

062031

REPORT ON DIAMOND DRILLING  
Coal Exploration Licence No. 101

N.T.S. 115-0-11 (NE $\frac{1}{4}$ )  
Yukon Territory

Field Work Done in Period  
April 10 - May 2, 1980

By:

T. J. Adamson

CYPRUS ANVIL MINING CORPORATION

September, 1980

This report has been examined; de-  
clared acceptable as Representation  
Work under Section 32 and Schedule  
B of the Canada Mining Regulations  
and valued in the amount of \$ 39,653.20

Chief,

*J. H. Laine*

Date:

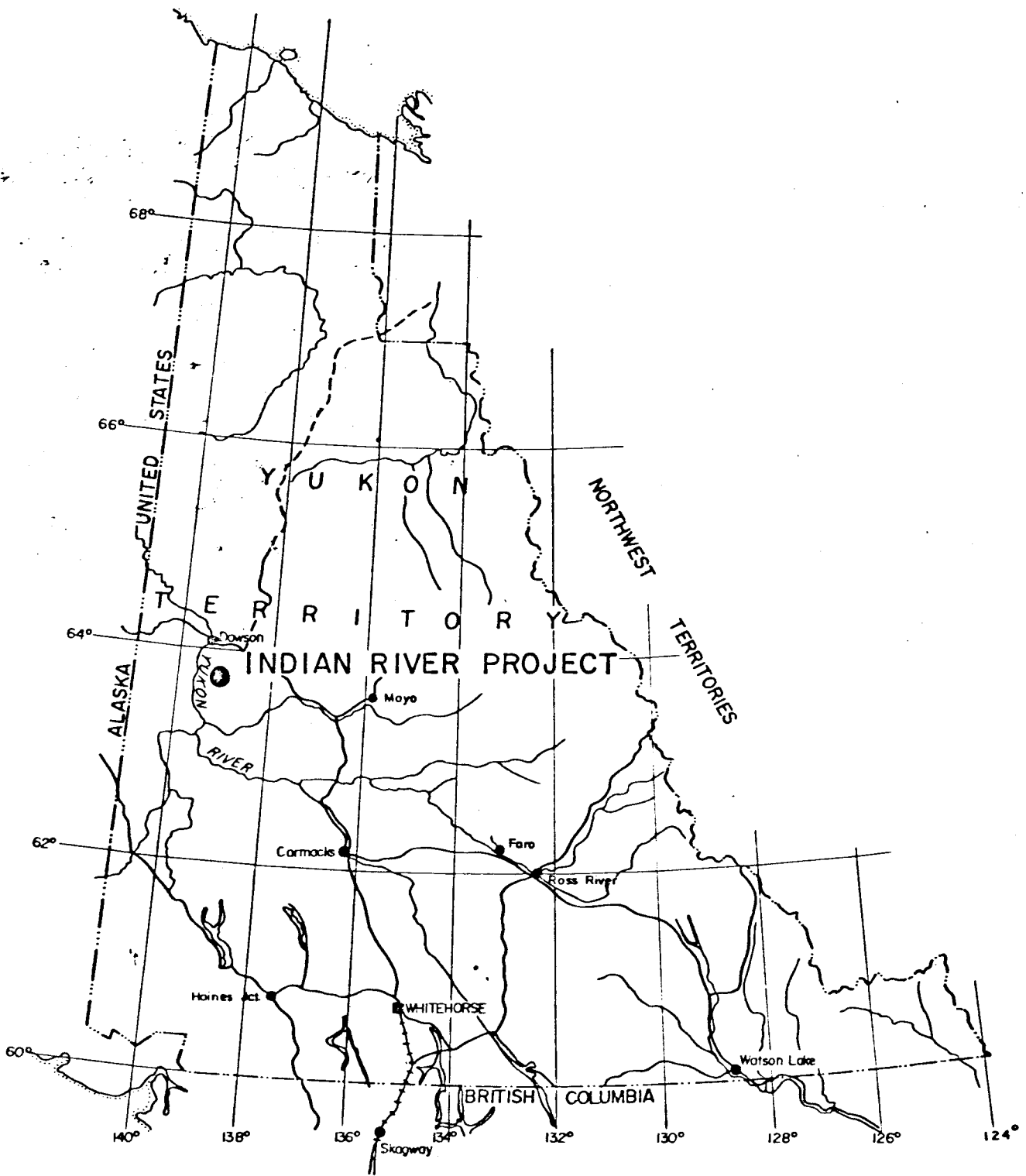
*Dec. 9, 1980.*

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**CYPRUS ANVIL MINING CORPORATION**

