

84-1252-12977

COMINCO LTD

SULLIVAN MINE

KIMBERLEY, B.C.

MAT 79 ASSESSMENT REPORT

The following report describes the results of drilling two diamond drill holes on the Mat claims about ten kilometres west of Kimberley. DDH 6453 was drilled to a depth of 258 metres on the Mat 79 claim and DDH 6454 was drilled to a depth of 122 metres on the Mat 81 claim.

The N.T.S. Location is 82 F/9. *E*

The UTM coordinates of the drill holes are:

DDH 6453 56322/550708

49°43' 116°7.5'

DDH 6454 56342/550658

Cominco Ltd, owner of the claims was the operator of the exploration program.

P.W.Ransom is author of this report.

Date of submission: December, 1984.

Endorsed for
release by:

D. McMurdo
D. McMurdo
Chief Geologist, Kimberley

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

12,977

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INTRODUCTION

1. SPECIFIC LOCATION

DDHs 6453 and 6454 are located on the north fork of Matthew Creek 1100 and 500 metres respectively north of the bridge at the confluence of the north and west forks.

2. PROPERTY DEFINITION

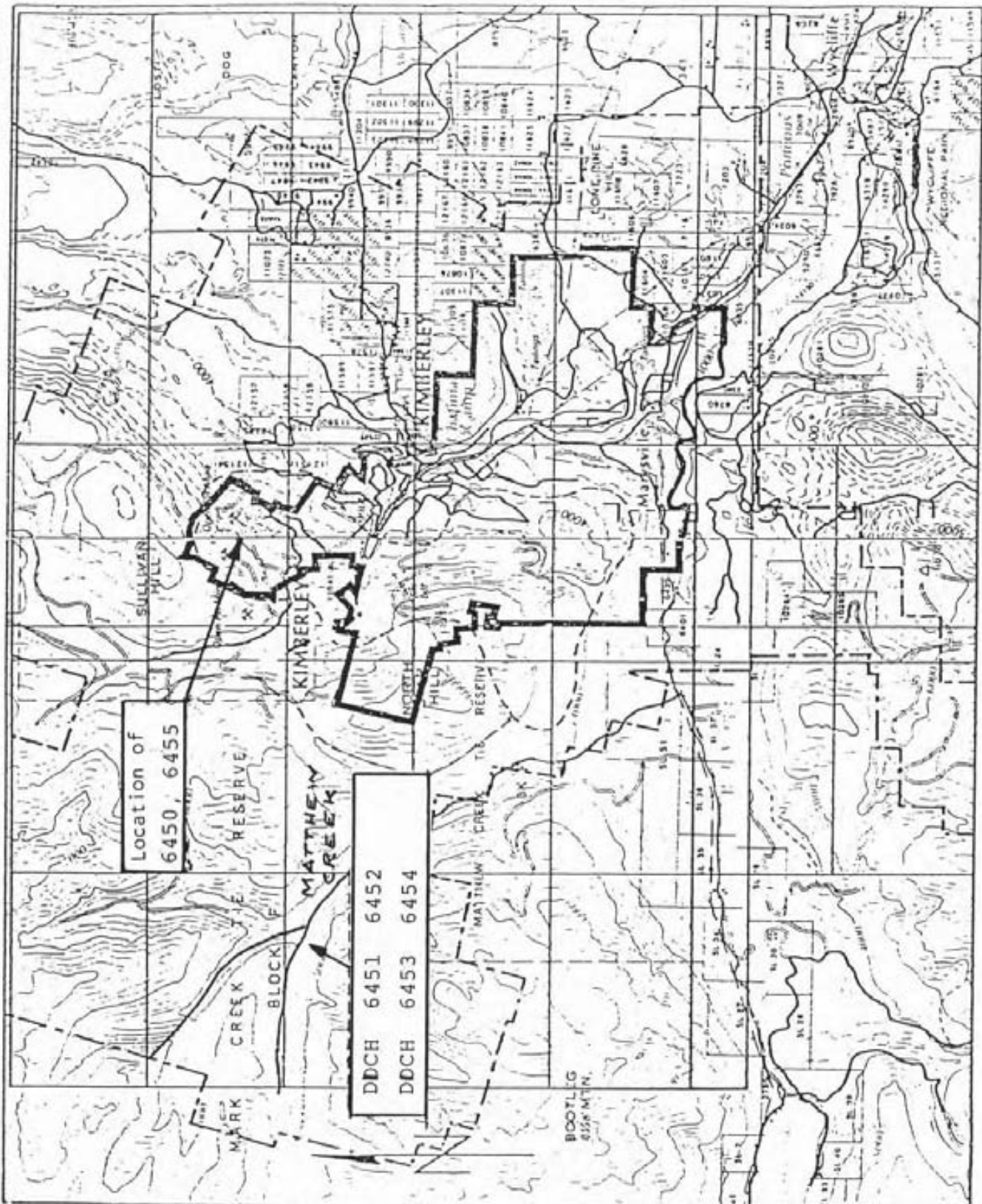
The property being investigated forms part of the Sullivan Mine claim group, owned by Cominco Ltd. Cominco has operated the mine for about 75 years. The Sullivan stratiform Ag-Pb-Zn-Fe sulphide deposit is one of the most important of its type worldwide and has contributed significantly to the mineral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

3. DRILLING

Two holes are being reported on in this report. Both were drilled using N wireline tools, 7.6 cm in diameter. DDH 6453 was drilled with a dip of -90 degrees to a depth of 258 metres and DDH 6454 was drilled with a dip of -80 degrees on azimuth 302 degrees to a depth of 122 metres.

