. Bedding to core 59°.
7651.0 (7622.0)	7652.8 (7624.0)*	One, possibly two beds, quartz wacke, calcareous, light grey.
7652.8 (7624.0)	7654.2 (7625.4)*	Wacke (subwacke/argillite), thin bedded, medium grey, the wacke is faintly laminated at 68° to core.

* First set of footages as per footage blocks, bracketed footages are true feet.

Drill Hole Record

Property SULLIVAN | District Western | Hole No. DDH6464

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

Analysis

Footage From	To	Description
7654.2 (7625.4)	7656.0 (7627.2)*	Quartz arenite or quartz wacke, very calcareous, light grey, medium grained, top 15 cm grades into dark laminated wacke. Quartz grains are clear white and appear to have a pale blue cast.
7656.0 (7627.2)	7657.8 (7628.9)*	Wacke, dark grey, thin bedded, contacts diffuse to sharp and flat, 50% of interval is faintly laminated at 75° to core.
7657.8 (7628.9)	7682.5 (7653.2)*	Quartz wacke/wacke 85%, subwacke/argillite 15%, medium to light grey, thick bedded with a few medium beds, bed contacts sharp and flat to wavy. Some contacts are contorted and faulted. Between 7657.8 and 7661.0' are abundant rip-up clasts and detached thin bed tops; the latter are caused by low angle shearing indicative of penecontemporaneous movement. One thick quartz arenite 7671.0 - 7674.0' has a 15 cm calcareous Bouma B laminated base. A few alteration patches are calcareous. Bedding to core 75° @ 7674'.
7682.5 (7653.2)	7744.0 (7714.0)*	Quartz arenite/quartz wacke minor wacke, some subwacke/argillite, rare weak calcareous zones within beds, the first bed has a very calcareous interval for 25 cm near the base, fine grained, thick and very thick bedded with clusters of thin beds 7687.5 - 7688.5', 7710.0 - 7711.0', 7719.0 - 7720.0'. A few beds are predominantly wacke and subwacke, contacts generally sharp and flat to undulating, most beds have a homogeneous texture. Faint Bouma B less noted near base of top very thick bed; one quartz arenite 7703 - 7706' is dark grey and is cut by a network of fine white fractures (some are calcareous). A few intensely bleached zones (eg. 7717 - 7718') may be albitic and are associated with fine fractures with pyrrhotite. Bedding to core 77° @ 7688', 60° @ 7710', 54° @ 7734', 57° @ 7744'.
7744.0 (7714.0)	7752.0 (7721.5)*	Argillite/subwacke/wacke, medium grey, thin and medium bedded plus one thick bed, contacts sharp and flat to wavy, in the predominantly argillite/subwacke portion beds and lenses of subwacke appear convoluted or detached within argillite. The

* first set of footages as per footage blocks, bracketed footages are true feet.

Property SULLIVAN | District Western | Hole No. DDH6464

Commenced | Location | Tests at | Hor. Comp.

Completed | Core Size | Corr. Dip | Vert. Comp.

Co-ordinates | | True Brg. | Logged by

Objective | | % Recov. | Date

Claim | Brg. | Collar Dip | Elev. | Length | Hole No. | Sheet

Footage From	To	Description	Analysis
		one thick bed is a (soft) wacke that contains one large clast of argillite isolated in the middle of the bed and numerous thin, long clasts of argillite throughout the upper one third predominantly subwacke part of the bed.	
7752.0	7757.5 (7721.5-7727.0)*	Wacke, with short sections of quartz wacke, light medium grey, two thick beds? (contact between the "beds" is very irregular and is not continuous across the core). A 0.5 foot white, very calcareous section containing biotite and chlorite clusters at 7754.0' is interpreted as a concretion.	
7757.5	7764.0 (7727.0-7733.5)	Argillite/subwacke, minor wacke, medium to dark grey, thin bedded, contacts from sharp and flat to detached and contorted, intense tight folding in three zones. This interval probably slid or slumped prior to lithifications. Bedding to core 63° @ 7764'.	
7764.0	7774.0 (7733.5-7743.5)*	Wacke/subwacke (argillite/quartz wacke), light grey, medium grained, thick and medium bedded, contacts sharp to distinct and variable, the medium beds commonly contain argillite clasts. Short intervals have disseminated pyrrhotite, sometimes accompanied by chlorite. Variation in bedding to core may be a preconsolidation feature, i.e. 28° @ 7767', 39° @ 7768', 53° @ 7770'.	
7774.0	7790.0 (7743.5-7759.0)*	Argillite/subwacke (wacke), with one predominantly wacke interval 7779 - 7782', dark grey, thin and medium bedded, a portion of the wacke interval is laminated. Elongate pointed argillite clasts noted at several locations, many of the thin beds terminate at micro-faults: some beds appear attenuated, gradual change in bedding from 45° to 36° (7779-7781') above an extremely calcareous concretion 7781.0 - 7782.5'.	
7790.0	7798.0 (7759.0-7767.0)	Wacke/quartz wacke (subwacke/argillite), light grey, thick and medium bedded with few thin beds, contacts are sharp and flat to wavy and some are detached. Only the thickest beds (one at top, one at bottom) are calcareous (moderate) and these	

* First set of footages as per footage blocks, bracketed footages are true feet.

Property SULLIVAN | District Western | Hole No. DDH6464

Commenced | Location | Tests at | Hor. Comp.

Completed | Core Size | Corr. Dip | Vert. Comp.

Co-ordinates | | True Brg. | Logged by

Objective | | % Recov. | Date

Claim | Brg. | Collar Dip | Elev. | Length | Hole No. | Sheet

Footage From	To	Description	Analysis
		beds have characteristic alteration features. Bedding to core 50° with cleavage 60° in opposite sense at 7794'.	
7798.0	7823.0 (7767.0-7791.5)*	Alternately dominating wacke/subwacke/argillite with occasional quartz wacke (one possible quartz arenite) bed or portion of bed, thin and medium bedded, one short laminated interval, some quartz wacke is thick bedded, contacts sharp (to vague) and flat to wavy, clasts present but not common. Pyrrhotite disseminated in silty parts of some beds. Portions of two of the thick beds are moderately calcareous. Large flame structure noted at 7820'. Bedding to core 53° @ 7800', 53° @ 7810', 50° @ 7823'.	
7823.0	7831.0 (7791.5-7799.5)*	Argillite/subwacke, a few beds have a wacke composition, medium grey, thin bedded with laminated portions, contacts sharp to flat and wavy, pyrrhotite noted in some contorted silty layers within argillite. Pyrrhotite layers 1 to 3 mm thick in low angle micro-thrusts noted at 7825.5'. Detached argillite layers and argillite clasts noted 8726 - 8727'. Bedding to core 55° at 7828'.	
7831.0	7838.0 (7799.5-7806.5)*	Quartz wacke/wacke/(subwacke/argillite), light grey, fine grained, thick, medium and thin bedded, contacts sharp to vague and flat to irregular. Several moderately calcareous patches, some of which are associated with fine white fractures.	
7838.0	7842.7 (7806.5-7811.0*)	Wacke, dark grey, thinly laminated, weakly calcareous, wavy laminated over first foot then uniformly even parallel laminated. Bedding to core 47° @ 7842'.	
7842.7	7844.5 (7811.0-7812.5)*	Argillite, subwacke, light medium and medium grey alternating, cm beds to 7843.6' then 3-4 cm beds, pyrrhotite disseminated in the subwacke.	
7844.5	7853.5 (7812.5-7821.5)*	Quartz wacke/wacke/subwacke/argillite, light grey, fine grained, thick bedded, pyrrhotite present only in some widely spaced locations as either lenses 1 to 2 mm thick and 1 cm long, in bedding parallel zones with chlorite ? mm thick,	

* First set of footages as per footage blocks, bracketed footages are true feet.

