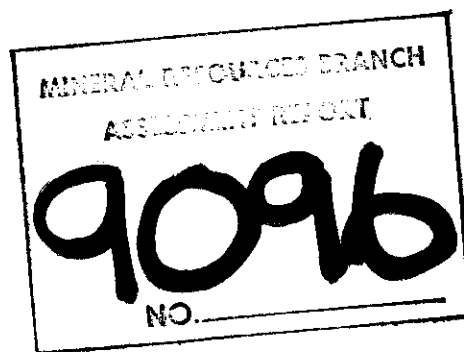


COMINCO LTD.

JURASSIC GROUP ASSESSMENT REPORT

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COMINCO LIMITED

SULLIVAN MINE

KIMBERLEY, B.C.

JURASSIC GROUP ASSESSMENT REPORT

(This assessment work was done on a producing property)

The following report describes the results of drilling Diamond Drill Hole 6442, a 265.7 metre hole in the Kimberley area on the Jurassic crown granted mineral claim located in the Fort Steele Mining Division.

The N.T.S. location is 82 F/NE

D.D.H. 6442 Latitude $49^{\circ} 43' 30''$ N
 Longitude $116^{\circ} 04' 10''$ W

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

A.S. Hagen is author of this report.

Date of submission: March, 1981

Endorsed for
release by: John Hamilton
J.M. Hamilton
Chief Geologist, Kimberley

INTRODUCTION

i/ Specific Location

D.D.H. 6442 is located 4 km west of the Sullivan orebody. Access to the drill site is by road which crosses Mark Creek immediately north of #10 gravel pit.

ii/ 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 70 years.

The Sullivan orebody is the richest deposit in British Columbia and has contributed a major portion of the mineral wealth generated in the province.

iii/ One hole is being reported on in this report. D.D.H. 6442 was drilled using N wireline tools 7.6 cm in diameter to a depth of 265.7 metres.

iv/ D.D.H. 6442 was collared on the Jurassic Crown Granted mineral claim.

DETAILED TECHNICAL DATA AND INTERPRETATION

D.D.H. 6442

i/ Purpose

The purpose of D.D.H. 6442 was to test for mineralization west of Sullivan Mine.

ii/ Results

Badly fractured ground was encountered resulting in high core loss and extreme drilling problems. Drill rods broke off at 214 metres causing hole to be terminated at 265.7 metres. Efforts to retrieve broken rod string were unsuccessful.

iii/ Interpretation

0 - 19 m Overburden

19 - 76 m Thinly laminated to thin bedded wackes and subwackes. Fractured ground, 37% core loss.

76 - 99 m Thick bedded quartzwackes, graded in part. Moderate fracturing, 41% core loss.

99 -116 m Thinly laminated to thin bedded wackes and subwackes. Good core recovery.

116-131 m Lithology similar to 76 - 99 m. Fractured ground, core loss 25%.

131-171 m Thinly laminated to thin bedded wackes and subwackes. 50% core loss from 131 m to 142 m, remainder good recovery. Calcite healed fractures common.

171-197 m Similar lithology to above with occasional quartzarenite-quartzwacke beds in medium to thick range. Good core recovery.

197-207 m 60% core loss, broken ground. Zone of medium and thick bedded quartzarenites and quartzwackes.

207-233 m Fault zone, 66% core loss. Remnants of quartzitic beds with sections of gouge in badly broken core.

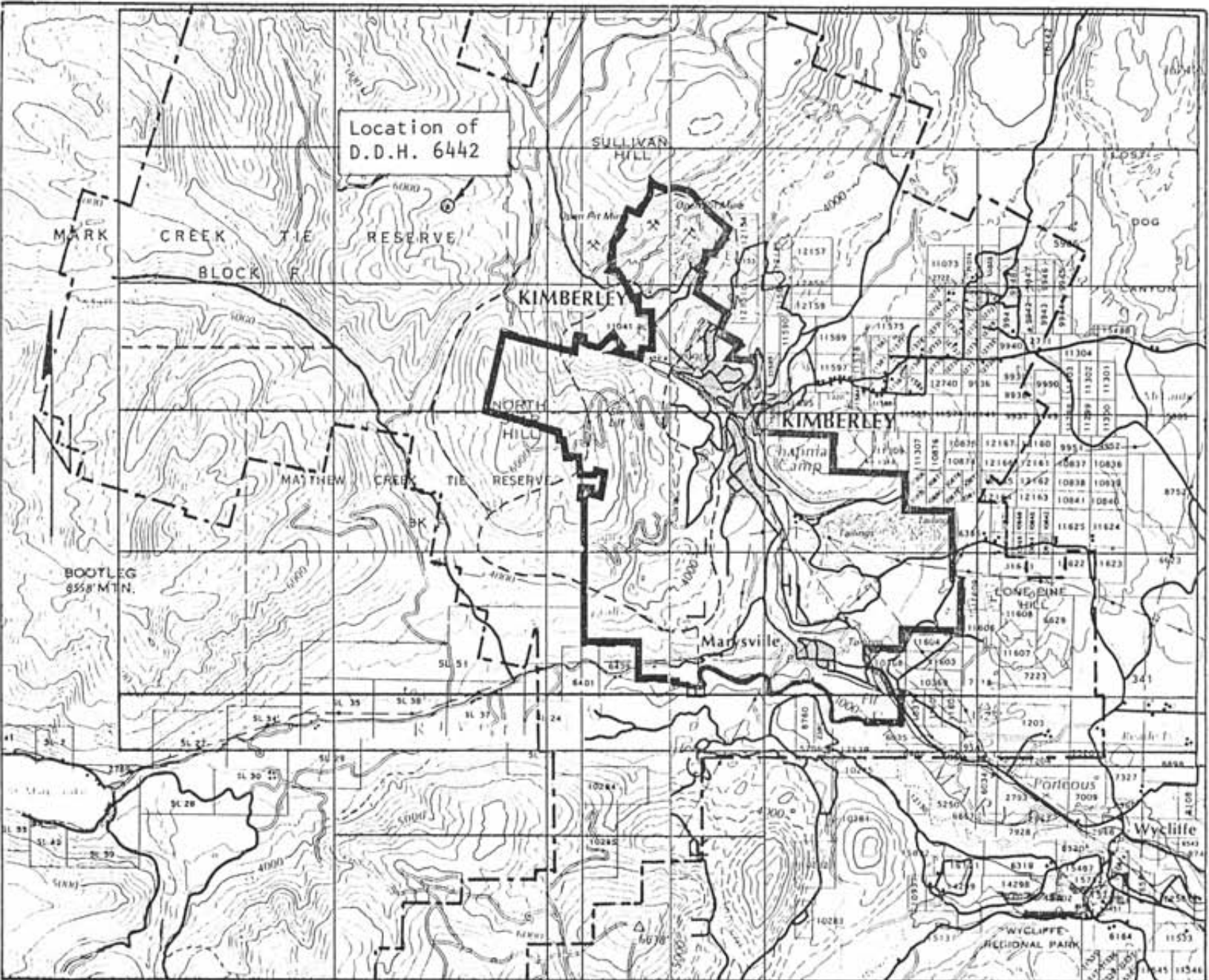
233-242 m Medium to thick bedded quartzarenites
and quartzwackes. Broken core.