4. CLAIMS EXPLORED

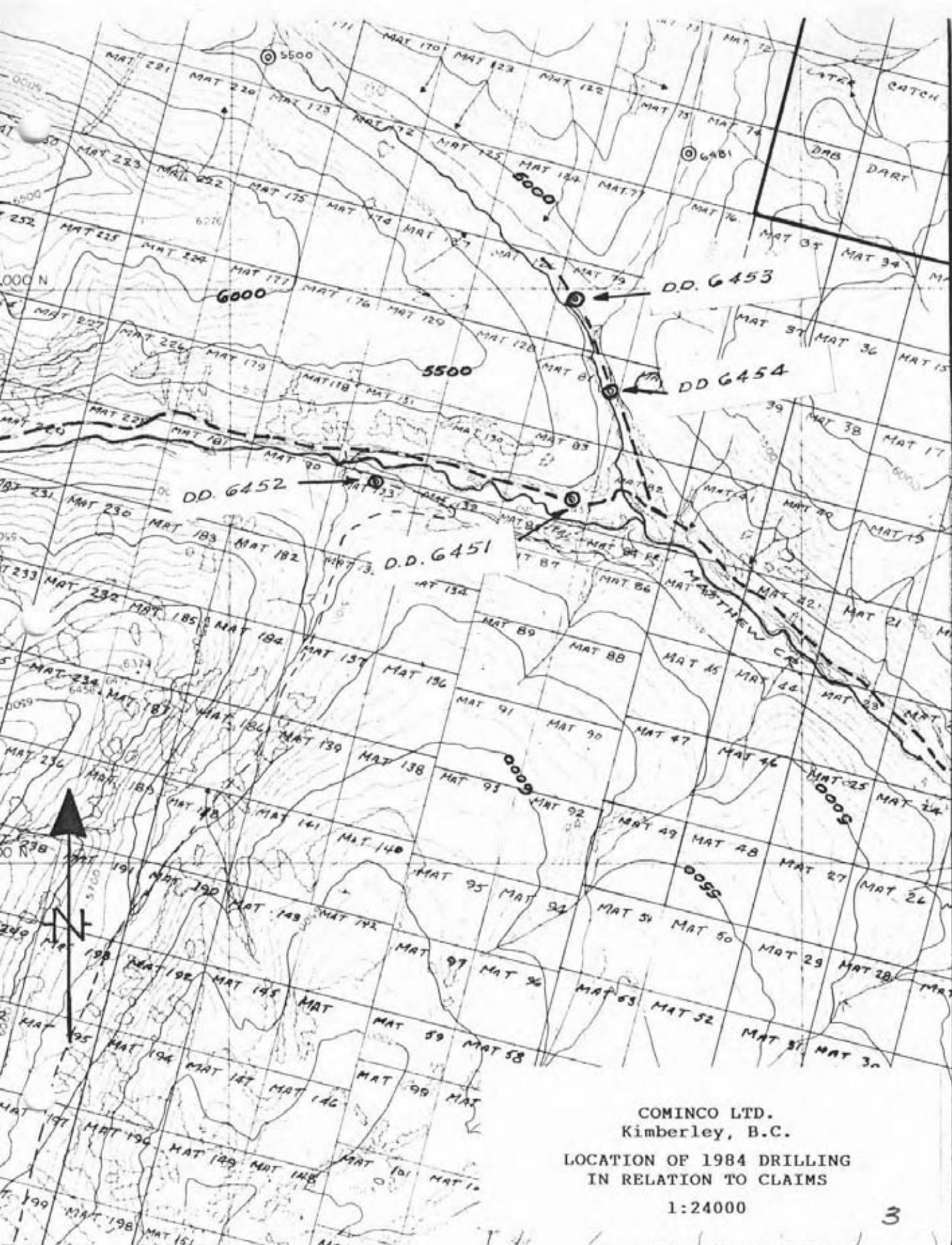
DDH 6453 was drilled on the Mat 79 Mineral Claim. DDH 6454 was drilled on the Mat 81 Mineral Claim.



