86-860-15430

COMINCO LTD.

EXPLORATION

WESTERN DISTRICT

DIAMOND DRILLING REPORT

MAT 71 GROUP

Fort Steele Mining Division

Matthew Creek Area

N.T.S. 82F/9E

LATITUDE: 49° 43.6' N

LONGITUDE: 116° 06.8' W

OWNER: OPERATOR

Cominco Ltd.

Box 2000
Kimberley, B.C.
V1A 2G3

PART (1) OF (2)

Work performed during June and July 1986

Report by:
P.W. Ransom
Project Geologist

15,430

TABLE OF CONTENTS

COMINCO LTD.

EXPLORATION WESTERN DISTRICT

DIAMOND DRILLING REPORT

MAT 71 GROUP

Fort Steele Mining Division

1.00 INTRODUCTION

1.10 Specific Location

DDH 6459, the hole being reported on, was drilled on the west side of the northeast fork of Matthew Creek. Access to the drill site is by logging 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.

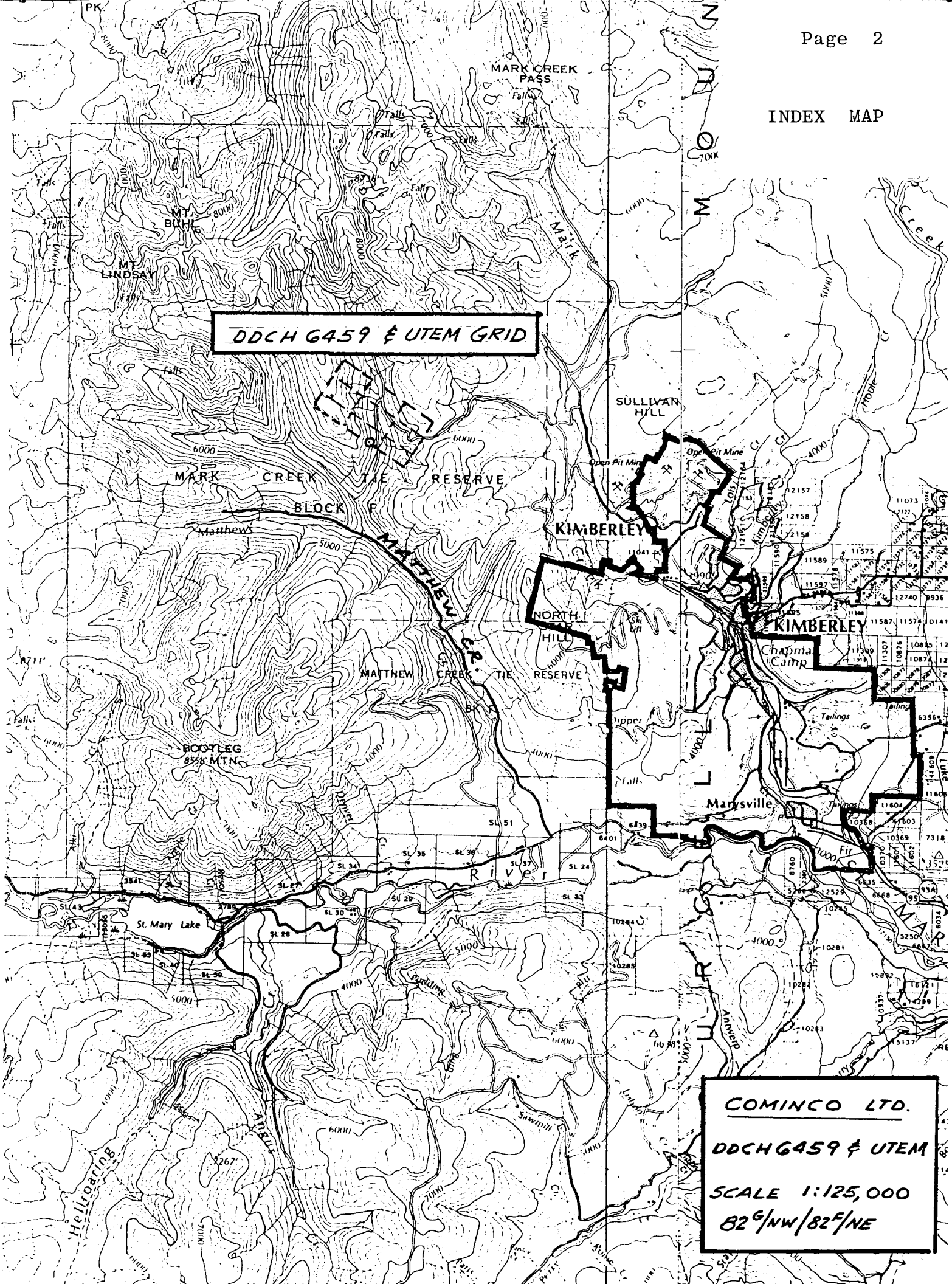
1.30 Drilling

One hole is being reported on. It was collared at -90° dip and was drilled to a depth of 650 meters using H and N wireline tools.