242-265.7 m Thinly laminated to thin bedded wackes
and subwackes. Good core recovery.

iv/ Conclusion

Bedded sediments of the Middle Aldridge Formation
were cored. Attitude of fault intersected is undeter-
minable.

No mineralization of economic value was intersected.



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

SULLIVAN MINE - KIMBERLEY, B.C.
 INDEX MAP
 LOCATION OF D.D.H. 6442
 NTS 82 F/NE

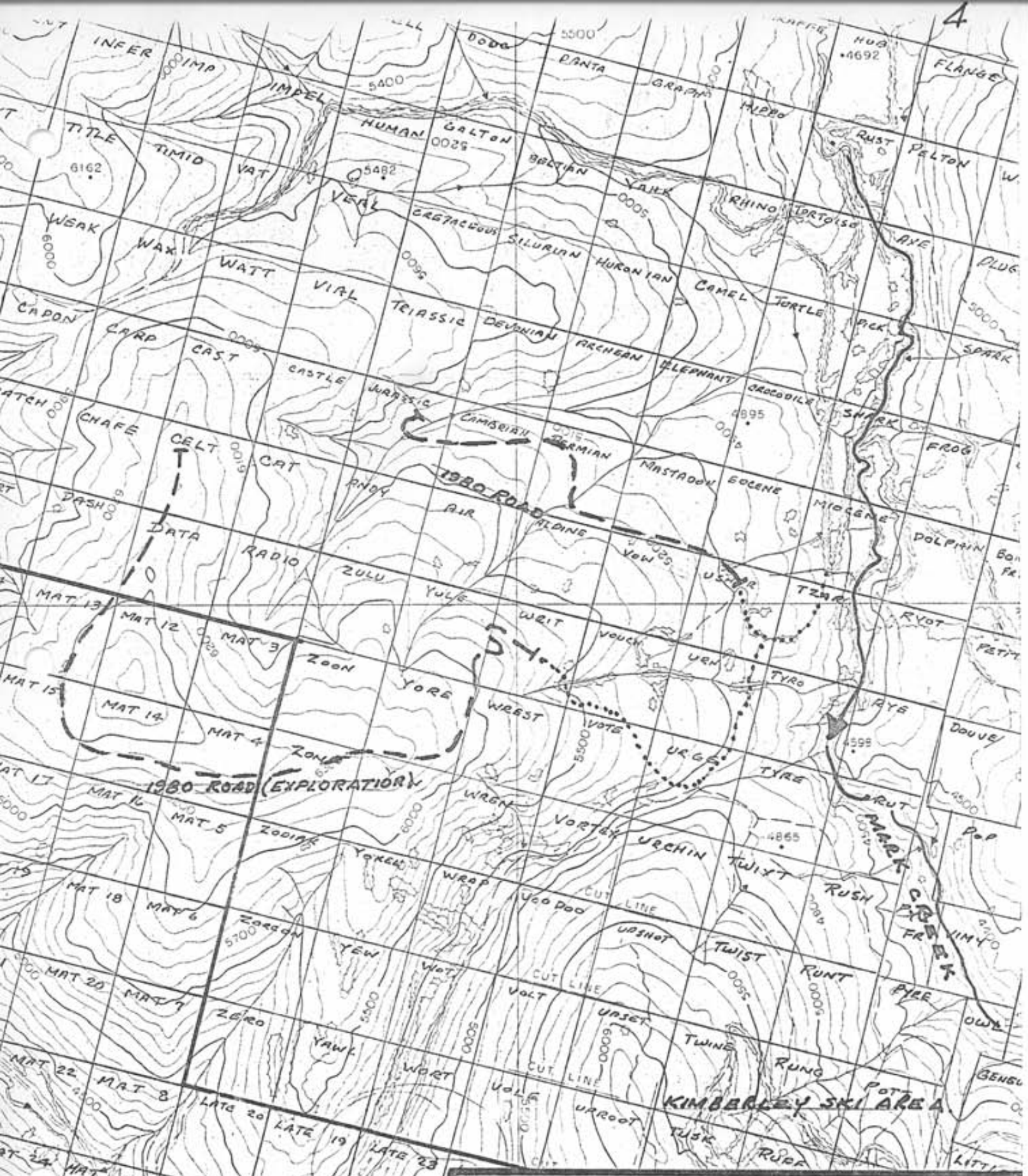
Scale: 1:125,000

Date: February, 1981

Plate:

BC11-2187-C

210 0010



1980 ROAD CONSTRUCTION

SCALE 1:24000

ALB 8/4/15

DEVONIAN

JURASSIC

Lot 13561

DDCH 6442

DDCH 6443

CAMBRIAN

Lot 13236

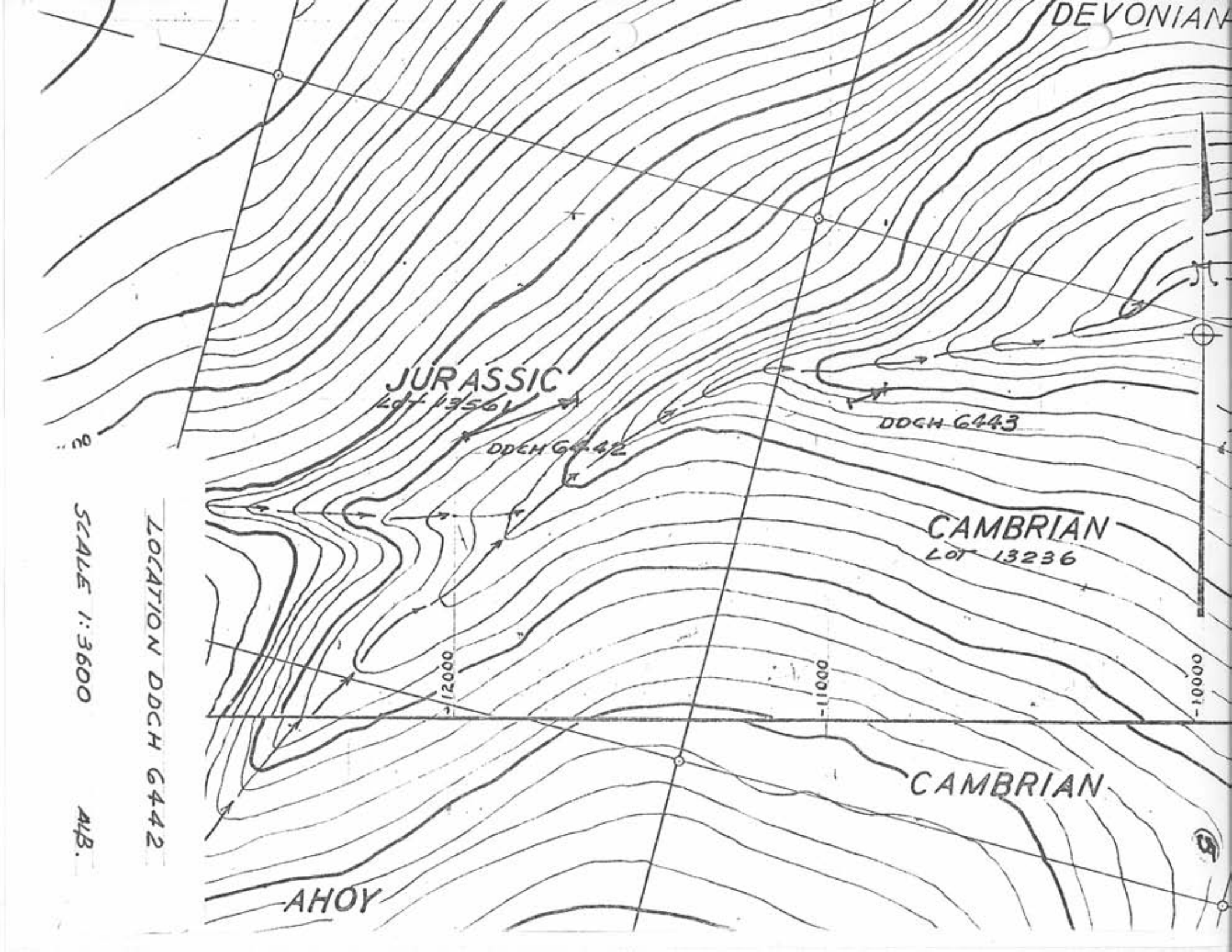
CAMBRIAN

AHOY

LOCATION DDCH 6442

SCALE 1:3600

A.B.

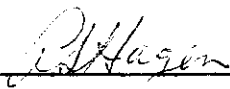


Author's Qualifications

As 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 24 years.



A.S. Hagen
Senior Geological Technician

COMINCO LTD.

SULLIVAN MINEKIMBERLEY, B.C.COST SUMMARY

START: November 29, 1980
 FINISH: January 14, 1981

CONTRACTOR: Acadia Drilling Inc.
 LOCATION: Mark Hill

Footage

0 - 50 O.B. @ 20.00	\$ 1,000.00	
50- 63 O.B. @ 21.50	279.50	
63-500 N.Q. @ 19.50	8,521.50	
500-871 N.Q. @ 21.00	7,791.00	\$17,592.00

Hourly Charges

Hole Conditioning	638.00	
Reaming	3,692.00	
Equipment Recovery	2,842.00	
Travel Time	1,140.00	
Delay Time	366.00	8,678.00

Materials

Casing Shoe	335.92	
Bits	6,825.14	
Reaming Shell	407.94	
Core Barrel (complete)	838.24	
Casing	621.71	
Rods	1,964.68	10,993.63

Mud

Cominco Supplied	150.30	150.30
------------------	--------	--------

Moving Charges

Hourly	2,964.00	
Mob/Demob @ .95 per ft.	827.45	3,791.45

Cominco Charges

Operator	29.00	
Geology Supervision	3,000.00	3,029.00

Miscellaneous

Core Boxes @ \$5.09 per box	229.05	
Truck Rental @ \$48.00 per hour	240.00	469.05

TOTAL DIRECT DRILLING COST		\$44,703.43
----------------------------	--	-------------

STATEMENT

JAN 22 1981

IN ACCOUNT WITH

WRIGHT CONTRACTING

723 - 5th Street S. Phone 426-4958
CRANBROOK, B.C.