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

SULLIVAN MINE - KIMBERLEY, B.C.
 INDEX MAP
 LOCATION OF D.D.H. 6450-6455 inclusive
 NTS 82 F/NE

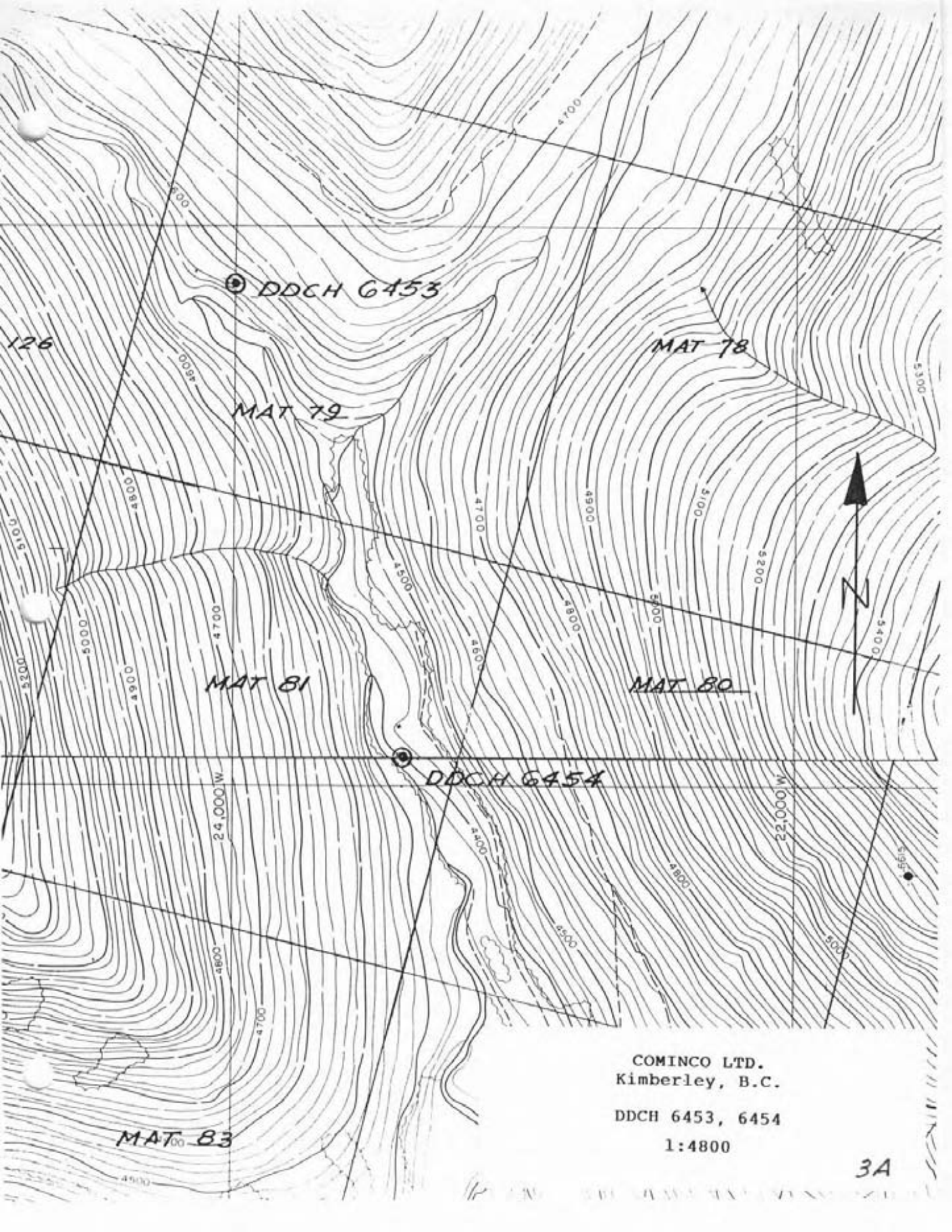
Scale: 1:125,000 Date: December 1984 Plate: 2



COMINCO LTD.
Kimberley, B.C.

LOCATION OF 1984 DRILLING
IN RELATION TO CLAIMS

1:24000



DDCH 6453

MAT 78

MAT 79

MAT 81

MAT 80

DDCH 6454

MAT 83

COMINCO LTD.
Kimberley, B.C.

DDCH 6453, 6454
1:4800

DETAILED TECHNICAL DATA AND INTERPRETATION

1. DDH 6453

A. PURPOSE

The purpose of DDH 6453 was to test inferred Sullivan Horizon in the Matthew Creek area.

B. RESULTS

The Sullivan Horizon was not intersected.

C. INTERPRETATION

0 - 10m	Overburden
10 - 24m	Wacke and subwacke, thinly laminated.
24 - 38m	Quartzitic wacke, medium to thick bedded.
38 - 54m	Wacke and subwacke, thinly laminated and thin bedded.
54 - 130m	Quartzitic wacke, medium to thick bedded.
130 - 144m	Wacke and subwacke, thinly laminated and thin bedded.
144 - 201m	Quartzitic wacke, medium to thick bedded.
130 - 144m	Wacke and subwacke, thinly laminated and thin bedded.

D. CONCLUSION

DDH 6453 was drilled in bedded sediments of the Lower Aldridge Formation. No mineralization of economic value was intersected.

DETAILED TECHNICAL DATA AND INTERPRETATION (CONT'D)

2. DDH 6454

A. PURPOSE

The purpose of DDH 6454 was to test inferred Sullivan Horizon in the Matthew Creek area.

B. RESULTS

The Sullivan Horizon was not intersected.

C. INTERPRETATION

0 - 27m	Overburden
27 - 122m	Wacke and subwacke with argillite tops, medium and thin bedded. Minor laminations and a few thick beds are present.

D. CONCLUSION

DDH 6454 was drilled in bedded sediments of the Lower Aldridge Formation. No mineralization of economic value was intersected.

ITEMIZED COST STATEMENT

D.D.H. 6453

Start: June 6, 1984
Finish: June 11, 1984

Contractor: Longyear Canada Inc.
Location: Kimberley, B.C.

Drilling Costs:

0 to 845 feet
(0 to 258 metres.)
Hourly charges

Invoice 5795 \$ 15,258.00

Invoice 5795 \$ 376.00

Invoice 5795 \$ 1,698.50

Invoice 5905 \$ (79.00)

Invoice 5795 \$ 669.01

Invoice 5905 \$ (508.51)

Invoice 5905 \$ 365.94

Invoice 5795 \$ 94.00

Casing

Casing

Casing

Surveys

Cominco and other Charges

Haul drill

\$ 228.00

Site preparation

\$ 1,133.00

Core boxes

\$ 241.65

Drill mud etc.

\$ 1,245.86

Vehicle rental

\$ 75.00

Supervision, log, report

\$ 1,330.00

TOTAL

\$ 22,127.45

ITEMIZED COST STATEMENT

D.D.H. 6454

Start: June 11, 1984
Finish: June 13, 1984

Contractor: Longyear Canada Inc.
Location: Kimberley, B.C.

