

GEOLOGY & RESERVES  
ANDERSON LAKE AREA  
COURTENAY, B.C.

**OPEN FILE**

SUBMITTED BY: MICHELE P. CURCIO

DATE: MAY, 1979.

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**00 037**

ANDERSON LAKE

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ANDERSON LAKE

INTRODUCTION - LOCATION  
TOPOGRAPHY - DRAINAGE  
TECHNICAL INVESTIGATIONS  
GROUNDWATER  
SURFICIAL GEOLOGY  
GEOLOGY

ANDERSON LAKE

INTRODUCTION

In 1978 exploration work was carried out on Coal Licenses 3687 to 3694 inclusive. This program was contiguous to the work conducted in 1975, and contained in the report entitled "Coal Resource Study of Comox Basin - Nanaimo Series, Vancouver Island", (Curcio).

Twenty drill holes and two coal cores were constructed over the area, and in conjunction with the previous work of 1975, it was possible to determine the coal boundaries within the area, and obtain further analysis of coal quality.

Two mineable zones were outlined, ("A" Zone and "B" Zone) both containing an average clean coal thickness of 2.96 feet and an average overburden ratio of 9.92:1. The two zones are situated between Dove Creek on the north and Brown's River to the south.

LOCATION

Exploration was conducted on Block 695 in the Comox Land District, southwest of Wolf Lake and Constitution Hill. Access to the site is via the Crown Zellerbach logging roads.

### TOPOGRAPHY & DRAINAGE

All of the exploration was conducted on the Comox sediments within the elevation of 1300 feet to 1800 feet A.S.L.

The topography rises gently from the east end of the License boundaries to the western limits of Licenses 3692 and 3693.

Drainage is rapid to the southeast.

### TECHNICAL INVESTIGATION

All aspects of the exploration program including drilling, coring survey and laboratory services were under contract to Lexco Testing Ltd., a subsidiary of Luscar Ltd. of Edmonton, Alberta.

Drilling equipment consisted of two rotary drills, using downhole hammers for subsurface penetration, and in the case of coring, employed a Christiensen core barrel.

### GROUNDWATER REGIME

No groundwater was encountered in any of the drill holes, within the coal Blocks "A" & "B". Insignificant traces of groundwater (less than 1/4 I.q.p.m.) was observed in Hole 78-12 and 78-23.

### SURFICIAL GEOLOGY

Erosion on both the north and south of the coal boundary (Map 4) has eliminated all till on the upper plateaus. The only till, coarse to medium sand and gravel occurring in any appreciable thickness was observed in holes in 78-12 in the valley south of the coal Block "B" and in the Glacio-fluvial erosion of holes 78-22 and 78-23 in License 3689.

GEOLOGY, cont'd.

Erosion of the uplifted Comox Sediments in Mining Blocks "A" & "B" has removed all but two and in some cases three of the coal seams in the beds.

In the Anderson Lake area, the Comox formation lies unconformably above the Triassic-Karmutsen formation, and the coal seams appear in an alternating succession of shales and sandstones.

## GEOLOGY

Coal of economic importance occur in the Comox Group of the Nanaimo Series, near Anderson Lake. The Comox Group occurs in the Late Cretaceous of the Nanaimo Series as described in the "Coal Resource Study - 1975" (Curcio) and lies unconformably on the Karmutsen Basalt Lavas. The Comox block explored, lies between two Tertiary Intrusives, to the north and south-east and bounded on the west by the Karmutsen Basalt

The area is heavily faulted. The normal thickness of the sediments in the Anderson Lake area west of Block 695 is in the range of 600 feet.

On Block 695, the average thickness of sediments is in the range of 300 feet. This would suggest that following deposition the Tertiary Intrusives, uplifted the Comox and the lateral stress against the westerly Vancouver Group boundary, created a series of lateral and radial faults within the confined boundaries of the Tertiary Intrusives, resulting in the uplifting of the Comox Group. Subsequent erosion eliminated part of the Comox Group including some of the upper coal beds.

Within the valley deltas of both the Dove and Brown's Rivers, all the Comox was eroded and during the Recent Pleistocene Era, was filled with coarse gravel and sands with the matrix consisting of basalt and granite boulders.

Seam splitting is evident in the formation as a result of the faulting.



RESERVE AND OVERBURDEN CALCULATIONS

ANDERSON LAKE

RESERVE COMPUTATION

BASIS OF CALCULATION:

1. Area calculated by Planimeter -  
 $1.494 = 1 \text{ sq. mile} = 27,878,400 \div 1.494 = 18,660,240 \text{ sq.ft. (1x)}$
2. Only coal seams greater than 1 foot in thickness calculated.
3. Only coal seams and overburden to 200 foot depth used in calculation.

AREA "A"

Average Seam Thickness - Clean Coal = 3.03 feet  
Average Overburden Thickness = 39.0 feet  
Area - (1x) 18,660,240 x 1.112 (Planimeter) = 20.75 million sq.ft.

Seam Volume

20.75 million square feet x 3.03 feet  $\div$  27 cubic feet  
= 2.33 million cubic yards x 1.2 tons per cubic yards  
= 2.80 million tons

Overburden Volume

20.75 million square feet x 39.0 feet  $\div$  27 cubic feet  
= 29.97 million cubic yards

AREA "B"

Average Seam Thickness - Clean Coal = 2.88 feet  
Average Overburden Thickness = 29.69 feet  
Area - (1x) 18,660,240 x 0.666 (Planimeter) = 12.428 million square feet

Seam Volume

12.428 million square feet x 2.88 feet  $\div$  27 cubic feet  
= 1.33 million cubic yards x 1.2 tons per cubic yard  
= 1.64 million tons

Overburden Volume

12.428 million square feet x 29.69 feet  $\div$  27 cubic feet  
= 13.67 million cubic yards

RATIO:

AREA "A"	-	2.80 million tons coal	-	29.97 cubic yards Overburden	-	10.70:1
AREA "B"	-	<u>1.60 million tons coal</u>	-	<u>13.67 cubic yards Overburden</u>	-	<u>8.54:1</u>
TOTAL		<u>4.40 million tons coal</u>	-	<u>43.64 cubic yards Overburden</u>	-	<u>9.92:1</u>

DRILL LOGS  
GEOPHYSICAL LOGS  
CORE INTERPRETATION

D

**OPEN FILE**

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**00 037**  
(3)

# LEXCO TESTING LTD.

## DRILLHOLE REPORT

COAL FIELD: Courtenay DATE: Nov. 29/78

COMPANY: Lexco Testing

HOLE No.: AL-78-11

APPROX. LOCATION: Anderson Lake SEC. \_\_\_\_\_ TWP. \_\_\_\_\_ RGE. \_\_\_\_\_ W. \_\_\_\_\_

SURVEYED LOCATION: 18063925N - 1129362E

ELEVATION: 1321

DRILLER: H. Vincett

FROM	TO	LOG	REMARKS
0	14	Sandstone	
14	38	Shale	
38	40	Coal	
40	64	Sandstone	
64	73	Gray Shale	
73	115	Sandstone	
115	120	Coal Shale Partings	
120	135	Shale	
135	200	Sandstone	

COMMENTS: \_\_\_\_\_

WATER HORIZON: \_\_\_\_\_ FT. \_\_\_\_\_

ANDERSON LAKE

DATE	C-CORED HOLE NO.	GRID LINE	LOCATION	ELEV.	TILL DEPTH	NO. 3 SEAM DEPTH/THICK	NO. 2 SEAM DEPTH/THICK	NO. 1 RIDER DEPTH/THICK	NO. 1 SEAM DEPTH/THICK	BASE DEPTH	LOG-GER FEET	REMARKS
Bk	Pg	N	E									
Scaled		AL-75-1		1330'								
		5509220M	344458M									
21	3	AL-75-2		1496'								
		18065542'	1128188									
		5506373.67M	343871M									
Scaled		AL-75-3		1424'								
		5507192M	344210M									
Scaled		AL-75-4		1610'								
		5508075M	343370M									
Scaled		AL-75-5		1620'								
		5508464M	343768M									
Scaled		AL-75-6		1628'								
		5506863M	343865M									
Scaled		AL-75-7		1430'								
		5508978M	344360M									
		AL-75-8										
Scaled		AL-75-9		880'								
		5506221M	345619M									
Scaled		AL-75-10		1034'								
		5506878M	344923M									
Scaled		AL-75-11		875'								
		5508120.0M	345820M									
21	5	AL-78-11		1321'								
		18063925'	1129362'									
		5505880.81M	344229.32M									
21	5	AL-78-12		1352'								
		18063264'	1128261'									
		5505679.34M	343893.73M									
21	3	AL-78-13		1324'								
		18065031'	1129615'									
		5506217.92M	344306.43M									
21	18	AL-78-14		1667'								
		18067837.5'	1124821'									
		5507073.34M	342845.22M									
21	6	AL-78-15		1310'								
		18066503'	1129677'									
		5506666.58M	344325M									
21	3	AL-78-16		1544'								
		18066279'	1127618'									
		5506598.31M	243697.75M									
21	3	AL-78-16C		1544'								
		18066260'	1127634'									
		5506592.52M	343702.62M									
21	18	AL-78-17		1560'								
		18066022.1'	1126015'									
		5506520.00M	343209.15M									
21	22	AL-78-18C		1723.8'								
		18069799.2'	1126177.3'									
		5507671.26M	343258.62M									
21	22	AL-78-19		1786'								
		18069867'	1125097'									
		5507691.93M	342929.35M									
21	24	AL-78-20		1667'								
		18073261'	1127697'									
		5508726.42M	343721.83M									

COLUMBIAN PROSPECT - BELLHOLE SURVEY



**LEXCO TESTING LTD. GAMMA-DENSITY - RESISTANCE**

700 ROYAL TRUST TOWER, EDMONTON CENTRE, EDMONTON, ALBERTA.

HOLE AL-78-11 SURVEYED DATA  
 LOCATION SEC. 19, RGE. W. ELEV. 1321  
 AREA ANDERSON LAKE LOC. 18063925 N  
 PROVINCE B.C. 1129362 E

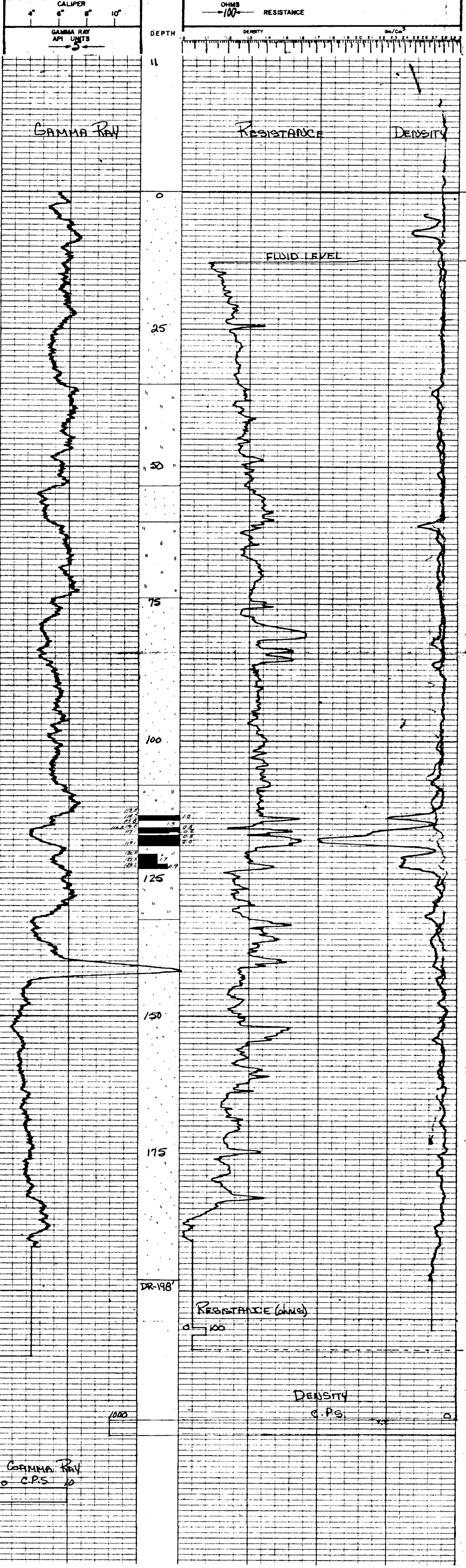
RUN No. 2  
 DATE Nov 29, 1978  
 DEPTH-DWELLER 100'  
 DEPTH-LOGGER 100'  
 FLUID LEVEL 75' H.C. LOG  
 LOGGING TIME 1:15  
 CALLED BY H. VANCE  
 RECORDED BY B. QUINCE  
 WITNESSED BY B. QUINCE

EQUIPMENT DATA  
 GAMMA RAY TOOL MODEL No. L-103 RESISTANCE TOOL MODEL No. L-103 DENSITY TOOL MODEL No. L-103 CALIPER  
 DIAMETER 2 1/8" DETECTOR MODEL No. CP-518 TYPE SCINT SCINT 13" LENGTH  
 BIT 5/8" BORE-HOLE RECORD TO SIZE 5 1/2" CASING RECORD TO FRONT TO

GENERAL  
 TRUCK No. 2 HOR. SCALE 100 SOURCE MODEL HOV-1  
 LOCATION CAIM 288 11 IOTOPRE CS-137 STRENGTH 123 m.c.  
 LOGGING DATA

GENERAL	GAMMA RAY	DENSITY
RUN No.	DEPTHS	ZERO
1	FROM TO	PER DIV
1	100' 0	5
	SPEED (FPM)	T.C. SETTINGS
	12	100
	T.C. SEC	T.C. SETTINGS
	4	1K

REMARKS:  
 (L-1)







# LEXCO TESTING LTD.

## DRILLHOLE REPORT

COAL FIELD: Anderson Lake DATE: Nov. 28/78

COMPANY: Lexco Testing

HOLE No.: AL-78-13

APPROX. LOCATION: \_\_\_\_\_ SEC. \_\_\_\_\_ TWP. \_\_\_\_\_ RGE. \_\_\_\_\_ W. \_\_\_\_\_

SURVEYED LOCATION: 18065031N - 1129615E

ELEVATION: 1324

DRILLER: J. Bly

FROM	TO	LOG	REMARKS
0	1	Till	
1	18	Gray Sandstone	
18	21	Carbonaceous Shale	
21	24	Coal	
24	69	Gray Sandstone	
69	76	Black Shale with Coal traces throughout	
76	136	Gray Shale	
136	148	Black Shale	
148	180	Gray Shale	
180	187	Brown Shale with Coal throughout	
187	225	Gray Sandstone	

COMMENTS: \_\_\_\_\_

WATER HORIZON: \_\_\_\_\_ FT. \_\_\_\_\_

**LEXCO TESTING LTD. GAMMA-DENSITY - RESISTANCE**

700 ROYAL TRUST TOWER, EDMONTON CENTRE, EDMONTON, ALBERTA.

HOLE AL-78-13 SURVEYED DATA

LOCATION SEC TP RGE W ELEV. 1324

AREA ANDERSON LAKE LOC. 18065031N

PROVINCE B.C. 129615 E

RUN NO. 2

DATE Nov 28, 1978

DEPTH - DRILLER J.B.V.