Drill Hole Record

Property SULLIVAN | District Western | Hole No. DDH6464

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 | Hole No. | Sheet

Analysis

Footage From	To	Description
		partially remobilized from bedding parallel laminations into cleavage and within a contorted zone in an argillite rich layer.
7853.5 - 7855.0 (7821.5-7823.0		Wacke, dark grey, poorly, very thinly laminated with a 2 cm wavy laminated zone near the base.
7855.0 - 7860.0 (7823.0-7828.0)*		Single bed graded fore quartz wacke to argillite, fine grained base, light medium grey. 7858 - 7859' is mildy calcareous. argillite and subwacke clasts accented by pyrrhotite, are present within argillite/subwacke/wacke from 7855.0-7856.5'. Apart from white fractures the basal interval is rather featureless.
7860.0 - 7864.0 (7828.0-7832.0)*		Argillite/subwacke, medium grey, thin bedded, contacts sharp and flat, subwacke intervals often are cross laminated (pale grey and not calcareous). Bedding to core 50° @ 7862'.
7864.0 - 7886.5 (7832.0-7854.0)*		Quartz arenite/quartz wacke, one minor subwacke/argillite top noted. light medium grey, fine grained (verging on medium), thick bedded, the one contact observed is diffuse, massive and rather featureless. Only crumbles of possible breccia recovered from 7875.0 - 7875.5'. Bedding to core 55°.
7886.5 - 7893.5 (7854.0-7861.0)		Argillite/subwacke, dense dark grey, massive, occasional thin bed of subwacke, broken. Slickensides common parallel to ?bedding, gouge near start. Four feet of core missing.
7893.5 - 7916.0 (7861.0-7883.0)*		Quartz arenite/quartz wacke, light grey, medium grained, thick (some medium) bedded with 3 intervals of subwacke/argillite in very thin and thin beds. The latter contain some cross laminations and display some deformation. Pyrrhotite grains are scattered in the siltier parts of some thin beds and within clusters in the thicker beds. Bedding to core 55° @ 7899', 58° @ 7914'.

* First set of footages as per footage blocks, bracketed footages are true feet.

Drill Hole Record

Property SULLIVAN | District Western | Hole No. DDH6464

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

Analysis

Footage From	To	Description
7916.0 - 7929.0 (7883.0-7896.0)*		Subwacke, argillite with three intervals of very calcareous wacke (7920-7921', 7922-7923', 7926-7928'), dark grey, laminated with thin beds of argillite, the calcareous wacke beds are probable single Bouma B units, laminations and contacts all sharp and flat, cross laminae are rare, one sole feature at 7928'. Bedding to core 55° @ 7925'.
7929.0 - 7947.0 (7896.0-7913.5)*		Wacke/subwacke/argillite with three beds of quartz arenite, medium to dark grey, medium, thick, and thin bedded, bed contacts usually sharp to distinct and flat, some irregular on a small scale due to cleavage. Beds in the top 5 feet of interval contain numerous elongate clasts sub-parallel to bedding. Two beds of quartz arenite from 7938 to 7941', the lowest is black however a thin section indicates it is not tourmalinite. One bed grades through sostly wacke to 30 cm of quartz wacke/quartz arenite from 7942 to 7944'; the basal contact of this bed is a healed fault cutting core at 65° cutting beds in opposite sense at 53° to core. Bedding to core 45° with cleavage 50° in opposite sense at 7947'.
7947.0 - 8057.5 (7913.5-8022.0)*		Quartz wacke and some quartz arenite with short intervals of wacke/subwacke/argillite, light to medium grey, fine grained (medium grains noted but they are rare), thick to very thick bedded except the short intervals of medium and thin beds of subwacke and argillite there are (about 11 short intervals, all less than 2 feet thick). Bed contacts are sharp to distinct and flat to undulating, some of the thin beds have a shredded appearance and some contain elongate rip-up clasts, very pronounced flame (?) structures on overturned fold limb at 7964'. Intensely bleached patches noted between 7960' and 7973' with minor associated brecciation. Thin-section examination of a specimen at 7970' indicates a wacke-subwacke breccia that contains significant albite and is rehealed by albite plus quartz, sphene and chlorite. Pyrrhotite is present but rare. Bedding to core: 05° to 40° @ 7954' (with several micro-faults), 45° to 0° from 7964 - 7966', 80° @ 7969', 51° @ 7984', 58° @ 7996', 55° @ 8010', 39° @ 8035', 33° (wavy) @ 8055'.

* First set of footages as per footage blocks, bracketed footages are true feet.

Drill Hole Record

Cominco Page 48

Property SULLIVAN | District Western | Hole No. DDH6464

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 | Sheet

Analysis

Footage From	To	Description
8057.5 - 8059.0 (8022.0-8023.7)*		Argillite - graphite mylonite (?) flanking margins of quartz vein. The vein is fractured and contains ankerite and minor calcite and a little coarse pyrrhotite. The upper margin has more argillite and is cohesive. The lower margin is predominantly graphite, is incohesive and contains some vein quartz fragments that may have broken out of the vein in the drilling or emptying the tube. The graphite zones are each about 10 cm thick and have highly polished slickenside surfaces. The quartz vein is 16 cm thick. Minor tight microfolding noted. The zone appears to be cutting the core at 60-70°.
8059.0 - 8088.5 (8023.7-8053.0)*		Wacke/(quartz wacke) with subwacke/argillite tops, medium becoming light grey below 8082', thick bedded, bed contacts are sharp to distinct and wavy, irregular or shredded, beds are graded, some flames at the base, fairly homogeneous through most of the bed with rare clast or rip-up shred, with shredded very thin bedded or laminated tops. Rare quartz veinlets with minor pyrrhotite, one quartz vein 3 to 6 cm wide at 8083' is cut by a pyrrhotite vein 3 to 6 cm wide, the quartz vein cuts the core at about 50o, the pyrrhotite vein cuts core at about 35° to 50°. Bedding to core 50° @ 8080'.
8088.5 - 8139.7 (8053.0-8103.1)*		Quartz arenite/quartz wacke/wacke, minor subwacke/argillite tops, thick to very thick bedded, fine grained (just about every bed), bed contacts are sharp to distinct (one diffuse), a few are flat or wavy and some are shredded, convoluted or attenuated, clasts are rare but are present at the base of medium beds, most beds are massive (Bouma A) and some have a faint Bouma B lamination. Two short very lixy intervals 8106 - 8107' and 8128.5 - 8129.0'. Bedding to core 65° @ 8104'.
8139.7 - 8145.0 (8103.1-8108.3)*		Fault zone, incohesive and cohesive segments, some solid core over 1 to 5 cm generally broken at slickensides, many crumbly spots with slickensides. All cohesive segments have a diarupted texture overprinted and cut by slickenside surfaces. Between 8139.7 and 8140.0' both a breccia and thin shear zones are present; the latter are black probably graphitic argillaceous material containing light rounded to

* First set of footages as per footage blocks, bracketed footages are true feet.