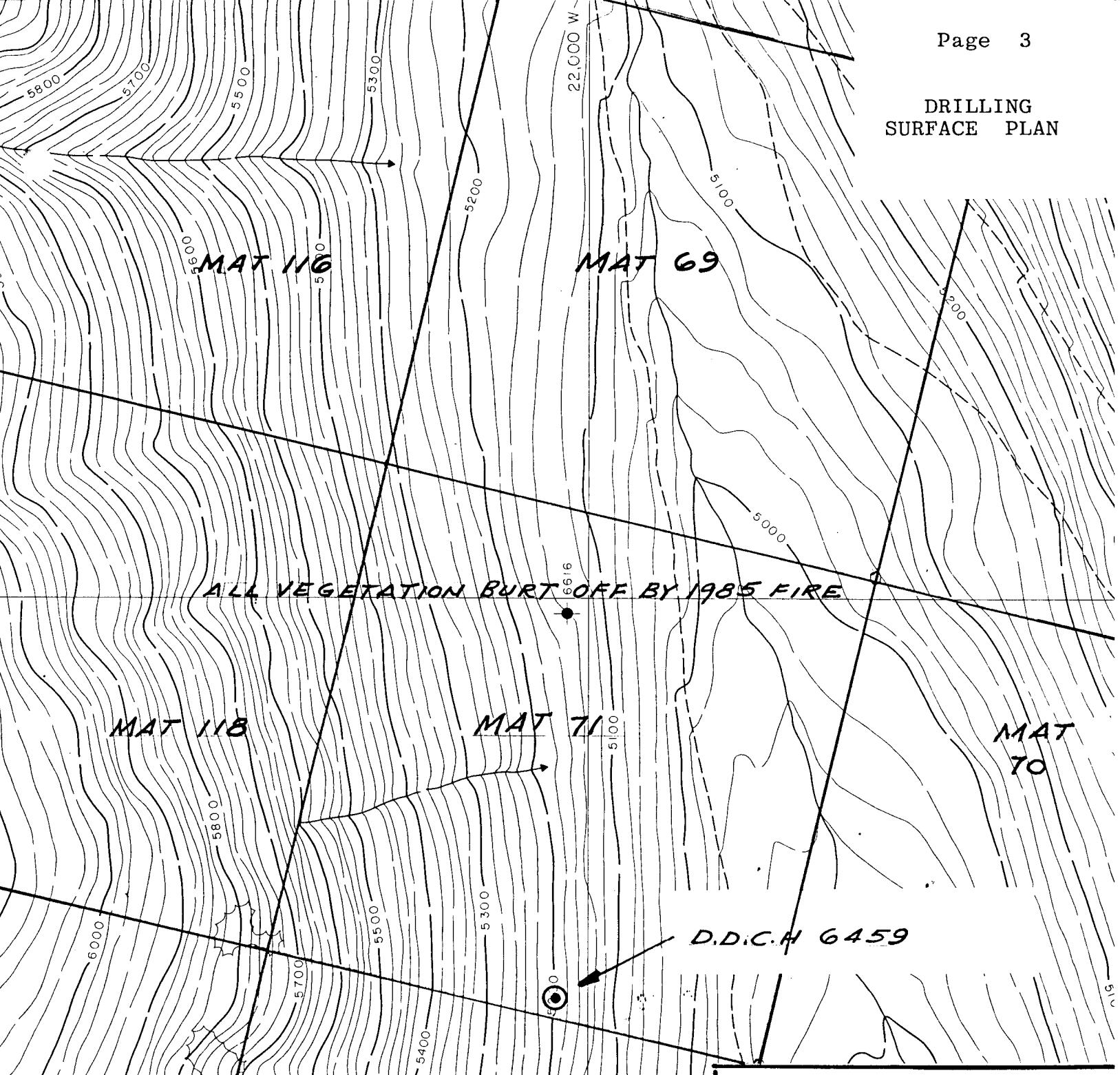
1.40 Claims Explored

DDH 6458 was drilled on the Mat 71 Mineral Claim.

INDEX MAP


DDCH 6459 & UTEM GRID
MARK CREEK TIE RESERVE
BLOCK F
MATTHEW CR.
MATTHEW CREEK TIE RESERVE
KIMBERLEY
NORTH STAR HILL
SULLIVAN HILL
MARYSVILLE
MARK CREEK PASS
MT. BUHL
MT. LINDSAY
BOOTLEG 8558' MTN.
St. Mary Lake
St. Mary River
Matthews
Chapman Camp
Tailings
Open Pit Mine
COMINCO LTD.
DDCH 6459 & UTEM
SCALE 1:125,000
82G/NW/82F/NE

DRILLING
SURFACE PLAN



COMINCO LTD.

SULLIVAN MINE

DDCH 6459

SCALE 1:4800

2.00 DETAILED TECHNICAL DATA AND INTERPRETATION

2.10 Drilling

2.11 Objective

The objective of drilling DDH 6459 was to locate stratiform Ag-Pb-Zn-Fe sulphide ore.

2.12 Results

DDH 6459 intersected siliciclastic sedimentary rocks typical of the area. Pyrrhotite was noted locally, disseminated as an accessory mineral. Argillite with sparse weakly laminated and disseminated pyrrhotite was noted from 600 to 607 metres.

2.13 Interpretation

0.0 - 12.5 m	Overburden
12.5 - 650.0 m	Siliciclastic sedimentary rocks, Aldridge Formation.

2.14 Conclusion

DDH 6459 intersected siliciclastic sediments of turbidite and related origin, typical of the Middle Proterozoic Aldridge Formation.

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) ✓
Western District
Sullivan Mine
Kootenay Exploration

APPENDIX A

Diamond Drill Geological Log For D.D.H. 6459

LAT. 14800' DEP. -22,100' ELEV. 5,200'
DIP: -90° AZIM.: --- LENGTH: 2,133'
HORIZ. COMP. 544' VERT. COMP. 2,072'
DATE COLLARED: June 27, 1986 DATE COMPLETED: July 19, 1986
CORE STORAGE: Cominco core storage in Kimberley, B.C.
DR[illed] ON CLAIM(S): Mat 71
OB[jective]: To explore for ore north of the Kimberley Fault.

PLANNED LENGTH: 2,100'
TERMINATION COMMENTS: No ore intersected.

DRILLED BY: Longyear
TYPE DRILL: 44
CORE SIZE: HQ to 1,045', NQ 1045' to 2,133'.
PERFORMANCE COMMENTS:
Excellent productivity and core recovery.

CASING REMAINING IN HOLE (LENGTH & SIZE): 45' of HW

TYPE CAP & SEALING METHOD: 5' piece of HW with welded plate.

OTHER MATERIAL REMAINING IN HOLE:

SURVEY INSTRUMENT USED: Sperry Sun

ADDITIONAL DOWN HOLE TESTS: Down Hole UTEM
Test of 20° and 90° Sperry Sun units near drill set-up.