LOCATION MAP

**INDIAN RIVER COAL PROJECT**

COAL EXPLORATION LICENCE #101

YUKON

SCALE · 1" = 100 MILES

FIG. 1

# SHEET 115-0-11

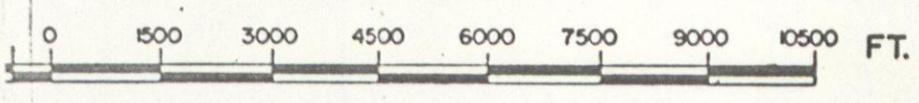
LATITUDE 63°30' To 63°45'  
LONGITUDE 139°00' To 139°30'

## HAYSTACK MOUNTAIN

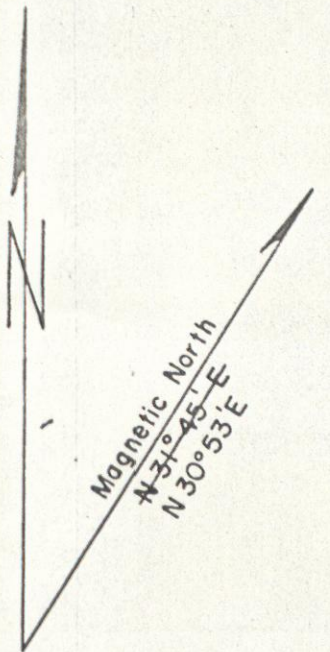
CANADA

DEPARTMENT OF NORTHERN AFFAIRS AND NATIONAL RESOURCES  
NORTHERN ADMINISTRATION BRANCH  
RESOURCES DIVISION

SCALE: 1/2 MILE TO 1 INCH

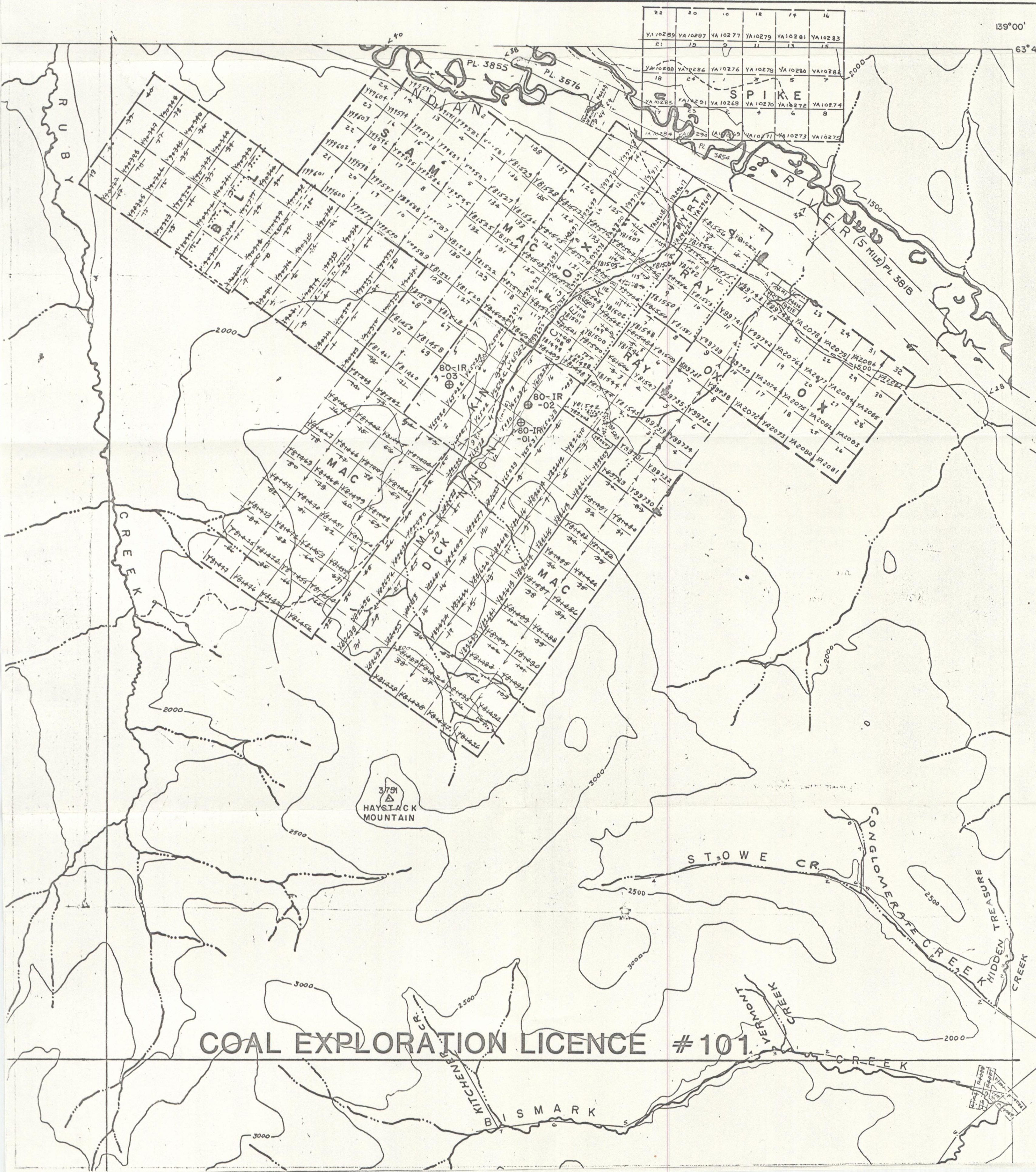


ISSUED UNDER THE AUTHORITY OF THE MINISTER  
OF  
NORTHERN AFFAIRS AND NATIONAL RESOURCES



CYPRUS ANVIL MINING CORPORATION	
INDIAN RIVER COAL LTD.	
DAWSON MINING DISTRICT	
COAL EXPLORATION LICENCE	
# 101	
KEY MAP	
N.T.S. 115-0-11	DATE: SEPT. 1980
SURVEY BY: T.A.	FIGURE 2
DRAWN BY: r.w.r.	

⊕ DRILL HOLE LOCATION



# COAL EXPLORATION LICENCE # 101

## TULAMEEN COAL PROJECT

### Report on Diamond Drilling

### Coal Exploration Licence No. 101

#### INTRODUCTION

Cyprus Anvil Mining Corporation has an option to acquire Coal Exploration Licence No. 101 from Yukon Revenue Mines Ltd. Under the terms of the agreement entered into June 25, 1979 between Cyprus Anvil Mining Corporation and Yukon Revenue Mines Ltd., Cyprus Anvil undertook to make sufficient exploration expenditures to satisfy the work requirements for the three-year term of the licence.

This coal exploration licence, totalling 42,687 acres, is located about 40 km south-southwest of Dawson, Y.T. Coal showings have been known within the licence area for many years, occurring as thin (maximum 1.5 meters) seams in a sequence of Eocene sediments overlain by Carmacks Group volcanics. Rotary drilling in 1975, by