911-0437

Drill Hole Record

Cominco Page 49

Property SULLIVAN | District Western | Hole No. DDH6464

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 | Hole No. | Sheet

Analysis

Footage From	To	Description	CORE LENGTH Feet	STRATIGRAPHIC THICKNESS Feet	STRATIGRAPHIC THICKNESS Meters	Cumulative Feet	Cumulative Meters
		elongate fragments and have mylonitic appearance. From 8144.8 to 8145.0' is a quartz wacke/quartz arenite crush breccia. Shearing at 8140.0' cuts core at 66°.					
8145.0 - 8177.0 (8108.3-8239.8)*		Quartz wacke, some quartz arenite, with wacke/subwacke/argillite tops, light grey, fine grained, thick and very thick bedded, bed contacts are generally distinct and most are irregular being either shredded, wavy or inclined at quite different angles to core. The entire interval is rather badly broken to pieces smaller than 15 cm long and several contacts are broken. Slickensides are common and generally cut the core between 60° to 80°. Rip-up clasts are present, generally seen are detached angular argillaceous rip-ups in the upper subwacke/argillite portions of some beds. The longest single bed intersections are 8152 to 8158' (top contact approximately 85° to core, bottom is 31°), 8167 to 8172' (top contact broken, could be higher, bottom appears to be about 65°) and 8172 - 8177' (2 feet of core loss between 8175.5 and 8178.5', one foot is allotted to this bed, basal contact not observed).	32.0	28.8	8.78	28.8	8.78
8177.0 - 8196.0 (8139.8-8158.5)*		Beds consist predominantly of wacke/subwacke/argillite tops with thinner quartz wacke and in many cases quartz arenite bases, thick bedded, dark grey, some quartz aresite is fine grained, contacts are diffuse or not observed due to broken core and irregular (some are probably shredded). Quartz wacke/quartz arenite bases constitute 30 to 50% of most beds. The quartz arenite portions are dark grey and one 8 cm basal interval is mottled light and dark grey resembling both albite and tourmolinite. Contorted and pinch-swell features of predominantly wacke within subwacke/argillite is ascribed to synsedimentary deformation and compaction of argillite around inclined wacke layers.	19.0	17.1	5.21	45.9	13.99
8196.0 - 8199.7 (8158.5-8162.2)*		Subwacke, medium grey, irregular segregations of wacke and argillite. Possibly resedimental. Contact with quartz wacke below is distinct.	3.7	3.5	1.06	49.5	15.09

* First set of footages as per footage blocks, bracketed footages are true feet.

911-0437

Drill Hole Record

Cominco

Property SULLIVAN | District Western | Hole No. DDH6464

Commenced | Location | Tests at | Hor. Comp.

Completed | Core Size | Corr. Dip | Vert. Comp.

Co-ordinates | True Brg. | Logged by

Objective | % Recov. | Date

Sheet

Footage From	To	Description	Claim	T Brg.	Collar Dip	Elev.	Length	Hole No.
			Analysis					
8199.7 (8162.2	8201.3 (8163.7)*	Quartz arenite, light grey, fine grained, basal contact diffuse, possibly base of thickened graded bed (the top could be the preceeding interval). Bedding to core 70° @ 8201.3'.	1.6		1.5'		0.46 m	
					51.0		15.59	
8201.3 (8163.7	8205.0 (8167.4)*	Quartz arenite, subwacke/argillite in top 15 cm, light and medium grey, single bed, basal contact broken, poorly sorted base, disaggregated top.	3.7		3.5		1.07	
					54.5		16.61	
8205.0 (8167.4	8216.8 (8179.0)*	Subwacke/argillite to 8214.0, wacke to 8216.8. Single sedimentation units, medium grey, disaggregated subwacke/argillite possibly wisps of wacke from 8205.0 to 8209.0', less disaggregated 8209.0 - 8212.0', disaggregated and shredded 8212.0 to 8214.0', recognizable wacke, fairly massive, at 8214.0 - 8214.5' then core is badly broken and ground into small fragments.	11.8		11.1		3.38	
					65.6		20.0	
8216.8 (8179.0	8224.5 (8186.6)*	Broken, 7 feet of core lost in 8 feet. Appears to be subwacke/argillite to 8217', wacke to 8223', quartz arenite to 8224.5' (fine grained).	7.7		7.2		2.2	
					72.8		22.2	
8224.5 (8186.6	8228.5 (8190.5)*	Subwacke/argillite, wacke, quartz wacke, broken. Bedding to core near base is 70°. Slickensides on surfaces near 90° to core.	4.0		3.8		1.16	
					76.6		23.35	
8228.5 (8190.5	8231.0 (8193.0)*	One foot of core is lost, ground broken. Argillite/subwacke/wacke, possible bed contact at base cuts core at 30°. Slickensides on surfaces near 90° to core.	2.5	omitted from tally				
8231.0 (8193.0	8234.2 (8196.1)*	About 1 foot of core missing, broken. Mostly argillite and lesser subwacke to 8233.8' then quartz wacke.	3.2		2.9		0.88	
					79.5		24.23	
8234.2 (8196.1	8240.5 (8202.3)*	About 3.5' missing. Argillite to 8235.0', wacke to 8238.5' (most of core loss, broken), quartz arenite/quartz wacke broken into small fragments to 8240.5'. Slickensides on surface cutting core at 65°.	6.3		5.7		1.73	
					85.2'		25.96 m	

* First set of footages as per footage blocks, bracketed footages are true feet.

811-6437

Drill Hole Record

Cominco

Property SULLIVAN | District Western | Hole No. DDH6464

Commenced | Location | Tests at | Hor. Comp.

Completed | Core Size | Corr. Dip | Vert. Comp.