Unit	Brunton	Sperry Sun Disc	Correction
20	-72° dip, 091 Azimuth	-71.9° dip, 082.5 Azimuth	add 8.5° to azm
90	-68° dip, 084 Azimuth	-68.0° dip, 078.0 Azimuth	add 6.0° to azm

GENERAL COMMENTS: Lithology is generally based on a hardness determination by scratching core with a hacksaw blade. Quartz arenite cannot be scratched; quartzitic wacke can be scratched using moderate pressure; wacke is easily scratched; subwacke is soft but presence of silt grains can be sensed; argillite is very soft. The possibility is that some of the beds called quartz arenite, especially in the bottom 300 feet or so, are silicified quartzitic wacke.

SURVEYS: Depth	Dip	Azimuth	Instrument	Corrected Azimuth
0	-90.0	---	---	---
57	-88.1	071	20	079.5
264	-85.5	089	20	097.5
479	-84.5	095	6	103.5
729	-82.5	098	20	106.5
1014	-79.9	092.5	20	101.0
1269	-75.9	088.9	20	097.4
1529	-73.0	087	20	095.5
1749	-71.2	086	20	094.5
2009	-65.8	082	90	088.0

LOG LEGEND

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	

LITHOLOGY ABBREVIATIONS

OQ - Orthoquartzite
QA - Quartz arenite
QW - Quartz Wacke
QCW - Quartzitic Wacke
W - Wacke
SW - Sub Wacke
AG - Argillite

D.D.H. 6459

Drill Hole Record

Cominco Page 1

Property MAT 71 (Sullivan) District Western Hole No. 6459
Commenced June 27, 1986 Location Tests at Hor. Comp. 544'
Completed July 19, 1986 Core Size HQ to 1045', NQ to 2133' Corr. Dip -90° Vert. Comp. 2072'
Co-ordinates Lat. 14800' Dep. -22,100 (Sullivan Mine Grid) True Brg. Logged by P.W. Ransom
Objective To explore for ore north of the Kimberley Fault. % Recov. Est. 95% Date December, 1986

Footage (meters) From	To	Description
0	to 41 (12.5)	Overburden
	to 95 (29.0)	Quartzitic wacke (50%), wacke (30%), argillite (20%); medium to light grey, fine grained; thick and very thick bedded, generally massive beds with graded upper portions; bedding contacts sharp and flat; laminations in some argillaceous beds; cross bedding noted in a medium wacke bed at 84'; rip-up clasts noted near top of 3 m thick bed at 72', this thick bed may be amalgamated. About half of the quartzitic wacke is moderately calcareous. Bedding to core 66° @ 44', 70° @ 49', 70° @ 63', 65° @ 84'.
	to 98.5 (30.0)	Subwacke, argillite and wacke; medium grey; laminated to thin bedded, one medium wacke bed; contacts flat and sharp; graded; one cross bed. Bedding to core 66° @ 95'.
	to 119.5 (36.4)	Quartzitic wacke, calcareous, minor wacke and argillite; medium, some dark and some light grey; very fine grained; bedding contacts sharp, generally flat, some wavy; beds generally massive, graded tops. Bedding to core 61° @ 109', 58° @ 112'.
	to 162 (49.4)	Wacke (50%), subwacke, argillite, quartzitic wacke; medium grey (rarely light or dark); thick and medium bedded with thin bedded zones; bedding contacts sharp and flat throughout; bases of most thick beds are quartzitic wacke (a few are calcareous); some wacke zones are even, parallel laminated. Bedding to core 65° @ 120', 71° @ 137', 65° @ 146', 73° @ 149', 69° @ 154', 70° @ 154', 70° @ 159'.
	to 260 (79.2)	Quartz arenite (60%), quartzitic wacke (10%); medium to light grey; fine to very fine grained; wacke, subwacke and argillite as graded tops and in medium to thin bedded (rarely laminated) zones up to 4 feet thick; medium grey; bedding contacts sharp and usually flat (a few are wavy or irregular); most beds massive, a few have rip-up clasts and laminations. Bedding to core 70° @ 177', 65° @ 194', 63° @ 200', 72° @ 201', 70° @ 204', 75° @ 208', 70° @ 213', 70° @ 219', 69° @ 226', 71° @ 229', 75° @ 235', 66° @ 244', 70° @ 247'.

Claim	T Brg.	Collar Dip	Elev.	Length

Analysis

Books

Colour Plot & Dips

Drill Hole Record

Cominco

Property MAT 71 (Sullivan)	District Western	Hole No. 6459	
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 (meters)	Description
to 295	(89.9)	Argillite and subwacke (50%), medium grey, thin bedded to laminated, contacts sharp and generally flat (some wavy); 292 to 295 has several thin cross-laminated beds; quartz arenite (40%), wacke (10%), medium grey, fine grained, two beds medium grained; AB and B turbidites; bedding contacts sharp, generally flat (some wavy). Bedding to core 70° to 261', 71° @ 269', 75° @ 284', 67° @ 287'.
to 331	(100.9)	Quartz arenite, minor wacke and argillite; medium grey; thick bedded; fine (one bed medium) grained; bedding contacts sharp, generally flat; most beds massive, rare rip-ups and faint laminae and one cross lamina. Bedding to core 75° @ 302', 65° @ 308'.
to 343	(104.6)	Wacke and sub wacke, minor argillite and quartzitic wacke; medium grey; bedding contacts sharp and flat; thin to very thin bedded, few medium and thick beds; bedding to core 71° @ 336'.
to 362	(110.4)	Quartz arenite (85%), medium (some light, dark) grey; thick bedded; fine grained; bedding contacts sharp and flat; beds massive. Argillite and wacke; medium grey; thin bedded to laminated and graded tops of some thick beds; bed contacts sharp and flat, laminations even and parallel, one set of cross laminations; bedding to core 60° @ 345', 84° @ 348', 60° @ 350', 80° @ 353'.
to 393	(119.8)	Quartz arenite and quartzitic wacke (40%), wacke (40%), subwacke/argillite (20%); medium grey; thick bedded; bed contacts sharp and flat; beds massive with graded tops; one ABDE and one BD turbidite; four beds have calcareous zones; bedding to core 75° @ 368', 75° @ 378', 70° @ 390'.
to 414	(126.2)	Quartz arenite; medium to light grey; fine grained thick bedded with some softer (poorly sorted) bases and graded tops; bed contacts generally sharp and flat (one wavy, one with ball and pillow base); bedding to core 65° @ 398', 74° @ 407', 70° @ 414'.

