

K-SHELL LINE CREEK 79(3)A

BOREHOLE DATA

421

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

00 421

CORE & COAL CORE DESCRIPTION

PROJECT	LINE CREEK
AREA	S.E. B.C.

DATE	BEGIN	Aug. 9/79
	END	Aug. 10/79

HOLE No.	LC 201	PAGE 1
		OF 1

HOLE PARTICULARS

LOCATION	LINE CREEK (Pit)	N 5 534 293.23
	S.E. B.C.	E 549 307.68
ELEVATION	2057.48	HOLE BEARING (AZ)*
TOTAL DEPTH	138.2	HOLE ANGLE (°)* Vert.

LOGGING

LOGS RUN	Coal Lithology, Seam Thick- ness, Coal Quality
LOGGED BY	BPB
OTHER TESTS	Resistivity, Neutron- Neutron Log

COAL CORING PERFORMANCE

CORE DIAMETER	4 7/8"
CORE RECOVERED	52.22
LENGTH CORED	34.5
CORE RECOVERY	95.4 %

EXAMINATION

LOG USED	Seam Thickness
NO. OF SEAMS SAMPLED	1 - #8
EXAMINER (S)	H. Schwab
DATE	Aug. 12/79

BOX No.	DEPTH AT TOP OF BOX	DEPTH		TH	LITHO DESCRIPTION		▲ RECORDING ANGLE (°)	SEAM DESIG.	SAMPLE No.	ANALYTICAL DATA						REMARKS †	
		FROM	TO		MAIN	AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)				MOIST %		ASH %	V.M. %	F.C. %	F.S.F.		C.V.
										o.z.b.	residual	d.b.	d.b.	d.b.			
1	200	190	100.7	0.58	SST	gray; white; interbedded; fine to medium grained	38										
2	100.	100.7	101.3	0.23	SLSF	dark gray; laminae of medium grain; sandstone (minor) interbedded; coaly plant fragments	38										
				0.67	MDSN	dark gray; laminae of medium grain; sandstone (minor) interbedded; coaly; plant fragments											
				0.53	SLSH	dark gray; laminae of medium grain; sandstone (minor) interbedded; coaly; plant fragments											
				0.28	SST	fine to medium grain; intermixed; poorly sorted											
3	101.3	101.3	103.6	0.17	MDSN	dark gray; slickensides; iron stained; abundant coaly layers badly broken											
				0.28	MDSH	abundant pyrite; carbonaceous	30										
				0.92	SST	interbedded with siltstone; medium grained SST; iron oxide stain											
4	103.6	103.6	104.4	0.77	SST	interbedded with siltstone; medium grained SST; iron oxide stain	40										
				0.78	MDSN	dark gray; minor laminations of medium grain sandstone											
5	104.4	104.4	106.8	0.31	MDSN	laminated with siltstone											
				0.18	MDSN	laminated with siltstone; but badly broken											
				1.06	MDSN	laminated with siltstone; but with iron stain (oxide)	40										
	106.8	106.8		0.68	MDSN	abundant coal stringers; dark gray fractured											
				0.49	MDSN	abundant; coal stringer; dark gray fractured; abundant coal stringer											
				0.18	MDSN	carbonaceous; abundant coal stringers											
				0.67	MDSN	badly broken; abundant iron-stain oxide											
				0.72	MDSN	abundant iron-stain oxide; not broken											
				109.8	0.32	MDSN	abundant iron-stain oxide; not broken										

ALL LINEAR UNITS IN METRES

* : MEASURED FROM THE HORIZONTAL PLANE

▲ ANGLE MEASURED FROM CORE AXIS

† : R &/OR S — GOLDR ASSOCIATES HARDNESS CODE

• ROD — ROCK QUALITY DESIGNATION (%)

FF — FRACTURE FREQUENCY

HOLE No. LC 201

FILE No. BA-231A
REVISED Nov. 1978

CORE & COAL CORE DESCRIPTION

PROJECT AREA _____ LINE CHECK _____

HOLE No. LC 201
CONTINUED

BOX No.	DEPTH AT TOP OF BOX	DEPTH		TH	MAIN	LITHO DESCRIPTION (AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM))	BEDDING ANGLE (°)	SEAM DESIG	SAMPLE No.	MOIST %		ANALYTICAL DATA					REMARKS †
		FROM	TO							a. f. b.	residual	ASH % d.b.	V.M. % d.b.	FC % d.b.	F.S.I	C.V.	
		8.05	0.18	COAL	dull with bright stringers with some shale												
10	118.7	118.7	120.1	0.45	COAL	dull with bright stringers											
		8.70	0.20	COAL	dull with bright stringers; badly broken												
		8.79	0.09	COAL	dull												
		9.35	0.56	COAL	dull with bright stringers												
		9.75		COAL	badly broken and powdered												
11	120.2	120.2	121.1	0.49	COAL	dull											
		9.87	0.12	COAL	dull with bright stringers												
12	121.1	121.1	122.3	0.11	COAL	dull with bright stringers											
			0.52	COAL	dull; badly broken and pulverized												
			0.15	COAL	dull with bright stringers												
		11.03	0.35	COAL	dull												
		11.22	0.19	MUSN	oolitic; abundant plant fragments; badly broken												
13	122.3	122.3	123.3	0.25	COAL	dull with bright stringers											
			0.46	COAL	dull; badly broken and pulverized; abundant polished surfaces;												
			0.62	COAL	dull with bright stringers												
		123.3	124.0		LOST ... NO CORE												
14	124.0	124.0	125.3	0.78	COAL	dull											
			0.16	COAL	dull with bright stringers												
			0.20	COAL	dull												
			0.19	COAL	dull with bright stringers												
			0.24	COAL	dull												
	125.3	125.7			NO CORE ... LOST?												
15	125.7	125.7	126.3	0.34	COAL	dull with bright stringers											
			0.30	COAL	dull and bright												

Sample PB
Upper

Sample PB
Lower

ALL LINEAR UNITS IN METRES

† - RB/ORS — GOLDR ASSOCIATES HARDNESS CODE
*ROD — ROCK QUALITY DESIGNATION (%)
|| — FRACTURE FREQUENCY

▲ ANGLE MEASURED FROM CORE AXIS

HOLE No. LC 201
CONTINUED

CORE & COAL CORE DESCRIPTION

PROJECT AREA _____ LINE ORDER _____

HOLE No. LC 201
CONTINUED

BOX No	DEPTH AT TOP OF BOX	DEPTH		TH	LITHO DESCRIPTION		BEDDING ANGLE (1-1)	SEAM DESIGN	SAMPLE No	MOIST %		ANALYTICAL DATA					REMARKS	
		FROM	TO		MAIN	AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)				a.t.b.	residual	ASH % d.b.	V.M. % d.b.	FC % d.b.	F.S.I	C.V.		
				0.01	COAL	dull												
				0.29	COAL	dull with bright stringers												
16	126.3	126.3	128.3	0.58	COAL	dull with bright stringers												
				0.20	COAL	dull												
				0.74	COAL	dull with bright stringers												
17	128.3	128.3	128.8	0.28	COAL	pulverized; dull												
				0.51	COAL	powdered												
	128.8	128.8		1.34	COAL	dull with bright stringers												
				131.5	COAL	dull with bright stringers												
				202.6	COAL	pulverized; bright and dull												
				0.05	MDSN	shaley with coal bands												
				0.38	MDSN	carbonaceous with coaly stringers												
				0.23	MDSN	with coaly pods												
				0.86	MDSN	medium gray												

Sample 16
B lower

ALL LINEAR UNITS IN METRES

1-R&/OR S - GOLDR ASSOCIATES HARDNESS CODE
 *ROD - ROCK QUALITY DESIGNATION (%)
 () - FRACTURE FREQUENCY

▲ ANGLE MEASURED FROM CORE AXIS

HOLE No. LC 201
CONTINUED

CROWS NEST RESOURCES LIMITED

CORE & COAL CORE DESCRIPTION

PROJECT	LINE CREEK RIDGE
AREA	S.E. B.C.

DATE	BEGIN	1979-08-11
	END	1979-08-12

HOLE No.	LC 202
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PAGE 1
OF 2

HOLE PARTICULARS

LOCATION	Line Creek (Pit)	N 5 533 971.98
	S.E. B.C.	E 659 416.70
ELEVATION	2011.52	HOLE BEARING (AZ°)
TOTAL DEPTH	78.33	HOLE ANGLE (°)*

LOGGING

LOGS RUN	Coal Lithology, Seam Thickness, Coal Quality
LOGGED BY	BPB
OTHER TESTS	Resistivity, Neutron-Neutron Log

COAL CORING PERFORMANCE

CORE DIAMETER	4 7/8"
CORE RECOVERED	17.77
LENGTH CORFD	18.60
CORE RECOVERY	95.54 %

EXAMINATION

LOG USED	Seam Thickness
No. OF SEAMS SAMPLED	1 - #8
EXAMINER (S)	M D'Orsay
DATE	Aug. 15, 1979

BOX No.	DEPTH AT TOP OF BOX	DEPTH		TH	LITHO DESCRIPTION		SEAM DESIG.	SAMPLE No.	ANALYTICAL DATA						REMARKS †	
		FROM	TO		MAIN	AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)			MOIST % a.r.b. / residual	ASH % d.b.	V.M. % d.b.	F.C. % d.b.	F.S.I.	C.V.		
1	54.8 55.5	0.00	0.93	0.93	MDST	interbedded with coal bright and dull; rubbly		Sample B1 2' upper 1' lower								
		0.93	1.10	0.17	COAL	dull and bright										
2		1.10	1.23	0.13	COAL	bright with dull bands		Sample B2 1' upper 1' lower								
		1.23	1.27	0.04	MDST	bright coal bands										
		1.27	1.59	0.32	COAL	dull with bright bands										
		1.59	1.80	0.21	COAL	bright with dull bands										
		1.80	2.15	0.35	COAL	bright										
		2.15	2.51	0.36	COAL	bright with dull bands										
		2.51	2.54	0.03	MDST	END OF BOX 2										
3		2.54	3.18	0.64	COAL	bright with dull bands END OF BOX 3		Sample B3 1' upper 1' lower								
4		3.18	3.94	0.76	COAL	bright and dull										
		3.94	4.46	0.52	COAL	dull with bright bands; rubbly END OF BOX 4										
5	59.5 62.5 2012	4.46	5.59	1.13	COAL	dull with bright bands END OF BOX 5										
6		5.59	5.93	0.34	COAL	dull with bright bands		Sample B4 1' upper 1' lower								
		5.93	6.19	0.26	COAL	bright with dull bands										
		6.19	6.82	0.63	MDST	Iron stain; plant fragments										
		6.82	7.16	0.34	MDST	rubbly and pulverized END OF BOX 6										
7		7.16	7.91	0.75	COAL	bright and dull		Sample B5 1' upper 1' lower								
		7.91	7.95	0.04	COAL	bright; rubbly END OF BOX 7										

ALL LINEAR UNITS IN METRES

- * : MEASURED FROM THE HORIZONTAL PLANE
- † : R &/OR S — GOLDER ASSOCIATES HARDNESS CODE
- RQD — ROCK QUALITY DESIGNATION (%)
- FF — FRACTURE FREQUENCY

▲ ANGLE MEASURED FROM CORE AXIS

HOLE No.	LC 202
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FILE No. BA-211A
REVISED Nov. 1978

CORE & COAL CORE DESCRIPTION

PROJECT	LINE CREEK RIDGE
AREA	

HOLE No.	LC 202
CONTINUED	

PAGE	2
OF	2

BOX No	DEPTH AT TOP OF BOX	DEPTH		TH	LITHO DESCRIPTION		DIPPING ANGLE (°)	SEAM DESIG	SAMPLE No	ANALYTICAL DATA						REMARKS †	
		FROM	TO		MAIN	AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)				MOIST % a.r.b. residual	ASH % d.b.	VM % d.b.	FC % d.b.	F.S.I.	C.V.		
8	2of2	7.95	8.09	0.14	COAL	dull with bright bands											
	62.5	8.09	8.55	0.46	COAL	rubby and pulverized; bright and dull											
	64.8	8.55	8.77	0.22	COAL	bright and dull											
		8.77	9.53	0.76	COAL	bright with dull bands END OF BOX 8											
9	1of2	9.53	10.05	0.52	COAL	bright and dull; rubby											
	64.8					END OF BOX 9											
	66.5																
10		10.05	11.30	1.25	COAL	bright with dull bands; rubby											
						END OF BOX 10											
11		11.30	11.93	0.63	COAL	bright and dull											
		11.93	12.23	0.30	COAL	bright with dull bands END OF BOX 11											
12	1of2	12.23	12.85	0.62	COAL	bright											
		12.85	13.29	0.44	COAL	bright with dull bands											
		13.29	13.61	0.32	COAL	dull and bright; all rubble END OF BOX 12											
13		13.61	14.88	1.27	COAL	bright and dull; rubby											
		14.88	15.31	0.43	COAL	bright and dull; rubby											
		15.31	15.37	1.06	COAL	bright with minor dull bands END OF BOX 14											
15		15.37	15.39	0.02	COAL	bright and dull; rubby and pulverized											
		15.39	15.47	0.08	MSST	carbonaceous; coal stringers plant fragments END OF BOX 13											
16		15.47	15.87	0.40	COAL	bright and dull											
		15.87	16.18	0.31	MSST	iron stain; coal stringers											
		16.18	16.87	0.69	SLST	dark gray; coal stringers											

ALL LINEAR UNITS IN METRES

† = RB/GR S — GOLDER ASSOCIATES HARDNESS CODE
 *RQD — ROCK QUALITY DESIGNATION (%)
 † — FRACTURE FREQUENCY

▲ ANGLE MEASURED FROM CORE AXIS

HOLE No.	LC 202
CONTINUED	

CORE & COAL CORE DESCRIPTION

PROJECT	LINE CREEK
AREA	S.E. B.C.

