

10/88

LOG NO: 1210	RD.
ACTION:	
FILE NO: 87-868-16607	

COMINCO LTD.

EXPLORATION

WESTERN DISTRICT

DIAMOND DRILLING

MAT 112 GROUP

Fort Steele Mining Division

Matthew Creek Area

N.T.S. 82F/9E

- Assessment Report -

LATITUDE: 49° 43' N  
44' 35"

LONGITUDE: 116° 06' W  
07'

OWNER/OPERATOR

Cominco Ltd.

Box 2000  
Kimberley, B.C.  
V1A 2G3

Work performed during June, 1987

Report by:

P.W. Ransom  
Project Geologist

FILMED

16,607

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

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COMINCO LTD.

EXPLORATION

WESTERN DISTRICT

DIAMOND DRILLING REPORT

MAT 112 GROUP

Fort Steele Mining Division

1.00 INTRODUCTION

1.10 Specific Location

DDH 6462, 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

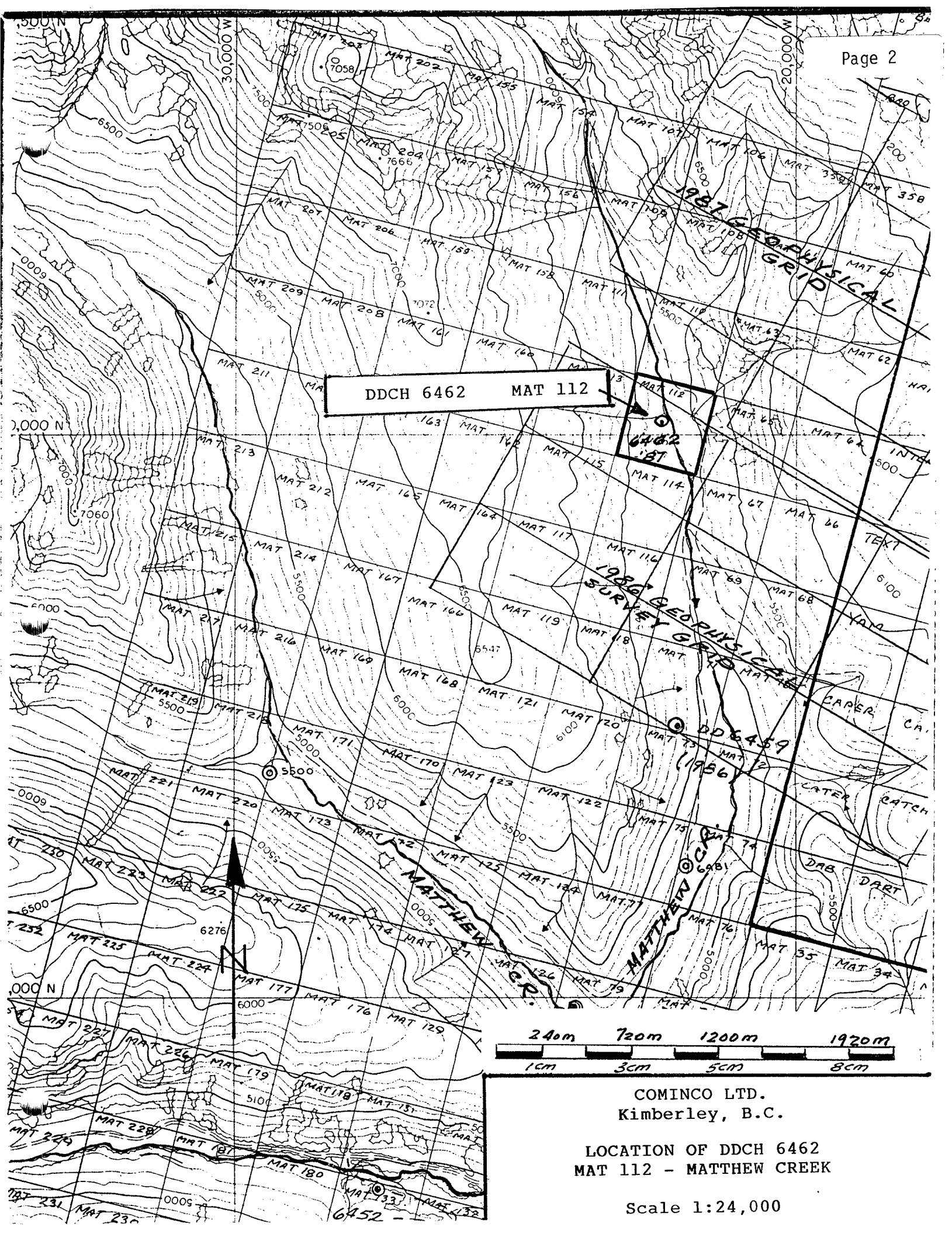
The property being investigated forms part of the Sullivan Mine claim group, owned by Cominco Ltd. Cominco has operated the mine for about 75 years. The Sullivan stratiform Ag-Pb-Zn-Fe sulphide deposit is one of the most important of its type worldwide and has contributed significantly to the mineral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