Books

Colour Plot & Dips

Drill Hole Record

Cominco

Property MAT 71 (Sullivan)	District Western	Hole No. 6459	
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
to 452.5	(138.0)	Wacke, subwacke and argillite (75%); medium grey; thin bedded to laminated; bed contacts sharp and flat, and laminations even parallel. Quartz arenite and quartzitic wacke (25%); medium to light medium grey; thick and medium bedded; bedding contacts sharp and flat (2 wavy); bedding to core 70° @ 420', 70° @ 448'.
to 475	(144.8)	Quartz arenite, medium to light medium grey; fine grained; thick bedded; some graded tops; bed contacts sharp and flat where observed. Core condition deteriorates to badly broken over the interval.
to 502	(153.0)	Fault zone. Fault rock cohesive 475 - 485 and 493 - 502; schistose 475 - 485, 492.6 - 494 and 500 - 501.6; badly broken QW/QA 485 - 493; crush zone 494 - 500. Schist is greenish grey, very soft (like argillite), minor calcium carbonate parallel to schistosity; gouge noted; schistosity variable from 0° to 60° to core.
to 580	(176.8)	Wacke, subwacke and argillite (70%); medium grey; medium, thick (& one very thick) bedded; bed contacts sharp and flat; quartzitic wacke and quartz arenite (30%); medium to light medium grey; fine (few medium) grained; bed contacts sharp and flat (one wavy, one with flames); beds massive, few with rip-ups; bedding to core 75° @ 503', 75° @ 504', 70° @ 509', 74° @ 516', 77° @ 525, 74° @ 533', 70° @ 543', 67° @ 544', 74° @ 554', 72° @ 562', 80° @ 574', 75° @ 578'. Proportion of quartzitic rocks increases downward, in this interval although lowest 3 feet is mostly argillite. There are several narrow intervals of even parallel laminated wacke.
to 597.5	(182.2)	Quartz arenite, minor quartzitic wacke, wacke and argillite; light medium to medium grey; fine grained; thick and medium bedded; beds generally massive, bed contacts generally sharp and flat (some wavy or irregular); some thin and very thin beds; bedding to core 75° @ 597'.
to 610	(186.0)	Wacke (50%); argillite (30%); quartz wacke and arenite (20%); medium to medium dark grey; most beds medium, one very thick (5') wacke with QW central

Drill Hole Record

Cominco

Property MAT 71 (Sullivan) | District Western | Hole No. 6459

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
	to 610 (186.0) Cont'd.	portion; contacts sharp and flat to irregular; thick bed is laminated throughout (very fine, faint, closely spaced laminite); pyrrhotite flecks noted aligned along cleavage; bedding to core 73° @ 608'.
	to 642 (195.7)	Quartz arenite 80%; argillite tops and a group of very thin beds over 1.5 feet, a few medium wacke beds; light medium grey; fine grained; thick bedded; beds generally massive, grading near the tops, poor sorting (softer) bases of some; bed contacts sharp and flat; bedding to core 71° @ 621', 71° @ 626', 63° @ 630', 73° @ 638'. From 635 to 642' beds are quartzitic wacke and some wacke, with argillaceous tops; fine grained; medium bedded.
	to 652.5 (198.9)	Argillite and wacke; medium to dark grey; thin to very thin bedded; bed contacts sharp and wavy; cross laminated throughout lower two-thirds of interval, even parallel laminated in upper part; some lithic clasts in a single wacke bed; bedding to core 70° @ 642'.
	to 680.5 (207.5)	Quartz arenite; light medium grey; fine grained; massive beds; bed contacts generally sharp and flat; some beds have poorly sorted bases; intervals less than 35 cm of argillite/subwacke of very thin to laminated beds, one set of cross laminae; bedding to core 78° @ 665'.
	to 705 (214.9)	Wacke (50%), argillite-subwacke (30%), quartz arenite (20%); medium grey; fine grained; medium and thick bedded (W & QW), thin bedded to laminated (A/SW); some faint laminae in thick wacke; flecks of pyrrhotite in cleavage; bedding to core 69° @ 686', 73° @ 697'.
	to 724 (220.7)	Quartz arenite; light medium and medium grey; fine grained; thick and medium bedded; bed contacts sharp and generally flat, some wavy, flames noted; beds massive; bases of some poorly sorted; bedding to core 76° @ 714', 70° @ 721'.
	to 745 (227.1)	Wacke, subwacke and argillite (80%), quartzitic wacke and quartz arenite (20%); medium grey (some dark); a few beds fine grained; most beds thin to very thin

211-84

Drill Hole Record

Cominco

Property MAT 71 (Sullivan) | District Western | Hole No. 6459

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
	to 745 (227.1) Cont'd.	bedded, arenaceous beds are medium bedded; bed contacts are sharp and flat (one 45 cm interval wavy); most beds massive; bedding to 79° @ 729', 76° @ 737'.
	to 802 (244.5)	Quartz arenite (40%), wacke (30%), subwacke and argillite (20%); medium grey (some medium dark & med. light); fine grained; the arenaceous rocks and some wackes are thick bedded, most of these are massive; some arenaceous rocks, wackes and subwackes are thin bedded, a few wackes, subwackes and argillites are laminated; bed contacts are sharp and usually flat, a few are wavy or irregular; bedding to core 70° @ 765', 77° @ 782', 66° @ 802'.
	to 826 (251.8)	Quartz arenite (80%), wacke and argillite (20%), mostly as bed tops, very weakly calcareous (hand lens needed to see effervescence with HCl); fine and medium grained; thick bedded; beds generally massive; bed contacts sharp and flat; bedding to core 71° @ 824'.
	to 915 (279.0)	Quartz arenite (50%), wacke (30%), subwacke and argillite (20%); medium (some dark, light) grey; the quartz arenite is fine grained or very fine grained; thick and in a few cases medium bedded generally isolated or in small groupings less than 10 feet overall; contacts are sharp and generally flat, a few have wavy or flame bases; some rip-up clasts observed; the beds are massive; some are very weakly calcareous; the other rock types are medium to thin bedded, some intervals are laminite wacke over several feet (829.5 - 832) or alternating with massive wacke (908 - 915); bed contacts are sharp & flat; bedding to core 71° @ 831', 65° @ 851', 81° @ 850', 68° @ 873', 76° @ 893', 76° @ 901', and 75° @ 908'. Pyrrhotite noted weakly disseminated in some bed tops near 885'.
	to 947.5 (288.9)	Quartz arenite; very weakly calcareous; medium grey; fine grained; thick and very thick bedded; bed contacts sharp and generally flat (one wavy, two slightly irregular); most beds massive; 50 cm argillite interval at 934' is very thin bedded with internal cross laminae; slight sericitic alteration in many of the beds; bedding to core 65° @ 942'.