Drilling Costs:

0 to 400 feet
(0 to 122 metres.)
Hourly charges
Casing
Casing Cr.
Casing
Surveys
Moves
Mud
Cominco and other Charges
Site preparation
Core boxes
Drill mud etc.
Vehicle rental
Supervision, log, report

TOTAL

Invoice 5795	\$ 7,445.00
Invoice 5795	\$ 376.00
Invoice 5795	\$ 1,831.28
Invoice 5905	\$ (1,598.66)
Invoice 5905	\$ 1,219.80
Invoice 5795	\$ 94.00
Invoice 5795	\$ 711.00
Invoice 5905	\$ 239.68
	\$ 1,015.00
	\$ 112.77
	\$ 97.08
	\$ 125.00
	\$ 1,900.00
	<hr/>
	\$ 13,567.95

AUTHOR'S QUALIFICATIONS

As co-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 geology for eighteen years.

I am a member of the Geological Association of Canada.

I supervised Cominco Ltd's Sullivan mine area exploration drilling program in 1984.


P.W. Ransom, G.A.C.

AUTHOR'S QUALIFICATIONS

As co-author of this report, I, Arthur S. Hagen certify that:

I am employed by Cominco Ltd., as a Senior Geological Technician active in minerals exploration.

I have been continuously engaged in mining and exploration geology for the past 27 years.


A.S. Hagen

APPENDIX:

INVOICES AND DIAMOND DRILL LOGS

Longyear

Longyear Canada Inc.

CONTRACT DRILLING DIVISION

791 Aldford Avenue

Annacis Island, New Westminster, B.C. V3M 5P5

Telephone: 604-524-2511

Telex: 43-51280

Cominco Ltd.
P.O. Box 2000
Kimberley, B.C.
V1A 2G3

Invoice No. 5795
Cust. No. 6348
Job No. 6345
Dest. 062

PO # 1-22807

Attention: Mr. John Hamilton

Invoice Date: June 21, 1984
For June 1984.

To: Invoice for diamond drilling performed on mining properties located near the Sullivan Mine, Kimberley, B.C. during period June 4-13, 1984, per agreement dated April 1984.

Hole No.	Size	From	To	Total	Rate	Amount
DDH-6452	NQ Wireline	321	500	179	\$17.50	\$ 3,132.50
DDH-6452	NQ Wireline	500	654	154	\$18.40	\$ 2,833.60
DDH-6453	Overburden	0	32	32	\$22.50	\$ 720.00
DDH-6453	NQ Wireline	32	500	468	\$17.50	\$ 8,190.00
DDH-6453	NQ Wireline	500	845	345	\$18.40	\$ 6,348.00
DDH-6454	Overburden	0	89	89	\$22.50	\$ 2,002.50
DDH-6454	NQ Wireline	89	400	311	\$17.50	\$ 5,442.50
				<u>1578</u>		<u>\$28,669.10</u>

Condition Hole, Ream Cave & Casing

Hole # DDH-6450

Prorated Credit (See Later Invoice)

(--)
cr

Hole # DDH-6452

3 Man Hours @ \$32.00	\$ 96.00
1 1/2 Hours Drill Rental @ \$30.00	\$ 45.00
2 NQ IMP Green Bits # 16417	N/C
# 12638	N/C

\$141.00

Hole # DDH-6453

8 Man Hours @ \$32.00	\$256.00
4 Hours Drill Rental @ \$30.00	\$120.00
3 NQ IMP Green Bits # 16821	N/C
# 16422	N/C
# 16424	N/C

\$376.00

Hole # DDH-6451

Prorated Credit (See Later Invoice)

(--)
cr

....2

Hole # DDH-6454

8 Man Hours @ \$32.00	\$256.00	
4 Hours Drill Rental @ \$30.00	\$120.00	
	<hr/>	\$376.00
		<hr/>
		\$ 893.00

Moves Between Holes

Move From Hole # DDH-6451 To # DDH-6452 (See Invoice #5794)

(2)cr Man Hours @ \$39.50 (\$79.00)cr

Move From Hole # DDH-6452 To # DDH-6453

43 Man Hours @ \$39.50 \$1,698.50

Move From Hole # DDH-6453 To # DDH-6454

18 Man Hours @ \$39.50 \$ 711.00

Move From Hole # DDH-6454

30 Man Hours @ \$39.50	\$1,185.00	
	<hr/>	\$ 3,515.50

Surveys

Hole # DDH-6452

3 Man Hours @ \$47.00 \$ 141.00

Hole # DDH-6453

2 Man Hours @ \$47.00 \$ 94.00

Hole # DDH-6454

2 Man Hours @ \$47.00	\$ 94.00	
	<hr/>	\$ 329.00

Casing Left In Hole

Hole # DDH-6452

4 Pcs. NW 10 Ft. Casing @ \$121.98	\$487.92	
1 NW To HQ Sub	\$ 72.28	
1 NW Econo Shoe # E3751	\$160.50	
	<hr/>	\$ 720.70

Hole # DDH-6453

3 Pcs. HQ 10 Ft. Rod @ \$145.41	\$436.23	
1 NW To HQ Sub	\$ 72.28	
1 NW Econo Shoe # E4888	\$160.50	
	<hr/>	\$ 669.01

Longyear

Longyear Canada Inc.

CONTRACT DRILLING DIVISION

721 Alford Avenue

Amnaris Island, New Westminster, B.C. V3M 5P5

Telephone: 604-594-9511

Telex: 43-51280

Cominco Ltd.
P.O. Box 2000
Kimberley, B.C.
V1A 2G3

Invoice No. 5905
Cust. No. 6348
Job No. 6345
Dest. 062

Attention: Mr, John Hamilton

Invoice Date: July 6, 1984
For June, 1984.