Co-ordinates | True Brg. | Logged by

Objective | % Recov. | Date

Sheet

Footage From	To	Description	Claim	T Brg.	Collar Dip	Elev.	Length	Hole No.
			Analysis					
8240.5 (8202.3	8243.0 (8204.8)*	Argillite/subwacke to 8241' then highly silicified wacke to 8243.0', cut by a 10 cm bedding(sub?)-parallel quartz vein that contains less than 3% pyrrhotite. Silicified, healed cataclastic textured breccia up to 4 cm wide appears truncated by small fault (surface with chlorite sheen, probable slickensides).	2.5		2.3'		0.70 m	
					87.5		26.68	
8243.0 (8204.8	8245.0 (8206.7)*	Single bed (as all since 8196.0 are perceived to be), argillite 8243.0 - 8243.8', quartz wacke (healed breccia in part). Slickenside surfaces cut core at 30° and 45°.	2.0		1.8		0.55	
					89.3		27.23	
8245.0 (8206.7	8248.0 (8209.7)*	Wacke/subwacke/argillite, dark grey, 60% is wacke/subwacke laminite, remainder is uniform and rather featureless. Remnant of one quartz vein indicative of vein about 2 cm wide, it contains coarse pyrrhotite. Several narrow quartz and quartz-calcite veins are present, most contain minor pyrrhotite. Overcoring at 8246.5' indicates some core loss. Bedding to core 58° @ 8248'.	3.0		2.5		0.76	
					91.8		27.99	
8248.0 (8209.7	8255.7 (8217.3)*	1.5 feet of core loss in run 8246.5 - 8256.0'. Argillite/subwacke, weakly calcareous, appears to be one bed or sedimentation unit containing a minor amount of wacke in the basal foot. Silky grey at first then dark grey, homogeneous with a small amount of disseminated fine pyrrhotite noted primarily in top half of interval. Basal foot can be subdivided into an upper (half) very calcareous light grey wacke with broad laminations that have diffuse margins cutting core at 68°. The basal half foot, possibly a seperate bed is a fairly argillaceous uniform wacke with a 2 cm zone at the base that is thinly laminated. The basal foot has three bands of calcite-pyrrhotite parallel to bedding and several clusters of coarse (1X5 mm) grains of pyrrhotite.	7.7		7.1		2.16	
					98.9		30.15	
8255.7 (8217.3	8261.0 (8222.5)*	Argillite, single sedimentation unit, silky grey, containing fairly abundant (± 3%) pyrrhotite. The pyrrhotite is present as elongate grains, clusters and wisps generally aligned parallel to bedding. Calcite and chlorite accompany a small amount of the pyrrhotite.	5.3		4.5		1.37	
					103.4		31.52	

* First set of footages as per footage blocks, bracketed footages are true feet.

Property SULLIVAN	District Western	Hole No. DDH6464	
Commenced	Location	Tests at	Hor. Comp.
Completed	Core Size	Corr. Dip	Vert. Comp.
Co-ordinates		True Brg.	Logged by
Objective		% Recov.	Date

Footage From	To	Description	Claim	T Brg.	Collar Dip	Elev.	Length	Hole No. Sheet
			Analysis					
8261.0	8266.0	Wacke, dark grey, primarily laminite throughout, from extremely weakly to mildly						
(8222.5	8227.4)*	calcareous. Laminations are generally faint; lack of laminations in some short	5.0		4.3	ft.	1.31	m
		intervals may have been caused by alteration or deformation. The most distinct			107.7		32.84	
		laminations are from 8265.4 - 8266.0'. Pyrrhotite noted in several bedding-parallel						
		segregations or veins. Bedding to core 59° @ 8266'.						
8266.0	8275.0	Argillite, single sedimentation unit (base uncertain because of broken interval						
(8227.4	8236.3)*	below 8275.0'), silky grey, very weakly to weakly calcareous. Pyrrhotite varies	9.0		7.7		2.35	
		from weakly disseminated grains to being in elongate wisps and clusters 1 to 5			115.4		35.18	
		mm wide and 3 cm long. Calcite accompanies a small amount of the pyrrhotite.						
8275.0	8280.0	Broken and ground core. 3.5 feet of core loss in run 8270 - 8282.5' is in this	5.0		4.3		1.31	
(8236.3	8241.2)*	interval. Recovered fragments are argillite/subwacke and wacke.			119.7		36.49	
8280.0	8281.0	Wacke, weakly calcareous, medium grey, homogeneous. A few wisps of pyrrhotite	1.0		0.86		0.26	
(8241.2	8242.2)*	with minor calcite noted.			120.6		36.77	
8281.0	8281.8	Subwacke, very calcareous, medium and light grey, very thin bedded and laminated.	0.8		0.7		0.21	
(8242.2	8243.0)*	Pyrrhotite present as laths to 3 mm long concentrated in calcareous layers parallel			121.3		36.98	
		to bedding and with chlorite in a 3 mm wide bed. Bedding to core 61°.						
8281.8	8282.3	Wacke/subwacke/argillite, single graded bed (?, some core is broken and ground),	0.5		0.4		0.12	
(8243.0	8243.4)*	about 0.4' is wacke. Coarse pyrrhotite laths scattered in a band 5 cm wide.			121.7		37.10	
		Contacts are sharp and flat at 49° and 44° to core.						
8282.3	8282.5	4 cm of wacke laminite.	0.2		0.2		0.06	
(8243.4	8243.6)*				121.9		37.16	
8282.5	8285.4	Argillite, medium silky grey. Disseminated, extremely fine, pyrrhotite gradually	2.9		2.2		0.67	
(8243.6	8246.5)*	increases downward.			124.1		37.84	

* First set of footages as per footage blocks, bracketed footages are true feet.

Property SULLIVAN	District Western	Hole No. DDH6464	
Commenced	Location	Tests at	Hor. Comp.
Completed	Core Size	Corr. Dip	Vert. Comp.
Co-ordinates		True Brg.	Logged by
Objective		% Recov.	Date

Footage From	To	Description	Claim	T Brg.	Collar Dip	Elev.	Length	Hole No. Sheet
			Analysis					
8285.4	8285.9	Wacke, laminite, with minor subwacke/argillite in very thin beds, dark grey, lamin-						
(8246.5	8247.0)*	ations are distinct and flat at 50° to core (some variation due to possible micro-	0.5		0.5	ft.	0.15	m
		thrusts near the top). Pyrrhotite is disseminated weakly in the laminite and			124.6		37.99	
		is present with calcite in lenses parallel to bedding.						
8285.9	8313.3	Argillite/subwacke/wacke, appears to be a continuous single sedimentation unit	27.4		19.4		5.91	
(8247.0	8274.0)*	graded from argillite through subwacke to wacke at the base. Hard spots at 8299.0			144.0		43.90	
		and 8300.5' do not have well defined contacts and are considered variations within						
		a single bed rather than as separate beds, however a faint set of laminations						
		and a rather vague possible contact may be at 8299.0'. The argillite/subwacke						
		boundary is difficult to define, however the silky grey argillite appears to extend						
		from 8285.9 - 8298.0'. The subwacke/wacke contact is also undefinable; possibly						
		it is at about 8310'. A faint lamination if first noticed at 8299' and is intermittent						
		but continuous over fairly long intervals to the base. Distinctive coarse sericite						
		is characteristic below 8305'. Core is weakly calcareous below 8302' (and is						
		strongly calcareous in a dominantly laminated zone from 8310 - 8311'). Pyrrhotite						
		content varies, however typical mode of occurrence is in granular concentrations						
		up to 3 mm wide and 3 cm long aligned parallel to bedding; there are a few larger						
		concentrations, usually with some calcite, and some narrow veins with calcite						
		and chlorite. The sericitic interval is almost devoid of pyrrhotite. Scattered						
		1 mm grains noted in the bottom 10 cm. Sphalerite was observed as a few sub-mm						
		sized grains, but is extremely rare. Bedding to core: 45° @ 8294', 45° @ 8310'.						
8313.3	8314.3	Wacke laminite with one argillite bed 15 mm thick, dark grey, even paralle laminations	1.0		0.7		0.21	
(8274.0	8276.5)*	at 42° to core.			144.7		44.12	
8314.3	8322.0	Argillite/subwacke/wacke, appears to be one single bed. Argillite, silky grey,	7.7		5.6		1.71	
(8276.5	8282.5)*	weakly calcareous, to 8316.5'; subwacke, calcareous, medium grey, faintly laminated			150.3		45.82	
		over about half of the interval to 8321.0'; wacke and possibly quartz wacke to						
		8322.0', an upper broadly laminated unit is very calcareous, the basal portion						

* First set of footages as per footage blocks, bracketed footages are true feet.