211

Drill Hole Record

Cominco

Property MAT 71 (Sullivan)	District Western	Hole No. 6459	
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
to	989.5 (301.7)	Quartz arenite and quartzitic wacke (40%), wacke (40%), argillite (20%); the quartzitic beds are thick and very thick and all the argillite and some wacke form graded tops to these beds; medium grey; medium, fine and very fine grained; bedding contacts sharp and flat (One wavy); wacke is medium, thin, very thin and laminated; medium dark grey; bed contacts and laminations sharp and generally flat (a few are irregular); bedding to core 65° @ 947.5', 75° @ 957', 73° @ 973', 74° @ 989'.
to	1004 (306.1)	Quartz arenite; medium grey; fine grained; thick, one very thick, and a few medium bedded; massive; bed contacts sharp and generally flat (two irregular).
to	1032 (314.6)	Wacke (60%), argillite (20%), quartz arenite and quartzitic wacke (20%); medium to medium dark grey; medium to thin bedded (a few thick beds); bed contacts sharp and generally flat, a few are wavy; some wacke intervals continuously even parallel laminated; a few cross laminae below 1024'; bedding to core 73° @ 1025'; 80° @ 1027'.
to	1046.5 (319.1)	Quartz arenite; light medium grey; fine grained; thick, few medium, bedded; bed contacts sharp and flat; beds massive. Switch from HQ to NQ at 1045'.
to	1055 (321.6)	Wacke, minor subwacke and argillite; medium grey; medium to thin bedded; beds massive; bed contacts sharp and flat; bedding to core 68° @ 1050'.
to	1082 (329.9)	Quartz wacke (70%), wacke, subwacke and argillite (30%); medium grey; fine grained; quartz wacke beds are massive, other parts of beds or separate beds display faint laminations; bedding contacts sharp and flat; bedding to core 68° @ 1058', 70° @ 1068', 80° @ 1077'.
to	1086.5 (331.3)	Wacke (50%), argillite and subwacke; dark medium grey; thin, very thin bedded and laminated, near continuously even flat parallel laminated wacke 1082 - 1084.5; intense cleavage developed in thin argillite beds at base; bedding to core 75° @ 1084'.

Drill Hole Record

Cominco

Property MAT 71 (Sullivan)	District Western	Hole No. 6459	
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.

Analysis

Footage From	To	Description
to	1106.5 (337.3)	Quartz arenite and quartzitic wacke (70%); tops and interbeds graded from wacke through subwacke to argillite; light medium grey; medium to thick beds; interbeds thin, very thin and laminated; bedding contacts sharp and flat; minor cross laminae developed in some of the thin interbeds; bedding to core 73° @ 1097'.
to	1111.5 (338.9)	Wacke, subwacke and argillite; medium to dark medium grey; thin to very thin bedded and laminated; bed contacts sharp and flat (some modified by shearing); most beds massive, some grading, possible internal lamination in one may be result of shearing; bedding to core 67° @ 1107'.
to	1119.5 (341.3)	Wacke (50%), quartzitic wacke (30%), subwacke/argillite (20%); medium grey and light medium grey; medium bedded (one thick BW), and a few thin to very thin beds and laminae in cluster; bedding contacts sharp and flat; sub-rectangular shaped calcareous phenocrysts(?) noted in subwacke; bedding to core 72° @ 1115'.
to	1164 (354.9)	Quartz arenite and quartzitic wacke (60%), wacke (20%), subwacke and argillite (20%); light medium to medium grey; predominantly thick bedded with clusters of medium and thin beds (usually wacke or more argillaceous); most beds have top portions graded to argillite; bed contacts sharp and generally flat, some flame structures noted; bedding to core 78° @ 1131', 74° @ 1146', 75° @ 1160'.
to	1171 (357.0)	Wacke, subwacke and argillite; medium grey; medium and thin bedded with short laminated zones; bed contacts sharp and flat (probably tectonically disturbed at 1168'); mica and possibly some pyrrhotite in subwacke to argillite graded tops of two beds; bedding to core 74° @ 1167'.
to	1200.5 (366.0)	Quartz arenite and quartzitic wacke (75%); wacke, subwacke and argillite (25%), generally as graded tops of beds; light medium grey; thick bedded; bed contacts sharp and generally flat; one cm of gouge at 1188.5' at top of 90 cm thick argillite subwacke interval that is very thin bedded to laminated, many of the bed contacts are wavy; bedding to core 80° @ 1180', 70° @ 1199'.