DATE	BEGIN	Aug. 5/79
	END	Aug. 6/79

HOLE No.	LC 203
	A

PAGE 1 OF 1

HOLE PARTICULARS

LOCATION	S.E. BRITISH COLUMBIA N 5 534 316.99	
	LINE CREEK (P17) E 550 285.47	
ELEVATION	1679.24	HOLE BEARING (AZ) [°]
TOTAL DEPTH	101.50	HOLE ANGLE (°) ^M

LOGGING

LOGS RUN	Coal Lithology, Seam Thickness, Coal Quality
LOGGED BY	SPB
OTHER TESTS	Resistivity, Neutron-Neutron Log

COAL CORING PERFORMANCE

CORE DIAMETER	4 7/8"
TOTAL CORE RECOVERED	14.81
TOTAL LENGTH CORED	17.3
TOTAL CORE RECOVERY	85.6 %

EXAMINATION

LOG USED	Seam Thickness
No. OF SEAMS SAMPLED	1 - #8
EXAMINER (S)	M. D. Orsay
DATE	Aug. 8/79

BOX No.	DEPTH BY TOP OF BOX	DEPTH		TH	LITHO DESCRIPTION		▲ ANGLE (°)	SEAM DESIG.	SAMPLE No.	ANALYTICAL DATA						REMARKS [†]		
		FROM	TO		MAIN	AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)				MOIST % a.r.b. residual	ASH % d.b.	V.M. % d.b.	F.C. % d.b.	F.S.F.	C.V.			
1	78.5	0.00	1.04	1.04	SLST	coaly gray; plant fragments												
2	80.1	1.04	2.39	1.35	COAL	very badly broken; vitrain clarain			Sample 17 B Upper									
3	83.1	2.39	2.89	0.50	COAL	pulverized and badly broken; vitrain - clarain												
4	84.6	2.89	3.11	0.22	COAL	vitrain; clarain; durain												
		3.11	3.76	0.65	MDST	with coal lenses												
5 (2)	86.4	3.76	4.99	1.23	COAL	vitrain; clarain; 0 - .28 pulverized; 0.28 - 1.03 badly fractured and broken			Sample 18 B Lower									
		4.99	5.27	0.28		1.03 - 0.18 badly broken; 0.18 - 0.10 - pulverized												
6	89.2	5.27	6.79	1.52	COAL	vitrain; clarain; 0 - 0.44 pulverized; 0.44 - 0.25 broken; 0.25 - 0.20 broken and pulverized; 0.64 badly broken												
(2)		6.79	7.09	0.30	COAL	badly broken												
7	92.2	7.09	7.56	0.47	COAL	with MDST fragments												
		7.56	7.76	0.20	MDST	dark gray; carbonaceous												
		7.76	7.94	0.18	MDST & COAL	intermixed and badly broken (1107 W 106)												
(2)		7.94	8.37	0.42	COAL	badly broken												
		8.37	9.43	1.06	COAL	0.00 - 0.65 pulverized; 0.27 badly broken; 0.14 pulverized												
		9.43	9.64	0.21	MDST	dark gray; carbonaceous; badly broken												
8	95.2	9.64	10.21	0.57	COAL													
		10.21	10.83	0.62	COAL & MDST	intermixed; badly broken												
9	96.8	10.83	11.92	1.09	MDST	dark gray; carbonaceous			0									
10	97.2	11.92	13.43	1.51	MDST	dark gray; carbonaceous			5									
11	99.8	13.43	14.31	0.88	MDST				23									
		14.31	14.82	0.51	SLST	dark gray												
						END OF HOLE												

ALL LINEAR UNITS IN METRES

* : MEASURED FROM THE HORIZONTAL PLANE

▲ ANGLE MEASURED FROM CORE AXIS

† : R &/OR S — GOLDR ASSOCIATES HARDNESS CODE

• RGD — ROCK QUALITY DESIGNATION (%)

FF — FRACTURE FREQUENCY

HOLE No.	LC 203
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CORE & COAL CORE DESCRIPTION

PROJECT	LINE CHECK
AREA	S.E., B.C.

DATE	BEGIN	1979-08-14
	END	1979-08-16

HOLE No.	REMRILL LC 205 B
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PAGE 1
OF 2

HOLE PARTICULARS

LOCATION	Line Creek (Pit)	N 5 534 314.04
	S.E., B.C.	E 660 291.13
ELEVATION	1679.24	HOLE BEARING (AZ°)
TOTAL DEPTH	101.53	HOLE ANGLE (°)*

LOGGING

LOGS RUN	Coal Lithology, Seam Thickness, Coal Quality
LOGGED BY	BPB
OTHER TESTS	Resistivity Neutron-Neutron Log

COAL CORING PERFORMANCE

CORE DIAMETER	4 7/8"
CORE RECOVERED	13.6
LENGTH CORED	13.6
CORE RECOVERY	100 %

EXAMINATION

LOG USED	Seam Thickness
No. OF SEAMS SAMPLED	1 - B
EXAMINER (S)	B. Murchison
DATE	1979-08-17

BOX No.	DEPTH AT TOP OF BOX	DEPTH		TH	LITHO DESCRIPTION		SEAM DESIG.	SAMPLE No.	ANALYTICAL DATA						REMARKS †					
		FROM	TO		MAIN	AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)			MOIST % u.r.b. residual	ASH % d.b.	V.M. % d.b.	F.C. % d.b.	F.S.I.	C.V.						
1	0.00	0.56	0.56	0.56	COAL	bright with minor dull bands; slicks														
						END OF BOX 1														
2	0.56	0.65	0.09	0.09	COAL	dull with bright stringers; trace sulphides		Sample 98 B Upper 11 m.p.c.												
	0.65	0.98	0.33	0.33	COAL	bright with minor dull bands; badly broken; trace sulphides														
	0.98	1.63	0.65	0.65	COAL	dull with bright bands; slicks; trace sulphides														
	1.63	1.89	0.26	0.26	COAL	bright with dull bands														
	1.89	1.92	0.03	0.03	COAL	dull with bright silvers; trace sulphides														
	1.92	2.28	0.36	0.36	COAL	bright with minor dull bands; slicks; minor sulphides														
	2.28	2.37	0.09	0.09	COAL	dull with bright bands														
	2.37	2.64	0.27	0.27	COAL	pulverized														
						END OF BOX 2														
3	2.64	2.85	0.21	0.21	COAL	pulverized; and powdered														
	2.85	2.96	0.11	0.11		dull and bright; trace sulphides														
						END OF BOX 3														
4	2.96	3.06	0.10	0.10	COAL	dull with bright silvers		Sample 99 B Upper												
	3.06	3.17	0.11	0.11	COAL	powdered														
	3.17	3.50	0.33	0.33	COAL	bright with enclosed nodules of MDST; minor dull bands; slicks; trace sulphides														
	3.50	3.77	0.27	0.27	COAL	dull with bright bands; badly broken; slicks														
	3.77	4.07	0.30	0.30	COAL	bright with dull bands														
	4.07	4.17	0.10	0.10		dull with bright stringers														
	4.17	4.34	0.17	0.17		pulverized and powdered														
	4.34	4.54	0.20	0.20		dull and bright														
						END OF BOX 4														

ALL LINEAR UNITS IN METRES

* MEASURED FROM THE HORIZONTAL PLANE

▲ ANGLE MEASURED FROM CORE AXIS

† R & OR S — GOLDR ASSOCIATES HARDNESS CODE

• RQD — ROCK QUALITY DESIGNATION (%)

FF — FRACTURE FREQUENCY

HOLE No.	LC 205 REMRILL
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FILE No BA-211A
REVISED Nov. 1978

CROWS NEST RESOURCES LIMITED

CORE & COAL CORE DESCRIPTION

PROJECT	LINE CREEK
AREA	

HOLE No	REDRILL
CONTINUED	LC 203

BOX No	DEPTH AT TOP OF BOX	DEPTH		TH	LITHO DESCRIPTION	▲ WIDDOW ANGLE (°)	SEAM DESIGN	SAMPLE No	ANALYTICAL DATA						REMARKS	
		FROM	TO						MOIST %	ASH %	VM %	FC %	F.S.I.	C.V.		
									o. b.	residual	d. b.	d. b.	d. b.			
5		4.54	4.67	0.13	COAL											
		4.67	5.00	0.33	COAL											
					dull with bright stringers END OF BOX 5											
6		5.00	5.03	0.03	COAL											
		5.03	5.21	0.18	COAL											
		5.21	5.75	0.54	COAL											
		5.75	6.05	0.30	COAL											
		6.05	6.22	0.17	COAL											
		6.22	6.37	0.15	COAL											
		6.37	6.47	0.10	COAL											
					dull with MDST and bright bands END OF BOX 6											
7		6.47	6.73	0.26	MDST											
					slicks; trace of bright bands END OF BOX 7											
8		6.73	6.79	0.06	COAL											
		6.79	6.97	0.18	COAL											
		6.97	7.01	0.04	COAL											
		7.01	7.05	0.04	COAL											
		7.05	7.11	0.06	COAL											
		7.11	7.62	0.51	COAL											
		7.62	7.73	0.11	COAL											
		7.73	7.85	0.12	COAL											
		7.85	7.96	0.11	COAL											
		7.96	8.16	0.20	COAL											
					pulverized END OF BOX 8											
9		8.16	8.47	0.31	COAL											
					dull; slicks; contains small MDST bands but core all mixed and pulverized powdered and badly broken END OF BOX 9											
10		8.47	8.51	0.04	MDST											
		8.51	8.99	0.48	COAL											
					pulverized; powdered; slicks											

ALL LINEAR UNITS IN METRES

▲ RB/OR S — GOLDER ASSOCIATES HARDNESS CODE
 *RQD — ROCK QUALITY DESIGNATION (%)
 F# — FRACTURE FREQUENCY

▲ ANGLE MEASURED FROM CORE AXIS

HOLE No	LC 203
CONTINUED	REDRILL

CROWS NEST RESOURCES LIMITED

CORE & COAL CORE DESCRIPTION

PROJECT AREA	LIME CREEK
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HOLE No.	REDRILL LC 203
CONTINUED	

PAGE 3 OF 3

BOX No	DEPTH AT TOP OF BOX	DEPTH		TH	LITHO DESCRIPTION	DIPPING ANGLE (°)	SEAM DESIG	SAMPLE No	ANALYTICAL DATA						REMARKS ¹		
		FROM	TO						MOIST %	ASH %	V.M. %	F.C. %	F.S.I	C.V.			
				MAIN	AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)			a.r.b.		residual	d.b.	d.b.	d.b.	F.S.I	C.V.		
		8.99	9.15	0.06	MDST												
		9.15	9.24	0.09	COAL												
11	88.3 91.3			0.36	COAL												
12				0.26	COAL												
				0.32	COAL												
				0.26	COAL												
				0.08	COAL												
				0.12	COAL												
				0.31	COAL												
13	91.3 94.0			0.32	MDST												
				0.93	COAL												
?	CANNOT READ INTERVAL ON BOX				LID												
				0.17	MDST												
15	96.0 97.8			1.24	MDST												

Sample 101
8.1.0.1

ALL LINEAR UNITS IN METRES

1-R&ORS — GOLDR ASSOCIATES HARDNESS CODE
 •RQD — ROCK QUALITY DESIGNATION (%)
 F — FRACTURE FREQUENCY

▲ ANGLE MEASURED FROM CORE AXIS

HOLE No.	LC 203
CONTINUED	REDRILL

CROWS NEST RESOURCES LIMITED

CORE & COAL CORE DESCRIPTION

PROJECT	LINE 204 LC
AREA	S.E. B.C.

DATE	BEGIN	1979-08-16
	END	1979-08-17

HOLE No.	LC-204
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PAGE 1
OF 4

HOLE PARTICULARS

LOCATION	Line Creek (Pit) N 5 533 530,96		
	S.E. B.C.	E 660 039,70	
ELEVATION	42.28	HOLE BEARING (AZ) [#]	-
TOTAL DEPTH	94.8	HOLE ANGLE (°) [#]	Vert.