To: Invoice for diamond drilling performed on mining properties located near the Sullivan Mine, Kimberley, B.C. during period June 22-28, 1984 per agreement dated April, 1984. "Shaft Hole". P.O. #1-22807

Hole No.	Size	From	To	Total	Rate	Amount
DDH-6455	HQ Wireline	Ø	500	500	\$21.25	\$10,625.00
DDH-6455	HQ Wireline	500	1,000	500	\$22.50	\$11,250.00
DDH-6455	HQ Wireline	1,000	1,223	223	\$24.00	\$ 5,352.00
				1,223		\$27,227.00

Condition Hole, Ream Cave and Casing

Hole #DDH-6455

17 Man Hours @ \$32.00	\$ 544.00
8½ Hours Drill Rental @ \$30.00	\$ 255.00
1 HQ Imp. Green Bit #16209 (See later invoice)	-----
1 HQ Reaming Shell #T07983 (" " ")	-----
	\$ 799.00

Hole #DDH-6450

Prorated Credit (See later invoice) -----

Hole #DDH-6451

Prorated Credit (See later invoice) -----

\$ 799.00

Moves Between Holes

Move from Hole #DDH-6452 to #DDH-6453

(2) CR Man Hours @ \$39.50 \$ (79.00) CR

.....2

5905

Move from Hole #DDH-6454

(4) CR Man Hours @ \$39.50 (\$158.00) CR

Move to Hole #DDH-6455

44 Man Hours @ \$39.50 \$1,738.00

Move from Hole #DDH-6455

7 Man Hours @ \$39.50 \$276.50

\$ 1,777.50

Surveys

Hole #DDH-6455

34 Man Hours @ \$47.00 \$ 1,598.00

Cementing

Hole #DDH-6455

2 Man Hours @ \$32.00 \$64.00
1 Hour Machine Rental \$30.00

\$ 94.00

Casing Left in Hole

Hole #DDH-6455

3 Pcs. HW 5 Ft. Casing @ \$101.92 \$305.76
1 HW Pin to 4 1/2" Pin Sub \$121.60
1 HW Econo Shoe #E1526 \$262.15

\$689.51

Hole #DDH-6452 (Did Read)

(1) CR NW to HQ Sub (\$72.28) CR

Hole #DDH-6452 (Should Read)

1 NW to HQ Sub N/C

....3

Hole #DDH-6453 (Did Read)

(3) CR Pcs. HQ 10 Ft. Rod @ \$145.41	(\$436.23) CR	
(1) CR NW to HQ Sub	(\$72.28) CR	
		<hr/> (\$508.51) CR

Hole #DDH-6453 (Should Read)

3 Pcs. HQ 10 Ft. Rod @ \$121.98 *	\$365.94	
1 NW to HQ Sub	N/C	
		<hr/> \$365.94

Hole #DDH-6454 (Did Read)

(10) CR Pcs. HQ 10 Ft. Rod @ \$145.51	(\$1,454.10) CR	
1 NW to HQ Sub	(\$72.28) CR	
1 HQ to NW Sub	(\$72.28) CR	
		<hr/> (\$1,598.66) CR

Hole #DDH-6454 (Should Read)

10 Pcs. HQ 10 Ft. Rod @ \$121.98 *	\$1,219.80	
1 NW to HQ Sub	N/C	
1 HQ to NW Sub	N/C	
		<hr/> \$1,219.80

95.80

* Casing Price

Mud and Additives (attached)

Westcoast Drilling Supplies Ltd.	\$214.00	
Plus 12%	25.68	
		<hr/> \$239.68

Moves

Henderson Heavy Hauling (1973) Ltd. Inv. #22279		
Longyear Portion 9 Hrs. @ (\$60.00) CR		(\$540.00) CR

\$ 31,290.98

Longyear

Longyear Canada Inc.

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721 Aldford Avenue

Annacis Island, New Westminster, B.C. V3M 5P5

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DDH-6453	NQ Wireline	32	500	468	\$17.50	\$ 8,190.00
DDH-6453	NQ Wireline	500	845	345	\$18.40	\$ 6,348.00
DDH-6454	Overburden	0	89	89	\$22.50	\$ 2,002.50
DDH-6454	NQ Wireline	89	400	311	\$17.50	\$ 5,442.50
				<u>1578</u>		<u>\$28,669.10</u>

Condition Hole, Ream Cave & Casing

Hole # DDH-6450

Prorated Credit (See Later Invoice)

(--)
cr

Hole # DDH-6452

3 Man Hours @ \$32.00	\$ 96.00
1 1/2 Hours Drill Rental @ \$30.00	\$ 45.00
2 NQ IMP Green Bits # 16417	N/C
# 12638	N/C

\$141.00

Hole # DDH-6453

8 Man Hours @ \$32.00	\$256.00
4 Hours Drill Rental @ \$30.00	\$120.00
3 NQ IMP Green Bits # 16821	N/C
# 16422	N/C
# 16424	N/C

\$376.00

Hole # DDH-6451

Prorated Credit (See Later Invoice)

(--)
cr

....2

5795

Hole # DDH-6454

8 Man Hours @ \$32.00 \$256.00
4 Hours Drill Rental @ \$30.00 \$120.00

\$376.00

\$ 893.00

Moves Between Holes

Move From Hole # DDH-6451 To # DDH-6452 (See Invoice #5794)