1.30 Drilling

One hole is being reported on. It was collared at -70° dip and was drilled to a depth of 96 meters using N wireline tools.

1.40 Claims Explored

DDH 6462 was drilled on the Mat 112 Mineral Claim.



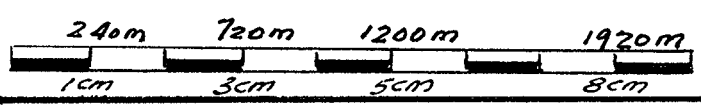
DDCH 6462 MAT 112

1987 GEOPHYSICAL SURVEY GRID

1986 GEOPHYSICAL SURVEY GRID

MATTHEW C.R.

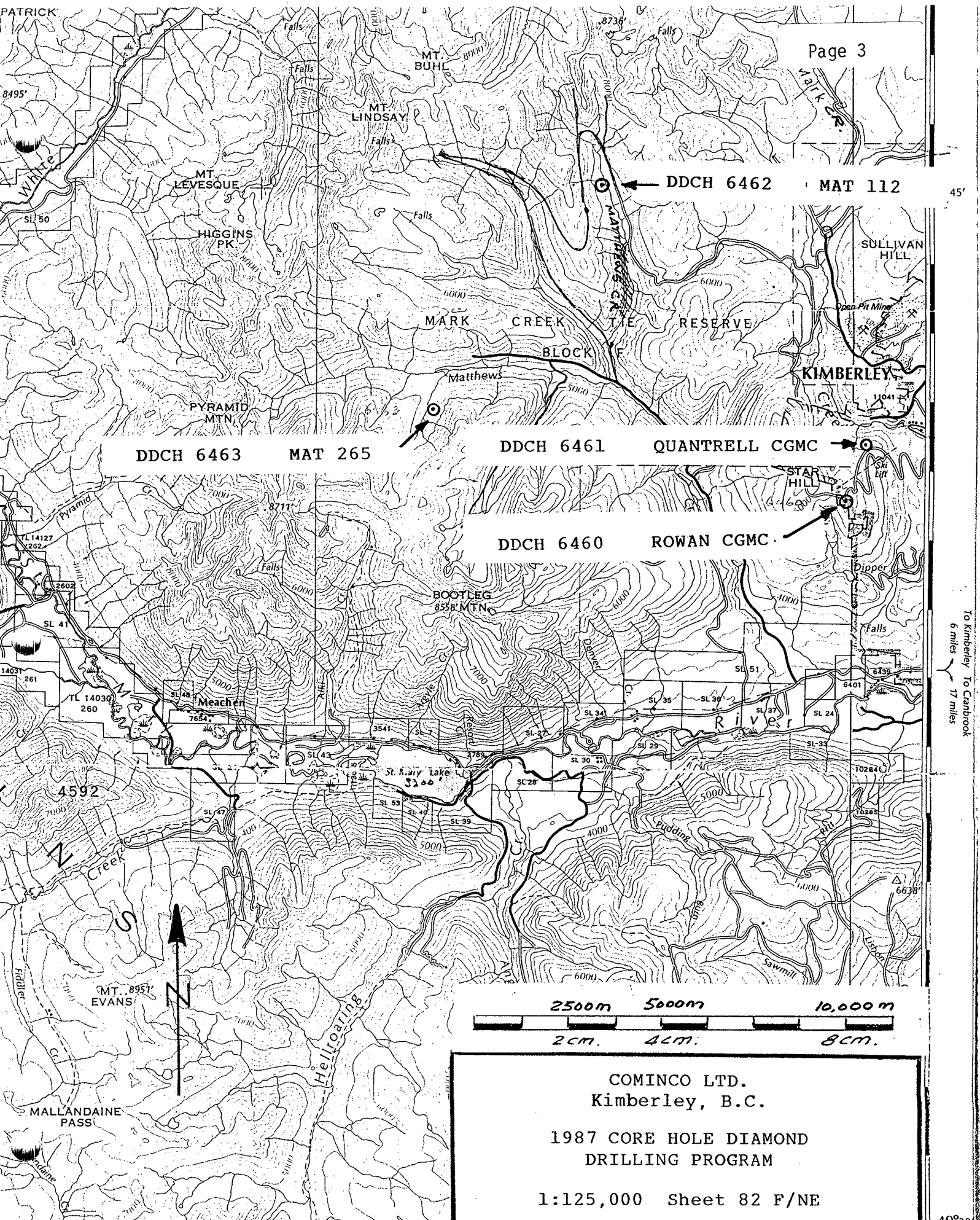
MATHER C.P.