LOGGING

LOGS RUN	Coal Lithology, Seam Thickness, Coal Quality
LOGGED BY	BPH
OTHER TESTS	Resistivity Neutron-Neutron Log

COAL CORING PERFORMANCE

CORE DIAMETER	4 7/8"
CORE RECOVERED	18.51
LENGTH CORED	24.6
CORE RECOVERY	74.4 %

EXAMINATION

LOG USED	Seam Thickness
No. OF SEAMS SAMPLED	1 - #8
EXAMINER (S)	J. MacDougall J. Schwab
DATE	1979-08-18

BOX No	DEPTH AT TOP OF BOX	DEPTH		TH	LITHO DESCRIPTION		SEAM ANGLE (°)	SEAM DESIG.	SAMPLE No.	ANALYTICAL DATA						REMARKS ¹	
		FROM	TO		MAIN	AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)				MOIST % a.r.b. residual	ASH % d.b.	V.M. % d.b.	FC % d.b.	F.S.I.	C.V.		
1	1of2 69.0 72.0	0.00	1.38	1.38	SDST	salt and pepper color; medium to coarse grained END OF BOX 1											
2	2of2	1.38	2.76	1.38	SDST	salt and pepper color; medium to coarse grained END OF BOX 2											
3	1of2 72.0 75.0	2.76	3.24	1.48	SDST	salt and pepper color; medium to coarse grained END OF BOX 3											
4	2of2	3.24	4.45	1.21	SDST	salt and pepper color; medium to coarse grained; becoming silty; more iron stain; core more brown up END OF BOX 4											
5	75.0 76.5	4.45	4.61	0.16	MDST	black; coal covered (powder)											
	76.5	4.61	5.22	0.61	MDST	black; non-fossiliferous											
		5.22	5.25	0.03	COAL	bright											
		5.25	5.31	0.06	MDST	black; iron stain											
		5.31	5.35	0.04	COAL	bright END OF BOX 5											
6	2of2	5.35	5.38	0.03	COAL	bright; powder											
		5.38	5.89	0.51	COAL	dull with bright bands and stringers; trace sulphides ¹ trace shaly bands											
		5.89	6.06	0.17	COAL	badly broken and pulverized											
		6.06	6.19	0.13		bright and dull; with occasional shaly stringers											
		6.19	6.22	0.03	COAL	bright											
		6.22	6.86	0.65	COAL	dull and bright occasional shaly; trace sulphides END OF BOX 6											
7		6.86	7.06	0.20	COAL	dull with bright bands and stringers; trace sulphides											
		7.06	7.09	0.03	COAL	bright and dull; trace sulphides											

ALL LINEAR UNITS IN METRES

[#] - MEASURED FROM THE HORIZONTAL PLANE[▲] ANGLE MEASURED FROM CORE AXIS[†] - R &/OR S - GOLDR ASSOCIATES HARDNESS CODE

*RQD - ROCK QUALITY DESIGNATION (%)

FF - FRACTURE FREQUENCY

HOLE No. LC-204

FILE No BA-211A
REVISED Nov. 1978

CORE & COAL CORE DESCRIPTION

PROJECT	LINE CREEK
AREA	

HOLE No	LC 204
CONTINUED	

BOX No	DEPTH AT TOP OF BOX	DEPTH		TH	LITHO DESCRIPTION		SEAM ANGLE (°)	SEAM DESIG	SAMPLE No	ANALYTICAL DATA						REMARKS		
		FROM	TO		MAIN	AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)				MOIST % o.r.b. residual	ASH % d.b.	VM. % d.b.	FC. % d.b.	F.S.I.	C.V.			
		7.09	7.15	0.06	MSST	with thin bright stringers; trace sulphides												
		7.15	7.21	0.06	COAL	bright with dull stringers; trace sulphides												
		7.21	7.38	0.17	COAL	dull with bright stringers; trace sulphides												
		7.38	7.52	0.14	COAL	bright with dull stringers; trace sulphides												
		7.52	7.65	0.13	COAL	bright												
		7.65	7.83	0.18	COAL	bright and dull												
		7.83	8.17	0.34	COAL	dull with bright bands												
		8.17	8.23	0.06	COAL	powdery dull and bright END OF BOX 7												
8	79.5 81.9 2of2	8.23	8.63	0.40	COAL	powdered			Sample 108 8 Upper									
		8.63	8.67	0.04	COAL	dull with shaly bands and bright stringers												
		8.67	8.71	0.04	COAL	dull with bright stringers												
		8.71	8.78	0.07	COAL	dull with bright bands; trace sulphides												
		8.78	8.81	0.03	COAL	dull with MSST and bright stringers												
		8.81	9.00	0.19	COAL	dull with bright stringers												
		9.00	9.21	0.21	COAL	dull with bright bands												
		9.21	9.31	0.10	COAL	dull; slickenside; occasional bright; stringers; pulverized END OF BOX 8												
9	1of2	9.31	9.45	0.14	COAL	Bright with dull bands												
		9.45	9.58	0.13	COAL	dull with bright bands												
		9.58	9.70	0.12	COAL	dull with shaly stringers; pulverized; bright stringers												
		9.70	10.57	0.87	MSST	occasional bright stringers and pods; trace sulphides; slickenside END OF BOX 9												
10		10.57	10.70	0.13	COAL	Shale and coal END OF BOX 10			Sample 109 Split									
11	81.9 84.4	10.70	10.81	0.11	MSST	bright stringers												

ALL LINEAR UNITS IN METRES

1 → RB/OR S — GOLDER ASSOCIATES HARDNESS CODE
 *RQD — ROCK QUALITY DESIGNATION (%)
 F — FRACTURE FREQUENCY

▲ ANGLE MEASURED FROM CORE AXIS

HOLE No	LC 204
CONTINUED	

CORE & COAL CORE DESCRIPTION

PROJECT	LINE CREEK RIDGE
AREA	S.E. B.C.

HOLE No.	LC 204
CONTINUED	

BOX No.	DEPTH AT TOP OF BOX	DEPTH		TH	LITHO DESCRIPTION		DIPPING ANGLE (°)	SEAM DESIG.	SAMPLE No.	ANALYTICAL DATA					REMARKS †	
		FROM	TO		MAIN	AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)				MOIST % a.s.b. residual	ASH % d.b.	V.M. % d.b.	F.C. % d.b.	F.S.I.		C.V.
2022	10.81	11.23	0.42	COAL	dull with bright stringers; badly broken powdered; pulverized			Sample 110 8 lower 11 1/2 metre ↑ Sample 111 Blower								
	11.23	11.33	0.10	COAL	dull with bright stringers occasional shaly stringers											
	11.33	11.81	0.48	COAL	dull with bright bands											
	11.81	11.83	0.02	MDST												
	11.83	11.90	0.07	COAL	bright END OF BOX 11											
12	11.90	11.95	0.05	COAL	bright											
	11.95	12.06	0.11	COAL	powdered and pulverized bright											
	12.06	12.12	0.06	COAL	bright and dull											
	12.12	12.25	0.13	COAL	bright powdered and pulverized											
	12.25	12.31	0.06	MDST	with bright stringers											
	12.31	12.42	0.11	COAL	dull with bright stringers and shaly bands											
	12.42	12.45	0.03	COAL	powdered bright											
	12.45	12.47	0.02	MDST												
	12.47	12.59	0.12		bright; abundant iron stain											
	12.59	12.67	0.08		dull											
	12.67	12.75	0.08		dull and bright											
	12.75	13.06	0.31		dull with bright stringer and bands											
	13.06	13.34	0.28		dull and bright powdered; pulverized END OF BOX 12											
13	87.2 88.9	13.34	13.54	0.20		bright with dull bands; badly broken; powdered										
		13.54	13.63	0.09		bright										
		13.63	13.73	0.10		dull with bright stringers; badly broken; powdered END OF BOX 13										
14		13.73	13.74	0.10	COAL	dull and bright; badly broken										
		13.74	14.18	0.44	COAL	dull with bright stringers; slickenside; trace sulphides										
		14.18	14.28	0.10	COAL	dull with bright bands										

ALL LINEAR UNITS IN METRES

† -R&R/ORS - GOLDR ASSOCIATES HARDNESS CODE
 *RQD - ROCK QUALITY DESIGNATION (%)
 F - FRACTURE FREQUENCY

▲ ANGLE MEASURED FROM CORE AXIS

HOLE No.	LC 204
CONTINUED	

CROWS NEST RESOURCES LIMITED

CORE & COAL CORE DESCRIPTION

PROJECT	LINE CREEK
AREA	

HOLE No.	LC 204
CONTINUED	

PAGE 4
OF 4

BOX No.	DEPTH at TOP of BOX	DEPTH		TH	LITHO DESCRIPTION		READING ANGLE (°)	SEAM DESIGN	SAMPLE No.	ANALYTICAL DATA						REMARKS †
		FROM	TO		MAIN	AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)				MOIST % o.r.b. residual	ASH % d.b.	VM. % d.b.	FC. % d.b.	F.S.I.	C.V.	
	14.28	14.38	0.10	COAL	bright and dull; powdered; pulverized											
	14.38	14.53	0.15	COAL	dull with bright bands and silvers; slickensides											
	14.53	14.97	0.44	COAL	bright and dull; slickensides; powdered and pulverized END OF BOX 14											
12	87.2 88.9	14.97	15.21	0.24	COAL	dull with bright stringers and bands; some powder END OF BOX 15										
16		15.21	15.36	0.15	COAL	dull with bright stringers and bands										
		15.36	16.10	0.74	COAL	dull with stringers pod; trace sulphides; badly broken										
		16.10	16.20	0.10	MSST											
		16.20	16.41	0.21	COAL	dull and bright; powdered										
		16.41	16.44	0.03	MSST	END OF BOX 16										
17	88.9 91.6	16.44	17.66	1.22	MSST	slickensides fossiliferous; coaly pods END OF BOX 16										
	2 of 2	17.66	18.31	1.47	MSST	gray END OF HOLE										

ALL LINEAR UNITS IN METRES

† R&R/S -- GOLDER ASSOCIATES HARDNESS CODE
 *RQD -- ROCK QUALITY DESIGNATION (%)
 F# -- FRACTURE FREQUENCY

▲ ANGLE MEASURED FROM CORE AXIS

HOLE No.	LC 204
CONTINUED	

CROWS NEST RESOURCES LIMITED

CORE & COAL CORE DESCRIPTION

PROJECT	LINE CREEK
AREA	S.E. B.C.

DATE	BEGIN	1979-08-12
	END	1979-08-13

HOLE No.	LC-205
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PAGE 1
OF 2

HOLE PARTICULARS

LOCATION	S.E. B.C. N 5 533 426.75		
	LINE CREEK E 659 744.44		
ELEVATION	1929.38	HOLE BEARING (AZ) [#]	
TOTAL DEPTH	73.30	HOLE ANGLE (°) [#]	Vert.

LOGGING

LOGS RUN	Coal Lithology, Seam Thickness, Coal Quality
LOGGED BY	SPB
OTHER TESTS	Resistivity Neutron-Neutron Log

COAL CORING PERFORMANCE

CORE DIAMETER	4 7/8"
CORE RECOVERED	16.26
LENGTH CORED	19.1
CORE RECOVERY	88.8 %

EXAMINATION

LOG USED	Seam Thickness
No. OF SEAMS SAMPLED	1 - #8
EXAMINER (S)	M. D'Orsay
DATE	1979-08-14

BOX No.	DEPTH AT TOP OF BOX	DEPTH		TH	LITHO DESCRIPTION		MOORE'S ANGLE (°)	SEAM DESIG.	SAMPLE No.	ANALYTICAL DATA						REMARKS †			
		FROM	TO		MAIN	AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)				MOIST % d.r.b.	ASH % d.b.	V.M. % d.b.	F.C. % d.b.	F.S.I.	C.V.				
1	54.5 55.1	0.00	0.32	0.32	COAL	dull and bright badly broken			Sample B3 B Lifter										
		0.32	0.44	0.12	COAL	dull with bright bands; badly broken													
		0.44	0.57	0.13	COAL	bright END OF BOX 1													
2	55.1 55.7	0.57	0.64	0.07	COAL	powdered			Sample B3 B Lifter										
		0.64	0.97	0.33	COAL	dull with bright bands END OF BOX 2													
3	55.7 58.6	0.97	1.11	0.14	COAL	bright			Sample B3 B Lifter										
		1.11	1.15	0.04	COAL	dull with bright bands													
		1.15	1.25	0.10	COAL	dull and bright													
		1.25	1.31	0.06	COAL	bright with minor dull bands													
		1.31	1.45	0.14	COAL	dull													
		1.45	1.57	0.12	COAL	bright and dull													
		1.57	1.77	0.20	COAL	bright													
4	2.27 2.41 3.07 3.20	1.77	1.84	0.07	COAL	dull with bright bands			Sample B3 B Lifter										
		1.84	1.95	0.11	COAL	bright													
		1.95	2.06	0.11	COAL	dull with bright bands													
		2.06	2.27	0.21	COAL	dull and bright END OF BOX 3													
		2.27	2.41	0.14	COAL	pulverized dull and bright													
4	2.41 3.07 3.20	2.41	3.07	0.66	COAL	dull with bright bands; iron stains			Sample B3 B Lifter										
		3.07	3.20	0.13	COAL	bright with dull bands													
		3.20	3.33	0.13	COAL	dull and bright													

ALL LINEAR UNITS IN METRES

: MEASURED FROM THE HORIZONTAL PLANE
 † : R &/OR S — GOLDR ASSOCIATES HARDNESS CODE
 • RQD — ROCK QUALITY DESIGNATION (%)
 FF — FRACTURE FREQUENCY

▲ ANGLE MEASURED FROM CORE AXIS

HOLE No.	LC-205
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FILE No BA-211A
 REVISED Nov. 1978

CORE & COAL CORE DESCRIPTION

PROJECT	LINE CREEK
AREA	S.E., B.C.