Yukon Revenue Mines Ltd. while exploring a mineral prospect within the present licence area, intersected what was interpreted to be a near-surface, 3 - 6 meter thick, apparently flat-lying coal seam. The objectives of the diamond drilling discussed in this report were to further investigate the quality, thickness and geometry of this coal seam.

#### LOCATION AND ACCESS

Coal Exploration Licence No. 101, totalling 42,687 acres, occupies the northeast quarter of N.T.S. mapsheet 115-0-11, in the Yukon Territory. The community of Dawson is about 40 km north-northwest of the project area. Access to the area is by helicopter or by four-wheel drive vehicle from Dawson. The road route from Dawson follows the Hunker Creek road to King Solomon Summit, down Quartz Creek to the Indian River, fords the

Indian River, then follows McKinnon Creek to the area of 1980 drilling. The section of road up McKinnon Creek, in an area of very swampy ground conditions, is only passible for wheeled or tracked vehicles when frozen.

DIAMOND DRILLING

In the period April 17 - April 28, 1980, three diamond drill holes, totaling 316.0 meters, were completed. These holes are numbered 80-IR-01 through 80-IR-03. The drilling was carried out under contract by Arctic Diamond Drilling Ltd. of Whitehorse, Y.T. Mobilization and demobilization of equipment was by bulldozer from the mouth of Quartz Creek. A Longyear 38 diamond drill was utilized and NQ-size core was recovered from all holes. The drill core is stored in covered core boxes on the property. Drill hole lithologic logs are included in this report as Appendix III. Drill hole locations are plotted on Map No. 1.