Drill Hole Record

Cominco Page 54

Property SULLIVAN | District Western | Hole No. DDH6464

Commenced | Location | Tests at | Hor. Comp.

Completed | Core Size | Corr. Dip | Vert. Comp.

Co-ordinates | True Brg. | Logged by

Objective | % Recov. | Date

Footage From	To	Description	Claim	T Brg.	Collar Dip	Elev.	Length	Hole No. Sheet
			Analysis					
		is weakly calcareous and has a homogeneous appearance. Pyrrhotite is weakly to very weakly disseminated. Bedding to core 47° @ 8321'.						
8322.0	8330.0 (8282.5-8290.4)*	Wacke/subwacke/argillite, medium to dark grey, some argillite is silky grey, about 60% subwacke and argillite in units 10 - 20 cm thick; 40% wacke as laminite in units 1 - 10 cm thick, contacts and laminations sharp and flat, disturbed somewhat by tectonism. Non calcareous to very weakly calcareous with exception of 10 cm very calcareous quartz wacke at 8326.5'. Pyrrhotite is very weakly disseminated, is present in a few minor hairline fractures and rarely concentrated in calcareous layers parallel to bedding. Bedding to core: 44° @ 8324', 44° with cleavage (?) 56° in opposite sense at 8327'.	8.0		5.6	ft.	1.71	m.
					155.9		47.53	
8330.0	8337.0 (8290.4-8297.3)*	Subwacke, dark grey, very weakly calcareous, essentially continuous laminite, minor argillite/subwacke to 8331.5'. Pyrrhotite is very weakly disseminated and is in several bedding parallel zones both with and without accompanying calcite between 8330 and 8331.5' and in very thin fractures with calcite throughout. Bedding to core: 31° @ 8332', 39° @ 8337'; cleavage dips in opposite sense, 29° @ 8336'.	7.0		3.5		1.07	
					159.4		48.60	
8337.0	8353.0 (8297.3-8313.0)*	Argillite/subwacke/wacke, single bed, medium grey with upper argillite silky grey. A few internal laminations indicate bedding is 15° - 30° to core. Argillite to approximately 8340', subwacke 8340 - 8344', and wacke to 8353'. Hard spot at 8348' (end of run) appears to be quartz wacke but no contact observed in this interval where some core (very little - <10 cm) was ground. The subwacke is very weakly calcareous, the wacke is weakly calcareous to 8350', then is moderately calcareous to 8352.5'. The subwacke and portion of the wacke are very faintly laminated. Pyrrhotite occurs in wisps and rounded segregations often associated with pale silty material and chlorite and in very irregular veins up to 5 mm wide with chlorite and calcite. Very little pyrrhotite below 8346'. Bedding to core 28°-15° @ 8343.5', 25° @ 8350', 42° with cleavage 45° in opposite sense at 8352.0'.	16.0		6.7		2.04	
					166.1		50.64	

* First set of footages as per footage blocks, bracketed footages are true feet.

Drill Hole Record

Cominco Page 55

Property SULLIVAN | District Western | Hole No. DDH6464

Commenced | Location | Tests at | Hor. Comp.

Completed | Core Size | Corr. Dip | Vert. Comp.

Co-ordinates | True Brg. | Logged by

Objective | % Recov. | Date

Footage From	To	Description	Claim	T Brg.	Collar Dip	Elev.	Length	Hole No. Sheet
			Analysis					
8353.0	8361.0 (8313.0-8320.9)*	Argillite/subwacke, medium to dark grey, pyrrhotite present but rare, chlorite noted in veinlets and a few small patches. Except for top 5 cm the laminations characteristic of much of this interval are convoluted, detached or inclined at variable angles. A weak pyrrhotite cleavage is present in some parts of this interval but does not appear symmetrical to the structures, therefore indicating this interval was deformed prior to lithification.	8.0		5.4	ft.	1.65	m
					171.5		52.29	
8361.0	8361.5 (8320.9-8321.4)*	Wacke/quartz wacke, dark grey, no top contact; basal contact is diffuse.	0.5		0.5		0.15	
					172.0		52.44	
8361.5	8362.2 (8321.4-8322.1)*	Wacke, medium grey, a few specks of pyrrhotite noted.	0.7		0.6		0.18	
					172.6		52.62	
8362.2	8363.2 (8322.1-8323.1)*	Argillite/subwacke, dark and medium grey, laminite with very thin beds. Pyrrhotite is present, primarily as patches in zones along the bases of the thin beds. Bedding to core 50°.	1.0		0.8		0.24	
					173.4		52.87	
8363.2	8366.9 (8323.1-8326.7)*	Argillite, silky grey, single bed, base is broken, however small fragments are polished and hard, no contact seen. Wispy calcite, chlorite with minor pyrrhotite in central part of bed.	3.7		2.8		0.85	
					176.2		53.72	
8366.9	8374.5 (8326.7-8334.2)*	Subwacke and wacke, medium grey, characterized by dark grey bifurcating hairline wisps sub-parallel to bedding. These wisps occur in zones a few to 10 mm wide every 1 to 2 cm. Faint lighter coloured bands up to 1 cm wide with vague contacts, present below 8371.5' are weakly calcareous. The basal 10 cm is a very calcareous, light grey wacke. Pyrrhotite occurs in sub-rounded patches up to 1 cm long accompanied by chlorite and some calcite, calcite often rims these features.	7.6		5.8		1.77	
					182.0		55.49	

* First set of footages as per footage blocks, bracketed footages are true feet.

Drill Hole Record

Property: SULLIVAN | District: Western | Hole No.: DDH6464

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 | Sheet / Hole No.