M COMINCO
KIMBERLEY B.C.
Sullivan Mine P.O. # 5-23368R

TERMS: 1.8% Interest on Overdue Accounts. 30 DAYS

		DBL CAT RENTAL JAN. / 81 (SNOW PLOWING)		
34	hrs	(a) \$41.00		\$1394.00
		OK to Pay		
		Charge Code 61.12.42		
		(Sullivan Exploration)		
		P.W. Ranson		
		DDCH 6442		

STATEMENT

DEC. 8 1980

IN ACCOUNT WITH

WRIGHT CONTRACTING

723 - 5th Street S. Phone 426-4958
CRANBROOK, B. C.

M COMINCO Kimberley BC.

ORDER No. S-23368R

TERMS: 1.8% Interest on Overdue Accounts.

PWA	D6C CAT RENTAL	Nov/80
137 hr.	@ \$41.00	5494.00
	(ROAD CONSTRUCTION)	
	TOTAL	\$5494.00
	Charge Calc 6112.	
	(Sullivan Exploration)	
	<u>Ph. Ransom</u>	

DD
42
1500

Approved for payment as per accompanying
distribution (re P.O. # 523363R). Payment to be made from
1980 accounts. Paul W. Ransom Dec 19, 1980 (7)

R. Hampton
K. Dimock
JWC ✓

ACADIA DRILLING INC.

501 McBride St.
Cranbrook, B.C.
VIC 4H3

INVOICE

Caminco Ltd.
P.O. Box 2000
Kimberley, B.C.
VIA 2G3

IN FUTURE BILLING MUST BE BY
HOLE NUMBER FOR ALL CHARGES
OR INVOICE WILL BE RETURNED
FOR CORRECTION.

Attn: Mr. John M. Hamilton
Chief Geologist, Kimberley

TERMS: 30 days
INVOICE DATE: December 9, 1980
INVOICE NO.: 821
ORDER NO.: S23363R
BILLING PERIOD: November 1 - 30, 1980
JOB LOCATION: Cranbrook Area

<u>DESCRIPTION</u>	<u>AMOUNT</u>
Drilling Detail	\$ 14,247.00
Material	3,793.23
Waiting Time	12,840.00
Other	<u>3,600.00</u>
	\$ 34,480.23
Excess Charge Error	<u><u>- 672.15</u></u>
	<u>33808.08</u>

Balance

OK for payment
K. Dimock

PWR

ACADIA DRILLING INC.
Calculations
November 1 to 30 /80 Billing

DRILLING DETAIL

Hole #LEW-80-1

Drilling (NQ) 2,031 feet to 2,127 feet = 96 @ \$30.00 per foot \$ 2,880.00

Hole #6441

Overburden (NW) 0 feet to 10 feet = 10 @ \$20.00 per foot 200.00
Drilling (NQ) 10 feet to 315 feet = 305 @ \$19.50 per foot 5,947.50
6,147.50 ✓

Hole #6440

Overburden (NW) 0 feet to 14 feet = 14 @ \$20.00 per foot 280.00
Drilling (NQ) 14 feet to 205 feet = 191 @ \$19.50 per foot 3,724.50
4,004.50 ✓

Hole #6442

Overburden (NW) 0 feet to 50 feet = 50 @ \$20.00 per foot 1,000.00
Overburden (NW) 50 feet to 60 feet = 10 @ \$21.50 per foot 215.00
1,215.00 ✓

\$ 14,247.00
=====

MATERIAL

1 H.W. casing shoe (Econo) @ \$203.00 + 4% PST \$ 211.12
2 H.W. casing shoes @ \$364.50 ea. (\$729.00 + 4% PST) 758.16 ✓
1 N.W. casing shoe @ \$184.00 + 4% PST 191.36 ✓
4 10' lengths H.W. casing @ \$180.00 ea. (\$720.00 + 4% PST) 748.80 ✓
4 2' lengths H.W. casing @ \$50.90 ea. (\$203.60 + 4% PST) 211.74 ✓
7 10' lengths H.Q. rods @ \$120.35 ea. (\$842.45 + 4% PST) 876.14 ✓
1 N.Q. imp. core bit s/n 46293 @ \$415.00 + 4% PST 431.60 ✓
1 H.Q. - N.W.C.S. adaptor @ \$89.80 + 4% PST 93.39 ✓
8 bags Quik Gell @ \$8.50 ea. (\$68.00 + 4% PST) 70.72 ✓
5 bags Quik Seal @ \$38.50 ea. (\$192.50 + 4% PST) 200.20 ✓
\$ 3,793.23
=====

Note: in DDH 6440 the following materials were charged twice in error.
1 H.W. Casing Shoe 364.50 + 4%
10' HW Casing 180.00 + 4%
2' " 50.90 + 4%
379.08
187.20
105.87
5672.15