CORE ANALYSES

The analysis of the only significant coal seam intersected during the 1980 drilling is as follows:

PROJECT: SAMPLE #IR-80-1 (140.5' - 146.5')

LAB. NO.: 5076

A.D.M. %	MOIST.	ASH%	VOL. %	F.C. %	S%	BTU /LB	EQUIL. MOIST.	CALC.* BASIS
2.4	1.8	44.2	7.6	46.4	0.40	6,797	5.0	a.d.b.
	4.2	43.1	7.4	45.3	0.39	6,634		a.r.b.
		45.0	7.7	47.3	0.41	6,922		d.b.
				<u>F.S.I.</u>	<u>0</u>			

\* a.d.b. - air dried basis  
a.r.b. - as received basis  
d.b. - dry basis

## DISCUSSION

The 1980 diamond drilling is in an area of poor bedrock exposure. The geology of the area is not well defined.

Stratigraphically, the drill holes intersected a section of sediments, up to about 100 meters thick, overlain by Carmacks Group andesitic volcanics and underlain by porphyritic felsitic volcanics. The section appears to dip moderately in a northerly direction. Only drill hole 80-IR-01 intersected the complete sedimentary section.

From the drill logs, it is seen that within the sediments there are very rapid lateral changes in lithologies. The thick, very coarse-grained channel conglomerate intersected near the base of the sediments in hole 80-IR-01 is not seen in the closely adjacent hole 80-IR-02 or the more distant hole 80-IR-03. The main coal seam encountered in hole 80-IR-01 was not seen at the equivalent stratigraphic position in hole 80-IR-02. The coal in hole 80-IR-01 has a true thickness of only about 1.5 meters and also has a very high raw ash content (45%). The section of sediments intersected in hole 80-IR-03 is apparently stratigraphically lower than the coal in 80-IR-01.

Because of the disappointing results in holes 80-IR-01 and 02, and the steepening of the dip and faulting in hole 80-IR-03, the drilling program was terminated.

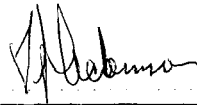
## CONCLUSION

The thickness and quality of the coal seam intersected in hole 80-IR-01, the discontinuity of the seam, and the apparent geological complexity

all suggest that this immediate area has little coal development potential.

No further work is planned on Coal Exploration Licence No. 101 at this time.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read 'T. J. Adamson', is written above a horizontal line.

T. J. Adamson

APPENDIX III

## CYPRUS ANVIL MINING CORPORATION

## DIAMOND DRILL HOLE LOG

## INDIAN RIVER COAL PROJECT

DDH 80-IR-01

Page 1 of 4

Map Sheet: 115-0-11  
 Coordinates, UTM: 592,190 E; 7064,890 N  
 Bearing: -  
 Dip: -90°  
 Commenced: April 17, 1980  
 Completed: April 19, 1980  
 Ultimate Depth: 336 feet, (102.4 meters)

FOOTAGE		CORE ANGLE	REC.	DESCRIPTION
Feet	Meters			
0.0 - 20.0	0.0 - 6.1			No recovery, rubble of andesitic volcanic.
20.0 - 23.0	6.1 - 7.0		60	Medium-grained, grey-buff, quartzose, sericitic sandstone.
23.0 - 38.0	7.0 - 11.6	55	70	Grey to black, medium to fine-grained, very sericitic, moderately to very carbonaceous sandstone, numerous organic fragments.
38.0 - 40.0	11.6 - 12.2			Black, carbonaceous sericitic mudstone.
40.0 - 50.0	12.2 - 15.2		80	Grey to black, medium to fine-grained, very sericitic, moderately to very carbonaceous sandstone, numerous organic fragments, scattered thin (few inches) coaly beds and mudstone beds (to 4 inches).
50.0 - 58.0	15.2 - 17.7	60	80	Gradationally interbedded grey to black, coaly sericitic mudstone, grey mudstone.
58.0 - 59.0	17.7 - 18.0		90	Soft, medium-grey, sericitic mudstone.
59.0 - 63.0	18.0 - 19.2		80	Grey to black gritty, carbonaceous sericitic mudstone.
63.0 - 66.0	19.2 - 20.1			Medium-grey, fine-grained sericitic sandstone.
66.0 - 68.0	20.1 - 20.7	60	90+	Black gritty carbonaceous, sericitic mudstone.
68.0 - 75.0	20.7 - 22.9	60		Fine-grained, sericitic sandstone to gritty mudstone, <sup>+</sup> carbonaceous.