HOLE No.	LC-205
CONTINUED	

BOX No.	DEPTH AT TOP OF BOX	DEPTH		TH	LITHO DESCRIPTION		RECORDING ANGLE (°)	SEAM DESIG.	SAMPLE No.	ANALYTICAL DATA						REMARKS †	
		FROM	TO		MAIN	AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)				MOIST % a.r. b. residual	ASH % d.b.	VM. % d.b.	FC % d.b.	F.S.I.	C.V.		
		3.33	3.45	0.12	COAL	dull with bright bands END OF BOX 4											
5	38.6 61.6	3.45	3.51	0.06	COAL	dull with bright stringers; broken											
		3.51	3.69	0.18	COAL	dull with shaly bands											
		3.69	3.83	0.14	COAL	dull with bright bands											
		3.83	4.68	0.85	COAL	dull with bright and shaly bands; very hard											
		4.68	4.79	0.11	COAL	dull with bright stringers											
		4.79	4.91	0.12	COAL	dull with bright bands END OF BOX 5											
6		4.91	5.05	0.14	COAL	dull and bright with shaly stringers											
		5.05	6.65	1.60	MSST	with occasional coal stringers ← (74) 1.58			Sample vs Split								
		6.65	6.79	0.14	COAL	coal with shaly bands											
		6.79	6.83	0.04	COAL	dull and bright; with shaly bands											
7	61.6 64.6	6.83	6.95	0.12	COAL	dull and bright with minor shaly stringers; badly broken											
		6.95	7.01	0.06	COAL	dull; badly broken											
		7.01	7.10	0.09	COAL	dull with bright stringers; shaly bands											
		7.10	8.58	1.48	COAL	dull with bright bands END OF BOX 7											
8		8.58	8.67	0.09	COAL	bright with shaly bands											
		8.67	8.75	0.06	COAL	dull with bright bands											
		8.75	8.81	0.08	COAL	dull and bright											
		8.81	9.24	0.43	COAL	dull with bright stringers											
		9.24	9.36	0.12	COAL	dull with bright bands											
		9.36	9.61	0.25	COAL	dull with bright stringers											
		9.61	9.91	0.30	COAL	dull and bright END OF BOX 8											
9	64.6 67.6	9.91	10.28	0.37	COAL	dull and bright											
		10.28	10.60	0.32	COAL	dull with bright stringers; badly broken											

ALL LINEAR UNITS IN METRES

1 - R&/OR S - GOLDER ASSOCIATES HARDNESS CODE

▲ ANGLE MEASURED FROM CORE AXIS

* ROD - ROCK QUALITY DESIGNATION (%)

--- FRACTURE FREQUENCY

HOLE No.	LC-205
CONTINUED	

CORE & COAL CORE DESCRIPTION

PROJECT	L'NE CREEK	HOLE No.	LC 205
AREA	S.E. B.C.	CONTINUED	

BOX No.	DEPTH AT TOP OF BOX	DEPTH		TH	LITHO DESCRIPTION		SEAM ANGLE (°)	SEAM DESIG	SAMPLE No.	ANALYTICAL DATA					REMARKS †	
		FROM	TO		MAIN	AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)				MOIST % a. b. residual	ASH % d. b.	VM. % d. b.	FC. % d. b.	F.S.t		C.V.
		10.60	10.80	0.20	COAL	powdered with iron stain										
		10.80	10.86	0.06	COAL	dull with bright bands; iron stain										
		10.86	11.04	0.18	COAL	powdered pulverized; wet										
		11.04	12.22	0.19	COAL	dull and bright; iron stain; badly broken. END OF BOX 9										
10		11.23	11.27	0.04	COAL	dull and bright; with shaly bands										
		11.27	11.39	0.12	COAL	dull and bright; badly broken										
		11.39	12.24	0.85	COAL	dull with occasional bright stringers; hard										
		12.24	12.41	0.17	COAL	dull with bright bands END OF BOX 10										
11	67.6 70.6	12.41	12.52	0.12	COAL	dull and bright										
		12.52	12.87	0.34	COAL	dull with bright stringers										
		12.87	13.12	0.28	COAL	bright										
		13.12	13.24	0.09	COAL	dull; iron stain										
		13.24	13.28	0.04	COAL	bright										
		13.28	13.38	0.10	MDST	coaly stringers; iron stain; slickensides										
		13.38	13.45	0.07	COAL	dull and bright										
		13.45	13.48	0.03	COAL	bright										
		13.48	13.63	0.15	MDST	Coaly stringers; iron stain; slickenside										
		13.63	13.72	0.09	COAL	dull and bright										
		13.72	13.86	0.14	MDST	with bright bands END OF BOX 11										
12		13.86	13.96	0.10	COAL	dull with bright bands										
		13.96	14.17	0.21	COAL	dull with bright stringers										
		14.17	14.51	0.34	COAL	dull and bright; iron staining abundant; slickenside										
		14.51	14.68	0.17	COAL	dull with bright bands and stringers; iron stain										
		14.68	15.28	0.60	COAL	bright and dull; iron staining; END OF BOX 12										

ALL LINEAR UNITS IN METRES

1-R&ORS - GOLDR ASSOCIATES HARDNESS CODE

-RQD - ROCK QUALITY DESIGNATION (%)

-F - FRACTURE FREQUENCY

▲ ANGLE MEASURED FROM CORE AXIS

HOLE No.	LC 205
CONTINUED	

CROWS NEST RESOURCES LIMITED

CORE & COAL CORE DESCRIPTION

PROJECT	LINE CREEK RIDGE
AREA	S.E. B.C.

DATE	BEGIN	1979-08-13
	END	1979-08-14

HOLE No.	LC - 206
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PAGE 1 OF 4

HOLE PARTICULARS

LOCATION	Line Creek (alt)	N 5 533 497.09
	S.E. B.C.	E 660 150.93
ELEVATION	1745.20	HOLE BEARING (AZ)*
		Vert.
TOTAL DEPTH	32.80	HOLE ANGLE (°)*

LOGGING

LOGS RUN	Coal Lithology, Seam Thickness, Coal Quality
LOGGED BY	BPU
OTHER TESTS	Resistivity Neutron-Neutron Log

COAL CORING PERFORMANCE

CORE DIAMETER	4 7/8"
CORE RECOVERED	18.05
LENGTH CORED	18.40
CORE RECOVERY	98 %

EXAMINATION

LOG USED	Seam Thickness
No. OF SEAMS SAMPLED	1 - 28
EXAMINER (S)	M. Schwab B. MacDougall
DATE	1979-08-14

BOX No.	DEPTH AT TOP OF BOX	DEPTH		TH	LITHO DESCRIPTION		SEAM DESIG	SAMPLE No.	ANALYTICAL DATA					REMARKS †		
		FROM	TO		MAIN	AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)			MOIST % a.r.b. residual	ASH % d.b.	V.M. % d.b.	FC. % d.b.	F.S.I.		C.V.	
1	12.00 12.2 1of2	0.00	1.38	1.28	MDST	with interbeds of sandstone; iron oxide stain; core broken END OF BOX 1										
2	2of2	1.38	2.48	1.10	MDST	with interbeds of sandstone; iron oxide stain; core badly broken END OF BOX 2										
3	12.2 14.7	2.48	3.20	0.72	MDST	dark grey; black; plant fragments scattered throughout; medium hard										
		3.20	3.34	0.14	MDST	with bright coaly bands; stickensides										
		3.34	3.44	0.10	COAL	dull and bright; badly broken; trace slicks										
		3.44	3.51	0.07	MDST	with bright coaly bands; slicks										
		3.51	3.60	0.09	COAL	pulverized										
		3.60	3.63	0.03	COAL	bright and dull										
		3.63	3.68	0.05	COAL	dull and bright END OF BOX 3										
4	1of2	3.68	3.82	0.14	COAL	dull; trace sulphides; core broken										
		3.82	4.21	0.39	COAL	dull with bright bands										
		4.21	4.24	0.03	MDST											
		4.24	4.35	0.11	COAL	dull with bright stringers										
		4.35	4.43	0.08	COAL	dull with bright bands										
		4.43	4.50	0.07	COAL	bright with dull bands										
		4.50	4.57	0.07	COAL	bright with dull bands; core not broken										
	4.57	4.92	0.35	COAL	dull with bright bands and stringers; core badly broken; pulverized and powdered END OF BOX 4											
	2.50	4.92	2.44	= 98%												

ALL LINEAR UNITS IN METRES

* : MEASURED FROM THE HORIZONTAL PLANE

▲ ANGLE MEASURED FROM CORE AXIS

† : R &/OR S — GOLDR ASSOCIATES HARDNESS CODE

• RQD — ROCK QUALITY DESIGNATION (%)

FF — FRACTURE FREQUENCY

HOLE No.	LC - 206
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FILE No. BA-211A
REVISED Nov. 1978

CROWS NEST RESOURCES LIMITED

CORE & COAL CORE DESCRIPTION

PROJECT	LINE CREEK RIDGE
AREA	

HOLE No	LC-206
CONTINUED	

PAGE 2
OF 4

BOX No	DEPTH AT TOP OF BOX	DEPTH		TH	LITHO DESCRIPTION	▲ MEASUREMENT ANGLE 1'-1	SEAM DESIG	SAMPLE No.	ANALYTICAL DATA						REMARKS †		
		FROM	TO						MOIST % o.r.b. (residual)	ASH % d.b.	V.M. % d.b.	FC % d.b.	F.S.I.	C.V.			
5	14.7	4.92	5.17	0.25	COAL			Sample 103 Upper									
	17.7																
	2of2																
		5.17	5.21	0.04	COAL												
		5.21	5.32	0.12	COAL												
		5.33	5.36	0.03	COAL												
		5.36	5.59	0.23	COAL												
		5.59	5.71	0.12	COAL												
		5.71	5.92	0.21	COAL												
		5.92	6.12	0.20	COAL												
6	1of2	6.12	6.25	0.13	COAL												
		6.25	6.40	0.15	COAL												
			1.48														
		6.40	6.52	0.12	COAL												
		6.52	6.60	0.08	COAL												
		6.60	7.10	0.50	COAL												
		7.10	7.17	0.07	COAL												
		7.17	7.21	0.04	COAL												
		7.21	7.31	0.10	COAL												
		7.31	7.44	0.13	COAL												
7	2of2	7.44	7.55	0.11	COAL												
		7.55	7.68	0.13	COAL												
		7.68	7.85	0.17	COAL												
			1.45														
		7.85	7.94	0.09	COAL												
		20.7	7.94	8.12	0.18	COAL											
	8.12	8.30	0.18	COAL													

ALL LINEAR UNITS IN METRES

1-R&/OR S - GOLDR ASSOCIATES HARDNESS CODE

*RQD - ROCK QUALITY DESIGNATION (%)

--- FRACTURE FREQUENCY

▲ ANGLE MEASURED FROM CORE AXIS

HOLE No	LC-206
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CORE & COAL CORE DESCRIPTION

PROJECT
AREA

LINE CREEK RIDGE

HOLE No.
CONTINUED

LC - 206

PAGE 3
OF 4

BOX No.	DEPTH AT TOP OF BOX	DEPTH		TH	LITHO DESCRIPTION		BEDDING ANGLE (°)	SEAM DESIGN	SAMPLE No.	ANALYTICAL DATA						REMARKS ¹	
		FROM	TO		MAIN	AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)				MOIST % a.r.b. (residual)	ASH % d.b.	V.M. % d.b.	F.C. % d.b.	F.S.I.	C.V.		
		8.30	9.42	1.12	MDST	dark brown; minor bright coaly bands; iron stain END OF BOX 7											
8	1 of 2	9.42	9.56	0.14	COAL	bright and dull minor MDST; slicks; badly broken											
		9.56	9.78	0.22	COAL	dull with bright stringers; iron stain											
		9.78	9.79	0.01	MDST												
		9.79	10.34	0.55	COAL	dull with thin bright bands; minor iron stain											
		10.34	10.62	0.28	COAL	bright and dull; core badly broken; iron stain											
		10.62	10.82	0.20	COAL	bright with MDST mixed throughout; pulverized											
		10.82	10.86	0.04	MDST												
		10.86	10.94	0.08	COAL	dull with bright stringers											
		10.94	11.00	0.06	MDST	END OF BOX 8											
9	2 of 2	11.00	11.32	0.32	COAL	bright; and dull; badly broken; pulverized; powdered											
		11.32	11.69	0.37	COAL	dull with bright stringers											
		11.69	11.85	0.16	COAL	bright and dull; trace sulphides; minor iron stain											
		11.85	11.91	0.06	COAL	dull with bright bands											
		11.91	12.09	0.18	COAL	pulverized with dirty bands											
		12.09	12.19	0.10	COAL	dull and bright; trace sulphides											
		12.19	12.35	0.16	COAL	bright; slicks											
		12.35	12.45	0.10	COAL	dull with bright bands; slicks; badly broken core END OF BOX 9											
10	1 of 2		12.60	0.15	COAL	dull and bright; badly broken; slicks (minor)											
			12.68	0.08	COAL	bright; badly broken; slicks											
		12.68	12.87	0.19	COAL	bright with dull bands; slicks											
		12.87	13.09	0.22	COAL	dull with bright bands											
		13.09	13.19	0.10	COAL	bright coal with thin dull stringers											
		13.19	13.43	0.24	COAL	pulverized; bright?											