DEPTH - LOGGER R. DUNBAR

FLUID LEVEL 14.106

LOGGING TIME

DRILLED BY J.B.V.

RECORDED BY R. DUNBAR

WITNESSED BY R. DUNBAR

BIT 5 3/8" SURF T.O. 72' SURF 11'

EQUIPMENT DATA

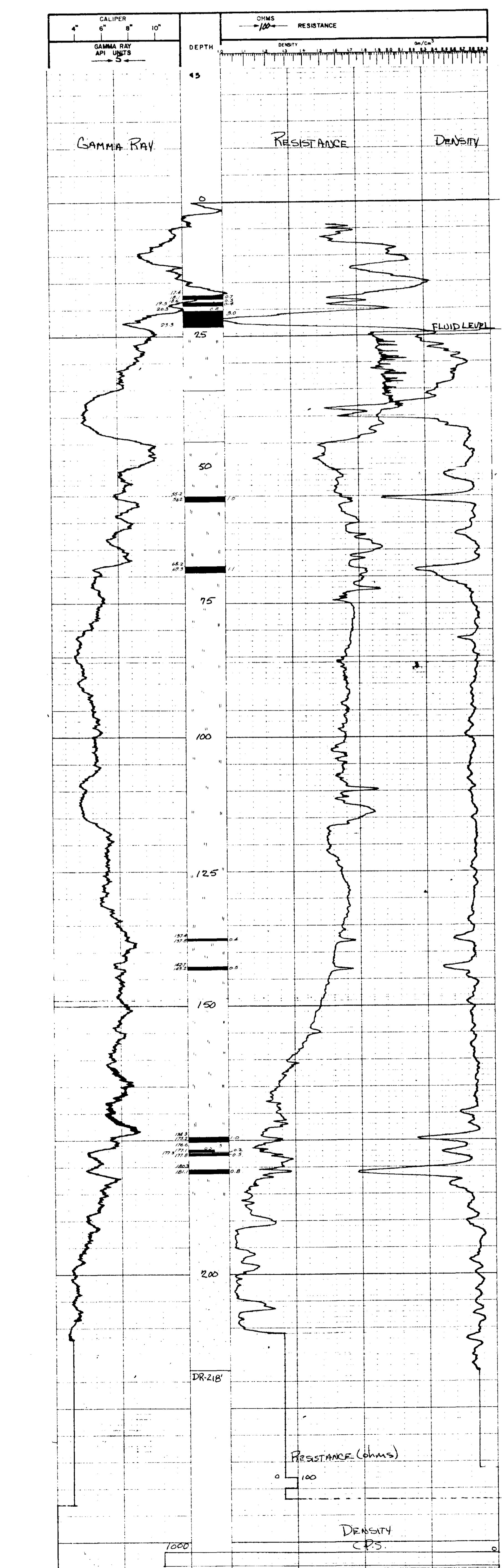
GAMMA RAY L-103 TOOL MODEL NO. L-103 RESISTANCE DENSITY CALIPER

TOOL MODEL NO. L-103

DIAMETER 2 1/8" TYPE ME 13"

DETECTOR MODEL NO. CP-516 SCINT SPACING

TYPE GENERAL



GAMMA RAY C.P.S. 10



LEXCO

TESTING LTD. GAMMA-DENSITY - RESISTANCE

700 ROYAL TRUST TOWER, EDMONTON CENTRE, EDMONTON, ALBERTA.

HOLE AL-78-14 SURVEYED DATA

LOCATION SEC TP RGE W ELEV 1667

AREA ANDERSON LAKE LOC. 18067385 N

PROVINCE B.C. 1124821 E

DATE NOV. 28, 1978

DEPTH-DRILLER LEO

DEPTH-LOGGER 87

FLUID LEVEL 95 M. TOTAL

LOGGING TIME H. VINCENT

DRILLED BY D. DUNBAR

RECORDED BY R. DUNBAR

WITNESSED BY

BORE-HOLE RECORD

BIT FROM TO

SIZE FROM TO

T.D. 5 1/2" SURF 20'

EQUIPMENT DATA

GAMMA RAY

TOOL MODEL No. L-103

DIAMETER 2 1/8"

DETECTOR MODEL No. GB-516

TYPE SCINT

LENGTH 3'

GENERAL

TRUCK No. 2

LOCATION CAMPBELL RIVER

LOGGING DATA

GENERAL

RUN No. DEPTHS FROM TO

1 157' 0 12 4 100

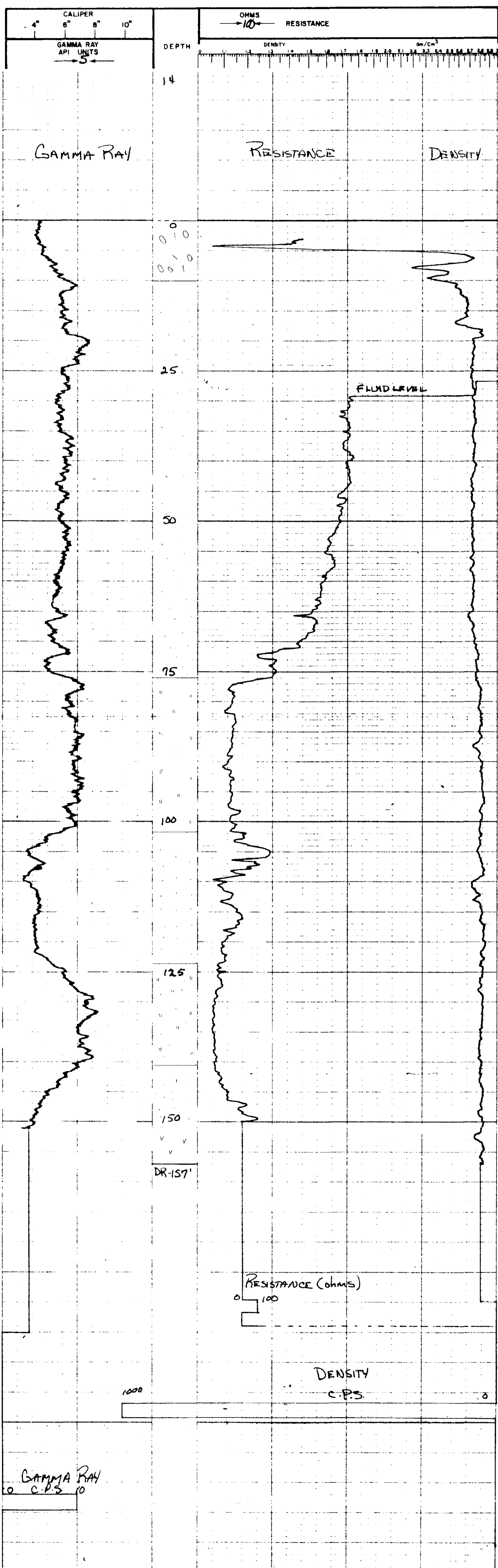
SPEED RPM

T.C. SENS. ZERO

API UNITS PER DIV. 5

DENSITY SENS. ZERO

REMARKS: 57 (L-3)



GAMMA RAY C.P.S.

RESISTANCE (ohms)

DENSITY C.P.S.

DR-157

FLUID LEVEL

GAMMA RAY

RESISTANCE

DENSITY

# LEXCO TESTING LTD.

## DRILLHOLE REPORT

COAL FIELD: Courtenay DATE: Nov. 29/78

COMPANY: Lexco Testing

HOLE No.: AL-78-15

APPROX. LOCATION: \_\_\_\_\_ SEC. \_\_\_\_\_ TWP. \_\_\_\_\_ RGE. \_\_\_\_\_ W. \_\_\_\_\_

SURVEYED LOCATION: T8066503N - 1129677E

ELEVATION: 1310

DRILLER: J. Bly

FROM	TO	LOG	REMARKS
0	12	Sandstone	
12	14	Carbonaceous Shale	
14	39	Gray Shale	
39	41	Coal	
41	66	Gray Shale	
66	67.5	Coal with Brown Shale throughout	
67.5	89	Gray Shale	
89	91	Brown Shale with Coal traces	
91	133	Gray Shale	
133	134	Coal	
134	171	Gray Shale	
171	175	Coal with Brown Shale throughout	
175	205	Gray Shale	

COMMENTS: \_\_\_\_\_

WATER HORIZON: \_\_\_\_\_ FT. \_\_\_\_\_

**LEXCO TESTING LTD. GAMMA-DENSITY - RESISTANCE**

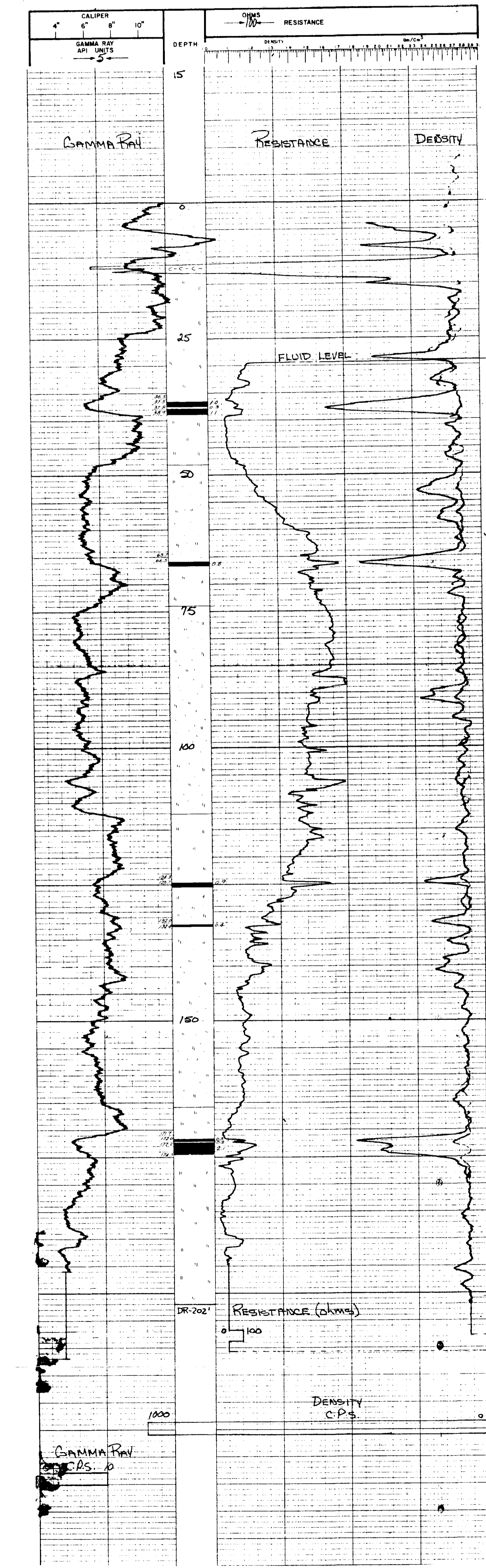
700 ROYAL TRUST TOWER, EDMONTON CENTRE, EDMONTON, ALBERTA.