FOOTAGE		CORE ANGLE o	REC. %	DESCRIPTION
Feet	Metres			
75.0 - 82.0	22.9 - 25.0	55		Medium-grained, medium to light grey, clean sericitic sandstone, well bedded, breaks along thin sericitic beds, lenses.
82.0 - 92.0	25.0 - 28.0			Medium to coarse-grained, quartzose, sericitic sandstone, massive to wispy (sericite) bedded.
92.0 - 111.0	28.0 - 33.8	60-65		Thinly irregularly interbedded, grey, fine to medium-grained sericitic sandstone, black carbonaceous, fine-grained sandstone and black gritty carbonaceous mudstone.
111.0 - 112.0	33.8 - 34.1			<u>COAL.</u>
112.0 - 116.0	34.1 - 35.4			Dark-grey massive micaceous sandstone.
116.0 - 119.0	35.4 - 36.3	65		Thinly irregularly interbedded, grey, fine to medium-grained sericitic sandstone, black carbonaceous, fine-grained sandstone and black gritty carbonaceous mudstone.
119.0 - 120.0	36.3 - 36.6			<u>COAL.</u>
120.0 - 132.0	36.6 - 40.2	65		Thinly irregularly interbedded, grey, fine to medium-grained sericitic sandstone, black carbonaceous, fine-grained sandstone and black gritty carbonaceous mudstone.
132.0 - 138.5	40.2 - 42.1			Massive, coarse-grained, slightly conglomeratic quartzose sandstone.
138.5 - 140.5	42.1 - 42.8			Coaly black sericitic mudstone.
140.5 - 146.5	42.8 - 44.7	65-70	90	<u>COAL.</u> See coal sample analysis. Dirty, tough, hard to break, finely banded (most bands 1/6 inch), dull coal 70%, bright coal 30%.
146.5 - 147.5	44.7 - 45.0			Coaly black mudstone.
147.5 - 166.0	45.0 - 50.6	70	80	Fine-grained, massive, medium to dark-grey sericitic sandstone interbedded with finely laminated, fine to medium-grained, light to dark-grey, sericitic sandstone.
166.0 - 167.0	50.6 - 50.9			Ground-up, soft micaceous mudstone.

FOOTAGE		CORE ANGLE	REC.	DESCRIPTION
Feet	Meters	o	%	
167.0 - 172.0	50.9 - 52.4			Black fissile carbonaceous mudstone, a few scattered inches of dull coal.
172.0 - 173.5	52.4 - 52.9			Fine-grained, dark-grey gritty sericitic mudstone.
173.5 - 176.0	52.9 - 53.6			Thinly interbedded coal, coaly mudstone, fissile coaly mudstone.
176.0 - 185.0	53.6 - 56.4	75-80		Medium-grey, medium-grained sericitic sandstone, thin micaceous laminations throughout, minor thin (to 2 inches) carbonaceous mudstone.
185.0 - 200.0	56.4 - 61.0			Massive, very coarse-grained sandstone to conglomeratic sandstone to conglomerate, most pebbles less than 1/2 inch diameter and consist of quartz and quartz sericite schist; hard, siliceous, sandy matrix.
200.0 - 298.0	61.0 - 90.8			Massive, coarse-grained white conglomerate, large (to 3 inches) white quartz cobbles in a white to buff sericitic sandy matrix.
298.0 - 300.0	90.8 - 91.4			Soft, grey-black mudstone, conchoidal fracture.
300.0 - 306.0	91.4 - 93.3	75		Medium-grey, medium-grained sericitic sandstone, thin micaceous laminations throughout, minor thin (to 2 inches) carbonaceous mudstone.
306.0 - 307.0	93.3 - 93.6	80		Black fissile, slightly coaly mudstone.
307.0 - 309.0	93.6 - 94.2	80-85		Fine-grained, medium to dark-grey, cross-bedded sericitic sandstone.
309.0 - 310.0	94.2 - 94.5			Dirty coal.
310.0 - 312.0	94.5 - 95.1			Carbonaceous mudstone, gritty carbonaceous mudstone, thin dirty coal.
312.0 - 315.5	95.1 - 96.2	80		Interbedded coal (to 6 inches), black mudstone, grey mudstone.
315.5 - 317.0	96.2 - 96.6			Medium-grey sericitic sandstone, sericite laminations.
317.0 - 323.0	96.6 - 98.5			Massive, medium-grey mudstone, quartz sand grains scattered throughout, numerous small organic fragments.

<u>FOOTAGE</u>		<u>CORE ANGLE</u>	<u>REC.</u>	<u>DESCRIPTION</u>
<u>Feet</u>	<u>Meters</u>	<u>o</u>	<u>%</u>	
323.0 - 336.0	98.5 - 102.4	75		Interbedded light-grey, grey medium-grained sericitic sandstone and light-grey sericitic mudstone.