COMINCO LTD.  
Kimberley, B.C.

LOCATION OF DDCH 6462  
MAT 112 - MATTHEW CREEK

Scale 1:24,000



COMINCO LTD.  
 Kimberley, B.C.  
 1987 CORE HOLE DIAMOND  
 DRILLING PROGRAM  
 1:125,000 Sheet 82 F/NE

45'

To Kimberley 17 miles  
To Cranbrook 6 miles

49°30'

15'

116°00'

2.00 DETAILED TECHNICAL DATA AND INTERPRETATION

2.10 Drilling

2.11 Objective

The objective of drilling DDH 6462 was to locate stratiform Ag-Pb-Zn-Fe sulphide ore.

2.12 Results

DDH 6462 intersected siliciclastic sedimentary rocks typical of the area. Pyrrhotite was noted locally, disseminated as an accessory mineral as well as in fine fractures and seams.

2.13 Interpretation

0.0 - 6.1 m	Overburden
6.1 - 96.0 m	Siliciclastic sedimentary rocks, Aldridge Formation.

2.14 Conclusion

DDH 6462 intersected siliciclastic sediments of turbidite and related origin, typical of the Middle Proterozoic Aldridge Formation.

Report by: P.W. 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  
Sullivan Mine  
Kootenay Exploration

APPENDIX A

Diamond Drill Geological Log For D.D.H.

6462



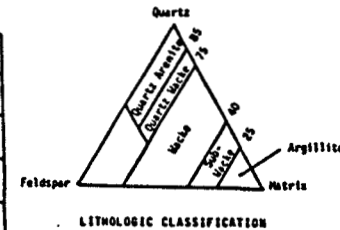
Page 1

LAT. 20,750 N	DEP 22,800 W	ELEV. 5450'	GENERAL COMMENTS: Sperry Sun Survey
DIP: -70°	AZIM.: 245°	LENGTH: 315'	
HORIZ. COMP. 108	VERT. COMP. 296		
DATE COLLARED: June 27, 1987	DATE COMPLETED: June 28, 1987		
CORE STORAGE: Sullivan Mine			
DRILLED ON CLAIM(S): Mat 71			
OBJECTIVE: To test an EM geophysical anomaly.			
PLANNED LENGTH: 320'			
TERMINATION COMMENTS: Scattered fine pyrrhotite veinlets intersected explain the anomaly.			
DRILLED BY: Tonto Drilling (B.C.) Ltd.			
TYPE DRILL: Longyear 38			
CORE SIZE: NO			
PERFORMANCE COMMENTS: Good			
CASING REMAINING IN HOLE (LENGTH & SIZE): 20' HWL + Shoe			
TYPE CAP & SEALING METHOD: 6" welded cap			
OTHER MATERIAL REMAINING IN HOLE: none			
SURVEY INSTRUMENT USED: Sperry Sun			
ADDITIONAL DOWN HOLE TESTS: none			