(2)cr Man Hours @ \$39.50 (\$79.00)cr

Move From Hole # DDH-6452 To # DDH-6453

43 Man Hours @ \$39.50 \$1,698.50

Move From Hole # DDH-6453 To # DDH-6454

18 Man Hours @ \$39.50 \$ 711.00

Move From Hole # DDH-6454

30 Man Hours @ \$39.50 \$1,185.00

\$ 3,515.50

Surveys

Hole # DDH-6452

3 Man Hours @ \$47.00 \$ 141.00

Hole # DDH-6453

2 Man Hours @ \$47.00 \$ 94.00

Hole # DDH-6454

2 Man Hours @ \$47.00 \$ 94.00

\$ 329.00

Casing Left In Hole

Hole # DDH-6452

4 Pcs. NW 10 Ft. Casing @ \$121.98 \$487.92
1 NW To HQ Sub \$ 72.28
1 NW Econo Shoe # E3751 \$160.50

\$ 720.70

Hole # DDH-6453

3 Pcs. HQ 10 Ft. Rod @ \$145.41 \$436.23
1 NW To HQ Sub \$ 72.28
1 NW Econo Shoe # E4888 \$160.50

\$ 669.01

Hole # DDH-6454

1 Pc. NW 5 Ft. Casing	\$ 72.12
10 Pcs. HQ 10 Ft. Rod @ \$145.41	\$1,454.10
1 NW To HQ Sub	\$ 72.28
1 HQ To NW Sub	\$ 72.28
1 NW Econo Shoe # E3755	\$ 160.50

\$1,831.28

\$ 3,220.99

\$36,627.59
=====

Longyear

Longyear Canada Inc.

CONTRACT DRILLING DIVISION

791 Alder Street

Anacortes Island, New Westminster, B.C. V3M 5P5

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DDH-6455	HQ Wireline	500	1,000	500	\$22.50	\$11,250.00
DDH-6455	HQ Wireline	1,000	1,223	223	\$24.00	\$ 5,352.00
				1,223		\$27,227.00

Condition Hole, Ream Cave and Casing

Hole #DDH-6455

17 Man Hours @ \$32.00	\$ 544.00
8½ Hours Drill Rental @ \$30.00	\$ 255.00
1 HQ Imp. Green Bit #16209 (See later invoice)	-----
1 HQ Reaming Shell #T07983 (" " ")	-----
	\$ 799.00

Hole #DDH-6450

Prorated Credit (See later invoice) -----

Hole #DDH-6451

Prorated Credit (See later invoice) -----

\$ 799.00

Moves Between Holes

Move from Hole #DDH-6452 to #DDH-6453

(2) CR Man Hours @ \$39.50	\$ (79.00) CR
----------------------------	---------------

.....2

5905

Move from Hole #DDH-6454

(4) CR Man Hours @ \$39.50 (\$158.00) CR

Move to Hole #DDH-6455

44 Man Hours @ \$39.50 \$1,738.00

Move from Hole #DDH-6455

7 Man Hours @ \$39.50 \$276.50

\$ 1,777.50

Surveys

Hole #DDH-6455

34 Man Hours @ \$47.00 \$ 1,598.00

Cementing

Hole #DDH-6455

2 Man Hours @ \$32.00 \$64.00
1 Hour Machine Rental \$30.00

\$ 94.00

Casing Left in Hole

Hole #DDH-6455

3 Pcs. HW 5 Ft. Casing @ \$101.92 \$305.76
1 HW Pin to 4 1/2" Pin Sub \$121.60
1 HW Econo Shoe #E1526 \$262.15

\$689.51

Hole #DDH-6452 (Did Read)

(1) CR NW to HQ Sub (\$72.28) CR

Hole #DDH-6452 (Should Read)

1 NW to HQ Sub N/C

Hole #DDH-6453 (Did Read)

(3) CR Pcs. HQ 10 Ft. Rod @ \$145.41
 (1) CR NW to HQ Sub

(\$436.23) CR
 (\$72.28) CR

 (\$508.51) CR
Hole #DDH-6453 (Should Read)

3 Pcs. HQ 10 Ft. Rod @ \$121.98 *
 1 NW to HQ Sub

\$365.94
 N/C

 \$365.94
Hole #DDH-6454 (Did Read)

(10) CR Pcs. HQ 10 Ft. Rod @ \$145.51
 1 NW to HQ Sub
 1 HQ to NW Sub

(\$1,454.10) CR
 (\$72.28) CR
 (\$72.28) CR

 (\$1,598.66) CR
Hole #DDH-6454 (Should Read)

10 Pcs. HQ 10 Ft. Rod @ \$121.98 *
 1 NW to HQ Sub
 1 HQ to NW Sub

\$1,219.80
 N/C
 N/C

 \$1,219.80

 95.80

* Casing Price

Mud and Additives (attached)

Westcoast Drilling Supplies Ltd.
 Plus 12%

\$214.00
 25.68

 \$239.68
Moves

Henderson Heavy Hauling (1973) Ltd. Inv. #22279
 Longyear Portion 9 Hrs. @ (\$60.00) CR

(\$540.00) CR

 \$ 31,290.98

Diamond Drill Geological Log For D.D.H. 6453



LAT. 9800'N DEP. 23980'W ELEV. 4570'
 DIP: -90° AZIM.: LENGTH: 845'
 HORIZ. COMP. 103.7 VERT. COMP. 836.9'
 DATE COLLARED: June 7, 1984 DATE COMPLETED: June 11, 1984
 CORE STORAGE: Old Mine Warehouse
 DRILLED ON CLAIM(S): Mat 79
 OBJECTIVE: To Test For Sullivan Horizon
 PLANNED LENGTH: 1000'
 TERMINATION COMMENTS: Sullivan Horizon not intersected, drilling ended in Lower Aldridge Formation

GENERAL COMMENTS: Surveys:			
Depth	Dip	Azimuth	
Collar	-90	-	
50'	-89.2	320°	
220'	-84.5	105°	
540'	-79	098°	
844'	-82.8	103°	

DRILLED BY: Longyear
 TYPE DRILL: Longyear 44
 CORE SIZE: NO
 PERFORMANCE COMMENTS: Productivity 10' per hour.