ACADIA DRILLING INC.
Calculations
November 1 to 30 /80 Billing

<u>WAITING TIME</u>	<u>Rig and 2 Men</u> <u>(\$58.00 /Hr.)</u>	<u>Extra Labour</u> <u>(\$19.00 /Hr)</u>	
Nov. 1-Cave	14		\$ 87.00
" -Travel time		2	38.00
Nov. 2-Travel time		2	38.00
Nov. 3-Testing survey	2		116.00
" -Wait for client	2		116.00
" -Travel time		2	38.00
Nov. 4-Travel time		2	38.00
Nov. 5-Fishing for H.Q, Rods	2		116.00
" -Wait for client's decision on hole	1		58.00
" -Travel time		2	38.00
Nov. 6-Recover equipment	10	10	770.00
" -Travel time		2	38.00
Nov. 7-Move		37	703.00
Nov. 8-Move Set Up		41	779.00
Nov. 9-Move Set Up		33	627.00
Nov. 10-Move Set Up		20	380.00
" -Water Line Installation		18	342.00
Nov. 12-Move Set Up		11	209.00
" - Water Line Installation		25	475.00
Nov. 16-Water Supply	4	16	536.00
Nov. 17-Condition Hole	2		116.00
Nov. 18-Condition Hole	12		696.00
Nov. 19-Cement	8		464.00
Nov. 20-Condition Hole	8		464.00
Nov. 21-Cave	6		348.00
Nov. 22-Move		32	608.00
Nov. 23-Move Set Up		48	912.00
Nov. 24-Move Set Up		45	855.00
Nov. 25-Reaming	1		58.00
" -Move Set Up		6	114.00
" -Water Line Installation		11	209.00
Nov. 28-Move Set Up		24	456.00
Nov. 29-Move Set Up		61	1,159.00
Nov. 30-Move Set Up		35	665.00
" -Condition Hole	3		174.00
	<u>624</u>	<u>485</u>	<u>\$ 12,840.00</u>

ACADIA DRILLING INC.
Calculations
November 1 to 30, 1980 Billing

OTHER

Nov. 6-Truck time	2 hrs. @ \$48.00/hr.	\$	96.00
Nov. 7-Truck time	8 hrs. @ \$48.00/hr.		384.00
Nov. 8-Truck time	4 hrs. @ \$48.00/hr.		192.00
Nov. 16-Water Truck	1/2 day @ \$400.00/day		200.00
Nov. 17-Water Truck	1/2 day @ \$400.00/day		200.00
Nov. 18-Water Truck	1/2 day @ \$400.00/day		200.00
Nov. 19-Water Truck	1 day @ \$400.00/day		400.00
Nov. 20-Water Truck	1 day @ \$400.00/day		400.00
Nov. 21-Water Truck	1 day @ \$400.00/day		400.00
Nov. 22-Water Truck	1/2 day @ \$400.00/day		200.00
Nov. 27-Water Truck	1/2 day @ \$400.00/day		200.00
Nov. 28-Water Truck	1/2 day @ \$400.00/day		200.00
" -Truck time	6 hrs. @ \$48.00/hr.		288.00
Nov. 29-Truck time	5 hrs. @ \$48.00/hr.		240.00
		\$	3,600.00

6540

6442

=====

K. Dimock

Re P.O. No 523363R

Charges re Acadia Drilling should be distributed as follows. (Work Nov 1-30)

1. New Hole (Western District)	\$ 7669.50
Code 113-130-WW 4A	
2. DDH 6440	6768.65 ✓
Code Sullivan Mine 6112.40	
3. DDH 6441	15,628.93 ✓
Code Sullivan Mine 6112.41	
4. DDH 6442	3,741.00
Code Sullivan Mine 6112.42	
	<u>\$ 33,808.08</u>

Regarding this invoice an over charge of \$672.15 was made.

40 } NS Min
 41 }
 42 } Man
 43 }

6/11/50

ACADIA DRILLING INC.
501 McBride St. W.
Cranbrook, B.C.
VIC. 4H3

I N V O I C E

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

Attention: Mr. John M. Hamilton,
Chief Geologist, Kimberley

TERMS: 30 days
INVOICE DATE: December 29, 1980
INVOICE NO: 824
ORDER NO: S 23363 R (DDCH 6442)
BILLING PERIOD: December 1 - 14, 1980
JOB LOCATION: Cranbrook Area

<u>DESCRIPTION</u>	<u>AMOUNT</u>
Drilling Detail	\$ 16,377.00 ✓
Material	3,822.35 ✓
Waiting Time	5,282.00 ✓
	<u>\$ 25,481.35</u> ✓
	=====

John
Jan 5/81
I've checked the charges and calculations on this invoice and all appears to be in order. (We will be credited for casing materials if they are removed from the hole).
OK to pay as far as I am concerned.
Paul

Approved for payment in full John Hamilton 24636
Jan 5/81

Charge Sultan Exploration 61.12-42

ACADIA DRILLING INC.
Calculations
Dec. 1 to Dec. 14/80 Billing

DRILLING DETAIL

Hole # 6442

Overburden (N.W.)	60 feet to 63 feet ✓	= 3 @ \$21.50 per foot	\$ 64.50 ✓
Drilling (N.Q.)	63 feet to 500 feet ✓	=437 @ \$19.50 per foot	8,521.50 ✓
	500 feet to 871 feet ✓	=371 @ \$21.00 per foot	7,791.00 ✓
			<u>16,377.00</u> ✓
			=====