END OF HOLE

CYPRUS ANVIL MINING CORPORATION

DIAMOND DRILL HOLE LOG

INDIAN RIVER COAL PROJECT

DDH 80-IR-02

Page 1 of 3

Map Sheet: 115-0-11  
 Coordinates, UTM: 592,260 E; 7065,140 N  
 Bearing: -  
 Dip: -90°  
 Commenced: April 20, 1980  
 Completed: April 25, 1980  
 Ultimate Depth: 500 feet (152.4 meters)

FOOTAGE		CORE ANGLE	REC.	DESCRIPTION
Feet	Meters			
0.0 - 10.0	0.0 - 3.0			Overburden.
10.0 - 47.0	3.0 - 14.3		50	Medium-greyish-brown, fine-grained andesite; small (1/8 inch) hornblende laths, small (1/8 inch) indistinct bordered feldspar phenocrysts (about 5% of each), some sections very rotten, weathered, earthy.
47.0 - 114.0	14.3 - 34.7	75-80	50-70	Sandstone to mudstone, color-banded, thinly irregularly bedded, beds 1/8 to 1 inch thick, poor core recovery, very broken, many thin clay seams.
114.0 - 121.0	34.7 - 36.9	80	70	Light-grey, medium-grained, distinctly bedded, clean, very slightly sericitic sandstone.
121.0 - 131.0	36.9 - 39.9	80	85	Very fine-grained sandstone to mudstone, medium-grey to brownish, color-banded, distinctly to indistinctly bedded.
131.0 - 152.0	39.9 - 46.0	80	90	Dark grey to black mudstone; massive to indistinctly thinly bedded, irregular to slightly conchoidal breaking, some slightly micaceous.
152.0 - 153.0	46.0 - 46.6			Medium to fine-grained brownish sandstone.
153.0 - 202.0	46.6 - 61.6			Dark grey to black mudstone; massive to indistinctly thinly bedded, irregular to slightly conchoidal breaking.
202.0 - 209.0	61.6 - 63.7	70		Thinly interbedded black micaceous mudstone and medium-grey to black sericitic sandstone.
209.0 - 220.0	63.7 - 67.1			Medium-grey, medium-grained sericitic sandstone.

FOOTAGE		CORE ANGLE o	REC. %	DESCRIPTION
Feet	Meters			
220.0 - 223.0	67.1 - 68.0			Soft black mudstone.
223.0 - 229.0	68.0 - 69.8			Light-grey, medium grained very sericitic sandstone.
229.0 - 248.0	69.8 - 75.6	75		Interbedded medium to dark grey, fine to medium-grained sericitic sandstone, gritty black sericitic mudstone and sericitic mudstone, gradational into below.
248.0 - 284.0	75.6 - 86.6	80		Dark grey to black sericitic mudstone, slightly fissile to blocky breaking.
284.0 - 312.0	86.6 - 95.1	75-80		Thinly interbedded grey to black sandstone, sericitic sandstone, gritty sericitic mudstone.
312.0 - 345.0	95.1 - 105.2	80		Light-grey, medium to coarse-grained sandstone, <sup>+</sup> sericite, thin (few inches) black mudstone beds scattered throughout, massive to indistinctly medium bedded.
345.0 - 353.0	105.2 - 107.6			Interbedded medium to dark grey, fine to medium-grained sericitic sandstone, gritty black sericitic mudstone and sericitic mudstone, gradational into below, some mudstone micaceous.
353.0 - 363.0	107.6 - 110.6	80		Dark-grey to black, sericitic massive gritty mudstone to mudstone, blocky.
363.0 - 376.0	110.6 - 114.6	80		Coarse-grained arkosic sandstone interbedded with medium-grained clean sandstone, some thin mudstone interbeds, some sections slightly conglomeratic with angular fragments of black mudstone to 1 inch aligned crudely along bedding.
376.0 - 384.0	114.6 - 117.0	75		Finely bedded, medium to fine-grained, light to dark-grey, color banded, slightly sericitic sandstone.
384.0 - 410.0	117.0 - 125.0			Medium to coarse-grained, massive, light-grey, slightly sericitic sandstone.
410.0 - 421.0	125.0 - 128.3	80		Dark grey mudstone.
421.0 - 464.0	128.3 - 141.4		90+	Porphyritic andesite; white chalky feldspar phenocrysts to 1/8 inch and hornblende phenocrysts to 1/16 inch in an aphanitic light to medium-grey siliceous matrix.
464.0 - 477.0	141.4 - 145.4		90+	Porphyritic felsite, small chalky feldspar phenocrysts in a very light-grey to white aphanitic matrix, no mafics.