ALL LINEAR UNITS IN METRES

1-R&/OR S - GOLDR ASSOCIATES HARDNESS CODE

*RQD - ROCK QUALITY DESIGNATION (%)

- - - - - FRACTURE FREQUENCY

▲ ANGLE MEASURED FROM CORE AXIS

HOLE No.
CONTINUED

LC-206

FILE No. BA - 212 A

CROWS NEST RESOURCES LIMITED

CORE & COAL CORE DESCRIPTION

PROJECT AREA	LINE CREEK RIDGE
--------------	------------------

HOLE No.	LC - 206
CONTINUED	

PAGE 4 OF 4

BOX No	DEPTH AS TOP OF BOX	DEPTH		TH	LITHO DESCRIPTION		DIPPING ANGLE (°)	SEAM DESIGN	SAMPLE No.	ANALYTICAL DATA						REMARKS	
		FROM	TO		MAIN	AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)				MOIST % a.e.b. residual	ASH % d.b.	V.M. % d.b.	F.C. % d.b.	F.S.I.	C.V.		
		13.43	13.61	0.18	COAL	bright and dull											
		13.61	13.67	0.06	COAL	pulverized and powder END OF BOX 10											
11	23.75 25.5 1of2	13.67	14.46	0.79	COAL	badly broken; pulverized; shaley coal; MDST bands											
		14.46	14.87	0.41	COAL	bright and dull; badly broken											
		14.87	15.07	0.20		bright with dull stringers END OF BOX 11											
12		15.07	15.37	0.30	COAL	powder END OF BOX 12											
13	25.15 28.2 2of2	15.37	15.60	0.23	COAL	bright; pulverized											
		15.60	15.93	0.33	COAL	bright with dull bands; badly broken											
		15.93	16.53	0.60	MDST	dark gray; bright coal chips END OF BOX 13											
14	1of2	16.53	18.03	1.5	MDST	dark gray; bright coal chips END OF BOX 14 END OF HOLE LC - 206											

ALL LINEAR UNITS IN METRES

1 - R&/OR S - GOLDER ASSOCIATES HARDNESS CODE

▲ ANGLE MEASURED FROM CORE AXIS

• RQD - ROCK QUALITY DESIGNATION (%)

1 - FRACTURE FREQUENCY

HOLE No.	LC-206
CONTINUED	

FILE No BA-212A

CORE & COAL CORE DESCRIPTION

PROJECT	LINE CREEK RIDGE
AREA	S. E. B. C.

DATE	BEGIN	A 1979-08-03
	END	1979-08-05

HOLE No.	LC - 207 B
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PAGE 3
OF 2

HOLE PARTICULARS

LOCATION	Line Creek (Pit) N 5 533 885.24 S.E. B.C. E 660 238.04		
ELEVATION	1666.32	HOLE BEARING (AZ°)	
TOTAL DEPTH	66.20	HOLE ANGLE (°)*	Vert.

LOGGING

LOGS RUN	Coal Lithology, Seam Thickness, Coal Quality
LOGGED BY	BPB
OTHER TESTS	Res., Neutron-Neutron Log

COAL CORING PERFORMANCE

CORE DIAMETER	4 7/8"
CORE RECOVERED	21.7
LENGTH CORED	27.2
CORE RECOVERY	79.8 %

EXAMINATION

LOG USED	Seam Thickness
No. OF SEAMS SAMPLED	1 - #8
EXAMINER (S)	% O'Horsay
DATE	1979-08-06

BOX No.	DEPTH AT TOP OF BOX	DEPTH		TH	LITHO DESCRIPTION		SEAM DESIG.	SAMPLE No.	ANALYTICAL DATA						REMARKS †	
		FROM	TO		MAIN	AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)			MOIST %	ASH %	V.M. %	F.C. %	F.S.I.	C.V.		
										o.r.b.	residual	d.b.	d.b.	d.b.		
1	39.0	0.00	1.51	1.51	MDST	dark gray; light and dark gray cross bedded sandy bands	5									
2		1.51	2.71	1.20	MDST	dark gray; frequent coal stringers; 3 mm; about half of core is badly broken										
3	42.0	2.71	3.12	0.41	MDST	gray; light colored sandy layers becoming more abundant										
		3.12	3.68	0.56	SDST	light gray; slightly cross bedded with laminations of MDST sand becomes increasingly coarser grained upwards with fewer MDST laminae	5									
		3.68	3.81	0.13	MDST	gray - laminated										
4	42	3.81	5.04	1.23	SLST	with minor sandstone bands	10									
		5.04	5.51	0.47	SDST	light gray; coarse grained										
		5.51	5.68	0.17	SLST	with minor sandstone bands										
5	44.5	5.68	6.65	0.97	SLST											
		6.75	6.81	0.16	SDST											
		6.91	6.84	0.03	SLST											
		6.94	6.86	0.02	SDST											
		6.96	7.97	0.11	SLST	with sandstone bands										
		7.07	7.01	0.04	SDST	with siltstone bands										
		7.11	7.16	0.15	SLST	with sandstone bands										
6	47.1	7.48	0.32	SLST	medium gray; with coaly bands											
		7.89	0.41	SLST & MDST	dark gray with coal fragments											
7	50.1	8.05	0.16	SLST												
		8.08	0.03	MDST												
		8.39	0.31	SLST												
		8.61	0.22	SLST												

ALL LINEAR UNITS IN METRES

* : MEASURED FROM THE HORIZONTAL PLANE

▲ ANGLE MEASURED FROM CORE AXIS

† : R &/OR S — GOLDR ASSOCIATES HARDNESS CODE

● RQD — ROCK QUALITY DESIGNATION (%)

FF — FRACTURE FREQUENCY

HOLE No. LC - 207

FILE No. BA-211A
REVISED Nov. 1978

CROWS NEST RESOURCES LIMITED

CORE & COAL CORE DESCRIPTION

PROJECT	LINE CREEK RIDGE
AREA	S.E. B.C.

HOLE No.	LC - 207
CONTINUED	

PAGE 2
OF 2

BOX No.	DEPTH AT TOP OF BOX	DEPTH		TH	LITHO DESCRIPTION		DIPPING ANGLE (°)	SEAM DESIG.	SAMPLE No.	ANALYTICAL DATA						REMARKS	
		FROM	TO		MAIN	AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)				MOIST % a.r.b. residual	ASH % d.b.	VM % d.b.	FC % d.b.	F.S.I.	C.V.		
			8.75	0.14	SLST	with minor sandstone bands											
			8.81	0.06	SDST												
			9.18	0.37	SLST	with minor sandstone bands											
			9.24	0.06	SDST	with minor siltstone bands											
			9.72	0.48	SLST												
8	51.9		10.29	0.37	MDST	with minor coaly bands											
			10.65	0.36	MDST												
			10.95	0.30	COAL												
			11.57	0.62	COAL												
			12.16	0.59	COAL												
			12.64	0.68	COAL												
			13.42	0.58	COAL												
			13.76	0.34	COAL												
9	54.9		13.98	0.22	MDST	with minor coaly bands											
			14.10	0.12	COAL												
	56.6		15.42	1.32	COAL	dull											
10	58.0		15.95	0.53	COAL												
			17.31	1.36	COAL												
11	61.0		18.08	0.77													
			18.28	0.20	MDST	coaly											
			18.44	0.16	MDST	medium gray; carbonaceous											
12	64		19.90	1.46	SLST	medium gray											
			21.78	1.88	SLST	with minor coaly bands											
	66.2																
						END OF HOLE											

Sample 15
 Sample 16
 Sample 17
 Sample 18
 Sample 19
 Sample 20
 Sample 21
 Sample 22
 Sample 23
 Sample 24
 Sample 25
 Sample 26
 Sample 27
 Sample 28
 Sample 29
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 Sample 90
 Sample 91
 Sample 92
 Sample 93
 Sample 94
 Sample 95
 Sample 96
 Sample 97
 Sample 98
 Sample 99
 Sample 100

ALL LINEAR UNITS IN METRES

1-R&/OR S — GOLDER ASSOCIATES HARDNESS CODE
 +RQD — ROCK QUALITY DESIGNATION (%)
 — FRACTURE FREQUENCY

▲ ANGLE MEASURED FROM CORE AXIS

HOLE No.	LC - 207
CONTINUED	

FILE No 8A-212A

CROWS NEST RESOURCES LIMITED

CORE & COAL CORE DESCRIPTION

PROJECT	LINE CREEK RIDGE
AREA	S.E. B.C.

DATE	BEGIN	1979-08-10
	END	1979-08-11

HOLE No.	REDRILL
	207 C

PAGE 1 OF 2

HOLE PARTICULARS

LOCATION	LINE CREEK (Pt) N 5 533 895.08		
	S.E. B.C.	E 660 236.24	
ELEVATION	1666.85	HOLE BEARING (AZ) [°]	Vert.
TOTAL DEPTH	69.85	HOLE ANGLE (°) [*]	

LOGGING	Coal Lithology, Seam Thickness, Coal Quality
LOGGED BY	BPJ
OTHER TESTS	Resistivity Neutron-Neutron Log

COAL CORING PERFORMANCE	
CORE DIAMETER	4 7/8"
CORE RECOVERED	15.6
LENGTH CORED	16.9
CORE RECOVERY	92.3 %

EXAMINATION	
LOG USED	Seam Thickness
No. OF SEAMS SAMPLED	1 - #8
EXAMINER (S)	M. D'Orsay
DATE	1979-08-11

BOX No.	DEPTH AT TOP OF BOX	DEPTH		TH	LITHO DESCRIPTION		▲ MOIST. SAMPLE (%)	SEAM DESIG.	SAMPLE No.	ANALYTICAL DATA						REMARKS †	
		FROM	TO		MAIN	AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)				MOIST % a.r.b.	MOIST % residual	ASH % d.b.	V.M. % d.b.	F.C. % d.b.	F.S.I.		C.V.
1	48	0.00	2.58	2.58	SLTSH	with minor coal bands and sandstone bands	10										
			2.62	0.03	MDST	with coal											
				0.08	COAL	dull with bright bands											
				0.07	COAL	bright											
			2.86	0.15	COAL	dull and bright											
2	51	3.07	0.27	0.27	MDST	with coal bands	0.245										
				0.28	COAL	bright with dull											
			3.65	0.30	COAL	bright with dull											
			3.68	0.03	MDST												
				0.34	COAL	rubble; bright with dull											
3	52.3			0.20	COAL	powdered and rubble	1.16										
				0.87	COAL	bright with dull											
4	55.6	5.34	0.25	0.25	COAL	bright with dull	1.07										
			5.38	0.03	MDST												
				1.26	COAL	bright with dull	1.545										
5	55.3		0.70	0.70	COAL	rubble and powder dull with bright	0.70										
6	56.1	7.67	0.33	0.33	COAL	bright with dull											
			8.17	0.50	MDSH	with coal bands											
			8.30	0.13	COAL	dull with bright											
			8.48	0.18	MDST												
			8.51	0.03	COAL	bright											
			8.61	0.09	MDST	with coal bands											

ALL LINEAR UNITS IN METRES

▲ : MEASURED FROM THE HORIZONTAL PLANE

▲ ANGLE MEASURED FROM CORE AXIS

† : R &/OR S — GOLDR ASSOCIATES HARDNESS CODE

+RQD — ROCK QUALITY DESIGNATION (%)