MATERIAL

1	N.W. casing shoe ✓	@ \$ 199.00 + \$ 7.96 PST	\$ 206.96 ✓
1	Sub N.W. casing pin to H.Q. box ✓	@ \$ 67.55 + \$ 2.70 PST	70.25 ✓
6	H.Q. 10' rods at \$120.35 ea. ✓	\$ 722.10 + \$28.88 PST	750.98 ✓
2	N.Q. 10' rods at \$85.35 ea. ✓	\$ 170.70 + \$ 6.82 PST	177.52 ✓
5	N.Q. core bits:		
	4-Imp. core bit green, H.M.		
	s/n 46287 ✓ have		
	46289 ✓ have		
	46292 ✓ have		
	46350 ✓ have		
	at \$415.00 ea.	\$1,660.00 + \$66.40 PST	1,726.40 ✓
	1-W/L core bit 100 series		
	s/n 94893 ✓ have	\$ 856.00 + \$34.24 PST	890.24 ✓
			<u>3,822.35</u> ✓
			=====

+ fee on the casing. Should receive credit if removed from hole.

+ top rod of stuck string. Broken rod above on string pulled out.

ACADIA DRILLING INC.
Calculations
Dec. 1 to Dec. 14/80 Billing

<u>WAITING TIME</u>	<u>Rig and 2 Men</u> <u>(\$ 58/Hr.)</u>	<u>Extra Labour</u> <u>(\$ 19/Hr.)</u>	
Dec. 1 Reaming ✓	5		\$ ✓ 290.00
Dec. 1 Travel ✓		4	✓ 76.00
Dec. 2 Condition hole ✓	2		✓ 116.00
Dec. 2 Travel ✓		2	✓ 38.00
Dec. 2 Delay - road condition ✓		4	✓ 76.00
Dec. 3 Reaming ✓	4		✓ 232.00
Dec. 3 Travel ✓		4	✓ 76.00
Dec. 3 Delay - road condition ✓	2		✓ 116.00
Dec. 4 Condition hole ✓	4		✓ 232.00
Dec. 4 Travel ✓		4	✓ 76.00
Dec. 5 Travel ✓		4	✓ 76.00
Dec. 6 Condition hole ✓	2		✓ 116.00
Dec. 6 Travel ✓		4	✓ 76.00
Dec. 7 Travel ✓		2	✓ 38.00
Dec. 8 Travel ✓		4	✓ 76.00
Dec. 9 Reaming ✓	3		✓ 174.00
Dec. 9 Travel ✓		4	✓ 76.00
Dec. 10 Reaming - cave ✓	2		✓ 116.00
Dec. 10 Rods stuck ✓	2		✓ 116.00
Dec. 10 Travel ✓		2	✓ 38.00
Dec. 10 Delay - road condition ✓	3		✓ 174.00
Dec. 11 Travel ✓		4	✓ 76.00
Dec. 12 Recover equipment ✓	23		✓ 1,334.00
Dec. 12 Travel ✓		4	✓ 76.00
Dec. 13 Recover equipment ✓	16		✓ 928.00
Dec. 14 Recover equipment ✓	8		✓ 464.00
	<u>76</u>	<u>46</u>	\$ 5,282.00 ✓
	=====	=====	=====

ACADIA DRILLING INC.
501 McBride St. W.
Cranbrook, B.C.
VIC 4H3

I N V O I C E

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

Attn: Mr. John M. Hamilton
Chief Geologist, Kimberley

TERMS: 30 Days
INVOICE DATE: January 19, 1981
INVOICE NO: 825
ORDER NO: S 23363 R (DDCH 6442)
BILLING PERIOD: January 5 - 15, 1981
JOB LOCATION: Cranbrook area

All charges to Hole #6442

<u>DESCRIPTION</u>	<u>AMOUNT</u>
Material	\$ 6,547.36
Waiting Time	<u>4,362.00</u>
	\$ 10,909.36
	=====

OK to Pay per R

ACADIA DRILLING INC.

Calculations
January 5 to January 14/81 Billing

MATERIALHole #6442

1 #6848 HW casing shoe	⓪	@ \$323.00 + \$12.92 PST	\$ 335.92
1 #27100 Wesdrill 25 series HQ bit		@ \$1,175.72 + \$47.02 PST ✓	1,222.74
1 #10879 Westcoast 75 series HQ bit		@ \$916.24 + \$36.64 PST ✓	952.88
1 #24052 Wesdrill 100 series HQ bit		@ \$926.70 + \$37.06 PST ✓	963.76
1 #38155 Longyear Imp. BQ bit green		@ \$290.00 + \$11.60 PST ✓	301.60
1 #46345 Longyear Imp. NQ bit green		@ \$415.00 + \$16.60 PST ⓪	431.60
1 #26589 Wesdrill NQ Reaming shell		@ \$392.25 + \$15.69 PST ⓪	407.94
1 10' NQ core barrel complete		@ \$806.00 + \$32.24 PST ⓪	838.24
15 10' NQ rods		@ \$96.10 ea. \$1,441.50 + \$57.66 PST ⓪	1,499.16
5 pcs. 5' HW casing		@ \$99.20 ea. \$496.00 + \$19.84 PST ⓪	515.84
3 pcs. 2' HW casing		@ \$50.90 ea. \$101.80 + \$4.07 PST ⓪	105.87
			<u>7,575.55</u>

CREDIT: Re: Invoice #824

1 NW casing shoe		@ \$199.00 + \$7.96 PST ✓	324 ✓	(206.96)
1 Sub NW casing pin to HQ box		@ \$67.55 + \$2.70 PST ✓	324 ✓	(70.25)
6 HQ 10' rods		@ \$120.35 ea. \$722.10 + \$28.88 PST ✓	324 ✓	(750.98)
				<u>(1,028.19)</u>
				\$ 6,547.36
				=====

⓪ Left in hole.