FOOTAGE		CORE ANGLE	REC.	DESCRIPTION
Feet	Meters	o	%	
477.0 - 500.0	145.4 - 152.4		90+	Medium-grey, slightly porphyritic andesite ? or more acidic volcanic.

END OF HOLE

CYPRUS ANVIL MINING CORPORATION

DIAMOND DRILL HOLE LOG

INDIAN RIVER COAL PROJECT

DDH 80-IR-03

Map Sheet: 115-0-11  
 Coordinates, UTM: 591,250 E; 7065,330 N  
 Bearing: -  
 Dip: -90°  
 Commenced: April 26, 1980  
 Completed: April 28, 1980  
 Ultimate Depth: 201 feet (61.3 meters)

Page 1 of 1

FOOTAGE		CORE ANGLE o	REC. %	DESCRIPTION
Feet	Meters			
0.0 - 12.0	0.0 - 3.7			Overburden.
12.0 - 36.0	3.7 - 11.0	50	50	Dark-grey to black mudstone, <sup>+</sup> gritty, <sup>+</sup> sericitic; very broken.
36.0 - 90.0	11.0 - 27.4		75	Thinly interbedded, very mixed sedimentary lithologies; grey to black mudstone, sericitic gritty mudstone, fine-grained, grey muddy sandstone, fine-grained brownish rusty sandstone, medium-grained, clean grey sandstone, very broken with poor core recovery.
	Variable @ 36-70'	60-70		
		70-85'	40	
		85-90'	50	
90.0 - 136.0	27.4 - 41.5		80	Medium to coarse-grained, medium-grey, massive to indistinctly bedded sandstone; some slightly conglomeratic, very fractured, irregular breaking, slightly rusty on break surfaces.
	@ 94'	45		
	125'	50		
136.0 - 137.0	41.5 - 41.8			Very broken, dark-grey to black mudstone.
137.0 - 155.0	41.8 - 47.2		80	Fine-grained, brownish-grey cruddy sandstone, very sheared, fractured, broken, Mn stained on breaks.
155.0 - 201.0	47.2 - 61.3			Light-grey to slightly brownish, porphyritic felsite, chalky small (1/8 inch) white feldspar phenocrysts (30%), very minor disseminated pyrite, sheared, fractured.

END OF HOLE

APPENDIX IV

# Birtley Coal & Minerals Testing

A DIVISION OF GREAT WEST STEEL INDUSTRIES LTD.



May 30, 1980

Mr. T.J. Adamson  
Cyprus Anvil Mining Corporation  
330-355 Burrard Street  
Vancouver, B.C.  
V6C 2G8

Dear Tom:

Enclosed are the test results for Sample # IR-80-1(140.5' - 146.5')  
received at our laboratory, May 16, 1980.

Yours truly,

BIRTLEY COAL & MINERALS TESTING

A handwritten signature in cursive script that reads "Frank J. Horvat".

Frank J. Horvat  
General Manager

Encl.  
ceb/FJH

CLIENT : CYPRUS ANVIL

PROJECT : SAMPLE # IR-80-1 (140.5' - 146.5')

LAB NO. : 5076

A. D. M. %	MOISTURE	ASH %	VOL. %	F. C. %	S %	BTU/ LB	Equil. MOIST.	CALC. * BASIS
2.4	1.8	44.2	7.6	46.4	0.40	6797	5.0	a. d. b.
	4.2	43.1	7.4	45.3	0.39	6634		a. r. b.
		45.0	7.7	47.3	0.41	6922		d. b.

F. S. I. 0

\* air dried basis - a. d. b.  
as received basis - a. r. b.  
dry basis - d. b.