Drill Hole Record

Cominco

Property MAT 71 (Sullivan)	District Western	Hole No. 6459	
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
	1208 (368.3)	Wacke (70%), subwacke and argillite (30%); medium grey; medium bedded, some of argillite and subwacke is irregularly laminated, probably very low angle cross laminae within a bed top.
	1220 (372.0)	Wacke (80%) plus subwacke and argillite; light medium grey; thick bedded with some medium beds; some beds (or portions) are internally laminated; bed contacts and laminae are sharp and flat; cross laminae noted in a single QA bed at 1209'; bedding to core 77° @ 1215'.
	1226.5 (373.9)	Wacke, subwacke and argillite (85%), quartzitic wacke (15%); medium grey; thin bedded with some very thin beds and laminations plus two medium beds; bed contacts sharp and flat; two rip-up clasts noted; bedding to core 70° @ 1224'.
	1287.5 (392.5)	Quartz arenite and quartzitic wacke (60%), wacke (25%), subwacke and argillite as bed tops (15%); light medium grey; thick bedded with clusters of medium and thin beds over 1 or 2 feet, bed contacts are sharp and generally flat; beds usually massive, rare internal laminae; bedding to core 78° @ 1233', 73° @ 1252', 69° @ 1262', 65° @ 1286'.
	1303 (397.3)	Subwacke and argillite (85%), single thick bed of wacke 1299 - 1301; very thin and thin bedded with laminated intervals; bed contacts sharp and flat; bedding to core 75° @ 1292', 69° @ 1303'.
tp	1314 (400.6)	Single 3.1 meter true thickness bed from quartzitic wacke to quartz arenite composition; light grey; medium grained; mildy calcareous.
	1335.7 (407.2)	Quartz arenite with lesser quartzitic wacke and wacke, all with tops of wacke, subwacke and argillite; medium grey; thick bedded with few medium and thin beds; beds massive; bed contacts sharp and generally flat; subwacke/argillite interlaminations in tops of some beds; bedding to core 69° @ 1314'.

211-9

Drill Hole Record

Cominco

Property MAT 71 (Sullivan)	District Western	Hole No. 6459	
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
	1341.5 (409.0)	Subwacke and argillite with two medium beds of quartzitic wacke; medium grey; thin and very thin bedded to laminated; contacts flat and sharp; low angle cleavage and some minor tight folds; bedding to core 80° @ 1337'.
	1386 (422.6)	Quartzitic wacke and quartz arenite (70%), wacke, subwacke and argillite (30%) both as graded bed tops and individual beds; medium grey; thick bedded with zones up to two feet of medium to thin beds; core is variably but not badly broken and shattered; bed contacts sharp or distinct, usually flat, some irregular; bedding to core 73° @ 1344', 56° @ 1362', 68° @ 1372', 43° @ 1383.5', 21° (vague and irregular) @ 1386'.
	1509 (460.0)	Core is parallel to bedding in large fold. From 1386' - 1414' is predominantly quartz arenite with some quartzitic wacke and minor wacke of a single bed; medium grey; massive; bedding to core 12° @ 1414'. From 1414 - 1441.5' single bed; argillite and subwacke to 1419', wacke to 1423', quartzitic wacke to 1427', quartz arenite to 1439.5', mixed W/QW and QA to 1441.5'; medium grey; massive; bedding to core curves through 0° @ 1418', is 18° at 1441.5'. From 1441.5 - 1458' back into same bed (overturned); light medium grey; massive; bedding to core 0° @ 1442.5, 10° in opposite sense to that at 1441.5' at 1443'. From 1458' to 1509' mostly wacke, subwacke and argillite with quartzitic wacke below 1500'; core intermittently broken, often with slickensides and minor gouge; medium to dark medium grey; some, if not all, overturned; bedding contacts sharp to vague, flat to irregular to deformed or broken; bedding to core 20° @ 1469', folded @ 1485', 60° @ 1500' (probably right way up), very irregular near 0° @ 1509'.
	1521 (463.7)	A couple of beds of quartzitic wacke followed by wacke, subwacke and argillite; medium grey; medium to thin bedded, some thin laminated zones; bed contacts generally sharp and flat; beds massive, graded; some have fine disseminated pyrrhotite; bedding to core 83° @ 1513'.

Drill Hole Record

Cominco Page 10

Property MAT 71 (Sullivan) | District Western | Hole No. 6459

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	Analysis
	1528.5 (466.0)	Quartz arenite, quartzitic wacke, wacke with minor subwacke/argillite graded tops; medium grey; medium bedded; bed contacts sharp and flat; beds generally massive, one with internal laminations; bedding to core 65° @ 1527'.						
1528.5 (466.0)	1536 (486.3)	Subwacke and argillite (50%), dark medium grey; thin bedded, some medium beds; bed contacts vague; and wacke and quartzitic wacke (50%); medium grey; medium bedded; most beds massive, some have clasts; bed contacts sharp and flat; bedding to core 76° @ 1530'.						
1536 (486.3)	1553.5 (473.6)	Wacke (80%), quartz arenite and quartzitic wacke near top of interval; medium grey; medium to thick bedded with some thin beds; vaguely bedded and intermittently laminated 1541 - 1550'; bed contacts sharp and flat, laminations flat; fine pyrrhotite concentrated in zones parallel to bedding, but individual grains all aligned parallel to cleavage; bedding to core 80° @ 1545'. Core brecciated in lowest 30 cm.						
1553.5 (473.6)	1559 (475.3)	Fault; argillaceous zones are sheared (1553.5 - 1554.5', 1555.5 - 1556.5', 1558 - 1559') @ 70°; gouge 1557.5 - 1558; broken quartzitic wacke 1554.5 - 1555.5'.						
1559 (475.3)	1641.5 (500.5)	Wacke, subwacke and argillite, minor quartzitic wacke; medium grey; bedding to core angles variable indicating folding throughout; a few slickensides, especially 1595 - 1612'; gouge and angular rock fragments 1601 - 1602'; bedding to core 25° @ 1565', 0° @ 1568', 20° @ 1580', 29° @ 1593', 17° @ 1629', very irregular near 0° @ 1640'.						
1641.5 (500.5)	1663 (507.0)	Wacke, subwacke and argillite; medium grey; medium, thin and very thin bedded; bed contacts sharp to diffuse, flat to wavy and irregular; bedding to core 65° @ 1652'.						
1663 (507.0)	1696 (517.1)	Quartz arenite with lesser quartzitic wacke more abundant in lower third of interval (65%), wacke, subwacke and argillite as bed tops and in medium and thin beds; medium grey; thick bedded, some medium and thin beds; bed contacts from sharp to vague; bedding to core 75° @ 1674', 65° @ 1687'.						