Footage From	To	Description	Analysis					
8374.5	8376.1 (8334.2-8335.7)*	Wacke, minor subwacke, medium grey, appears thin bedded with contacts that are vague to diffuse. Paler layers are quite thin, have minor chlorite and pyrrhotite but are not calcareous. Some dark grey bifurcating hairline laminae are present. Bedding to core 52°.	1.6		1.3	ft.	0.40	m
					183.3		55.88	
8376.1	8376.9 (8335.7-8336.5)*	Wacke, light grey, much harder at very base. This may belong to preceeding interval as a single unit.	0.8		0.6		0.18	
					183.9		56.07	
8376.9	8379.9 (8336.5-8339.5)*	Wacke, thin quartz wacke? base, medium grey, basal zone broken. Possibly slightly harder near the top. Faint dark gvery thin and irregular wisps as well as a few thin nearly planar dark layers parallel to bedding @ 54°.	3.0		4.3		1.31	
					188.2		57.38	
8379.9	8390.5 (8339.5-8349.9)*	Subwacke/argillite with less than 10 cm hard wacke at the base, light, somewhat silky grey. Planar, dark grey, thin laminations are generally spaced at about 10 cm intervals, except 8383.0 - 8384.3' where spacing is 5 to 10 mm. A small number of these laminae have calcite and minor pyrrhotite. There is a constant change in core angle in the 8383 - 8384.3' interval from 71°, then necessary to turn core about 90° through 70°, to 60°, then at 8386.5' bedding changes from 35° to 85° in the opposite sense with cleavage about 65° - 70° between the limbs.	10.6		9.0		2.74	
					197.2		60.12	
8390.5	8397.0 (8349.9-8356.3)*	Subwacke, with wacke/quartz wacke below 8396.0', single sedimentation unit, medium grey, faint, grey, detached indistinct laminations throughout, rare very fine pyrrhotite. Chlorite noted in a few small patches. Some laminations are convoluted.	6.5		3.7		1.12	
					200.9		61.25	
8397.0	8404.0 (8356.3-8363.2)*	Subwacke with wacke below 8402.0', single bed, light medium grey, faint grey detached to locally continuous laminations at about 35° to core. Pyrrhotite is rare and is found primarily as very fine grains. Chlorite, accompanied by minor pyrrhotite and a few grains of sphalerite is present in several fine fractures near 8402'. One prominent darker grey lamination 2 mm wide cuts core at 35° @ 8402.5'.	7.0		4.0		1.22	
					204.9		62.47	

* First set of footages as per footage blocks, bracketed footages are true feet.

211-0437

Drill Hole Record

Property: SULLIVAN | District: Western | Hole No.: DDH6464

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 | Sheet / Hole No.

Footage From	To	Description	Analysis					
8404.0	8414.8 (8363.2-8373.8)*	Single graded bed, argillite to 8408', subwacke to 8409.5' (roughly), wacke to 8414.0', and quartz wacke to 8414.8'. Elongate to elliptical light grey, calcareous patches (some with chlorite cores) up to 2 cm long are present below 8409'. The wacke appears to be fine grained in several places, the quartz wacke is fine grained. The basal contact is sharp and appears flat at 35° to core. Fine pyrrhotite is disseminated throughout the argillite and subwacke. Several grains, one small gash and one diffuse patch (3X10mm) of sphalerite occur between 8407.0 and 8409.0'.	10.8		6.2	ft.	1.89	m
					211.1		64.36	
8414.8	8417.0 (8373.8-8376.0)*	Argillite/subwacke/wacke/quartz wacke, 3 beds? (some broken), minor bleaching on some fractures in the quartz wacke. Bedding to core 60° @ 8417'.	2.2		1.9		0.58	
					213.0		64.94	
8417.0	8421.0 (8376.0-8379.9)*	Subwacke/wacke/quartz wacke, medium grey, single bed? - hard zones within suggest either more beds or some unusual form of resedimentation. The sediment is fairly homogeneous in appearance. Chlorite, minor calcite and pyrrhotite noted in one 5 mm wide fracture and a few small patches.	4.0		3.5		1.07	
					216.5		66.01	
8421.0	8424.5 (8379.9-8383.4)*	Wacke/quartz wacke, single bed medium grey, fairly homogeneous. Broken in the bottom 2 feet.	3.5		2.7		0.83	
					219.2		66.83	
8424.5	8427.1 (8383.4-8385.9)*	Missing - 2.4' of core loss for run ending at 8433' is assumed in broken zone here where some grinding of core is noted.	2.6		2.0		0.61	
					221.2		67.44	
8427.1	8434.4 (8385.9-8393.1)*	Wacke/subwacke with some short harder zones, medium grey, continuously laminated with fine, slightly darker grey, even parallel laminations. Chlorite and some pyrrhotite scattered along a few of the laminations and rarely concentrated in 1 - 3 mm thick layers. Rare chlorite and pyrrhotite veins noted. Fine disseminated pyrrhotite and a few grains of sphalerite noted in the upper 2 and lower 3 feet of this interval. Bedding to core 40° @ 8434'.	7.3		4.7		1.43	
					225.6		68.78	

* First set of footages as per footage blocks, bracketed footages are true feet.

211-0437

Drill Hole Record

Property SULLIVAN | District Western | Hole No. DDH6464

Commenced | Location | Tests at | Hor. Comp.

Completed | Core Size | Corr. Dip | Vert. Comp.

Co-ordinates | True Brg. | Logged by

Objective | % Recov. | Date

Footage From	To	Description	Claim	T Brg.	Collar Dip	Elev.	Length	Hole No. Sheet
			Analysis					
8434.4 (8393.1)	8436.2 (8394.9)*	Wacke with 10 cm quartz wacke base, light medium grey with slightly darker elliptical patches up to 4X10 mm. A few thin veinlets of chlorite with minor pyrrhotite. The quartz wacke base has barely recognizable quartz grains and is therefore a siltite. Bedding to core 49°.	1.8		1.4	ft.	0.43	m
					227.0		69.21	
8436.2 (8394.9)	8436.5 (8395.2)*	Subwacke/wacke/quartz wacke, medium grey, single bed. Chlorite with minor pyrrhotite selvage along contact between wacke/quartz wacke. Basal contact of faint laminations in quartz wacke is visually similar to underlying subwacke.	0.3		0.2		0.06	
					227.2		69.27	
8436.5 (8395.2)	8439.0 (8397.6)*	Subwacke, medium grey, laminated with slightly darker grey throughout. About intervals up to 2 cm that are not laminated. The bottom 20 cm is not as distinctly laminated and and is argillite. Bedding to core 44° @ 8438'.	2.5		1.7		0.52	
					228.9		69.78	
8439.0 (8397.6)	8445.0 (8403.5)*	Single bed: argillite (10 cm), subwacke to about 8443', wacke to 8444.5' and quartz wacke (10 cm), medium grey, basal contact very diffuse and irregular; the quartz wacke is very fine grained. Vague and irregular silty wisps noted in top 40 cm and basal 40 cm; minor pyrrhotite and very rare sphalerite noted in the more silty material.	6.0		4.2		1.28	
					233.1		71.06	
8445.0 (8403.5)	8452.8 (8411.2)*	Single bed, subwacke to 8448', wacke to 8452', argillite, subwacke, wacke and quartz wacke (perhaps a second bed??) to 8452.8'. Vague argillite wisps in the subwacke and parts of the wacke. Isolated pyrrhotite grains, up to 1 per square cm. One pyrrhotite clast 5X10 mm contains sphalerite. The basal 5 cm of quartz wacke is (very) fine grained. Bedding to core 60°.	7.8		6.8		2.07	
					239.9		73.14	
8452.8 (8411.2)	8453.6 (8412.0)*	Argillite/subwacke/wacke, three thin beds, some distinct flat contacts and internal contacts, portions are faintly laminated. Broken last 0.5'.	0.8		0.7		0.21	
					240.6		73.35	
8453.6 (8412.0)	8457.0 (8415.4)*	Subwacke (very argillaceous)/argillite, flat parallel laminations throughout, few very short intervals have no laminations. Distinct speckled pyrrhotite texture	3.4		3.0		0.91	
					243.6		74.27	

* First set of footages as per footage blocks, bracketed footages are true feet.