HOLE AL-78-15 SURVEYED DATA  
 LOCATION SEC TP RGE W ELEV. 1310  
 AREA ANDERSON LAKE LOC. 18066503 N  
 PROVINCE B.C. 1128677

RUN NO. 2  
 DATE Nov. 29, 1978  
 DEPTH - DRILLER 203'  
 DEPTH - LOGGER 202'  
 FLUID LEVEL 73 ft. 766.1  
 LOGGING TIME 1:15  
 DRILLED BY J. Bly  
 RECORDED BY D. Dunlop  
 WITNESSED BY K. Sanderson

BIT 5 3/8" FROM Sulf TO T.D. SIZE 4 1/2" FROM Sulf TO 12'  
 EQUIPMENT DATA

TOOL MODEL No.		TOOL MODEL No.		RESISTANCE		DENSITY		CALIPER	
L-103	L-103	L-103	L-103	L-103	L-103	L-103	L-103	L-103	L-103
DIAMETER	DIAMETER	DIAMETER	DIAMETER	DIAMETER	DIAMETER	DIAMETER	DIAMETER	DIAMETER	DIAMETER
2 1/8"	2 1/8"	2 1/8"	2 1/8"	2 1/8"	2 1/8"	2 1/8"	2 1/8"	2 1/8"	2 1/8"
DETECTOR MODEL No.	DETECTOR MODEL No.	DETECTOR MODEL No.	DETECTOR MODEL No.	DETECTOR MODEL No.	DETECTOR MODEL No.	DETECTOR MODEL No.	DETECTOR MODEL No.	DETECTOR MODEL No.	DETECTOR MODEL No.
CP-516	CP-516	CP-516	CP-516	CP-516	CP-516	CP-516	CP-516	CP-516	CP-516
TYPE	TYPE	TYPE	TYPE	TYPE	TYPE	TYPE	TYPE	TYPE	TYPE
SCINT	SCINT	SCINT	SCINT	SCINT	SCINT	SCINT	SCINT	SCINT	SCINT
LENGTH	LENGTH	LENGTH	LENGTH	LENGTH	LENGTH	LENGTH	LENGTH	LENGTH	LENGTH
3"	3"	3"	3"	3"	3"	3"	3"	3"	3"
GENERAL	GENERAL	GENERAL	GENERAL	GENERAL	GENERAL	GENERAL	GENERAL	GENERAL	GENERAL
TRUCK No. <u>2</u>	TRUCK No. <u>2</u>	TRUCK No. <u>2</u>	TRUCK No. <u>2</u>	TRUCK No. <u>2</u>	TRUCK No. <u>2</u>	TRUCK No. <u>2</u>	TRUCK No. <u>2</u>	TRUCK No. <u>2</u>	TRUCK No. <u>2</u>
LOCATION <u>CAMPBELL</u>	LOCATION <u>CAMPBELL</u>	LOCATION <u>CAMPBELL</u>	LOCATION <u>CAMPBELL</u>	LOCATION <u>CAMPBELL</u>	LOCATION <u>CAMPBELL</u>	LOCATION <u>CAMPBELL</u>	LOCATION <u>CAMPBELL</u>	LOCATION <u>CAMPBELL</u>	LOCATION <u>CAMPBELL</u>
LOGGING DATA	LOGGING DATA	LOGGING DATA	LOGGING DATA	LOGGING DATA	LOGGING DATA	LOGGING DATA	LOGGING DATA	LOGGING DATA	LOGGING DATA
HOVP	HOVP	HOVP	HOVP	HOVP	HOVP	HOVP	HOVP	HOVP	HOVP
CS-137	CS-137	CS-137	CS-137	CS-137	CS-137	CS-137	CS-137	CS-137	CS-137
STRENGTH	STRENGTH	STRENGTH	STRENGTH	STRENGTH	STRENGTH	STRENGTH	STRENGTH	STRENGTH	STRENGTH
125 m.c.	125 m.c.	125 m.c.	125 m.c.	125 m.c.	125 m.c.	125 m.c.	125 m.c.	125 m.c.	125 m.c.
GENERAL	GENERAL	GENERAL	GENERAL	GENERAL	GENERAL	GENERAL	GENERAL	GENERAL	GENERAL
DEPTH	DEPTH	DEPTH	DEPTH	DEPTH	DEPTH	DEPTH	DEPTH	DEPTH	DEPTH
FROM	TO	FROM	TO	FROM	TO	FROM	TO	FROM	TO
0	12	0	12	0	12	0	12	0	12
API UNITS	API UNITS	API UNITS	API UNITS	API UNITS	API UNITS	API UNITS	API UNITS	API UNITS	API UNITS
5	5	5	5	5	5	5	5	5	5
REMARKS	REMARKS	REMARKS	REMARKS	REMARKS	REMARKS	REMARKS	REMARKS	REMARKS	REMARKS



57 (14)

# LEXCO TESTING LTD.

## DRILLHOLE REPORT

COAL FIELD: Anderson Lake

DATE: Nov. 28/78

COMPANY: Lexco Testing

HOLE No.: AL-78-16

APPRX. LOCATION: \_\_\_\_\_ SEC. \_\_\_\_\_ TWP. \_\_\_\_\_ RGE. \_\_\_\_\_ W. \_\_\_\_\_

SURVEYED LOCATION: 18066279N - 1127678E

ELEVATION: 1544

DRILLER: H. Vincett

FROM	TO	LOG	REMARKS
0	8	Weathered Sandstone	
8	16	Sandstone	
16	19	Coal	
19	34	Shale	
34	37	Coal	
37	50	Shale	
50	64	Sandstone	
64	68	Shale	
68	90	Siltstone	
90	136	Grey Shale	
136	140	Coal	
140	197	Shale	
197	199	Coal	
199	220	Shale	

COMMENTS: \_\_\_\_\_

WATER HORIZON: \_\_\_\_\_ FT. \_\_\_\_\_





**LEXCO TESTING LTD. GAMMA-DENSITY - RESISTANCE**

700 ROYAL TRUST TOWER, EDMONTON CENTRE, EDMONTON, ALBERTA.

HOLE **AL-1B-R** SURVEYED DATA

LOCATION **SEC TP RGE W** ELEV. **1544**

AREA **ANDERSON LAKE** LOC. **1866278V**

PROVINCE **B.C.** 1/27/61

RUN No. **2**

DATE **Nov 28, 1978**

DEPTH-DRILLER **220'**

DEPTH-LOGGER **218'**

FLUID LEVEL **218'**

LOGGING TIME **75 hr total**

DRILLED BY **H. VINCENT**

RECORDED BY **A. DUNBAR**

WITNESSED BY **H. ROSENBERG**

BORE-HOLE RECORD TO

BIT **RTZ** FROM **SURF** TO **T.D.** SIZE **5 1/2"** FROM **0** TO **10'**

EQUIPMENT DATA

GAMMA RAY TOOL MODEL No. **L-103** RESISTANCE TOOL MODEL No. **L-103** DENSITY TOOL MODEL No. **L-103** CALIPER

DIAMETER **2 1/8"** DIAMETER **2 1/8"** DIAMETER **2 1/8"**

DETECTOR MODEL No. **GP-516** TYPE **ME** ME **15"**

LENGTH **3"** SCINT **SPACING** SCINT **15"**

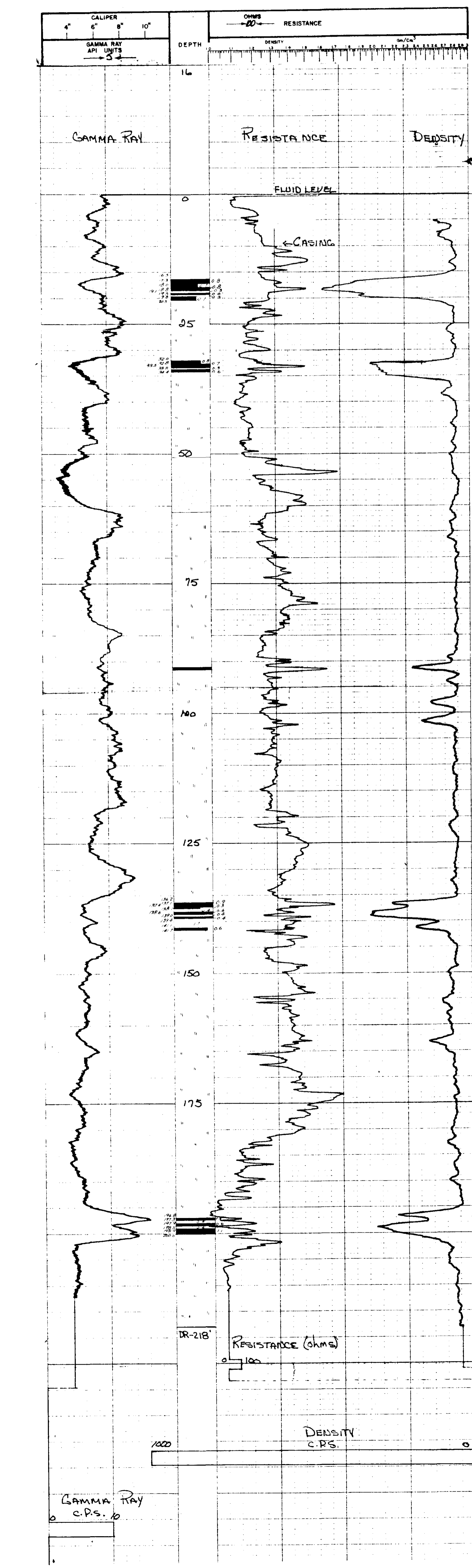
TRUCK No. **2** HOR SCALE **100 Ω / DIV.** HOVP

LOCATION **CAMPBELL RIVER** ISOTOPE **CS-137** STRENGTH **125 mC**

LOGGING DATA

GENERAL	GAMMA RAY	DENSITY	ZERO
RUN No.	DEPTHS FROM TO	SPEED FV/min	T.C. SENS. ZERO
1	0 1/2	4	100
			API UNITS PER DIV
			5
			T.C. SENS. ZERO
			1K

REMARKS: **57-15**



# LUSCAR LTD. corehole log

ANDERSON LAKE  
(WELWOOD PROJECT)

WOLE NO. 16C  
PAGE 1 OF 1

CORE NO.	CORE FOOTAGES					GEOLOGICAL DESCRIPTION LITHOLOGY, COLOR, SIZE, TEXTURE, HARDNESS, SHEARING, CONTACTS, BEDDING ANGLE, ALTERATION, WETNESS, CONTAMINATION.	TRUE DEPTH
	DRILLED			RECOVERED			
	FROM	TO	TOT.	SEC.	TOT.		
1	19	27	7.0	1.0		Sandstone gray brown, massive, minor carby stringers throughout, hard	
				2.4		Siltstone, gray, massive, fractured medium hard, crushed contact with coal	
SAMPLE # 1				1.65		Coal bright blocky, massive upper contact crushed, minor visible pyrite	
				.05		Mudrock hard brown block, very soft	
SAMPLE # 2				0.15		Bony coal, crushed soft mushy	
				0.15		Coal crushed fissile milled	
				1.6		Black Shale, locally bony coal, 25% coaly stringers	
2	27	31	3.8	3.8		Siltstone, grey, massive, fractured at low angle, med. hard	
SAMPLE # 3	3	39	48	8.65	0.95	Coal, bright blocky, broken to crushed	
				0.25		Siltstone, gray brown, massive hard	
				0.85		Bony Coal, dark brown black, fissile, up to 50% coaly laminae	
SAMPLE # 4				0.4		Carby Mudrock, black, mushy wet	
				6.2		Siltstone dark brown, massive, locally broken upper contact crushed	
	TOTALS					÷ X 100 = % REC.	SEAM
						÷ X 100 = % TOT. REC.	SEAM(S)







**LEXCO TESTING LTD. GAMMA-DENSITY - RESISTANCE**

700 ROYAL TRUST TOWER, EDMONTON CENTRE, EDMONTON, ALBERTA.

HOLE AL-7B-17

LOCATION SEC TP RGE W ELEV. 1960

AREA ANDERSON LAKE LOC. 18065580 N

PROVINCE B.C. 1126051 E.

RUN No. 2 DATE Nov. 28, 1918

DEPTH - DRILLER 20' FLUID LEVEL 58' LOGGING TIME 85 hr. Total

DELETED BY H. YINCEIT

WITNESSED BY P. BRIDGES

BORE-HOLE RECORD BIT 4 1/2" FROM 50' TO T.D. SIZE 5 1/2" FROM 50' TO 10'