ACADIA DRILLING INC.

Calculations
January 5 to January 14/81 Billing

WAITING TIME

Rig and 2 Men Extra Labour
(\$25.00 /Hr.) (\$19.00 /Hr)

Hole #6442

Jan. 6 - Reaming casing	2 ✓		\$ 50.00
Jan. 7 - Reaming casing	10 ✓		250.00
" - Travel time		2 ✓	38.00
Jan. 8 - Reaming	20 ✓		500.00
" - Travel time		4 ✓	76.00
Jan. 9 - Reaming	20 ✓		500.00
Jan. 10 - Reaming	10 ✓		250.00
" - Travel time		2 ✓	38.00
Jan. 11 - Reaming	20 ✓		500.00
" - Travel time		4 ✓	76.00
Jan. 12 - Reaming	10 ✓		250.00
" - Travel time		2 ✓	38.00
	<u>92</u>	<u>14</u>	<u>2,566.00</u> ✓

(\$58.00 /Hr.) (\$19.00 /Hr.)

Jan. 13 - Reaming	10 ✓		580.00
" - Move Set up		20 ✓	380.00
" - Travel time		4 ✓	76.00
Jan. 14 - Move Set up		40 ✓	760.00
	<u>10</u>	<u>64</u>	<u>1,796.00</u> ✓

\$ 4,362.00
=====

PRR

8

Diamond Drill Geological Log

FOR D.D.H. 6442



T 13000 N approx. DEP. 11700 W approx. ELEV. 5300' approx.
 -68° AZIM. 250° LENGTH 871.5'
 HZ. COMP. 342.1' VERT. COMP. 861.4'
 COLLARED: 30/11/80 DATE COMPLETED: 12/12/80
 STORAGE: Open pit facility
 HOLE ON CLAIM(S): Jurassic C.G. M.C.
 OBJECTIVE: To test for mineralization west of Sullivan Mine.
 RAN LENGTH: 600'
 TERMINATION COMMENTS: Drill rods broke at 700' while drilling at 871.5' unable to recover broken rod string after one week of effort.
 DRILLED BY: Acadia Drilling
 TYPE DRILL: Longyear A38
 HOLE SIZE(S): NO
 PERFORMANCE COMMENTS: Machine performed satisfactorily, however, considerable core loss was experienced. Progress was impeded due to broken ground in part, resulting in numerous short runs.

GENERAL COMMENTS:

CASING REMAINING IN HOLE (LENGTH & SIZE): 30' H casing
 TYPE OF CAP & METHOD OF SEALING:
 OTHER MATERIAL REMAINING IN HOLE: 160' NQ drill rods, core barrel with drill bit.
 SURVEY INSTRUMENT USED: Sperry Sun single shot. Survey at 440'. Dip -68° Brg 240°
 ADDITIONAL DOWN HOLE TESTS: NIL

BED THICKNESS CLASSIFICATION		LITHOLOGY ABBREVIATIONS
BEDS	Very Thick Bedded	OQ - Orthoquartzite
	100 cm	QA - Quartz Arenite
	Thick Bedded	QW - Quartz Wacke
	30 cm	QCW - Quartzitic Wacke
	Medium Bedded	W - Wacke
	10 cm	SW - Sub Wacke
LAMINAE	Thin Bedded	AG - Argillite
	3 cm	
	Very Thin Bedded	
	1 cm	
	Laminated	
	0.3 cm	
	Thinly Laminated	

D.D. 6442

Diamond Drill Geological Log



Objective: TEST FOR MINERALIZATION WEST OF SULLIVAN MINE Sampled: NIL
 Logged By: A.S. Hagen Date: December, 1980 Composites: NIL
 Block: Sect.: Place: Jurassic App. Bear: 570°W App. Dip.: -68° Length: 871.5'

From	To	Discard:	Reason:
0	63	Overburden	

63 248 Wackes, subwackes ranging from thinly laminated to thin bedded. Rare, thin, quartzwacke bed (e.g. at 64'). Core is moderately to badly broken with considerable core loss. Tight fracturing from parallel to 60° to core is common. Rusty weathering along fracture planes to 120'. Occasional calcareous bed (some calcareous laminations with pyrrhotite). Core losses as follows: (Example of runs and core losses experienced).

Run	Loss	Run	Loss	Run	Loss	Run	Loss	Run	Loss
63 - 65	-	76 - 79	-	91 - 98	2.5'	112-116	3'	133-136	-
65 - 66	-	79 - 81	.5'	98- 100	-	116-121	4.5'	136-137	-
66 -69.5	-	81 -82.5	.5'	100-102	.5'	121-123	1'	137-139	1.5'
69.5-72.5	-	82.5-85	1'	102-106	3.5'	123-126	.5'	139-140	-
72.5-74.5	-	85 - 88	.5'	106-108	1'	126-128	-	140-146	-
74.5-76.0	1'	88 - 91	.5'	108-112	3.9'	128-133	.5'	146-150	.5'

Run	Loss	Run	Loss	Run	Loss
176-178	.5'	204-206	1.8'	242-244	-
178-182	.5'	206-207.5	.5'	244-246	1.5'
182-185.5	1.5'	207.5-214	4'	246-248	-
185.5-187	.5'	214-219	3.5'		
187-190	1.5'	219-226	4.5'	Total Core Loss 63'-248' = 37%.	
190-197	2.5'	226-236	9'		
197-204	6.0'	236-242	4.5'		

Core Size
 NQ
 Hole No. 6442
 Page 1

(cont.)....