211-8437

Drill Hole Record

Property SULLIVAN | District Western | Hole No. DDH6464

Commenced | Location | Tests at | Hor. Comp.

Completed | Core Size | Corr. Dip | Vert. Comp.

Co-ordinates | True Brg. | Logged by

Objective | % Recov. | Date

Footage From	To	Description	Claim	T Brg.	Collar Dip	Elev.	Length	Hole No. Sheet
			Analysis					
		throughout; the pyrrhotite grains are up to 2 mm across and are aligned within the cleavage. One small cluster of pyrrhotite at 8456' contains minor sphalerite. Bedding to core 63° @ 8456'.						
8457.0 (8415.4)	8458.8 (8417.1)*	Argillite, light and medium grey. Wisps and blebs of pyrrhotite in top 10 cm, a few fine grains and laminations below.	1.8		1.6	ft.	0.48	m
					245.2		74.76	
8458.8 (8417.1)	8476.0 (8434.0)*	Possibly one bed (detached laminations and possibly one or two thin bed may be present between 8458.8-8460.5', however below that the progression is uniform and gradational). Argillite, pale grey, 8458.8' to about 8461', subwacke, pale grey, to about 8463', wacke, pale grey, to 8469', quartz wacke, medium grey, to 8470' (fine grained), quartz arenite, brownish, to 8476.0'. Texture from 8458.8-8462' heavily disseminated (speckled) pyrrhotite grains; individual grains up to 3 mm across are composed of 20-50% pyrrhotite and the balance appears to be silt; these grains are aligned in the cleavage at 66° to core opposite to bedding of 64°. From 8462 - 8465' texture is more equigranular with finely dispersed pyrrhotite and a very small amount of sphalerite. From 8465 - 8469' there is slightly more pyrrhotite aligned in discontinuous parallel layers at 35° to core. The transition from quartz wacke to quartz arenite is broken. The quartz arenite is fine grained, dark brownish grey; in thin section >85% quartz, up to 0.4 mm; biotite, feldspar and 1 tourmaline grain.	17.2		15.5		4.73	
					260.7		79.48	
8476.0 (8434.0)	8476.3 (8434.3)*	Argillite/subwacke, medium grey, flecked with pyrrhotite grains.	0.3		0.2		0.06	
					260.9		79.54	
8476.3 (8434.3)	8478.0 (8436.0)*	Argillite/subwacke with (silicified?), quartz arenite (?) base. A few fine grains of pyrrhotite throughout.	1.7		1.5		0.46	
					262.4		80.0	

* First set of footages as per footage blocks, bracketed footages are true feet.

211-8437

Drill Hole Record

Cominco Page 60

Property	SULLIVAN	District	Western	Hole No.	DDH6464
Commenced		Location		Tests at	Hor. Comp.
Completed		Core Size		Corr. Dip	Vert. Comp.
Co-ordinates				True Brg.	Logged by
Objective				% Recov.	Date

Sheet:

Footage From	To	Description	Claim	T Brg.	Collar Dip	Elev.	Length	Hole No.
			Analysis					
8478.0 - 8506.0 (8946.0-8463.6)*		Subwacke, medium grey, with exception of a few thin beds above about 8484', this interval is discontinuously laminated with almost uniformly (decreasing below 8497') disseminated pyrrhotite aligned within cleavage. Four hard spots at 8481' (10 cm), 8487' (5 cm), 8495' (10 cm), 8499' (15 cm) and 8501' (7 cm with pyrrhotite and lithic clasts) are interpreted as silicification and related alteration near small veins. Pyrrhotite layers and disseminations along layers throughout the interval define bedding. Laminations indicate bedding is contorted and often detached with diffuse terminations. These features indicate penecontemporaneous deformation of unstable rapidly deposited sediment. Galena and sphalerite noted accompanying abundant wispy pyrrhotite veins and silicified fragments across 7 cm at 8501' (8458.6').	28.0		25.0	ft.	7.62	m
					287.4		87.62	
8506.0 - 8532.0 (8469.6-8489.2)*		Wacke/subwacke, apparently a continuation of preceeding interval however a gradual lithic and textural change is noted. Discontinuous and contorted layers are still present but in much reduced proportions. Small irregular lithic inclusions, occasional faint discontinuous laminations highlighted by pyrrhotite and patchy mottling are noted. A 2 cm wide quartz vein with coarse pyrrhotite and at least one coarse grain of blackjack, runs nearly parallel to core from 8522' (8479.3') to 8527' (8481.2'), much of the alteration is developed along the vein margins. Scattered garnets, pale brown patchy areas (fine biotite?) and bleaching are common features of the alteration.	26.0		23.6		7.20	
					311.0		94.82	
8532.0 - 8535.0 (8489.2-8492.1)*		Subwacke/wacke, top and bottom potions are laminated with only a hint of lamination in the middle, medium grey, moderately disseminated pyrrhotite, bedding to core 67°.	3.0		2.8		0.85	
					313.8		95.67	
8535.0 - 8546.5 (8492.1-8503.4)*		Subwacke/wacke, light medium grey, pyrrhotite flecked in vague laminations, occasional wisp and veinlet with pyrrhotite and calcite. Mild chlorite spotting and subtle large mottling (bleached areas) are indicative of contact alteration. Believe	11.5		10.6		3.23	
					324.4		98.90	

* First set of footages as per footage blocks, bracketed footages are true feet.