FF — FRACTURE FREQUENCY

HOLE No.	REDRILL
	207

FILE No. BA-211A
REVISED Nov. 1978

CROWS NEST RESOURCES LIMITED

CORE & COAL CORE DESCRIPTION

PROJECT	LINE CREEK RIDGE
AREA	

HOLE No.	REDRILL
CONTINUED	207

PAGE 2
OF 2

BOX No.	DEPTH AT TOP OF BOX	DEPTH		TH	LITHO DESCRIPTION		DIPPING ANGLE (°)	SEAM DESIG.	SAMPLE No.	ANALYTICAL DATA						REMARKS?	
		FROM	TO		MAIN	AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)				MOIST % a.r.b. (residual)	ASH % d.b.	VM. % d.b.	FC. % d.b.	F.S.I.	C.V.		
			8.79	0.18	COAL	bright with dull											
			8.86	0.07	MDST												
7	57.9			0.45	COAL	dull with bright											
				0.19	COAL	bright with dull											
				0.78	COAL	bright with dull											
8	59.1			0.50	COAL	dull with bright											
				0.02	COAL	bright											
				0.44	COAL	bright and dull											
				0.26	COAL	bright with dull											
				0.015	MDST												
				0.49	COAL	bright with dull											
9	60.8			0.81	COAL	dull and bright											
				0.40	COAL	bright with dull											
10	61.3			0.35	COAL	bright and dull											
				0.37	COAL	dull with bright											
				0.47	COAL	dull and bright											
				0.50	COAL	bright with dull											
11	63.7	15.01		0.50	COAL	rubble and powder; bright with dull											
			15.62	0.61	MDST	with coal											

ALL LINEAR UNITS IN METRES

1-R&OR-S — GOLDER ASSOCIATES HARDNESS CODE
 •RQD — ROCK QUALITY DESIGNATION (%)
 F — FRACTURE FREQUENCY

▲ ANGLE MEASURED FROM CORE AXIS

HOLE No.	REDRILL
CONTINUED	207



BOREHOLE IC 201
CLIENT Crows Nest Resources Ltd.

AREA Line Creek, E.C.
COUNTRY Canada

DATE LOGGED 29/08/09

DEPTH SCALE 20:1

2 OF 4 LOGS

COAL QUALITY LOG

BOREHOLE DATA REFER TO LITHOLOGY LOG
OPERATION DATA REFER TO LITHOLOGY LOG
EQUIPMENT AND RECORDING DATA
COAL COMBINATION SONDE

LOG TYPING SIDEWALL POSITION
LOG NO. 1000
LOG SPEED 2
LOG SPEED SECS NORM 2
LOG SPEED SECS NORM 2
LOG SPEED SECS NORM 1.3
LOG SPEED SECS NORM 1.3
LOG SPEED SECS NORM 1.3

SONDE TYPE:
COAL COMBINATION SONDE

LOG SUITE:
GAMMA RAY
L.S. DENSITY

COAL QUALITY LOG INTERVALS
FROM 1.37m
TO 11.4m
INTERVAL 2.2m

INTERVAL TOTAL 22.2

REMARKS

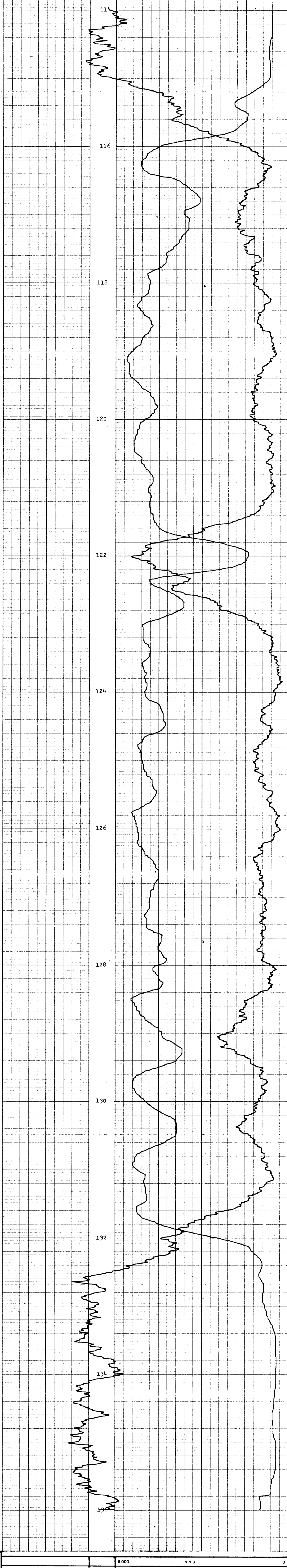
421

BPB COAL QUALITY LOG

DEPTH	GAMMA RAY	COAL BULK DENSITY
		g/cm ³

HOLE SIZE CORRECTION DATA	
2'	1.2
4'	1.25
6'	1.3
8'	1.35
	1.4
	1.45
	1.5
	1.55
	1.6
	1.7
	1.8
	1.9
	2.0
	2.2
	2.4
	3.0

150	AFI	0
6,000	s d u	0



6,000	s d u	0
150	AFI	0

DEPTH	GAMMA RAY	COAL BULK DENSITY
		g/cm ³

BOREHOLE IC 201
CLIENT Crows Nest Resources Ltd.
AREA Line Creek, E.C.
COUNTRY Canada

COAL QUALITY LOG



K-SHELL LIVE CREEK 79(3)A 201



BOREHOLE LC 201
CLIENT Crows Nest Resources Ltd.

AREA Live Creek, E.C.
COUNTRY Canada

DEPTH SCALE
2011
DATE LOGGED 29/09/09

SEAM THICKNESS LOG

BOREHOLE DATA REFER TO LITHOLOGY LOG
OPERATION DATA REFER TO LITHOLOGY LOG
EQUIPMENT AND RECORDING DATA
COAL COMBINATION SONDE

SONDE TYPE:
COAL COMBINATION SONDE

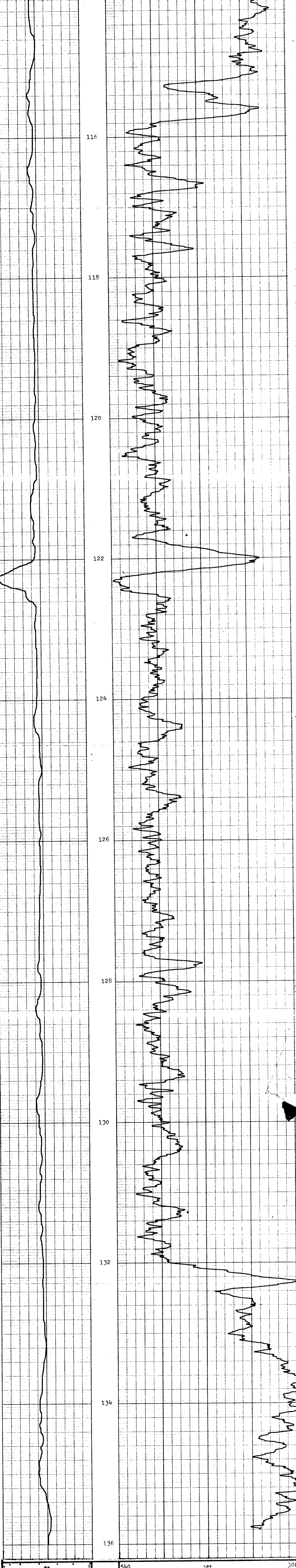
LOG SUITE:
CALIPER
BR DENSITY

SEAM THICKNESS LOG INTERVALS

421

B P B SEAM THICKNESS LOG

CALIPER INCHES	DEPTH	BED RESOLUTION DENSITY cps
2	540	300



CALIPER INCHES	DEPTH	BED RESOLUTION DENSITY cps
2	540	300



BOREHOLE LC 201
CLIENT Crows Nest Resource Ltd.

AREA Live Creek
COUNTRY Canada

SEAM THICKNESS LOG



K-SHELL LOG Q854C 79(3)7 201

Resistivity
Neutron-Neutron

BOREHOLE IC 201

CLIENT Grows Nest Resources

AREA Line Creek, B.C.

COUNTRY Canada

DATE LOGGED 79/08/09

DEPTH SCALE
100:1

LOGS

BOREHOLE DATA REFER TO LITHOLOGY LOG

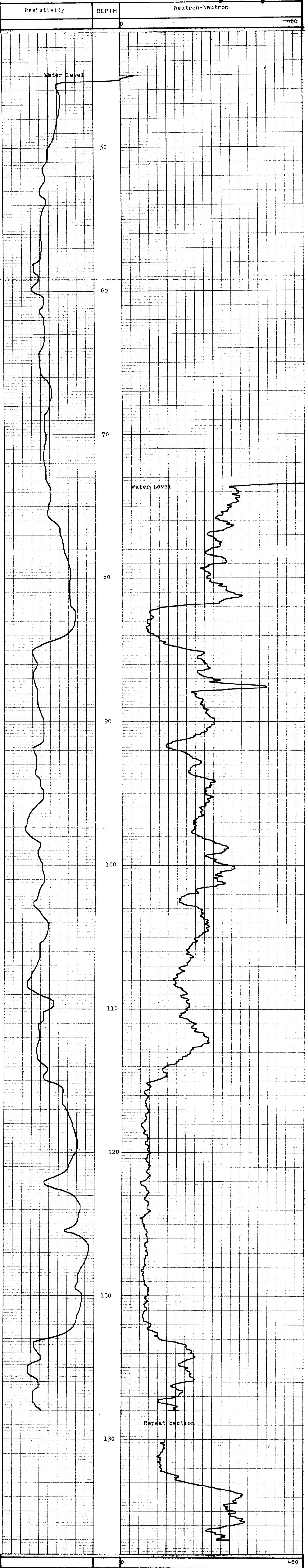
OPERATION DATA REFER TO LITHOLOGY LOG

EQUIPMENT AND RECORDING DATA

LOG	TAPPING	PANEL	CAL
LOG	RECORD	T.C.	COEFF
Res.	TAPE SPEED	REACT	NOISE
N-N	N	D	9
			1
			0.62

REMARKS
Water level dropped from 45.5 m during the Resistivity log to 73.5m on the Neutron-Neutron log.

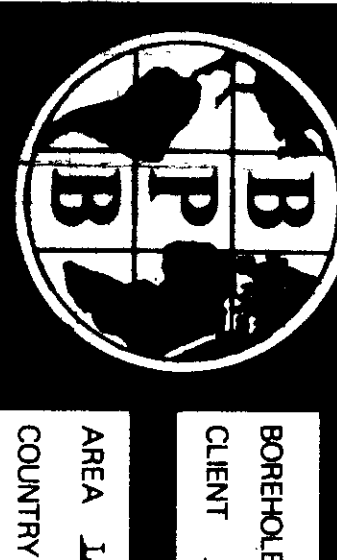
421



Resistivity	DEPTH	Neutron-Neutron
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BOREHOLE IC 201	AREA Line Creek, B.C.
CLIENT Grows Nest Resources Ltd.	COUNTRY Canada





BOREHOLE LC 201
 CLIENT Crows Nest Resources Ltd.