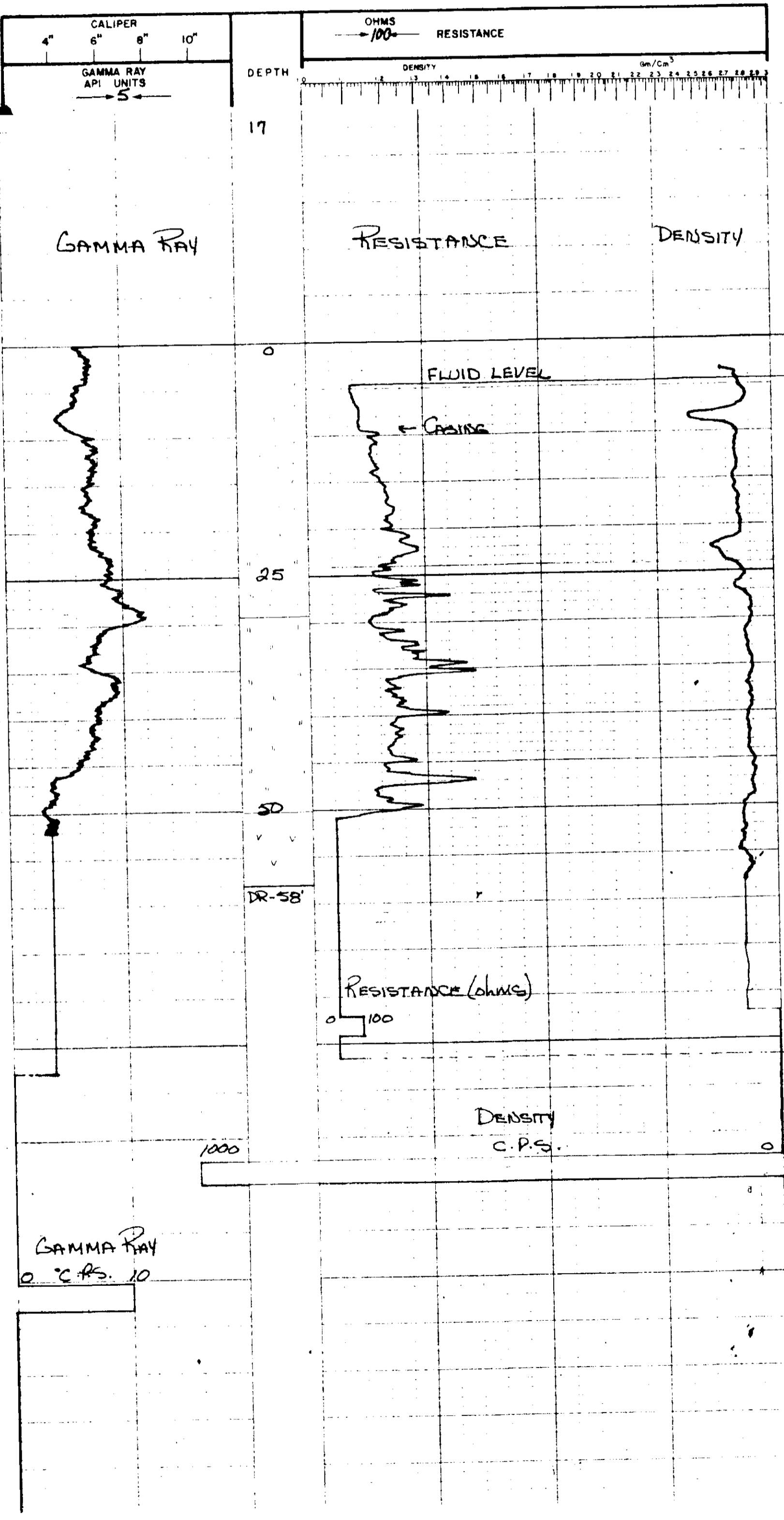
EQUIPMENT DATA

GAMMA RAY		TOOL MODEL No.		RESISTANCE		DENSITY		CALIPER	
TOOL MODEL No.	L-103	TOOL MODEL No.	L-103	L-103	L-103	L-103	L-103	L-103	L-103
DIAMETER	2 1/8"	DIAMETER	2 1/8"	DIAMETER	2 1/8"	DIAMETER	2 1/8"	DIAMETER	2 1/8"
DETECTOR MODEL No.	CP-516	TYPE	ME	TYPE	F	TYPE	F	TYPE	F
TYPE	SCINT	SPACING	1"	SPACING	13"	SPACING	13"	SPACING	13"
LENGTH	5'	LENGTH	1'	LENGTH	13"	LENGTH	13"	LENGTH	13"
GENERAL		HOR SCALE	100% AIR	HOR SCALE		HOR SCALE		HOR SCALE	
TRUCK No.	2	SOURCE MODEL	HOVP	SOURCE MODEL	CS-137	SOURCE MODEL	CS-137	SOURCE MODEL	CS-137
LOCATION	CAMPBELL RIVER	ISOTOPE	CS-137	ISOTOPE	CS-137	ISOTOPE	CS-137	ISOTOPE	CS-137
		STRENGTH	125 m.c.	STRENGTH	125 m.c.	STRENGTH	125 m.c.	STRENGTH	125 m.c.

GENERAL				GAMMA RAY				DENSITY			
DEPTH	FROM	TO	FM/PM	T.C.	SENS.	ZERO	API UNITS	T.C.	SENS.	ZERO	API UNITS
1	57'	0	12	4	100		5	1	1	1	1

REMARKS

57-17 (L7)



# LEXCO TESTING LTD.

## DRILLHOLE REPORT

COAL FIELD: Courtenay

DATE: Dec. 5/78

COMPANY: Lexco Testing

HOLE No.: AL-78-18

APPROX. LOCATION: Anderson Lake

SEC: \_\_\_\_\_ TWP: \_\_\_\_\_ RGE: \_\_\_\_\_ W: \_\_\_\_\_

SURVEYED LOCATION: T8069799:2N - T126177:3E

ELEVATION: 1723

DRILLER: H. Vincett

FROM	TO	LOG	REMARKS
0	22	Sandstone	
22	32	Shale Coal Stringers	
32	55	Sandstone	
55	61	Coal Shale Partings	
61	92	Shale	
92	97	Coal	
97	111	Shale	
111	114	Coal	
114	188	Shale	
188	190	Coal	
190	200	Shale	

COMMENTS: \_\_\_\_\_

WATER HORIZON: \_\_\_\_\_ FT.

**LEXCO TESTING LTD. GAMMA-DENSITY - RESISTANCE**

7500 ROYAL TRUST TOWER, EDMONTON CENTRE, EDMONTON, ALBERTA.

HOLE **AL-78-18** SURVEYED DATA

LOCATION **SEC TP RGE W** ELEV. **1723**

AREA **ANDERSON LAKE** LOC. **480692922 N**

PROVINCE **B.C.** 1/26/77 J.E.

DATE **DEC 5, 1978**

DEPTH - DRILLER **200'**

DEPTH - OVAL R **197'**

FLUID LEVEL **15hr Int'l**

LOGGING TIME **15hr Int'l**

DRILLED BY **H. VINCEIT**

RECORDED BY **P. DUNBAR**

WITNESSED BY **P. KONGSBAH**

BORE-HOLE RECORD

FROM **4 1/2"** TO **T.D.**

SIZE **5 1/2"** FROM **SURF** TO **10'**

EQUIPMENT DATA

GAMMA RAY L-103 TOOL MODEL NO L-103 RESISTANCE L-103 DENSITY L-103 CALIPER

TOOL W/CF NO L-103 DIAMETER 2 1/8" CP-516 TYPE ME F

SCINT SPACING 13"

GENERAL LENGTH 3" HOR. SCALE 100-51 DIV HOVP

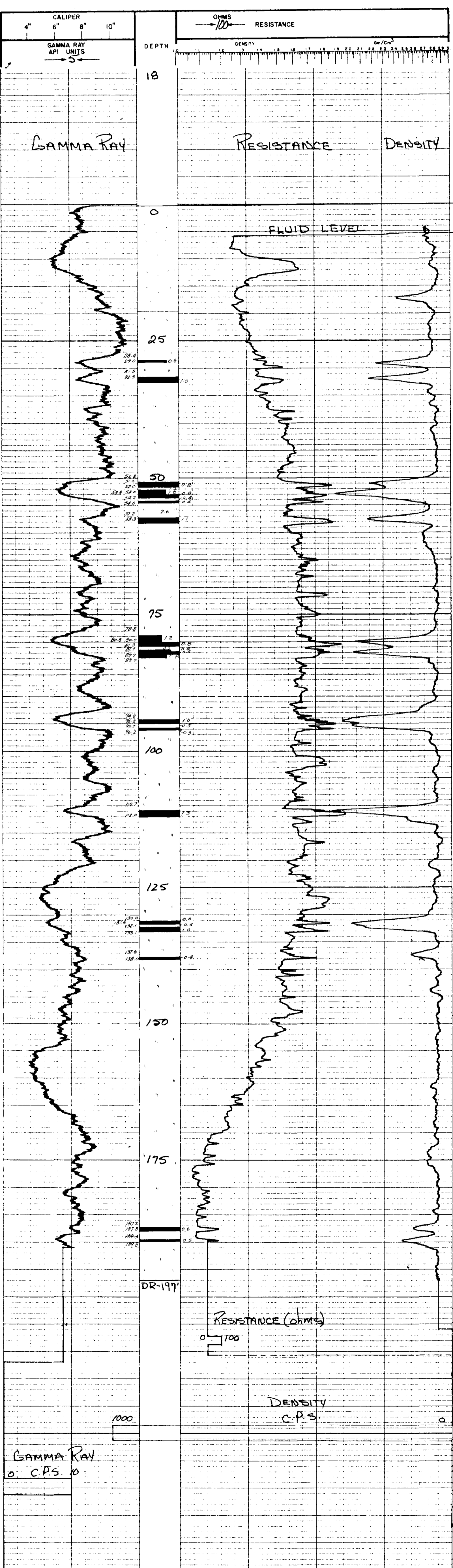
GENERAL SOURCE MODEL CS-137 ISO TOPE 125 m.c

GENERAL LOGGING DATA

GENERAL SPEED T.C SENS ZERO API UNITS T.C SENS ZERO

DEPTHS FROM TO FLOW SEC PER DIV

REMARKS



GAMMA RAY  
0. C.P.S. x 10

RESISTANCE (ohms)

DENSITY  
G.C.M.

37 (L8)



# LEXCO TESTING LTD.

## DRILLHOLE REPORT

COAL FIELD: Courtenay DATE: Dec. 6/78

COMPANY: Lexco Testing

HOLE No.: AL-78-19

APPROX. LOCATION: Anderson Lake SEC. \_\_\_\_\_ TWP. \_\_\_\_\_ RGE. \_\_\_\_\_ VL. \_\_\_\_\_

SURVEYED LOCATION: 18069867N - 1125097E

ELEVATION: 1786

DRILLER: H. Vincett

FROM	TO	LOG	REMARKS
0	15	Sandstone	
15	18	Coal	
18	42	Shale	
42	46	Coal	
46	57	Shale	
57	61	Coal	
61	95	Shale	
95	117	Sandstone	
117	137	Shale	
137	140	Coal	
140	178	Shale	
178	200	Sandstone	

COMMENTS: \_\_\_\_\_

WATER HORIZON: \_\_\_\_\_ FT. \_\_\_\_\_

**LEXCO TESTING LTD. GAMMA-DENSITY - RESISTANCE**

700 ROYAL TRUST TOWER, EDMONTON CENTRE, EDMONTON, ALBERTA.

HOLE **RL-18-19** SURVEYED DATA  
 LOCATION **REC. TP. RGE. W.** ELEV. **1786**

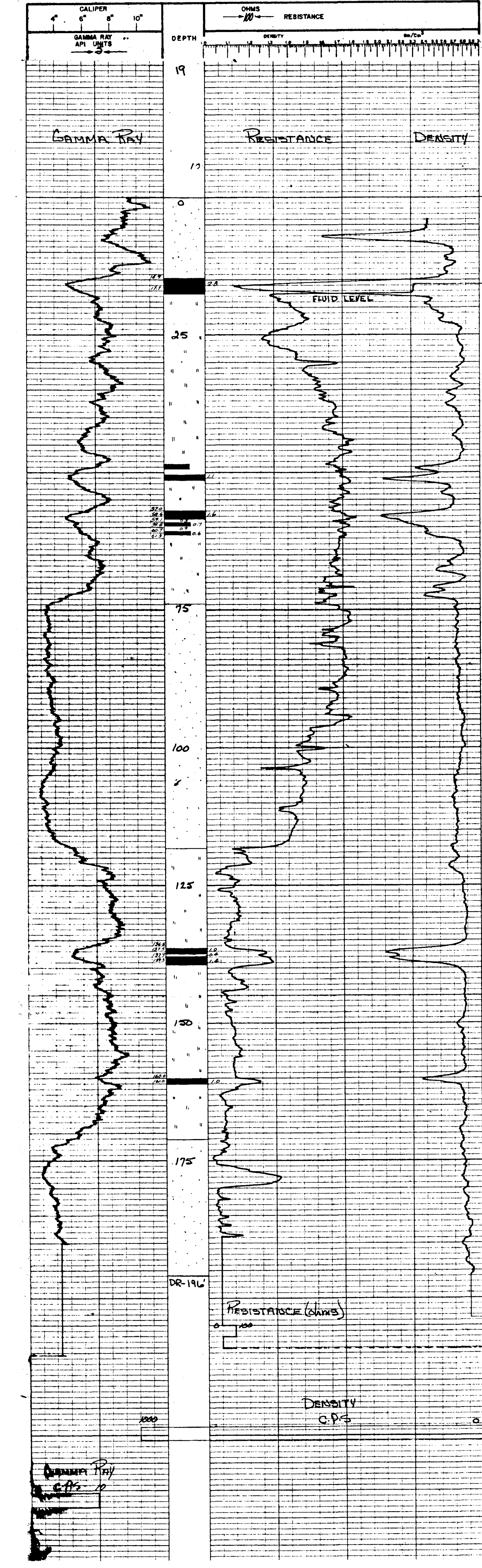
AREA **HADDERSONS LAKE** LOC. **18069867 N**

PROVINCE **B.C.** 125097 E

DATE **DMC. 10. 1978**  
 DEPTH - DOW. LEN. **200'**  
 DEPTH - LOGGER **191'**  
 FLUID LEVEL **191.5'**  
 LOGGING TIME **1.15 hr. 18 min.**  
 DRAUGHT BY **H. VINCIGLI**  
 RECORDED BY **D. DANABAD**  
 WITNESSED BY **R. S. (signature)**

BIT **4 1/2" SURF** T.I.D. **5 1/2" SURF** CALIBER **1 1/2"**  
 FROM **TO** SIZE **FROM** TO  
 EQUIPMENT DATA

GENERAL		LOGGING DATA		GAMMA RAY		DENSITY	
TOOL MODEL No.	L-103	TOOL MODEL No.	L-103	RESISTANCE	DENSITY	CALIBER	
DIAMETER	2 1/8"	DIAMETER	2 1/8"				
DETECTOR MODEL No.	CS-316	TYPE	NE				
TYPE	SCINT	SPACING	15"				
LENGTH	3'	LENGTH	1'				
TRUCK No.	2	HOR SCALE	1000/100				
LOCATION	Campbell	SOURCE MODEL	CS-137				
	RIVER	SITING	123 m.c.				
GENERAL		LOGGING DATA		GAMMA RAY		DENSITY	
RUN No.	DEPTHS	SPEED	T.C.	SENS	ZERO	API UNITS	T.C.
1	100	12	4	100	5	1	100
	FROM	TO	FV/M	SEC	SETTINGS	PER DIV.	SEC
	0	12	4	100	5	1	100