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
	Thinly Laminated	



D.D.H. 6462

1 Foot = 0.3048 metres

# Drill Hole Record



Property Sullivan	District Western/Ft. Steele M.D.	Hole No. DDH6462	
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	Analysis
0.0	20.0	Overburden	
20.0	32.0	Wacke, medium to dark grey, thin bedded to laminated; one quartz wacke bed is thick, several light grey calcareous intervals with fine dark laminae may be Bouma B, some with Bouma C and starved ripples. The laminae and many bed contacts are sharp and flat, noted one sharp wavy contact. Bedding to core 76° @ 21' and 74° at 31'.	
32.0	38.5	Quartz arenite (quartz wacke?), medium grey, thick bedded, contacts distinct to vague, flat to wavy.	
38.5	58.3	Wacke 60%, quartz wacke 40%, medium grey, wacke is medium and thin bedded, quartz wacke is medium bedded, bed contacts generally sharp or distinct (rare vague) and flat to, for a few, wavy. Disaggregated argillite/subwacke/wacke over 15 cm at 39.5'. Calcareous laminae over 3 or 4 cm at 55'. Increase from background type of alteration to contact type seems to be at 50'. Bedding to core 75° at 46'.	
58.3	62.6	Gabbro sill, medium grained and green at start changes to brown (biotite) and green at 60' and totally brown at 61 to 62.6'.	
62.6	78.0	Quartz arenite, light grey, very thick bedded (single bed 62.6' to 73.0'), medium grained.	
78.0	85.5	Argillite, subwacke, (wacke), medium grey, thin and ? bedded, many bed contacts shredded, indicative of soft sedimentary disturbance. Wispy patches contain finely disseminated pyrrhotite.	
85.5	102.0	Wacke, subwacke/argillite with rare quartz wacke/quartz arenite, medium grey, thin (rare medium) beds, calcareous laminations 96.5 - 97.5, bed contacts generally sharp and flat. Pyrrhotite is rare but present as flecks, fine laminations and irregular (small) patches. Chlorite flecks to 2 mm and biotite to 0.5 mm noted in argillite. Bedding to core 69° at 98'.	

Claim	T Brg.	Collar Dip	Elev.	Length	Hole No.

811-941

# Drill Hole Record



Property Sullivan	District	Hole No. DDH6462	
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	Analysis
102.0	108.5	Quartz arenite (quartz wacke), light to medium grey, very thick beds, contacts vague.	
108.5	129.0	Wacke, subwacke/argillite, (quartz wacke), medium to dark grey, alteration increases after 117' (mainly silicification), thin to medium bedded, contacts sharp and flat, many beds have light grey, calcareous, flat parallel laminated intervals, cross laminae noted but rare. Pyrrhotite as thin laminae and fractures and lenses up to 4 mm thick occurs over interval 108.5 to 110.0'. Also there is a 7 mm wide bedding parallel calcite fracture with 30% pyrrhotite. Cross strata conductivity noted over several cm. Bedding to core 69° at 119'.	
129.0	145.5	Gabbro, probably a sill, chilled upper contact, fine grained dark green, central portion medium grained, basal contact conformable. Approaching base grain size decreases and colour becomes a denser green - chill zone; then 8 cm of medium grained gabbro in selvage at contact.	
145.5	225.0	Wacke, subwacke/argillite, medium grey some dark and light, thin and medium bedded, contacts sharp and flat. Multiple composition beds throughout that may comprise one or all of: argillite top, slightly graded wacke/subwacke that is not laminated, faintly to well laminated wacke (spaced up to several mm) and in some cases calcareous, and dark grey extremely finely laminated (flat parallel) wacke. The latter lithotype is probably a hemipelagic interturbidite accumulation. Pyrrhotite, usually coarse grains up to 2mm in size, is typically disseminated in the graded beds and is particularly concentrated near the bases. Very fine pyrrhotite is found in some of the hemipelagic type laminates. A 5 mm thick pyrrhotite layer contains about 10% calcite at 157'. Bedding to core 70° at 146', 68° at 166', 70° at 185', 71° at 211', 70° at 224'.	
225.0	241.0	Wacke, subwacke/argillite with calcareous quartz arenite; wacke/subwacke/argillite is medium grey, thin bedded to laminated, contacts sharp and flat; quartz arenite is light grey generally featureless, very calcareous (strong effervescence with 10% HCl), from 231 - 232' is intercalated with thin beds argillite/subwacke and	

Claim	T Brg.	Collar Dip	Elev.	Length	Hole No.

811



Scale

Colour Plot  
& Dip

## Drill Hole Record



Page 4

Property	Sullivan	District	Hole No.	DDH6462
Commenced		Location	Tests at	Hor. Comp.
Completed		Core Size	Corr. Dip	Vert. Comp.
Co-ordinates			True Brg.	Logged by
Objective			% Recov.	Date