CASING REMAINING IN HOLE (LENGTH & SIZE): 32' NW
 TYPE CAP & SEALING METHOD: Screw on cap.

OTHER MATERIAL REMAINING IN HOLE:

SURVEY INSTRUMENT USED: Sperry Sun Single Shot

ADDITIONAL DOWN HOLE TESTS:

LOG LEGEND

BED THICKNESS CLASSIFICATION

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

LITHOLOGY ABBREVIATIONS

OQ - Orthoquartzite
 SA - Subarkose
 QW - Quartz Wacke
 QCW - Quartzitic Wacke
 W - Wacke
 SW - Sub Wacke
 AG - Argillite

D.D.H. 6453

Diamond Drill Geological Log



Objective: Test For Sullivan Horizon		Sampled: Nil		40 Scale	
Logged By: A.S. Hagen		Date: June 1984		Color Plot & Dips	
Composites: Nil				Ore Classes & Aver.	
Block:	Sect.:	Place: Matthew Creek	App. Bear: -	App. Dip.: -90°	Length: 845'
From	To	Discard:	Reason:		
0	32	No core (triconed-cased).			
32	80	Wacke and subwacke, medium-dark grey, light grey mica flecks common, thinly laminated (predominantly) to thin-bedded sediments. Thin, light grey to white calcareous laminations 58'-60'. Thin, lenticular pyrite highlights thinly laminated zones in part (common throughout). Thinly laminated zones are calcareous. Rock is slightly bleached, some colour alteration (light to medium-brown in part). Bedding 60° to core. Some broken core due to fracturing from parallel to 45° to core. Rounded, pink alteration effect (garnet?) at 84 to 85 feet.			
80	107	Quartzitic wackes (some bordering on quartz wackes?), medium and dark grey, medium and thick bedded. Some graded beds, others change abruptly to soft, mudstone tops. Odd clast (rip-up) noted. Some subwacke, mudstone interbeds with thin, fine-grained sand beds, lenticular in part. Chlorite alteration most apparent in mudstone-type beds. Bedding 60° to core. Some current effects and/or weak low angle shearing notable in mudstone bed tops and/or interbeds (e.g. 99'). Small, slough-like fold at 98.5'.			
107	115	Wackes and subwackes, medium-dark grey with occasional thin, light grey band, thinly laminated to thin-bedded sediment. Top 4 feet predominantly thinly laminated. Some shearing and/or current effects noted. e.g. 112', 113'. Typical distal turbidite and interturbidite-type deposition. Chlorite alteration. Bedding 60°-65° to core.			
115	124	Quartz wacke and quartzitic wacke, light and medium-dark grey, medium and thick bedded. Two thick beds of quartz wacke change abruptly to thin, mudstone tops. Chlorite alteration as in previous footages. Bedding 70°-65° to core.	Core Size	NQ	
			Photo No.	6453	
			Page	1	

Diamond Drill Geological Log



Objective:		Sampled:		40 Scale	
Logged By:		Date:		Color Plot & Dips	
Block:		Sect.:		Ore Classes & Aver.	
Place:		App. Bear:		App. Dip.:	
Length:		Composites:			
From	To	Discard:	Reason:		
124	176			Wackes and subwackes, medium and dark grey, calcareous, thinly-laminated to thin-bedded. Small, light grey mica flecks common in thinly laminated zones highlighting thin-laminated features in part. Cleavage (?) highlighted by thin, lenticular pyrite (e.g. 145'), cleavage 30° to core. Bedding 65° to core. Thinly laminated type sediment predominates in this section with light grey mica flecks, carbonate and disseminated pyrite throughout. Lithology similar to 32'-80' and 107-115'.	
176	339			Quartz wacke and quartzitic wacke, colour ranges from light to dark grey, medium and thick bedded (predominantly thick, some amalgamated beds). Medium and fine-grained sandstone beds comprise 85% of this section. Some graded beds, others change abruptly from quartzite to subwacke (mudstone) tops. Interturbidite sediment mainly of subwacke (mudstone) with some current indicators and light shearing effects close to parallel to bedding (eg. 231'). Fracturing 10-25° and 55° to core causes broken core from 266' to 319', no major breaks indicated. Movement along bedding plane indicated by thin gouge and minor brecciation at 297'. Bedding 65° to 75° to core. Chlorite alteration evident in subwacke (mudstone) segments, rounded (3-4 mm), pink (garnet?) alteration effect at 301', 316.5' and 322'. Cleavage(?) 40° to core at 197' (in quartzite bed).	
339	353			Quartzitic wackes and wackes, medium and dark grey, thin and medium bedded. Some graded beds, other change abruptly from quartzite to subwacke (mudstone) tops and/or interbeds. Chlorite alteration as in previous footages. Sandstone comprise 50% of this section. Bedding 65° to 70° to core.	
353	364			Quartzitic wackes and wackes, slight to medium dark grey, fine to medium sands, medium and thick bedded. Sandstones comprise 85% of section. Abrupt changes from sandstone to mudstone common. Bedding 65° to 75° to core.	