19

GAMMA RAY  
 G.P.S. 10

# LEXCO TESTING LTD.

## BRILLHOLE REPORT

COAL FIELD: Anderson Lake DATE: Dec. 5/78

COMPANY: Lexco Testing

HOLE No.: AL-78-20

APPROX. LOCATION: \_\_\_\_\_ SEC. \_\_\_\_\_ TWP. \_\_\_\_\_ RGE. \_\_\_\_\_

SURVEYED LOCATION: 18073261N - 1127697E

ELEVATION: 1667

DRILLER: J. Bly

FROM	TO	LOG	REMARKS
0	5	Till	
5	30	Gray Sandstone	
30	54	Brown Shale with Coal throughout	
54	87	Gray Sandstone	
87	89	Brown Shale with Coal	
89	99	Gray Sandstone	
99	103	Brown Shale with Coal	
103	140	Gray Sandstone	
140	144	Brown Shale with Coal	
144	205	Gray Sandstone	

COMMENTS: \_\_\_\_\_

WATER HORIZON: \_\_\_\_\_ FT. \_\_\_\_\_

**LEXCO TESTING LTD. GAMMA-DENSITY - RESISTANCE**

700 ROYAL TRUST TOWER, EDMONTON CENTRE, EDMONTON, ALBERTA.

HOLE AL-78-20 SURVEYED DATA

LOCATION SEC TIP RGE W ELEV. 1667

AREA ANDERSON LAKE LOC. 18073261N

PROVINCE B.C. 1127697

RUN NO. 1 2 3

DATE 12/25/81

DEPTH-LOGGER 202'

FLUID LEVEL 154'

LOGGING TIME 1.5 hr. 10:01

DRILLED BY J. BLV

RECORDED BY P. SARGENT

WITNESSED BY

BIT 5 3/8" FROM TO

SIZE 2 1/2" FROM TO

RESISTANCE DENSITY CALIPER

GAMMA RAY EQUIPMENT DATA

TOOL MODEL No. L-105 TOOL MODEL No. L-103

DIAMETER 2 1/8" DIAMETER 2 1/8"

DETECTOR MODEL No. GP-516 ME F

TYPE SCINT 3" SPACING 13"

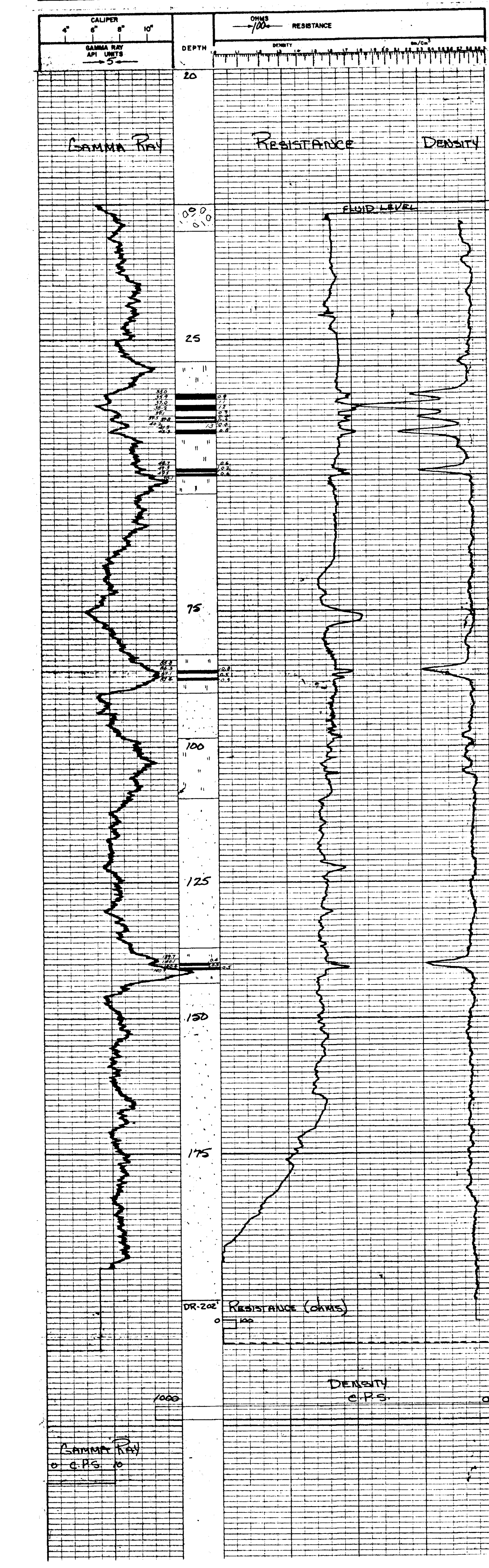
LENGTH 3" HOV SCALE MODEL HOV-P

TRUCK No. CAMBERL LOCATION KWER

LOGGING DATA

GENERAL	GAMMA RAY	LOGGING DATA
NO. FROM TO	SPEED RPM	T.C. SENS. ZERO
1 202' 0	12 4	API UNITS PER DN.
		5
		T.C. SENS. SETTINGS
		1
		DENSITY ZERO
		1K

REMARKS: (710)











**LEXCO TESTING LTD. GAMMA-DENSITY - RESISTANCE**

700 ROYAL TRUST TOWER, EDMONTON CENTRE, EDMONTON, ALBERTA.

HOLE AL-78-20(c) SURVEYED DATA

LOCATION SEC TP RGE W ELEV. 1667

AREA ANDERSON LAKE LOC. 18073261N

PROVINCE B.C. 1127697E

RUN NO. 1 2 3

DATE DEC 6 1978

DEPTH-DRILLER 68' 1/2"

DEPTH-LOGGER 67'

FLUID LEVEL 5 hr. test

LOGGING TIME 1.5 hr. test

DRILLED BY T. BLV

RECORDED BY D. DUNBAR

WITNESSED BY P. BIRCHMAN

BIT 3 1/2" SUIT CASING RECORD 6 1/2" SUIT 9"

EQUIPMENT DATA

GAMMA RAY TOOL MODEL NO. L-103 RESISTANCE TOOL MODEL NO. L-103 DENSITY TOOL MODEL NO. L-103 CALIPER

DIAMETER 2 1/8" DIAMETER 2 1/8" DIAMETER 2 1/8"

DETECTOR MODEL NO. CP-516 TYPE ME TYPE F

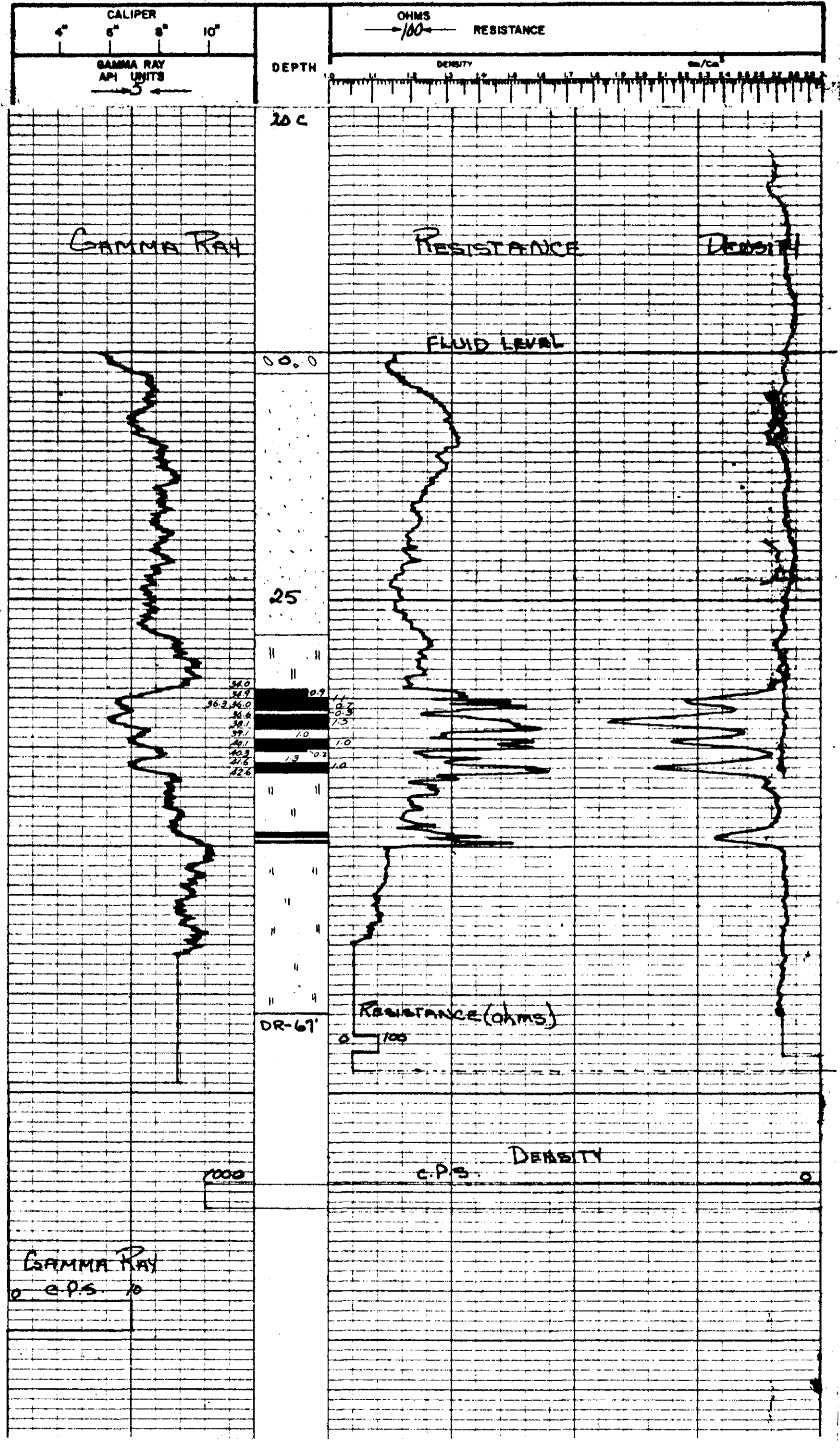
TYPE SCINT SPACING 13" LENGTH 1"

GENERAL TRUCK No. 2 HOVP 1005/101

LOCATION YARABEL RIVER ISO TOPE CS-137 STRENGTH 125 m.c.

GENERAL		GAMMA RAY		DENSITY				
RUN NO.	DEPTHS	SPEED FV/MIN	T.C. SEC. SETTINGS	ZERO API UNITS PER DIV.	T.C. SEC. SETTINGS	ZERO		
1	67'	0	1/2	4	100	5	1	1K

REMARKS: LH



GAMMA RAY  
0 API UNITS

Resistance (ohms)

DENSITY  
g/cm³

DR-67



# LEXCO TESTING LTD.

## DRILLHOLE REPORT

COAL FIELD: Anderson Lake

DATE: Dec. 5/78

COMPANY: Lexco Testing

HOLE No.: AL-78-21

APPROX. LOCATION: \_\_\_\_\_ SEC: \_\_\_\_\_ TWP: \_\_\_\_\_ RGE: \_\_\_\_\_ W: \_\_\_\_\_

SURVEYED LOCATION: 18073891N. - 1125951E

ELEVATION: 1818

DRILLER: J. Bly

FROM	TO	LOG	REMARKS
0	34	Gray Sandstone	
34	38	Coal	
38	40	Brown Shale	
40	43	Coal	
43	60	Gray Shale	
60	61	Coal	
61	98	Brown Shale	
98	100	Coal with Brown Shale	
100	128	Brown Shale	
128	130	Coal with Brown Shale	
130	132	Brown Shale	
132	132.5	Coal	
132.5	205	Gray Sandstone	

COMMENTS: \_\_\_\_\_

WATER HORIZON: \_\_\_\_\_ FT. \_\_\_\_\_

**LEXCO TESTING LTD. GAMMA-DENSITY - RESISTANCE**

700 ROYAL TRUST TOWER, EDMONTON CENTRE, EDMONTON, ALBERTA.

HOLE AL-79-21 SURVEYED DATA

LOCATION SEC TP RGE W ELEV. 1818

AREA Anderson Lake LOC. 1802389N

PROVINCE B.C. 112951E

DATE Dec. 5, 1978

DEPTH-OMMETER 205'

DEPTH-LOGGER 197'

FLUID LEVEL 75 ft. 10 in.