AREA Line Creek, B.C.
 COUNTRY Canada

DATE LOGGED 79/08/09

DEPTH SCALE
 100:1

1 OF 4 LOGS

COAL LITHOLOGY LOG

PERMANENT LOCATION Ground Level
 ELEVATION OF P.D. 0
 MESS/REMARKS G.P.
 DEPTH REACHED 138.2m
 CASING SIZE 1 5/8" B/O 100m
 CASING SIZES 3 1/2" B/O 138m

SONDE TYPE

SONDE COMBINATION SONDE
 LOG SUITE GAMMA RAY
 CALIBER L.DENSITY

OPERATION DATA

LAST READING 1.36m
 INTERNAL LOGGED 1.36m
 UNIT-TRUCK No. 42/2-5
 ENGINEER D. Reed
 WITNESS T. Harbath

MATERIAL water/air
 VISCOSITY much
 LEVEL very low

421

EQUIPMENT AND RECORDING DATA

LOG	EQUIPMENT			TAPING			PANEL			CAL COEFF		DEPTHS		SEAM LOG RUN
	SONDE	SOURCE	CALIBRATOR	LOG TAPED	RECORD SPEED	DIRECT REPLAY	SPEED	IC SECS	NORM	FROM	TO	INTERVAL		
GAMMA RAY	89	5821		Y	9	R	9	1		1.62	136m	0	136m	Y
DENSITY				Y	9	R	9	1/3	6.04		136m		136m	Y
CALIBER							9	1/3			136m		136m	Y

COAL QUALITY/SEAM THICKNESS LOG INTERVALS (Refer to relevant log)

FROM	TO	INTERVAL TOTAL
136m	114m	22m

ADDITIONAL SONDES RUN				REFER TO ADDITIONAL HEADINGS	REMARKS Gamma re-run above water level which was continuously dropping throughout the logging period.
SONDE	LOG	GENERAL SCALE LOG	DETAIL LOG		
Res.	100:1				
N-N	100:1				

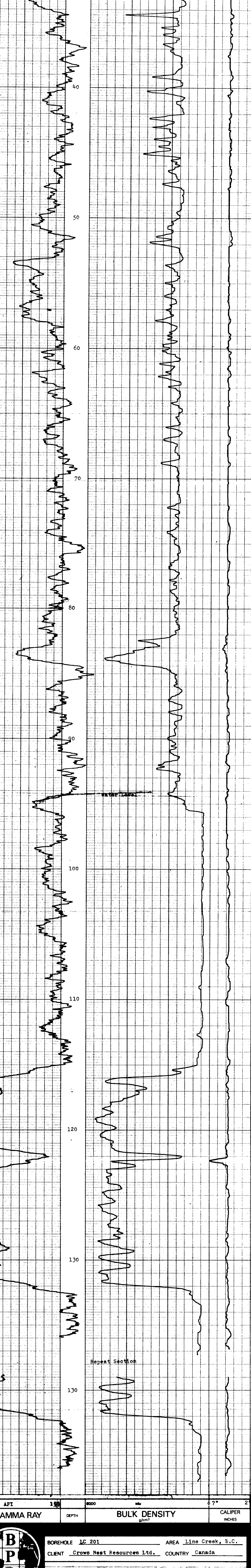
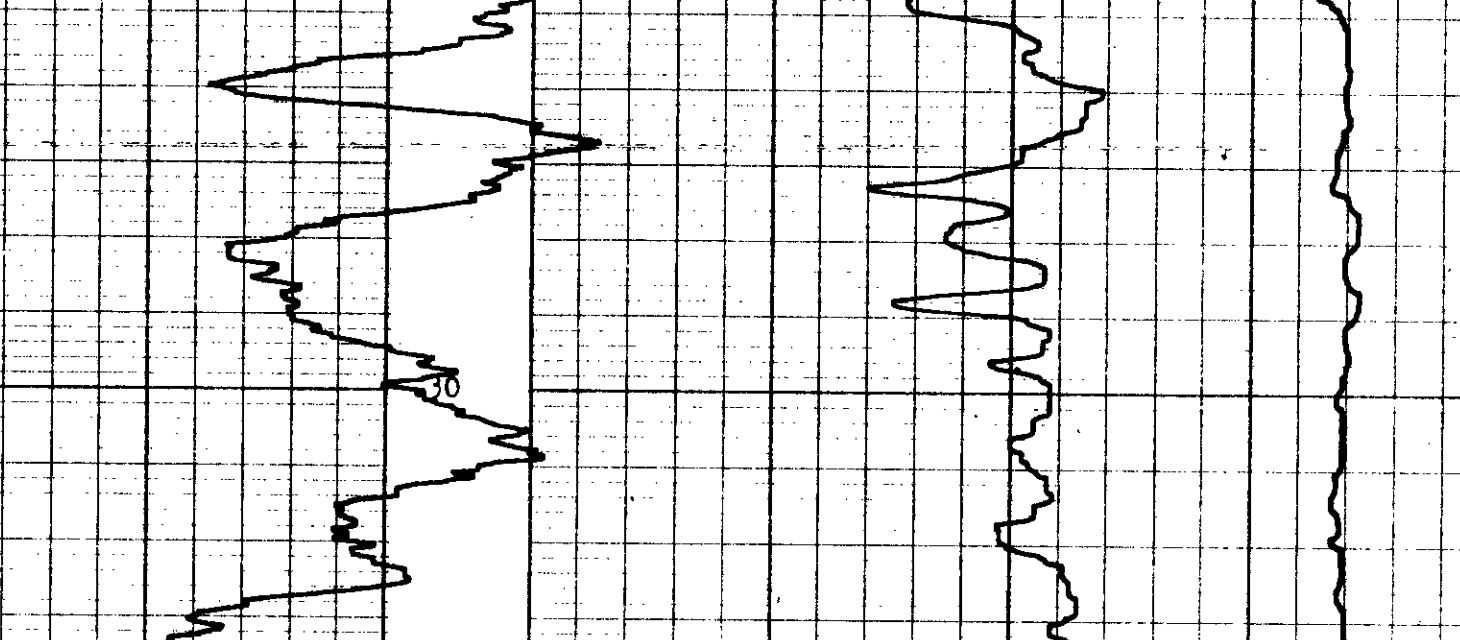
BPB COAL LITHOLOGY LOG

CALIBRATION DATA

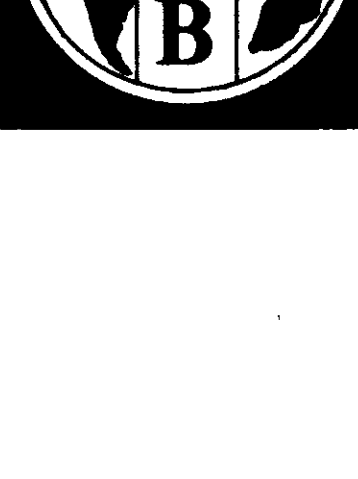
JIG No.	VALUES	JIG CAL DATE	JIG VALUES	SDU	g/cm ³	7 in	904 cps
521	@ 2" DIAM		5750				
JIG MARK SHOWN AT ABOVE VALUE		SPAN 6000		NORM	6.04	2 in	504 cps

GAMMA RAY	DEPTH	BULK DENSITY	CALIPER
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HOLE SIZE CORRECTION DATA



GAMMA RAY	DEPTH	BULK DENSITY	CALIPER
-----------	-------	--------------	---------



BOREHOLE LC 201 AREA Line Creek, B.C.
 CLIENT Crows Nest Resources Ltd. COUNTRY Canada

COAL LITHOLOGY LOG

CROWS NEST RESOURCES LIMITED
COAL CORE DESCRIPTION

42!

HOLE PARTICULARS

LOCATION	LINE CREEK (PIT) N 5 534 253.23
ELEVATION	S.E. B.C. E 549 307.68
TOTAL DEPTH	2057.48 m
	HOLE BEARING(AZ°)
	HOLE ANGLE (°)*
	Vert.

PROJECT	LINE CREEK	BEGIN	1979-08-09	HOLE No.	LC-201
AREA	S.E. B.C.	END	1979-08-10		
LOGGING	COAL LITHOLOGY, SEAM THICKNESS, COAL QUALITY	LOG USED		SEAM THICKNESS	
LOGS RUN	BPB	CORE DIAMETER	4 7/8 in	No. OF SEAMS SAMPLED	1 - # 8
LOGGED BY	BPB	CORE RECOVERED	32.22 m	EXAMINER (S)	H. SCHWARZ
OTHER TESTS	RESISTIVITY	LENGTH CORED	34.5 m	DATE	1979-08-12
	NEUTRON-NEUTRON LOG	CORE RECOVERY	93.4%		

BPB COAL QUALITY LOG

GAMMA RAY
COAL BULK DENSITY
g/cm³

HOLE SIZE CORRECTION DATA

2	1.35	1.4	1.45	1.5	1.55	1.6	1.7	1.8	1.9	2.0	2.2	2.4	3.0
---	------	-----	------	-----	------	-----	-----	-----	-----	-----	-----	-----	-----

150	API	0
6000	s.d.u.	0

BPB SEAM THICKNESS LOG

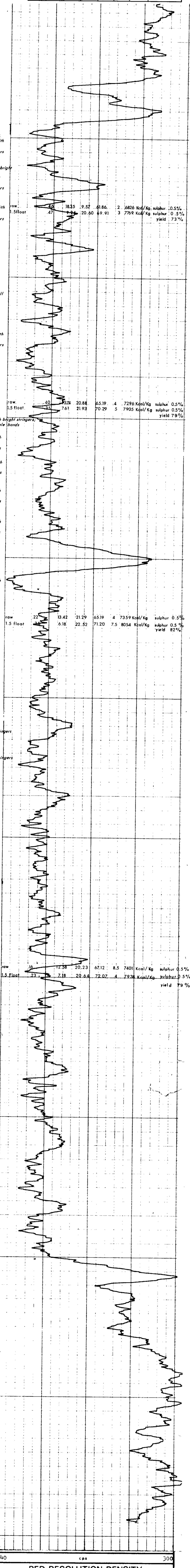
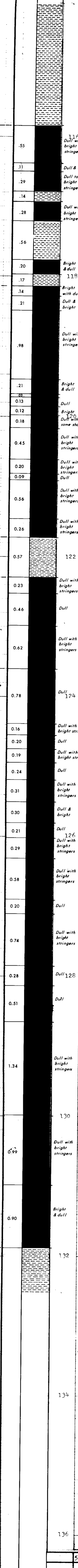
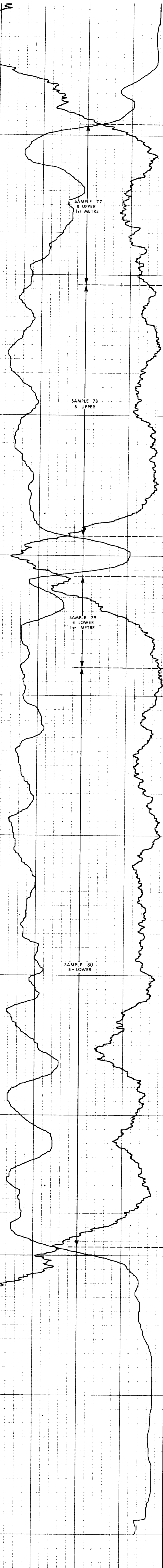
BED RESOLUTION DENSITY
SBRDU

LITHOLOGY LEGEND

COAL	SILTSTONE
COALY SHALE	FINE GRAIN SANDSTONE
CARBONACEOUS SHALE	MEDIUM GRAIN SANDSTONE
SHALE	COURSE GRAIN SANDSTONE
MUDSTONE	

ANALYTICAL DATA

MOIST %	ASH %	V.M. %	F.C. %	F.S.I.	C.V.	REMARKS
a.r.b. / pasidul	d.b.	d.b.	d.b.			



6000	s.d.u.	0
150	API	0

COAL BULK DENSITY
GAMMA RAY

DEPTH	540	300
	cps	

BED RESOLUTION DENSITY
SEAM THICKNESS LOG

C 201
Crows Nest Resources Ltd.
AREA Line Creek, B.C.
COUNTRY Canada

HOLE LC 201
Crows Nest Resources Ltd.
AREA Line Creek
COUNTRY Canada

H1-42

MY 68002 R

COAL QUALITY LOG



Resistivity
Neutron-Neutron

BOREHOLE IC 202
CLIENT Crows Nest Resources Ltd.

AREA Line Creek, BC
COUNTRY Canada
DATE LOGGED 29/08/12

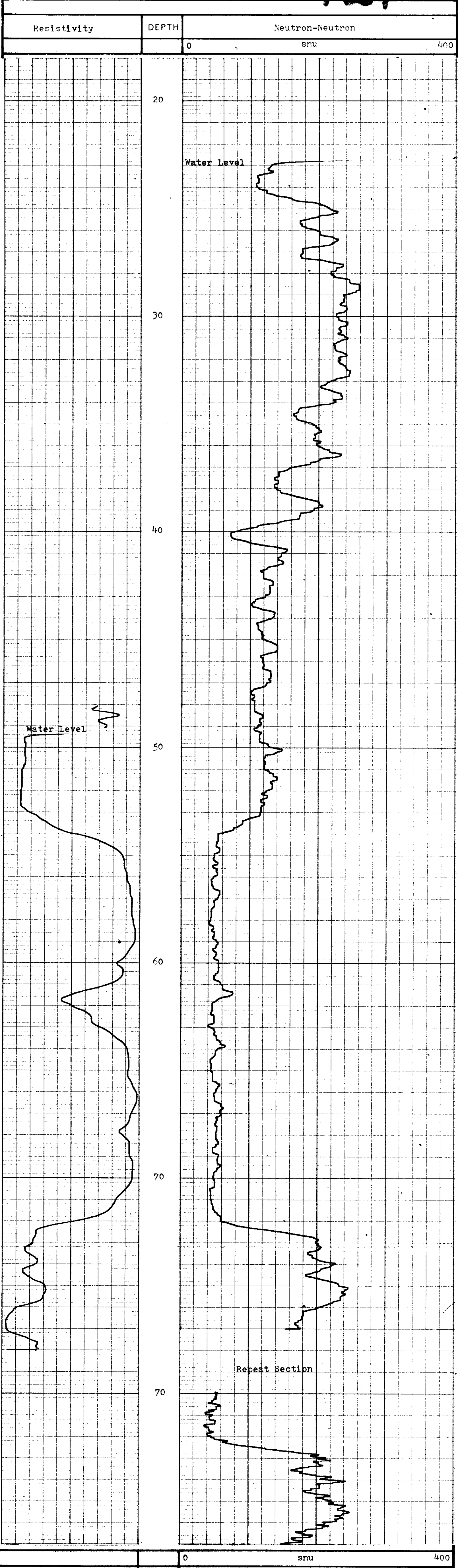
1601 SCALE
4 of 4 LOGS

BOREHOLE DATA REFER TO Lithology LOG
OPERATION DATA REFER TO Lithology LOG
EQUIPMENT AND RECORDING DATA

LOG	TAPPING	PANEL	CAL
LOG	RECORD DIRECT	SPEED	SCCS
LOG	TAPE	NO.	NORM
Res.	D	9	
N-N	Y	9	1
			0.62

REMARKS
During the logging period the hole was being filled with water hence the varying water levels on different logs.