Drill Hole Record

Cominco Page 11

Property MAT 71 (Sullivan) | District Western | Hole No. 6459

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	Analysis
	1705 (519.8)	Argillite, minor subwacke and wacke; medium grey; thin, very thin bedded and faintly laminated; bed contacts and laminae generally sharp and flat but variably deformed by low angle cleavage and crenulation cleavage; bedding to core 60° @ 1701'.						
1705 (519.8)	1714 (522.6)	Wacke, minor subwacke and argillite; medium grey; medium (some thick) bedded; bed contacts sharp and flat to vague; some bed thickness and contacts not well defined; some beds or zones very faintly laminated; bedding to core 74° @ 1712'.						
1714 (522.6)	1767.8 (539.0)	Quartz arenite, minor quartzitic wacke (70%), wacke, subwacke and argillite in graded tops and clusters of medium, thin, very thin and laminated beds up to 4 feet long; medium to light medium grey; thick and medium bedded; bed contacts sharp, flat to wavy, possible tiny cross laminae but weak shearing present in many argillite and subwacke laminated zones; bedding to core 65° @ 1720', 65° @ 1744', 75° @ 1758'.						
1767.8 (539.0)	1772.5 (540.4)	Wacke, subwacke and argillite; dark medium grey; medium and thin bedded with a few faint very thin beds; bed contacts gradational, flat to wavy; faint lamination in argillite disturbed by sub-parallel cleavage; bedding to core 66° @ 1769'.						
1772.5 (540.4)	1814.5 (553.2)	Quartz arenite, minor quartzitic wacke and wacke, minor wacke, subwacke and argillite as graded tops and in clusters of thin and very thin to laminated beds; medium and light medium grey; thick bedded with a few medium beds; some wacke units are laminated throughout; bed contacts and laminations are sharp and flat; most beds massive, some have very weak disseminated pyrrhotite; bedding to core 71° @ 1795', 71° at 1814.5'.						
1814.5 (553.2)	1834.5 (559.3)	Wacke (60%), quartzitic wacke and quartz arenite (20%), subwacke and argillite (20%); dark medium grey; primarily medium bedded, the wacke is in thick zones that may or may not consist of several beds, within these zones the wacke is either massive, vaguely laminated or faintly but well laminated; the argillite and subwacke are generally faintly thin and very thin bedded; bedding to core 75° @ 1833'.						

Scale

Colour Plot & Dips

Drill Hole Record

Cominco

Property MAT 71 (Sullivan)	District Western	Hole No. 6459	
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

Footage From To | Description | Analysis

to 1864.4 (588.4) Quartz arenite (80%); quartzitic wacke (10%); subwacke and argillite as graded tops and with wacke in thin and very thin beds (10%); light medium grey; thick with a few medium beds; bases usually poorly sorted, bed contacts sharp to gradational and flat; bedding to core 81° @ 1854'.

to 1880 (573.2) Subwacke and argillite with minor wacke; medium grey; varies from apparently medium thickness and massive beds through weakly laminated medium thickness beds to thin and very thin bedded to laminated; bed contacts and laminations from distinct to vague, generally flat, some affected by low angle shearing; tight fold at 1870'; bedding to core 75° @ 1868'.

to 1941.5 (591.9) Quartzitic wacke and quartz arenite (60%), wacke (25%), subwacke and argillite (15%); medium grey; thick and medium bedded; short sections thin bedded; beds have massive bases and graded (some up to 50% of total thickness of bed) tops; bed contacts usually sharp or distinct, some are vague, and flat (some slightly irregular); minor faulting with minor shearing 1898-1900', folding 1900-1909'; bedding to core 73° - 85° near 1887', variable 1900-1909'; bedding to core 85° @ 1979', 70° @ 1937.5'.

to 1949.5 (594.4) Wacke, medium to dark medium grey; medium to thin bedded; beds or portions of beds vaguely laiminated; bed contacts indistinct or vague and flat; minor fine sericite.

to 1962.5 (598.3) Argillite; medium grey; massive to vaguely bedded, trace of pyrrhotite flecks aligned in discontinuous fashion parallel to bedding and in fractures.

to 1971.3 (601.0) Wacke with minor quartzitic wacke; dark medium grey; vaguely bedded and faintly laminated in places.

to 1977.0 (602.7) Subwacke to wacke; dark medium grey; massive to vaguely bedded; weakly disseminated pyrrhotite, about half of which is in discontinuous laminations, at 1974' is 10 cm with 15% pyrrhotite both in fine laminae and cross-cutting veinlets.

Scale

Colour Plot & Dips

Drill Hole Record

Cominco

Property MAT 71 (Sullivan)	District Western	Hole No. 6459	
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

Footage From To | Description | Analysis

to 1986.7 (605.7) Wacke and quartzitic wacke; dark medium grey; vaguely bedded; massive to intermittent vaguely laminated. Predominantly wacke 1983.8' to end.

to 1993.2 (607.7) Argillite and subwacke with minor wacke and one continuous wacke interval 1990.2 - 1992.0'; dark medium grey; vaguely very thin to medium bedded with pyrrhotite weakly disseminated in lamintions and irregular elongate clusters parallel to bedding, some pyrrhotite in vague narrow cross-cutting zones and in disaggregated laminations. Bedding to core 75° @ 1992'.

to 2017.0 (614.9) Wacke; medium grey; thin bedded, a few medium beds; bed contacts generally sharp; beds are often graded and most are seperated from adjacent beds by a dark medium grey laminite 1 to 3 cm thick. Pyrrhotite is weakly disseminated in some beds.

to 2041.0 (622.3) Wacke and subwacke, minor quartzitic wacke; medium grey; medium bedded, some thick and some thin beds; beds commonly graded, some have internal hardness variations; bed contacts are often indistinct or vague to distinct, most appear to be flat; pyrrhotite is irregularly but weakly disseminated; bedding to core 81° @ 2028'.

to 2077.0 (633.2) Quartzitic wacke and quartz arenite (60%), wacke (30%), subwacke and argillite (10%); medium grey; medium bedded with a few groupings of thin beds, some thick beds; beds often graded, many have vague internal variations in composition; bed contacts from sharp (most) to vague; faint internal lamination in some beds; coarse sericite present throughout some beds; pyrrhotite disseminated throughout wacke parts of thin beds and in some wacke or subwacke upper parts of medium beds and concentrated in basal few millimetres of many beds; bedding to core 85° @ 2057'.

to 2097.0 (639.3) Wacke; medium grey to dark medium grey; portions of some beds as hard as quartzitic wacke; medium bedded, a few thin beds; many beds faintly laminated throughout; bed contacts generally sharp and flat, a few are vague; coarse sericite noted; pyrrhotite is very weakly disseminated in places; bedding to core 84° @ 2079', 82° @ 2094'.