LOGGING TIME 4

OMMETER BY J. BLU

RECORDED BY R. DUNBAR

WITNESSED BY R. DUNBAR

SOME-HOLE RECORD

SIZE FROM TO

5 1/2" SURF TO 12"

5 1/2" SURF TO 12"

EQUIPMENT DATA

GAMMA RAY TOOR. MODEL No. L-103

TOOR. MODEL No. L-103

RESISTANCE DENSITY CALIPER

DIAMETER 2 1/8" 2 1/8" 2 1/8"

DETECTOR MODEL No. CP-516 ME F 2 1/8"

TYPE SCINT SPACING LENGTH 13"

LENGTH 3"

GENERAL

TRUCK No. 2

LOCATION CAMPBELL

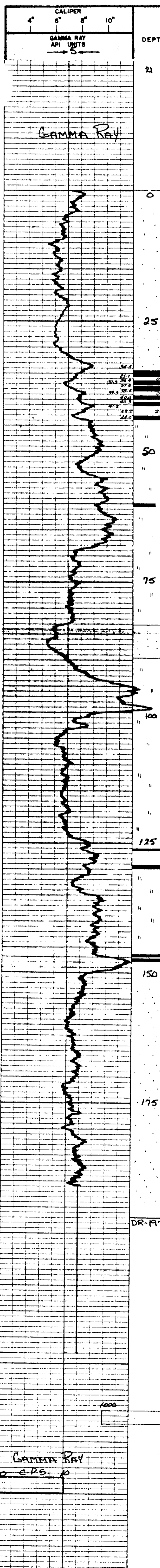
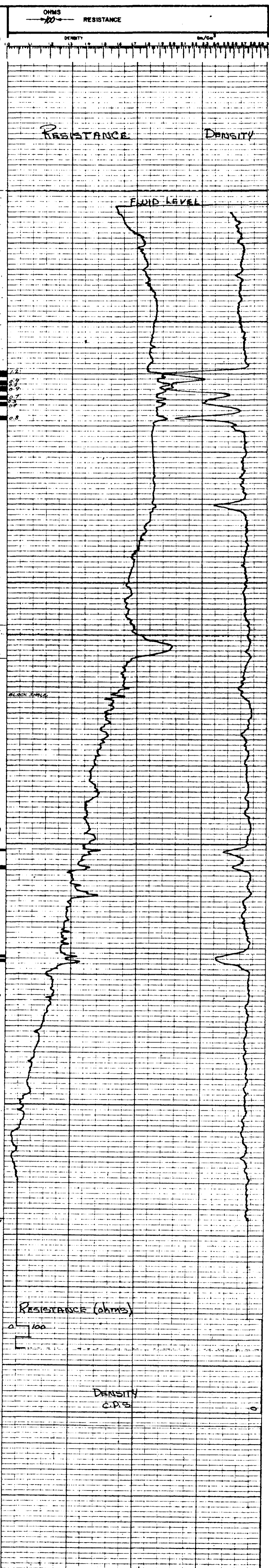
LOGGING DATA

GENERAL

DATE FROM TO

1/1977 0 12

REMARKS: L-12







# LEXCO TESTING LTD.

## DRILLHOLE REPORT

COAL FIELD: Courtenay DATE: Dec. 8/78

COMPANY: Lexco Testing

HOLE No.: AL-78-24

APPROX. LOCATION: Anderson Lake SEC.      TWP.      RGE.      W.     

SURVEYED LOCATION: 18079970N - 1126293E

ELEVATION: 1759

DRILLER: H. Vincett

FROM	TO	LOG	REMARKS
0	57	Till	
57	98	Sandstone	
98	103	Shale	
103	105	Coal	
105	110	Shale	
110	183	Sandstone	
183	196	Shale	
196	220	Sandstone	

COMMENTS: \_\_\_\_\_

WATER HORIZON: \_\_\_\_\_ FT. \_\_\_\_\_

**LEXCO TESTING LTD. GAMMA-DENSITY - RESISTANCE**

700 ROYAL TRUST TOWER, EDMONTON CENTRE, EDMONTON, ALBERTA

HOLE AL-78-2 SURVEYED DATA

LOCATION Anderson Lake ELEV. 1759

AREA Anderson Lake LOC. 507970-V

PROVINCE BC

DATE Dec. 8, 1978  
 DEPTH-DRILLER 225'  
 DEPTH-LOGGER 218'  
 FLUID LEVEL 750' Total  
 LOGGING TIME 7:50  
 DRILLED BY H. VINCELT  
 RECORDED BY D. DUBBAR  
 WITNESSED BY R. KONGARA

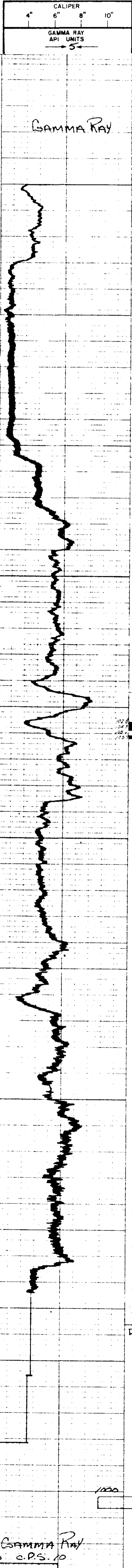
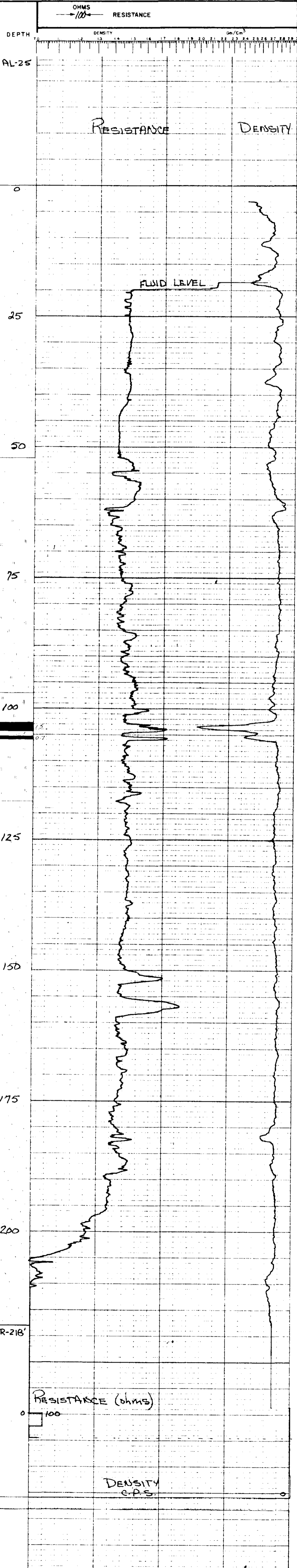
BIT 4 1/2" SURF TO 5 1/2" SURF TO 60"

EQUIPMENT DATA  
 GAMMA RAY L-103  
 TOOL MODEL No. L-103  
 DIAMETER 2 1/8"  
 TYPE ME  
 SCINT 13"

GENERAL  
 LOGGING DATA  
 SOURCE MODEL 100 SLDK  
 ISOTOPE CS-137  
 HOVP 125 m.c.

GENERAL  
 SPEED T.C. SENS. ZERO  
 DEPTHS TO F/Min SEC. SETTINGS PER DIV  
 0 12 4 100 5 1 1K

37 (L13)



GAMMA RAY  
 0 C.P.S. 10





**LEXCO TESTING LTD. GAMMA-DENSITY - RESISTANCE**

700 ROYAL TRUST TOWER, EDMONTON CENTRE, EDMONTON, ALBERTA.

HOLE AL-78-25 SURVEYED DATA

LOCATION SEC TP RGE W ELEV. 1546

AREA ANDERSON LAKE LOC. 18075478 N

PROVINCE B.C. 128687 E

DATE Dec. 9, 1978

DEPTH-DRILLER 165'

DEPTH-LOGGER 157'

LOGGING TIME 75 hr total

DRILLED BY P. DUNBAR

RECORDED BY P. KONGSARA

WITNESSED BY

BORE-HOLE RECORD

BIT 5 7/8" SURF I.D. 6 1/2" SURF 4"

GAMMA RAY

TOOL MODEL No. L-103

DIAMETER 2 1/8"

DETECTOR MODEL No. CP-516

TYPE SCINT

LENGTH 3"

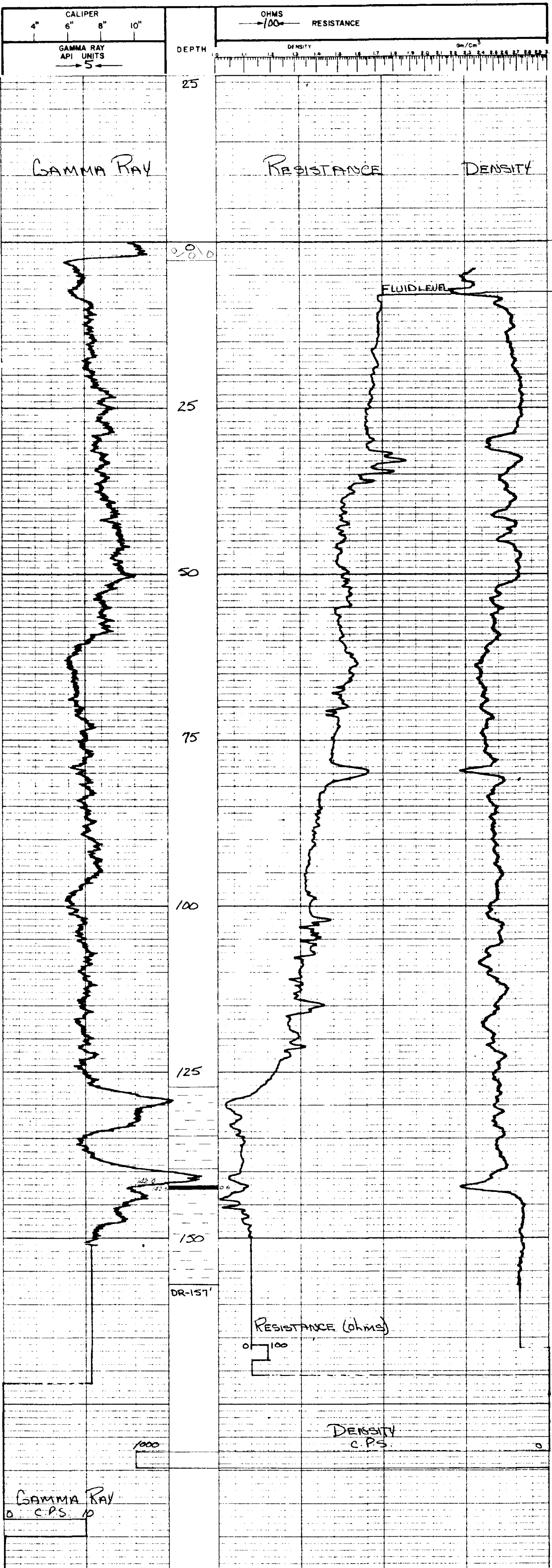
TRUCK No. 2

LOCATION COURTNEY

GENERAL LOGGING DATA

GENERAL	GAMMA RAY	DENSITY
RUN NO.	1	1
DEPTHS FROM	0	0
DEPTHS TO	12	12
SPEED F/Min	4	4
T.C. SEC	100	100
SENS. ZERO	5	5
API UNITS PER DIV.	5	5
T.C. SEC	1	1
SENS. SETTINGS	K	K

REMARKS: 57 (14)



GAMMA RAY  
0 C.P.S. 0



# LEXCO TESTING LTD.

## DRILLHOLE REPORT

COAL FIELD: Courtenay

DATE: Dec. 5/78

COMPANY: Lexco Testing

HOLE No.: AL-78-26

APPROX. LOCATION: Anderson Lake

SEC. \_\_\_\_\_ TWP. \_\_\_\_\_ RGE. \_\_\_\_\_ W. \_\_\_\_\_

SURVEYED LOCATION: 18070642N - 1127684E

ELEVATION: 1679

DRILLER: H. Vincett

FROM	TO	LOG	REMARKS
0	37	Sandstone	
37	40	Coal	
40	49	Shale	
49	55	Coal	
55	62	Shale	
62	130	Sandstone	
130	136	Shale Coal Stringer 132'	
136	188	Sandstone	
188	190	Shale	
190	200	Sandstone	

COMMENTS: \_\_\_\_\_

WATER HORIZON: \_\_\_\_\_

FT. \_\_\_\_\_

**LEXCO TESTING LTD. GAMMA-DENSITY - RESISTANCE**

700 ROYAL TRUST TOWER, EDMONTON CENTRE, EDMONTON, ALBERTA

HOLE AL-18-26 SURVEYED DATA

LOCATION SEC TP RGE W ELEV. 1679

AREA Anderson Lake LOC. 18020642N

PROVINCE B.C. 1127684 E

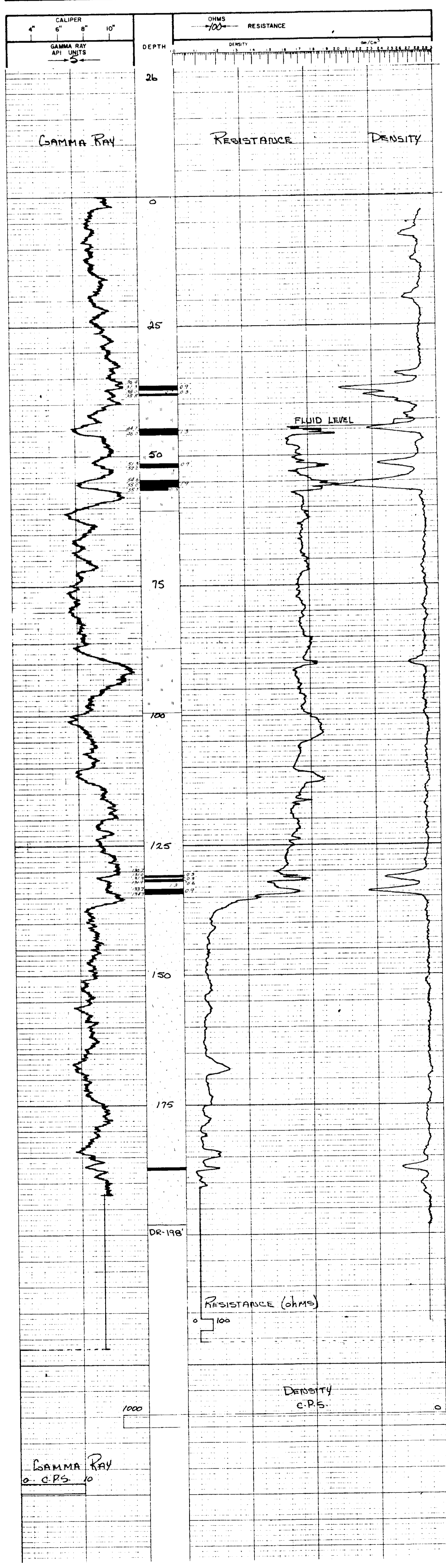
DATE Dec. 5, 1918  
 DEPTH-DRILLER 200'  
 DEPTH-LOGGER 198'  
 FLUID LEVEL 44.5'  
 LOGGING TIME 75 hr. total  
 DRILLED BY H. Vincelt  
 RECORDED BY P. Dunsbar  
 WITNESSED BY P. Dunsbar

BORE-HOLE RECORD  
 BIT 4 1/2" FROM surf TO TD SIZE 5/2" FROM surf TO 10'

EQUIPMENT DATA		RESISTANCE		DENSITY		CALIPER	
TOOL MODEL No	L-103	TOOL MODEL No	L-103	DENSITY	L-103	CALIPER	L-103
DIAMETER	2 1/8"	DIAMETER	2 1/8"	TYPE	F		
DETECTOR MODEL No	CE-516	TYPE	ME				
TYPE	SCINT	SPACING	13"				
LENGTH	3"	LENGTH	1"				
GENERAL		HOR SCALE	100 Ω/div				
TRUCK No	2	SOURCE MODEL	CS-137				
LOCATION	Campebell River	ISOTOPE	CS-137				
		STRENGTH	125 m.c.				