Diamond Drill Geological Log



Objective:		Sampled:		40 Scale		
Logged By:		Date:		Color Plot & Oigs		
Block:		Sect.:		Ore Class.:		
Place:		Composites:				
App. Bear.:		App. Dip.:		Length:		
From	To	Discard:	Reason:			
	248	(cont.)	Shattering indicated in core from 226' to 242', major core loss in this section (90% loss), drillers report mud and/or sand-like intersections, however, no gouge etc. recovered in core (fault?). Bedding to core: 64'-25°, 92'-25°, 132-47°, 150'-60°, 175-67°, 242'-55°. 174'.			
	248	325	Thick bedded sediment, quartzwackes, some grading, others changing abruptly to subwacke tops, massive in part. Laminated to thin bedded wacke-subwacke interbeds occasionally. Calcareous segments. Colour alteration highlights features (biotitized). Core moderately to badly broken in part (moderately fractured rock, variable fracture attitudes), no major break indicated, core loss 41%. Bedding 70°-75° to core.			
	325	382	Wackes and subwackes ranging from thinly laminated to thin bedded. Light grey, calcareous laminations common feature. Fine, calcite healed, erratic fracturing occasionally. Crenulated laminations at 331.5'. Biotitized sediment. Good core recovery. Bedding to core: 326'-72°, 346'-65°, 368'-70°			
	382	430	Lithology and bed thicknesses similar to 248'-325', very minor interbed material. Core loss approximately 25%. Fractured rock as in previous section, no major break indicated. Bedding 70°-75° to core.			
	430	560	Similar to 325'-382'. Thin, erratic, calcite healed fractures more prominent. Occasional thin (up to 3") sand beds from 540' to 560'. Minor, calcite healed breccia at 489' (1"-vuggy). 1" calcite healed breccia 25° to core at 501'. Minor, thin gouge with calcite along bedding at 521', 544', 548' (up to 3"). Approximately 50% core loss (grinding) from 430'-466', remainder good recovery. Colour alteration (biotitization) noticeable. Bedding to core: 470'-82°, 495'-70°, 520'-72°, 552'-78°.			
			Core Size			
			NQ			
			Hole No.		Page	
			6442		2	

Diamond Drill Geological Log



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Objective:		Sampled:					
Logged By:		Date:		Composites:			
Block:	Sect.:	Place:	App. Bear:	App. Dip.:	Length:		
From	To	Discard:	Reason:				
560	645		Similar lithology to above with occasional, calcareous, light grey, quartz arenite-quartzwacke beds in the medium - thick range with bases at, as follows: 564' (thk.), 571' (thk.), 573' (thk.), 574.5' (thk.), 577' (thk.), 580' (thk.) 592' (thk.), 595' (thk.), 621' (med.), 628' (med.), 636' (thk.), 638' (med.). Some disruption features (e.g. rip-ups, sand dikes) from 582' to 595'. Erratic, thin, calcite healed fractures common throughout. Thin gouge zone at 606'. Occasional broken core (Core recovery 92%). Biotitized sediment, features highlighted by colour alteration. Bedding 75° to core.				
645	680		Moderately to badly broken core, approximately 60% core loss. Core recovered indicates medium and thick bedded quartz arenites-quartzwackes with subwacke tops and/or interbeds. Erratic fracturing from parallel to 80° to core. Beds are calcareous in part.				
680	763		Fault zone, substantial core loss (66%). Recovered segments indicate similar lithologies to above. Badly broken core for most part. Gouge recovered at 683', approximately (2'-3'), 700' approximately (thickness?), 705' to 713' (2' recovered), 715'-717', 736'-741' (1' recovered).				
763	794		Similar lithology to 645'-680'. Core moderate to badly broken in part. Bedding 60° to core at 782'.				
794	871.5		Predominantly wackes and subwackes ranging from thinly laminated to thin bedded. Thin, light grey, quartz arenite to quartzitic wacke beds occasionally, calcareous in part. Obvious colour alteration (biotitized). Good core recovery. Some broken core (847'-849' fracturing parallels core, 851'-852' similar to				

Core Size

NQ

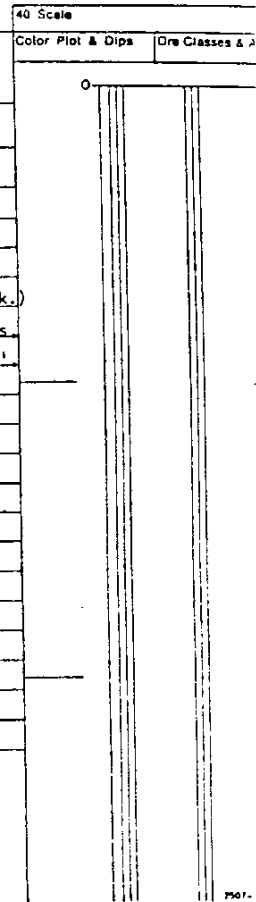
Hole No.

6442

Page

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(cont.)...



750-

Diamond Drill Geological Log



Objective:		Sampled:	
Logged By:		Date:	
Block:		Composites:	
Sect.:		Place:	
App. Bear:		App. Dip:	
Length:			
From	To	Discard:	Reason:
871.5		(cont.) previous break, 865'-867' badly fractured rock, gouge-like in part.	Bedding to core: 807'-85°, 825'-70°, 852'-60°, 870-50°. Some cross bedding.
NOTE: Drill rods broke off at 700' after 871.5' was reached. Despite considerable effort, driller was unable to recover rods. Hole was terminated.			
END D.D.H. 6442			
<i>Platagen</i>			
		Core Size	
		Note No.	Page
		6442	4

40 Scale
Color Plot & Dips
Ore Classes & ...

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