706,000

307-2

707,000

706,000

307-1

706,000

706,000

307-2

706,000

706,000

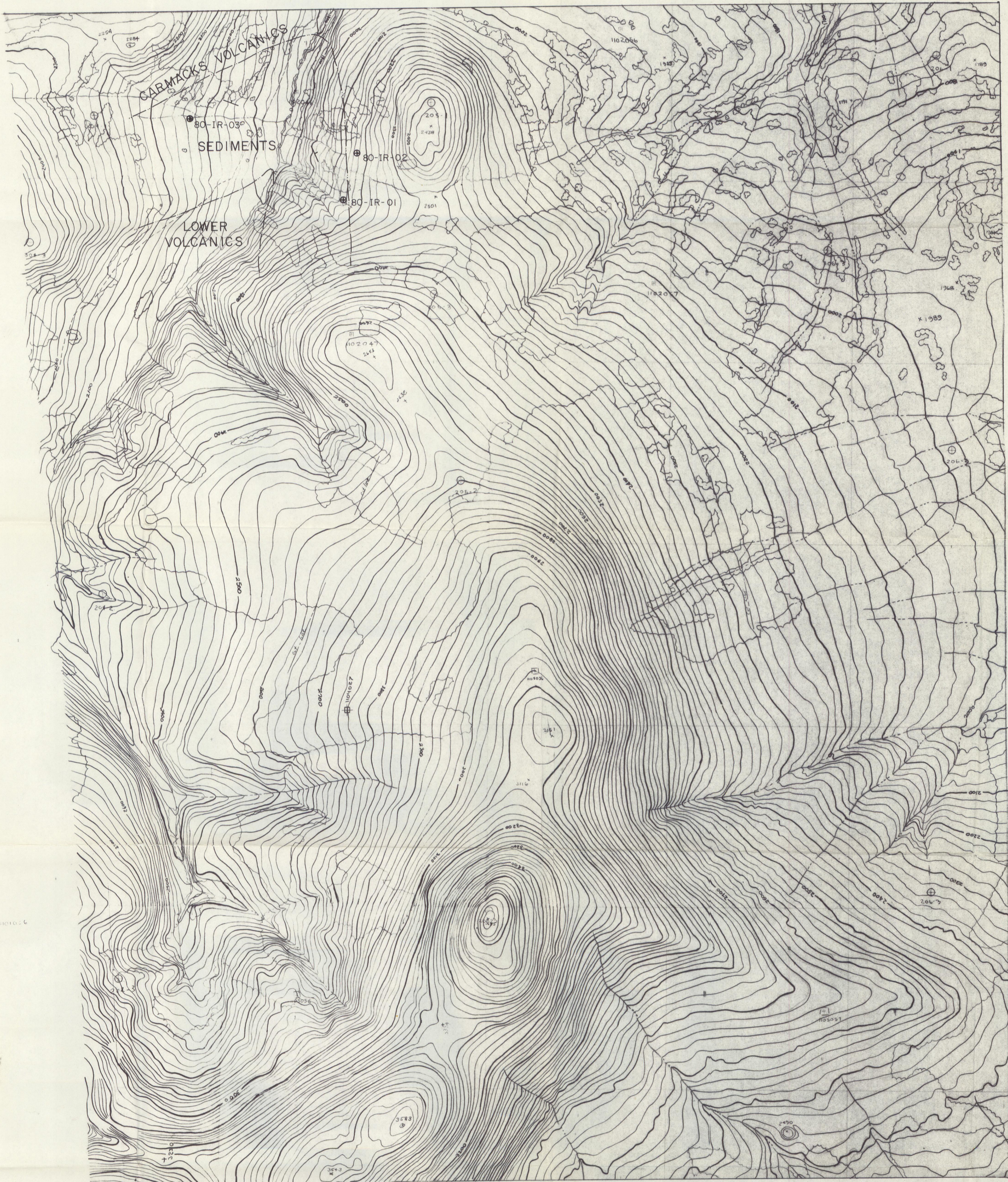
307-3

706,000

706,000

706,000

706,000



**LEGEND:**  
 ⊕ Diamond drill hole  
 — Geological contact, assumed

CYPRUS ANVIL MINING CORPORATION	
INDIAN RIVER COAL LTD.	
DAWSON MINING DISTRICT	
COAL EXPLORATION LICENCE #101	
GEOLOGICAL MAP	
N.T.S. 115-0-11	DATE: SEPT. 1980
SURVEY BY: T.A.	FIGURE 3
DRAWN BY: F.W.R.	

ANVIL WEST SURVEY CORPORATION (YUKON) LTD.  
 J. C. MILLMAN BUILDING  
 12750 - 127 STREET  
 EDMONTON, ALBERTA

JOB No.	TJ-122
NAME	Yukon Resource Mines
MAP SCALE	1:100,000
CONTOUR INTERVAL	20 feet
DATE	
ROLL NO.	21750, 21751, 21752, 21753
PHOTO NO.	24750, 24751, 24752, 24753
SCALE	1:30,000, 1:20,000, 1:10,000
SOURCE	Geological
CAMERA	
LENS	
HORIZ. TYPE	See
COORD. SYSTEM	
REF. MERIDIAN	None
VERT. TYPE	
DATE REF.	
B.M.S.	
N.T.S. MAP REF.	115-0-11
MANUSCRIPT CHECK	4/24
DATE	25.06.79

Note: All control was derived from a N.T.S. 1:50,000 map sheet and may not necessarily meet C.A.A.S. specifications.