GENERAL		GAMMA RAY		DENSITY	
RUN No	1	T.C SENS	4	T.C SENS	1
DEPTHS FROM	0	SEC SETTING	100	SEC SETTING	JK
TO	12	API UNITS PER DIV	5		

REMARKS \* Hole went blind @ 44.5'



GAMMA RAY  
 0 C.P.S. 0

37 (L15)

# LEXCO TESTING LTD.

## DRILLHOLE REPORT

COAL FIELD: Courtenay DATE: Dec. 6/78

COMPANY: Lexco Testing

WELL No.: AL-78-27

APPROX. LOCATION: Anderson Lake SEC. \_\_\_\_\_ TWP. \_\_\_\_\_ RGE. \_\_\_\_\_ W. \_\_\_\_\_

SURVEYED LOCATION: 18070819N - 1124829E

ELEVATION: 1811

DRILLER: H. Vincett

FROM	TO	LOG	REMARKS
0	19	Sandstone	
19	37	Shale	
37	41	Coal	
41	46	Shale	
46	50	Sandstone	
50	60	Shale	
60	66	Sandstone	
66	136	Shale Coal Stringer at 80'	
136	138	Coal	
138	173	Shale	
173	176	Coal	
176	192	Shale	
192	193	Coal	
193	220	Shale	

COMMENTS: \_\_\_\_\_

WATER HORIZON: \_\_\_\_\_ FT. \_\_\_\_\_

**LEXCO TESTING LTD. GAMMA-DENSITY - RESISTANCE**

700 ROYAL TRUST TOWER, EDMONTON CENTRE, EDMONTON, ALBERTA.

HOLE AL-7B-27 SURVEYED DATA

LOCATION SEC. TP. RGE. W. ELEV. 1811

AREA ANDERSON LAKE LOC. 18070819 N

PROVINCE B.C. 124229 E

DATE DEC. 6, 1978  
 DEPTH - DRILLER 220'  
 DEPTH - LOGGER 218'  
 FLUID LEVEL 30.5'  
 LOGGING TIME 1.5 hr. total  
 DRILLED BY H. MUNCIE  
 RECORDED BY D. DUNBAR  
 WITNESSED BY R. Knagmah

BORE-HOLE RECORD  
 BIT FROM TO SIZE CASING RECORD FROM TO  
4 1/2" SUFT T.D. 5 1/2" SUFT 10'

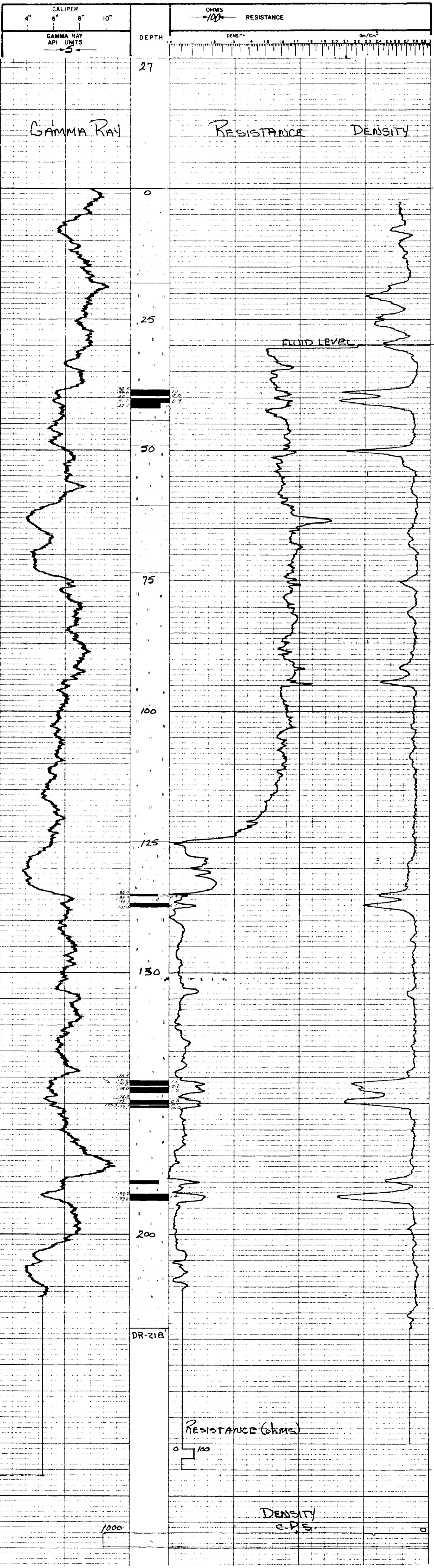
EQUIPMENT DATA  
 GAMMA RAY TOOL MODEL No. L-103 RESISTANCE TOOL MODEL No. L-103 DENSITY TOOL MODEL No. L-103 CALIPER  
 DIAMETER 2 1/8" DIAMETER 2 1/8" DIAMETER 2 1/8"  
 DETECTOR MODEL No. CP-516 TYPE ME F  
 TYPE SCINT SCINT 13"  
 LENGTH 1"

GENERAL  
 TRUCK No. 2 HOR SCALE 100521dV HOVP  
 LOCATION ANDERSON LAKE SOURCE MODEL CS-137  
 STRONGH 125 m.c.

GENERAL DATA

FILM No.	DEPTHS FROM	TO	WEST	STRT	STOP	JANUARY DATA	API UNITS PER DIV	T.C. SEC	SEMS SETTINGS	DENSITY ZERO
1	218	0	12	4	100		5	1	1K	

REMARKS  
37 (LIB)



# LEXCO TESTING LTD.

## DRILLHOLE REPORT

COAL FIELD: Courtenay Anderson Lake

DATE: Nov. 30/78

COMPANY: Lexco Testing

HOLE No.: AL-78-28

APPROX. LOCATION: \_\_\_\_\_ SEC. \_\_\_\_\_ TWP. \_\_\_\_\_ RGE. \_\_\_\_\_ W. \_\_\_\_\_

SURVEYED LOCATION: 18075297N - 1127391E

ELEVATION: 1505

DRILLER: H. Vincett

FROM	TO	LOG	REMARKS
0	14	Sandstone	
14	16	Coal	
16	27	Shale	
27	30	Coal	
30	74	Shale	
74	75	Coal	
75	80	Shale	
80	81	Coal	
81	127	Shale	
127	131	Coal	
131	197	Shale	
197	199	Coal	
199	208	Shale	
208	220	Sandstone	

COMMENTS: \_\_\_\_\_

WATER HORIZON: \_\_\_\_\_ FT. \_\_\_\_\_

**LEXCO TESTING LTD. GAMMA-DENSITY - RESISTANCE**

700 ROYAL TRUST TOWER, EDMONTON CENTRE, EDMONTON, ALBERTA

HOLE **HL-78-28** SURVEYED DATA

LOCATION **SEC TP RGE W** ELEV. **1505**

AREA **ANDERSON LAKE** LOC. **1807597 N**

PROVINCE **B.C.** **1127391 E**

RUN No **2**  
 DATE **Nov. 30, 1978**  
 DEPTH - O.G. LER **222'**  
 DEPTH - LOGGER **218'**  
 FLUID LEVEL **75' - total**  
 LOGGING TIME **7:5**  
 DRILLED BY **H. VANCETT**  
 RECORDED BY **D. DUNBAR**  
 WITNESSED BY **D. ROYERSON**

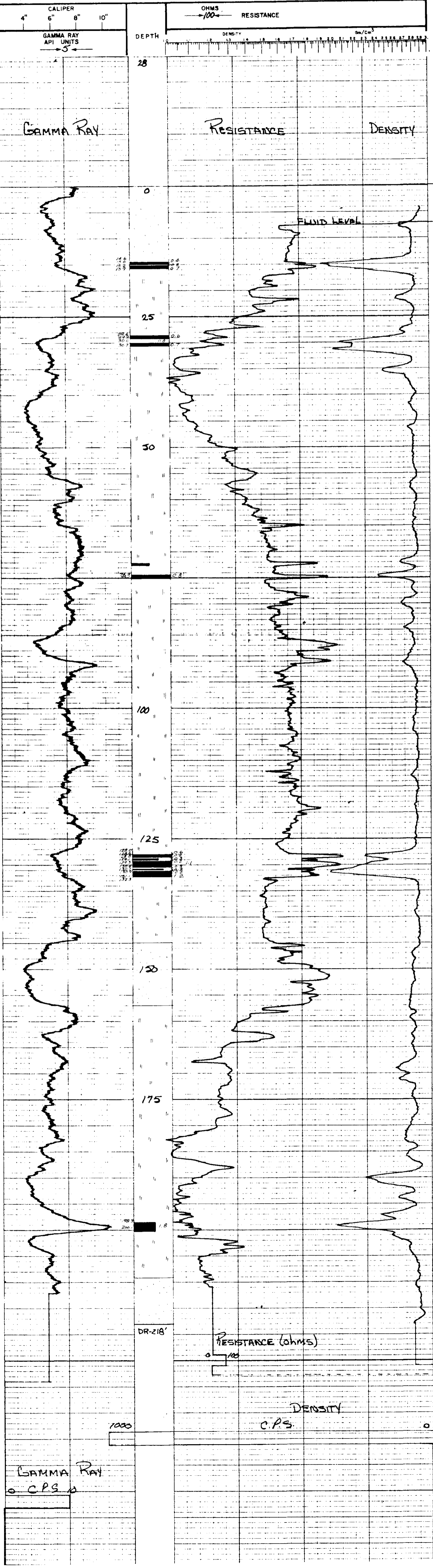
BORE-HOLE RECORD  
 BIT **4 1/2"** FROM **SURF** TO **ED** SIZE **5 1/2"** FROM **SURF** TO **10'**

EQUIPMENT DATA  
 GAMMA RAY L-103 TOOL MODEL No L-103 RESISTANCE L-103 DENSITY L-103 CALLIPER  
 DIAMETER 2 1/8" DIAMETER 2 1/8" TYPE ME  
 DETECTOR MODEL No CP-516 SCINT SPACING 13"  
 LENGTH 3" HOR. SCALE 100 SLDY HOVP  
 SOURCE MODEL CS-137 ISOTOPE CS-137  
 STRENGTH 125 m.c.

GENERAL  
 TRUCK No **2**  
 LOCATION **Campbell River**

GENERAL		GAMMA RAY		RESISTANCE		DENSITY	
RUN No	DEPTHS	SPEED	T.C	SENS	ZERO	API UNITS	T.C
1	FROM TO	FT/min	SEC	SETTING	PER DIV	SEC	SETTING
	0	12	4	100	5	1	1K

REMARKS  
**37-117**











COAL QUALITY

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**00 037**

(4)

ANDERSON LAKE

I. Corehole #16C

Lab #	Sample #	Basis	Moist.	Ash	Vol. Matter	Fixed Carbon	Sulfur	Btu/lb
79-10	1	Air dry	0.24	17.72	17.35	64.69	1.10	12567
79-11	2	A.D.	0.37	69.75	16.60	13.28	0.28	2873
79-12	3	A.D.	0.25	26.80	20.42	52.53	0.76	10968
79-13	4	A.D.	0.37	62.02	15.66	21.95	0.34	4353

II. Corehole #20C

79-14	1	A.D.	0.32	51.99	12.39	35.30	9.00	6196
79-15	2	A.D.	0.38	35.83	12.50	51.29	1.98	9458
79-16	3	A.D.	0.25	28.07	16.90	54.78	2.00	10692
79-17	4	A.D.	0.20	13.33	18.20	68.27	2.08	13533

# LEXCO TESTING LTD.

## screen size analysis

COAL FIELD: Anderson Lake LAB NO.: 79-18

HOLE NO.: 16C DATE SAMPLED: Dec. 1978

LOCATION: Composite of Samples DATE RECEIVED: Jan. 1979  
1, 2, 3 & 4

INTERVAL: \_\_\_\_\_ DATE REPORTED: March 1979

TYPE: \_\_\_\_\_ CORE: X CHANNEL: \_\_\_\_\_ CHIP: \_\_\_\_\_

ANALYST: \_\_\_\_\_

RAW COAL	MOISTURE%	ASH%	VOLATILE MATTER	FIXED CARBON	TOTAL SULPHUR	CALORIFIC VALUE	F.S.I.
	0.30	53.96	15.75	29.99	0.48	5976	0

SIZE	Wt.(grams)	Wt. %	ASH%	
+ 2"				
2"x1"	271	3.1		
1"x3/4"	473	5.3		
3/4"x1/2"	866	9.8		
1/2"x1/4"	1865	21.0		
1/4"x8 MESH	2177	24.5		
8 x28 MESH	1807	20.4		
28 x100 MESH	969	10.9		
100 x0 MESH	445	5.0		

COMMENTS: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# LEXCO TESTING LTD.