Footage	Description	Analysis
From	To	
225.0 - 241.0	is disaggregated (cleavage present so probably tectonic). Bedding to core 71° at 235'.	
241.0 - 277.0	Wacke, subwacke/argillite possibly some (dark) quartz wacke, medium to dark grey, medium and thin bedded, 50% of beds internally finely laminated, contacts and laminations are sharp and flat. Pyrrhotite disseminated in a few very thin beds or near basal contacts of some beds; two or three bed contacts might have up to 30% pyrrhotite over 4 to 5 millimeters. Bedding to core 71° at 245', 70° at 255', 74° at 265', 71° at 274'.	
277.0 - 296.0	Wacke and quartz wacke, minor subwacke/argillite, medium and thick beds; the wacke beds commonly contain subwacke/argillite as disrupted to disaggregated tops and clasts. Contacts irregular except few thin beds. Pyrrhotite irregularly disseminated and in small clusters to 5 mm throughout. Bedding to core 70° at 286'.	
296.0 - 315.0	Wacke, subwacke/argillite with minor quartz wacke; wacke/subwacke/argillite is medium grey, medium and thin bedded, has sharp flat bed contacts; quartz wacke is very calcareous, medium to light grey, medium and thick bedded with parallel and ripple laminations in upper portions of beds. Cleavage (?) chlorites noted in thin argillaceous tops. Weak pyrrhotite occurrences below 307', one 3 mm thick seam at 310'. Bedding to core 75° at 299', 75° at 310'.	

\*\*\*\*\* END OF HOLE AT 315.0 FEET \*\*\*\*\*

Scale

Colour Plot  
& Dip

## Drill Hole Record



Page 5

Property	Sullivan	District	Hole No.	DDH6462
Commenced		Location	Tests at	Hor. Comp.
Completed		Core Size	Corr. Dip	Vert. Comp.
Co-ordinates			True Brg.	Logged by
Objective			% Recov.	Date

Footage	Description	Analysis
From	To	
		Runs      Shorts      Runs      Shorts
		20      0.8      182      0.0
		25      0.5      185      0.0
		33      0.5      191      0.0
		37      0.0      197      0.0
		47      0.5      203      1.0
		57      0.5      212      1.0
		67      0.0      215      -0.5
		77      0.0      220      0.0
		87      0.0      225      0.0
		92      0.5      230      0.5
		97      0.0      233      0.0
		107      0.0      237      0.5
		117      0.0      247      0.0
		127      0.0      257      0.0
		137      0.0      267      0.0
		147      0.0      272      0.0
		155      1.0      277      0.0
		157      1.0      285      0.5
		165      0.0      290      0.5
		167      0.5      298      0.0
		177      0.0      307      1.5
		315      0.5

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		<u>1</u>
GRAND TOTAL (1 + 2 + 3)		1,685

APPENDIX C

STATEMENT OF EXPENDITURES

DDH 6462

DIRECT COSTS

Contractor: Tonto Drilling (B.C.) Ltd.  
#200 - 3920 Norland Ave.  
Burnaby, B.C. V5G 4K7

<u>Item</u>	<u>Amount</u>
Mobilization/Demobilization	\$ 500.00
Drilling O-315	6,772.50
Moving	845.00
Field Cost Charges	37.50
Surveys	208.00
Materials	<u>631.45</u>
	Direct Costs = \$ 8,994.45

INDIRECT COSTS

Salaries

P.W. Ransom - Geologist - supervision, core logging,  
report writing 8 days @ \$250/day \$ 2,000.00

Other Contractors:

W. Barker Contracting Ltd., Kimberley, B.C. - Site  
access/Preparation - 1 km or road plus site  
D-7 bulldozer 17 hours @ \$85/hour 1,445.00  
plus cat hauling 617.50

Henderson Heavy Hauling (1973) Ltd., Cranbrook, B.C.  
Equipment hauling (Cat/Drill) 366.00

Wright Contracting, Cranbrook, B.C. - Site clean-up 626.50

Transportation:

one 4X4 truck - 8 days @ \$40/day 320.00

Supplies:

Mud - Gel 167.00  
- Polymer (incl. transport) 585.90  
Core boxes (incl. transport) 127.50  
Cap 34.92

Indirect costs = 6,290.32

Total Direct + Indirect costs = \$15,284.77

Signed: P.W. 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 112 CLAIM GROUP

MATTHEW CREEK AREA

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

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

A F F I D A V I T

I, P.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 112 mineral claim group.
3. That the said expenditures were incurred between the 1st day of June, 1987 and the 1st day of August, 1987 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:

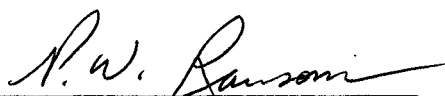
I am a geologist active in minerals exploration.

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 1987.

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