Drill Hole Record

Cominco Page 61

Property	SULLIVAN	District	Western	Hole No.	DDH6464
Commenced		Location		Tests at	Hor. Comp.
Completed		Core Size		Corr. Dip	Vert. Comp.
Co-ordinates				True Brg.	Logged by
Objective				% Recov.	Date

Sheet

Footage From	To	Description	Claim	T Brg.	Collar Dip	Elev.	Length	Hole No.
			Analysis					
		this has pre-lithification deformation features such as clasts and discontinuous bedding overprinted and in some cases obscured by alteration.						
8546.5 - 8547.0 (8503.4-8503.9)*		Possible albitite breccia and vein quartz cut by pyrrhotite veinlets.	0.5		0.4	ft.	0.12	m
					324.8		99.00	
8547.0 - 8547.9 (8503.9-8504.8)*		60% sulphides, 40% lithic material and a small amount of vein quartz. The sulphides are 85% pyrrhotite and about 15% sphalerite. Estimated grades are Pb 0%, Zn 7.5%, Fe 30%.	0.9		0.8		0.24	
					325.6		99.27	
		Assayed grades are: 0.16% Pb, 4.1% Zn, 33.7% Fe, 0.10% Cu and 11 gm/T Ag. This interval comprises long clasts of lithic material with sulphide laminations in a more sulphidic matrix that in turn contains numerous lithic and chlorite clasts generally less than 2 mm long. The laminated clasts are up to 6 mm wide and 4 cm long and are often highly contorted; the fine lithic clasts generally have pointed ends. The densest pyrrhotite zone is in the centre of the interval and is about 1 cm wide; it is sheared and has a mylonitic appearance; lithic clasts are aligned parallel to the margins. Very strong slickensides are developed in a chlorite seam at the top of this interval. General trend of shearing, which was probably layer-parallel, is at 61° to core; the chlorite seam is at 40° to core, the slickensides are 70° to core. These textures are indicative of post lithification deformation of the sulphide interval. The texture of this interval is typical of west fringe and northwest fringe sulphides.						
8547.9 - 8548.2 (8504.8-8505.1)*		Wacke with disseminated pyrrhotite and visible sphalerite.	0.3		0.2		0.06	
					325.8		99.33	
8548.2 - 8575.0 (8505.1-8531.5)*		Wacke/subwacke, medium grey, vaguely bedded (probably medium to thin bedded). Interval from 8554 - 8571' is nearly massive and almost featureless except for an alteration zone 8554 - 8558' and a 10 cm zone well veined by sphalerite at	26.8		17.2		5.24	
					343.0		104.57	

* First set of footages as per footage blocks, bracketed footages are true feet.

Drill Hole Record

Property SULLIVAN | District Western | Hole No. DDH6464

Commenced | Location | Tests at | Hor. Comp.

Completed | Core Size | Corr. Dip | Vert. Comp.

Co-ordinates | True Brg. | Logged by

Objective | % Recov. | Date

Footage From	To	Description	Claim	F Brg.	Collar Dip	Elev.	Length	Hole No.	Sheet
			Analysis						
		8560.5' (8517.2'). Vague possible bedding contact suggests bedding is sub-parallel to core 8554 - 8571'. Bedding to core: 42° @ 8552', 29° to 15° @ 8558', 25° (?vague) at 8566', 25° @ 8571', 75°(?) @ 8573', 68° @ 8574'.							
8575.0	8578.0 (8531.5-8534.5)*	Badly broken. Sedimentary rocks, a continuation of previous interval. A few fragments have minor slickenside development.	3.0		2.5	ft.	0.76		m
					345.5		105.34		
8578.0	8700.0 (8534.5-8654.5)*	Gabbro, fine grained and dark with dark green phenocrysts to 8585', medium and coarse grained with short biotitic sections (xenoliths?) to 8623', primarily medium grained. Igneous textured rock, possibly granophyre or altered gabbro to 8650', small intense shear zone 8650 - 8657' on margin of patchy quartz vein 8657 - 8658'; fine grained gabbro, light greenish grey, with minor biotite and pyrrhotite; similar but darker to 8697'; medium grained to 8700'. Numerous fine fractures filled with quartz cut the gabbro. A small number of veins, all less than 1 cm wide were noted, some with minor pyrrhotite.							
8700.0	8734.0 (8654.5-8688.0)*	Granophyre, light grey, equigranular biotite-quartz rock having an igneous texture. A few small lithic fragments, typical of granophyre elsewhere, are present. Rare narrow quartz veins (<1 cm) and veinlets are present.							
		*** END OF HOLE DDH6464 ***							

* First set of footages as per footage blocks, bracketed footages are true feet.

APPENDIX B

SULLIVAN MINE GROUP OF MINERAL CLAIMS

NOVEMBER 27, 1986

		Number of Units	
1.	Crown-Granted M.C.		680
2.	Held by Assessment:		
	2(a) TWO POST CLAIMS		
	Luke Group	75	
	Rho Group	20	
	Med Group	15	
	Donna, Etc. Group	15	
	Uke Group	11	
	Mar Group	17	
	Bad Group	36	
	Late Group	91	
	Mat Group	268	
	Jackpot	1	549
	2(b) REVERTED CROWN GRANTED MINERAL CLAIMS		
	Tip 4-12	9	
	Hope 2-12	11	
	Sun 2-12	11	
	Cue 2-12	11	
	B.C., Silver Bell, Tarrant	3	
	Black Hills, Yankee Girl, Wasp Fr.	3	
	Blue Dragon	1	49
	2(c) MINERAL CLAIMS (54)		
	Dip 1-8	56	
	Fal 1-14	84	
	Golf 1-3	17	
	Quark 1&2	12	
	Fin 1-3	18	
	Mead 1-3	36	
	Gin 1-9	110	
	Clair 24-32	56	
	Mark 1-3	17	406
3.	Greenhorn Mineral Lease		1
	GRAND TOTAL (1 + 2 + 3)		1,685

PWR/lrm

APPENDIX C

STATEMENT OF EXPENDITURES

DDH 6464

DIRECT COSTS

Contractor: Connors Drilling Ltd.
2007 West Trans Canada Highway
Kamploops, B.C. V1S 1A7

Drilling 5701' - 8699', all invoices	$289,436.29
Direct costs =	$289,436.29

INDIRECT COSTS

Salaries:		
P.W. Ransom -	Geologist - supervision, core logging, report 62 days @ $250/day	$ 15,500.00
Supplies:	Mud - gel and core boxes	50,542.25
Transportation:		
	Geologist 4X4 truck - 62 days @ $40/day	2,480.00
Other Contractors:		
	Scanland's Vacuum Tankers, Cranbrook, B.C.	1,732.50
	Indirect costs =	$ 70,254.75
	Total Direct + Indirect costs =	$359,691.04

P.W. RANSOM
Project Geologist

APPENDIX D

IN THE MATTER OF THE

B.C. MINERAL ACT

AND

IN THE MATTER OF A DIAMOND DRILLING PROGRAM

CARRIED OUT ON THE TELFER AND BURGESS GROUPS

KIMBERLEY AREA

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

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

A F F I D A V I T

I, P.W. Ransom, of the rural district of Wycliffe, 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 "C" to this my Affidavit is a true copy of expenditures incurred on a Diamond Drill program, on the Telfer and Burgess mineral claim groups.

3. That the said expenditures were incurred between the 5th day of August, 1988 and the 8th day of October, 1988 for the purpose of mineral exploration on the above noted claim groups.

P. Ransom

P.W. RANSOM
Project Geologist

APPENDIX E

STATEMENT OF QUALIFICATIONS

As author of this report, I, Paul W. Ransom, certify that:

I am a geologist active in minerals exploration.

I am a graduate of McGill University with a degree of Bachelor of Science.

I have been continuously engaged in mining and exploration since 1966.

I am a member of the Geological Association of Canada.

I supervised Cominco Ltd.'s Sullivan Mine area exploration drilling program in 1988.

P. Ransom

P.W. RANSOM, G.A.C.