## screen size analysis

COAL FIELD: Anderson Lake LAB NO.: 79-19  
HOLE NO.: 20C DATE SAMPLED: Dec. 1978  
LOCATION: Composite of Samples 1, 2, 3 and 4 DATE RECEIVED: Jan. 1979  
INTERVAL: \_\_\_\_\_ DATE REPORTED: March 1979  
TYPE: \_\_\_\_\_ CORE: X CHANNEL: \_\_\_\_\_ CHIP: \_\_\_\_\_

ANALYST: \_\_\_\_\_

RAW COAL	MOISTURE%	ASH%	VOLATILE MATTER	FIXED CARBON	TOTAL SULPHUR	CALORIFIC VALUE	F.S.I.
	0.29	36.66	13.53	49.52	3.60	9129	0

SIZE	Wt.(grams)	Wt. %	ASH%	
+2"				
2"x1"	7	0.1		
1"x3/4"	39	0.6		
3/4"x1/2"	354	5.4		
1/2"x1/4"	1295	19.9		
1/4"x8 MESH	2041	31.3		
8 x28 MESH	1809	27.7		
28x100 MESH	756	11.6		
100 x0 MESH	221	3.4		

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# LEXCO TESTING LTD.

# coal washability analysis

**COAL FIELD:** Anderson Lake      **LAB NO.:** 79 - 18  
**HOLE NO.:** 16C      **DATE SAMPLED:** Dec. 1978  
**LOCATION:** Composite of Samples 1,2,3, and 4      **DATE RECEIVED:** Jan. 1979  
**INTERVAL:** \_\_\_\_\_      **DATE REPORTED:** March 1979  
**RAW COAL SIZE FRACTION:** + 1/4"  
**WT.%** \_\_\_\_\_ **ASH%** \_\_\_\_\_ **BTU.:** \_\_\_\_\_      **ANALYST:** \_\_\_\_\_

SPECIFIC GRAVITY		ELEMENTARY					CUMULATIVE FLOAT				CUMULATIVE SINK			
SINK	FLOAT	Wt.	Wt %	ASH%	S%	Btu./lb.	Wt. %	ASH%	S%	Btu./lb.	Wt. %	ASH%	S%	Btu./lb.
	1.30	0	-	-	-	-	0	-	-	-				
1.30	1.35	11	0.4	5.04	0.86	14600	0.4	5.04	0.86	14600				
1.35	1.40	141	4.5	8.92	0.90	12923	4.9	8.60	0.90	13060				
1.40	1.45	50	1.6	15.73	0.92	12726	6.5	10.36	0.90	12978				
1.45	1.50	104	3.3	19.86	1.20	12224	9.8	13.56	1.00	12724				
1.50	1.55	78	2.5	25.20	1.86	11312	12.3	15.92	1.18	12437				
1.55	1.60	53	1.7	35.07	0.84	10102	14.0	18.25	1.14	12153				
1.60	1.70	73	2.3	39.04	0.93	7992	16.3	21.18	1.11	11566				
1.70	1.80	128	4.1	47.11	0.75	7198	20.4	26.39	1.04	10688				
1.80	1.90	181	5.8	51.12	0.72	5980	26.2	31.87	0.97	9646				
1.90		2302	73.8	74.95	0.45	1615	100.0	63.66	0.59	3719				

00037 (5)

REMARKS: \_\_\_\_\_

# LEXCO TESTING LTD.

# coal washability analysis

COAL FIELD: Anderson Lake LAB NO.: 79 - 18 Anderson Lake

HOLE NO.: 16C DATE SAMPLED: Dec. 1978

LOCATION: Composite of samples 1,2,3, and 4 DATE RECEIVED: Jan. 1979

INTERVAL: \_\_\_\_\_ DATE REPORTED: March 1979

RAW COAL SIZE FRACTION: 1/4" X 28 Mech

WT.% \_\_\_\_\_ ASH% \_\_\_\_\_ BTU.: \_\_\_\_\_ ANALYST: \_\_\_\_\_

SPECIFIC GRAVITY		ELEMENTARY					CUMULATIVE FLOAT				CUMULATIVE SINK			
SINK	FLOAT	Wt.	Wt %	ASH%	S%	Btu./lb.	Wt. %	ASH%	S%	Btu./lb.	Wt. %	ASH%	S%	Btu./lb.
	1.30	192	5.1	3.92	0.88	14950	5.1	3.92	0.88	14950				
1.30	1.35	238	6.3	3.94	0.92	14940	11.4	3.93	0.90	14944				
1.35	1.40	515	13.6	8.25	0.88	14149	25.0	6.28	0.89	14512				
1.40	1.45	217	5.7	13.73	1.02	13173	30.7	7.66	0.91	14263				
1.45	1.50	157	4.1	17.17	1.02	12560	34.8	8.78	0.93	14063				
1.50	1.55	147	3.9	23.78	0.94	11352	38.7	10.29	0.93	13789				
1.55	1.60	117	3.1	28.72	1.15	10469	41.8	11.66	0.94	13543				
1.60	1.70	161	4.3	36.30	0.73	8832	46.1	13.96	0.92	13104				
1.70	1.80	175	4.6	44.99	0.81	7482	50.7	16.77	0.91	12594				
1.80	1.90	154	4.1	54.04	0.71	5819	54.8	19.56	0.90	12087				
1.90	+1.90	1715	45.2	71.20	0.76	2330	100.0	42.9	0.84	7677				

REMARKS: \_\_\_\_\_

# LEXCO TESTING LTD.

# coal washability analysis

COAL FIELD: Anderson Lake LAB NO.: 79 - 18

HOLE NO.: 16c DATE SAMPLED: Dec. 1978

LOCATION: Composite of sample 1, 2, 3 and 4 DATE RECEIVED: Jan. 1979

INTERVAL: \_\_\_\_\_ DATE REPORTED: March 1979

RAW COAL SIZE FRACTION: 28 X 100 Mech

WT.% \_\_\_\_\_ ASH% \_\_\_\_\_ BTU. \_\_\_\_\_ ANALYST: \_\_\_\_\_

SPECIFIC GRAVITY		ELEMENTARY					CUMULATIVE FLOAT				CUMULATIVE SINK			
SINK	FLOAT	Wt.	Wt %	ASH%	S%	Btu./lb.	Wt. %	ASH%	S%	Btu./lb.	Wt. %	ASH%	S%	Btu./lb.
	1.30	19	2.7	3.39	.80	14987	2.7	3.39	0.80	14987				
1.30	1.35	103	14.6	3.76	.78	14950	17.3	3.70	0.70	14955				
1.35	1.40	72	10.2	6.12	.62	14528	27.5	4.60	0.67	14797				
1.40	1.45	69	9.8	6.68	1.64	14338	37.3	5.15	0.92	14676				
1.45	1.50	27	3.8	11.03	.97	13614	41.1	5.69	0.93	14578				
1.50	1.55	28	3.9	13.50	1.56	13170	45.0	6.37	0.98	14456				
1.55	1.60	27	3.8	17.70	1.24	12390	48.8	7.25	1.00	14295				
1.60	1.70	10	1.4	27.69	.34	10508	50.2	7.82	0.98	14189				
1.70	1.80	7	1.0	35.40	MS	9062	51.2	8.36	--	14089				
1.80	1.90	35	5.0	36.80	.77	8804	56.2	10.89	--	13619				
1.90		308	43.8	71.33	.66	1775	100.0	37.36	--	8431				

REMARKS: \_\_\_\_\_

# LEXCO TESTING LTD.

# coal washability analysis

COAL FIELD: Anderson Lake LAB NO.: 79 - 19  
 HOLE NO.: 20C DATE SAMPLED: Dec. 1978  
 LOCATION: Composite of samples 1,2,3, and 4 DATE RECEIVED: Jan. 1979  
 INTERVAL: = $\frac{1}{4}$ " DATE REPORTED: March 1979  
 RAW COAL SIZE FRACTION: \_\_\_\_\_  
 WT.% \_\_\_\_\_ ASH% \_\_\_\_\_ B.T.U.: \_\_\_\_\_ ANALYST: \_\_\_\_\_

SPECIFIC GRAVITY		ELEMENTARY					CUMULATIVE FLOAT				CUMULATIVE SINK			
SINK	FLOAT	Wt.	Wt %	ASH%	S%	Btu./lb.	Wt. %	ASH%	S%	Btu./lb.	Wt. %	ASH%	S%	Btu./lb.
	1.30	0	0	-	-	--	0	--	--	--				
1.30	1.35	5	0.3	3.45	1.42	N.S	0.3	3.45	1.42	--				
1.35	1.40	177	11.1	8.29	1.52	14075	11.4	8.16	1.52	14075				
1.40	1.45	87	5.5	12.57	.68	13330	16.9	9.60	1.24	13833				
1.45	1.50	84	5.3	16.81	2.94	12670	22.2	11.32	1.65	13555				
1.50	1.55	87	5.5	23.18	2.34	11658	27.7	13.67	1.79	13178				
1.55	1.60	44	2.7	26.68	4.00	10855	30.4	14.83	1.98	12972				
1.60	1.70	124	7.7	34.46	4.06	9600	38.1	18.8	2.40	12290				
1.70	1.80	81	5.1	41.51	3.65	8307	43.2	21.48	2.55	11820				
1.80	1.90	119	7.5	46.82	4.20	7206	50.7	25.23	2.79	11138				
1.90		784	49.3	65.56	6.40	3803	100.0	45.11	4.57	7522				

REMARKS: \_\_\_\_\_



# LEXCO TESTING LTD.

# coal washability analysis

**COAL FIELD:** Anderson Lake **LAB NO.:** 79 - 19  
**HOLE NO.:** 20C **DATE SAMPLED:** Dec. 1978  
**LOCATION:** Composite of samples 1,2,3 and 4 **DATE RECEIVED:** Jan. 1979  
**INTERVAL:** \_\_\_\_\_ **DATE REPORTED:** Mar. 1979  
**RAW COAL SIZE FRACTION:** ½" x 28 Mech  
**WT.%** \_\_\_\_\_ **ASH%** \_\_\_\_\_ **B.T.U.:** \_\_\_\_\_ **ANALYST:** \_\_\_\_\_

SPECIFIC GRAVITY		ELEMENTARY					CUMULATIVE FLOAT				CUMULATIVE SINK			
SINK	FLOAT	Wt.	Wt %	ASH%	S%	Btu./lb.	Wt. %	ASH%	S%	Btu./lb.	Wt. %	ASH%	S%	Btu./lb.
	1.30	199	5.5	4.94	1.66	14760	5.5	4.94	4.94	14760				
1.30	1.35	114	3.2	5.22	1.56	14698	8.7	5.04	3.70	14737				
1.35	1.40	802	22.3	5.98	1.04	14485	31.0	5.72	1.79	14556				
1.40	1.45	525	14.6	10.41	2.40	13756	45.6	7.22	1.98	14299				
1.45	1.50	303	8.4	15.47	3.08	12970	54.0	8.50	2.15	14093				
1.50	1.55	230	6.4	21.51	3.62	11742	60.4	9.88	2.31	13844				
1.55	1.60	124	3.5	28.12	4.00	10637	63.9	10.88	2.40	13668				
1.60	1.70	195	5.4	36.33	4.02	9296	69.3	12.86	2.53	13327				
1.70	1.80	191	5.3	38.10	4.20	8959	74.6	14.66	2.65	13017				
1.80	1.90	162	4.5	52.35	5.18	6512	79.1	16.80	2.79	12647				
1.90		750	20.9	66.34	6.42	3917	100.0	27.15	3.55	10822				

**REMARKS:** \_\_\_\_\_

# LEXCO TESTING LTD.

# coal washability analysis

**COAL FIELD:** Anderson Lake **LAB NO.:** 79 - 19  
**HOLE NO.:** 20C **DATE SAMPLED:** Dec. 1978  
**LOCATION:** Composite of samples 1,2,3, and 4 **DATE RECEIVED:** Jan. 1979  
**INTERVAL:** \_\_\_\_\_ **DATE REPORTED:** March 1979  
**RAW COAL SIZE FRACTION:** 28 x 100 Mech  
**WT.%** \_\_\_\_\_ **ASH%** \_\_\_\_\_ **B.T.U.:** \_\_\_\_\_ **ANALYST:** \_\_\_\_\_

SPECIFIC GRAVITY		ELEMENTARY					CUMULATIVE FLOAT				CUMULATIVE SINK			
SINK	FLOAT	Wt.	Wt %	ASH %	S %	Btu./lb.	Wt %	ASH %	S %	Btu./lb.	Wt %	ASH %	S %	Btu./lb.
	1.30	0	0	--	--	--	0	--	--	--				
1.30	1.35	35	5.6	4.84	1.46	14650	5.6	4.84	1.46	14650				
1.35	1.40	154	24.5	5.47	1.56	14529	30.1	5.35	1.54	14552				
1.40	1.45	64	10.2	7.02	1.54	14205	40.3	5.77	1.54	14464				
1.45	1.50	53	8.4	11.27	2.28	13539	48.7	6.72	1.67	14304				
1.50	1.55	25	4.0	14.19	2.42	12919	52.7	7.29	1.73	14199				
1.55	1.60	21	3.3	17.00	3.02	12567	56.0	7.86	1.80	14103				
1.60	1.70	32	5.1	20.88	3.68	12163	61.1	8.95	1.96	13941				
1.70	1.80	16	2.6	27.06	3.20	10310	63.7	9.69	2.01	13793				
1.80	1.90	32	5.1	30.77	4.08	9930	68.8	11.25	2.16	13506				
1.90		196	31.2	58.83	8.08	3749	100.00	29.22	4.01	10462				

REMARKS: \_\_\_\_\_