Drill Hole Record

Property MAT 71 (Sullivan)	District Western	Hole No. 6459	
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
to	2133.0 (650.3)	Quartzitic wacke with minor quartz arenite (70%), wacke (20%), subwacke and argillite (10%); medium grey to dark medium grey; medium bedded with a few thick beds, and very few thin beds; beds are usually graded, some are faintly laminated throughout, small cross-laminated base of bed noted at 2126'; minor coarse sericite noted; pyrrhotite is weakly disseminated only in parts of some beds; bedding to core 80° @ 2110', 80° @ 2133'.
		*****END OF HOLE AT 2133' (650.3 m)*****

Claim	T Brg.	Collar Dip	Elev.	Length
Analysis				

SULLIVAN EXPL. -WD

JOB V 86-0494R
REPORT DATE 6 OCT 1986

LAB NO		FEET From	To	Pb PPM	Zn PPM
RB609851	14801	1939.3	1939.9	12	42
RB609852	14802	1941.5	1944.5	16	81
RB609853	14803	1944.5	1949.0	14	56
RB609854	14804	1949.0	1953.5	<4	55
RB609855	14805	1953.5	1957.5	<4	54
RB609856	14806	1957.5	1960.0	<4	54
RB609857	14807	1960.0	1963.0	<4	52
RB609858	14808	1963.0	1970.0	31	55
RB609859	14809	1970.0	1971.3	25	78
RB609860	14810	1971.3	1972.5	206	234
RB609861	14811	1972.5	1974.0	4	57
RB609862	14812	1974.0	1974.3	404	904
RB609863	14813	1974.3	1976.0	8	94
RB609864	14814	1976.0	1978.1	37	161
RB609865	14815	1978.1	1980.0	102	298
RB609866	14816	1980.0	1982.0	144	480
RB609867	14817	1982.0	1983.3	130	403
RB609868	14818	1983.3	1984.7	87	141
RB609869	14819	1984.7	1985.8	71	220
RB609870	14820	1985.8	1986.7	81	263
RB609871	14821	1986.7	1987.6	55	131
RB609872	14822	1987.6	1988.5	66	137
RB609873	14823	1988.5	1989.3	67	112
RB609874	14824	1989.3	1990.6	32	99
RB609875	14825	1990.6	1991.8	21	171
RB609876	14826	1991.8	1992.8	7	175
RB609877	14827	1992.8	1993.7	31	69
RB609878	14828	1993.7	1995.0	42	73
RB609879	14829	1995.0	1997.0	17	58
RB609880	14830	1997.0	1998.1	4	38

I=INSUFFICIENT SAMPLE X=SMALL SAMPLE E=EXCEEDS CALIBRATION C=BEING CHECKED R=REVISED
IF REQUESTED ANALYSES ARE NOT SHOWN ,RESULTS ARE TO FOLLOW

ANALYTICAL METHODS

Pb AQUA REGIA DECOMPOSITION / AAS
Zn AQUA REGIA DECOMPOSITION / AAS

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

DIRECT COSTS

Contractor: Longyear Canada Inc.
721 Aldford Avenue, Annacis Island,
Westminster, B.C. V3M 5P5

Item	Invoice No.	Amount
0-2133 ft (0-650m) coring	8854	$39,891.40
	8855	6,110.40
Mobilization	8854	1,800.00
Move In	"	1,395.00
Move From (false start)	"	775.00
Move to storage (part)	8855	2,092.50
Reaming	8854	884.40
Reaming	"	186.00
Hole Reduction	"	1,323.00
Standby	"	1,896.00
Surveys	"	372.00
Surveys	8855	46.50
Casing left in hole	"	980.45
Demobilization	9104	1,800.00
Hole Reduction (Remove HQ)	"	558.00
Move Out	"	1,550.00
	TOTAL =	$61,660.65

INDIRECT COSTS

Salaries

P.W. Ransom - Geologist - Supervision, core logging, report writing	36 days @ $250/day	9,000.00

Mobilization

Cominco Ltd., Kimberley, B.C. - Cat and operator	1,168.00
Henderson Heavy Hauling, Cranbrook, B.C.	1,085.00
Wright Contracting, Cranbrook, B.C. - Bulldozer	910.00
S+D Hunt Logging, Cranbrook, B.C. - Bulldozer	300.00
Mountain Meadows, Fort Steele, B.C. - Bulldozer	1,511.25

Transportation 4X4 truck - 14 days @ $40/day 560.00

Supplies			
	Core Boxes	64 X $5.50	352.00
	Drill Mud - Gel	240 X $5.50	1,320.00
	- Trol	22 X $98.00	2,156.00
	- Oil	3 X $267.00	801.00
	Sperry Sun survey equipment		62.54
		TOTAL	$80,886.44

Signed: P Ransom
P.W. RANSOM, Project Geologist

APPENDIX D

IN THE MATTER OF THE

B.C. MINERAL ACT

AND

IN THE MATTER OF A DIAMOND DRILL PROGRAMME

CARRIED OUT ON THE MAT 71 CLAIM GROUP

MATTHEW CREEK AREA

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

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

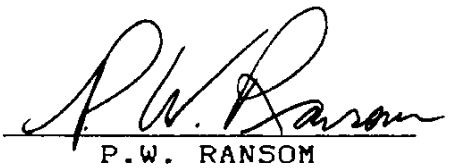
A F F I D A V I T

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 Appendix C to this my Affidavit is a true copy of expenditures incurred on a Diamond Drill programme, on the Mat 71 mineral claim group.

3. That the said expenditures were incurred between the 27th day of June, 1986 and the 10th day of October, 1986 for the purpose of mineral exploration on the above noted claim group.



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 1986.

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