Core Size: NQ
 Note No. 6453 Page 2

Diamond Drill Geological Log



Objective:							Sampled:		40 Scale			
Logged By:							Date:		Color Plot & Dips		Ore Classes & Aver.	
Block:			Sect.:		Place:		App. Bear:		App. Dip:		Length:	
From	To	Discard:		Reason:								
364	427			Quartzitic wackes and wackes, medium and dark grey, medium and thick-bedded. Sandstones (medium and fine-grained) comprise 65% of section. Some thinly laminated interturbidite intervals (wackes). Abrupt changes from sandstones to mudstones common. Bedding 70° to core.								
427	471			Wacke and subwacke, medium and dark grey, thinly laminated to thin-bedded. Odd, fine-grained bed in medium thickness range. Calcareous, light grey flecks common in thinly laminated segments (as in previous footages). Some fine, lenticular pyrite aligned parallel to bedding in part. Current effects and some weak shearing evident in some mudstones. Bedding 65° to 70° to core. Chlorite alteration as in previous footages. Rare crossbedding (eg. 438').								
471	522			Quartzitic wackes and wackes, medium and dark grey, medium and thick-bedded. Silts and sandstones comprise 80% of section. Similar lithology to 353-364', etc. Prominent fracturing 15° to core. 4" quartz vein 30° to core at 480'. Po and chalcopyrite noted. Some weak shearing as in previous footages (eg. 470', 476').								
522	540			Fractured, broken core, some badly broken segments. Some gouge cemented fragments at 525 feet, indicates fault zone (minor?). Fracturing from parallel to 70° to core.								
540	658			Quartzitic wackes and wackes, medium to dark grey, medium and thick-bedded. Similar lithology to 471-522', etc. Rare rip-up clasts. Usual interturbidite-type beds of subwacke (mudstone), chlorite alteration, also evident along fracture planes. Some irregular, current-type features evident in interbeds. Silt and sandstone segments comprise 70% of section. Chlorite alteration as in previous sections, garnets(?) at 649.5' (similar to 316.5' and 322'). Fracturing 30° to core at 645' possibly due to cleavage (causes offsets along								

Core Size NQ

Hole No. 6453

Page 3

Diamond Drill Geological Log



Objective:		Sampled:		40 Scale	
Logged By:		Date:		Color Plot & Dips	
Block:		Sect.:		Ore Classes & Aver.	
Place:		App. Bear:		App. Dip.:	
Length:		Composites:			
From	To	Discard:	Reason:		
540	658	(Cont'd)	bed base at 645'). Bedding 60° to 70° to core.		
658	740		Wackes and subwackes, medium to dark grey, thinly laminated to thin-bedded. Occasional wacke bed in medium range. Alternating thinly laminated wackes and massive subwackes (mudstone) intervals beginning to appear. Chlorite and biotite alteration evident throughout. Brecciated rock 707' - 708'. Bedding 70° - 75° to core.		
740	757		Same lithology as previous footage, however, severely fractured, for most part, causing moderately-to-badly broken core. Fracturing varies from 10° to 70° to core. No major break indicated, some evidence of bedding plane movement (brecciated at 748').		
757	845		Similar lithology to 658' - 740', etc. Some beds well-bleached with speckled and/or spotty biotite and chlorite alteration. 1" brecciated segment (along bedding plane?) at 843.5'. Broken core last 1.5' of hole probably caused by fracturing related to bedding plane movement. Bedding 70° - 75° to core. Light to medium brown colour alteration. Occasional, light grey calcareous flecks (not a dominant feature of this rock).		
END DDH 6453					
				Core Size	NQ
				Hole No.	6453
				Page	4

Diamond Drill Geological Log For D.D.H.

6454



LAT. 8200 N DEP. 23,390 W ELEV. 4420
 DIP: -80 AZIM.: 300° LENGTH: 400'
 HORIZ. COMP. VERT. COMP.
 DATE COLLARED: June 11, 1984 DATE COMPLETED: June 13, 1984
 CORE STORAGE:
 DRILLED ON CLAIM(S):
 OBJECTIVE: To test for Sullivan Horizon

GENERAL COMMENTS: Surveys:

Depth	Dip	Azimuth
Collar	-80°	300°
120'	-79°	322°
200'	-79.3°	333°
400'	-80.6°	317°

PLANNED LENGTH: 600'
 TERMINATION COMMENTS: Drilled in Lower Aldridge Formation

DRILLED BY: Longyear Canada Inc.
 TYPE DRILL: Longyear 44
 CORE SIZE: NQ
 PERFORMANCE COMMENTS:

CASING REMAINING IN HOLE (LENGTH & SIZE): 110 feet

TYPE CAP & SEALING METHOD: Screw on cap

OTHER MATERIAL REMAINING IN HOLE:

SURVEY INSTRUMENT USED: Sperry Sun Single Shot

ADDITIONAL DOWN HOLE TESTS:

LOG LEGEND

BED THICKNESS CLASSIFICATION

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

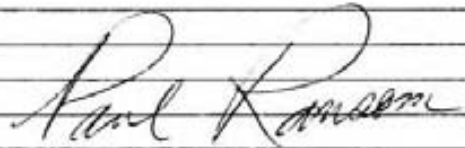
LITHOLOGY ABBREVIATIONS

OQ - Orthoquartzite
 SA - Subarkose
 QW - Quartz Wacke
 QCW - Quartzitic Wacke
 W - Wacke
 SW - Sub Wacke
 AG - Argillite

D.D.H. 6454

Diamond Drill Geological Log



Objective:		Sampled:		40 Scale	
Logged By:		Date:		Composites:	
Block:	Sect:	Place:	App. Bear:	App. Dip:	Length:
From	To	Discard:	Reason:		
345	384	Wacke, subwacke with minor argillite, medium-to-dark grey (argillite is light), thin-bedded and laminated, some medium beds present.			
384	400	Wacke, subwacke with minor argillite, medium-to-dark grey (argillite is light), medium-bedded with some thin beds. Light grey calcitic concretions. Small gouge zone (2cm) at 389'.			
END.					
					
				Core Size	NQ
				Core No.	6454
				Page	2