421



Resistivity	DEPTH	Neutron-Neutron	0	400
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BOREHOLE IC 202
CLIENT Crows Nest Resources Ltd.
AREA Line Creek, BC
COUNTRY Canada



L-SHELL LINE CREEK 79(1)A 202



BOREHOLE LC 202
 CLIENT Crows Nest Resources Ltd.

AREA Line Creek, BC
 COUNTRY Canada

DATE LOGGED 20/03 3 of 4 LOGS

DEPTH SCALE
201

SEAM THICKNESS LOG

SEAM THICKNESS LOG INTERVALS

SONDE TYPE:
 COAL
 COMBINATION
 SONDE

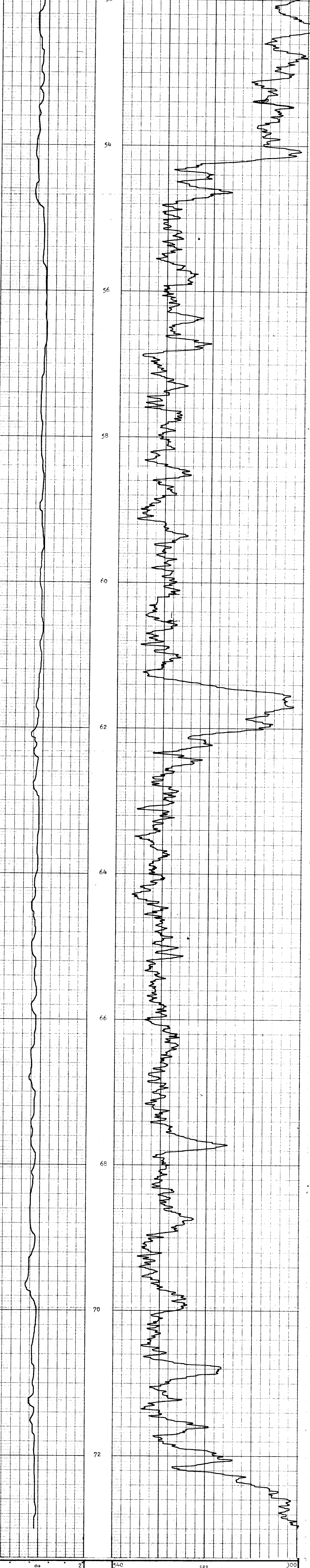
LOG SUITE:
 CALIPER
 BR DENSITY

FROM 7.25 TO 7.25
 INTERVAL 2.1m
 FROM 7.25 TO 9.35
 INTERVAL 2.1m
 FROM 9.35 TO 11.45
 INTERVAL 2.1m
 REMARKS

421

B P B SEAM THICKNESS LOG

CALIPER INCHES	DEPTH	BED RESOLUTION DENSITY
7" dia	2'	540 cps



CALIPER INCHES	DEPTH	BED RESOLUTION DENSITY
7" dia	2'	540 cps

BOREHOLE LC 202 AREA Line Creek, BC
 Crows Nest Resources Ltd. COUNTRY Canada

SEAM THICKNESS LOG

K-SHELL LINE CREEK 79(1)A 202



COAL QUALITY LOG

SONDE TYPE:
COAL COMBINATION SONDE

LOG SUITE:
 GAMMA RAY
 L S DENSITY

BOREHOLE IC 202
CLIENT Crows Nest Resources Ltd.
AREA Line Creek, BC
COUNTRY Canada
DATE LOGGED 79/08/12
 2 OF 4 LOGS

DEPTH SCALE
 20:1

BOREHOLE DATA REFER TO LITHOLOGY LOG
OPERATION DATA REFER TO LITHOLOGY LOG
EQUIPMENT AND RECORDING DATA
COAL COMBINATION SONDE
LOG TAPPING PANEL SIDEWALL POSITION
 LOG LABEL SPEED SEC NORM COEFF
 GAMMA X 2 R 2 1 6.11
 L.S. DENSITY X 2 R 2 1 1.62
 SOURCE SONDE AND CALIBRATION
 REFER TO LITHOLOGY LOG

COAL QUALITY LOG INTERVALS

FROM 7.3m
 TO 5.2m
 INTERVAL 2.1m

INTERVAL TOTAL 4.2m

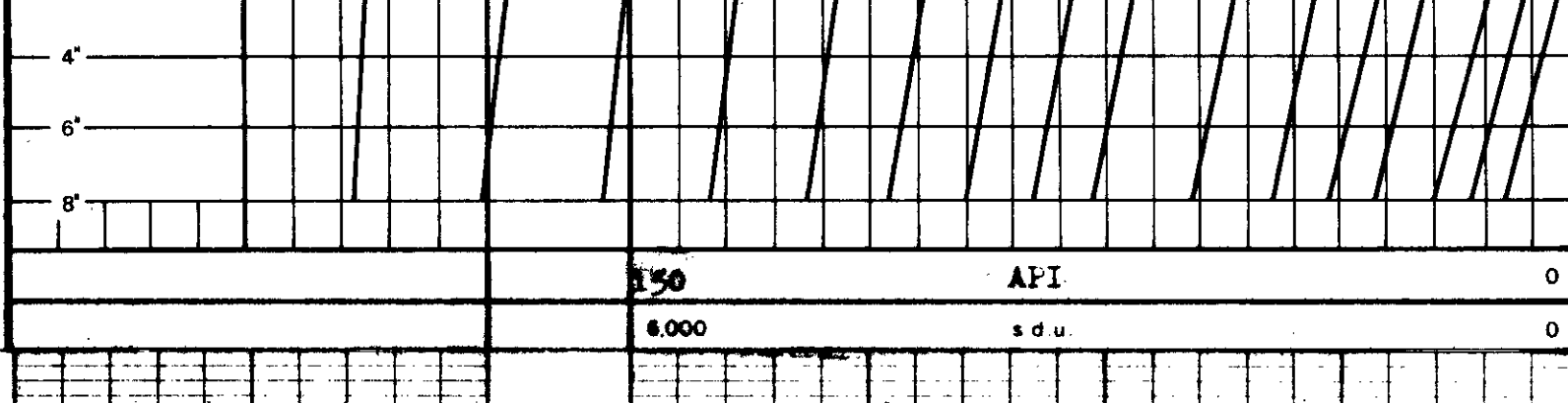
REMARKS

421

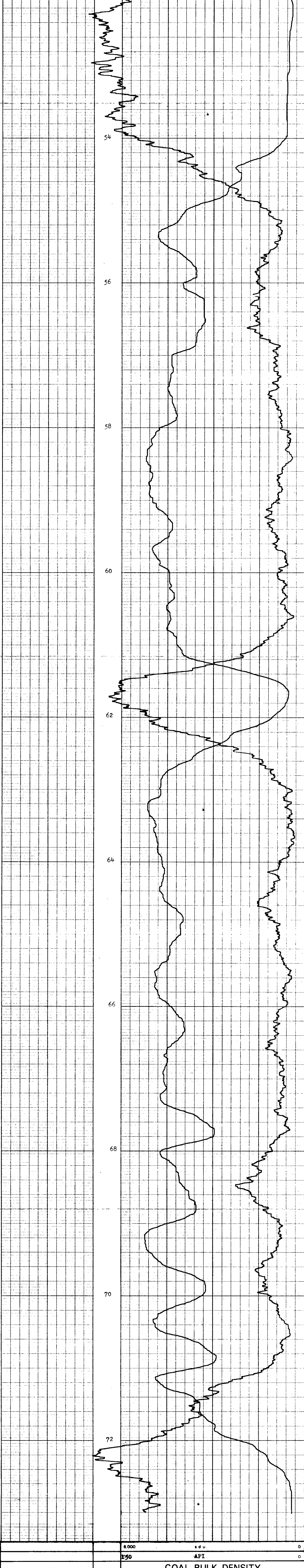
B P B COAL QUALITY LOG

GAMMA RAY
COAL BULK DENSITY
 g/cm³

HOLE SIZE CORRECTION DATA



API 0
 s.d.u. 0



API 0
 s.d.u. 0

COAL BULK DENSITY
 g/cm³

GAMMA RAY



BOREHOLE IC 202
CLIENT Crows Nest Resources Ltd.

AREA Line Creek, BC
COUNTRY Canada

COAL QUALITY LOG

MT 88023 R



K-SHELL LIVE CREEK 79(2)A 202

BOREHOLE IC 202
CLIENT Crows Nest Resources Ltd.

AREA Line Creek, BC
COUNTRY Canada
DATE LOGGED 29/08/12

DEPTH SCALE 100:1
1 or 4 LOGS

COAL LITHOLOGY LOG

SONDE TYPE: COAL COMBINATION SONDE

LOG SUITE: GAMMA RAY
L.S. DENSITY
CALIPER

BOREHOLE DATA
PERMANENT DATUM Ground Level
ELEVATION OF P.O. BRB
MEASUREMENT FROM G.L. 78.33
DEPTH REACHED 4.5
CASING SIZE 1 5/8 TO 2 1/4
CASING SIZES 1 5/8 TO 2 1/4

FLUID DATA
NATURE Water/Air
SG Variable
LEVEL Variable
VISCOSITY
BHT

OPERATION DATA
FIRST READING 7.6m
LAST READING 0m
INTERVAL LOGGED 7cm
UNIT-TRUCK No. 12/25
ENGINEER J. Reed
WITNESS J. Hannah

421

EQUIPMENT AND RECORDING DATA

LOG	EQUIPMENT			TAPING			PANEL		CAL COEFF	DEPTHS			SEAM LOG RUN
	SONDE	SOURCE	CALIBRATOR	LOG TAPED	RECORD SPEED	DIRECT or REPLAY	SPEED	TC SECS		NORM	FROM	TO	
GAMMA RAY	134			Y	9	R	9	1	1.62	76	0	76	Y
L.S. DENSITY	134	5821		Y	9	R	9	1/3	6.14	76	0	76	Y
CALIPER	SIDEWALL POSITION			Y	9	R	9	1/3		76	0	76	Y

COAL QUALITY/SEAM THICKNESS LOG INTERVALS (Refer to relevant log)												
FROM	73m											INTERVAL TOTAL
TO	52											
INTERVAL	21m											+21m

ADDITIONAL SONDES RUN				REFER TO ADDITIONAL HEADINGS	REMARKS
SONDE	LOG	GENERAL SCALE	DETAIL SCALE		
	Res.	100:1			
	N-N	100:1			
	Vert.	20m interval			

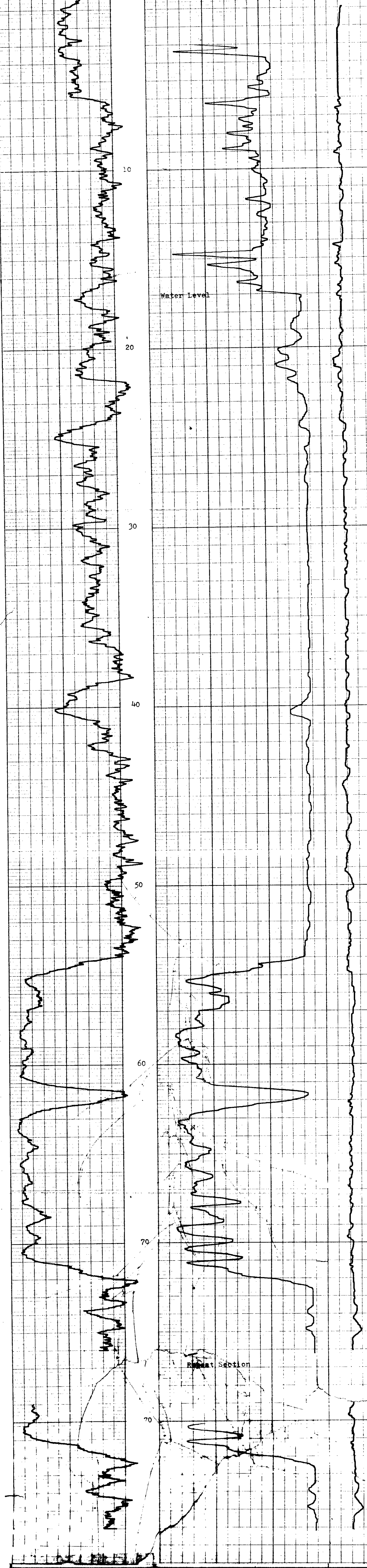
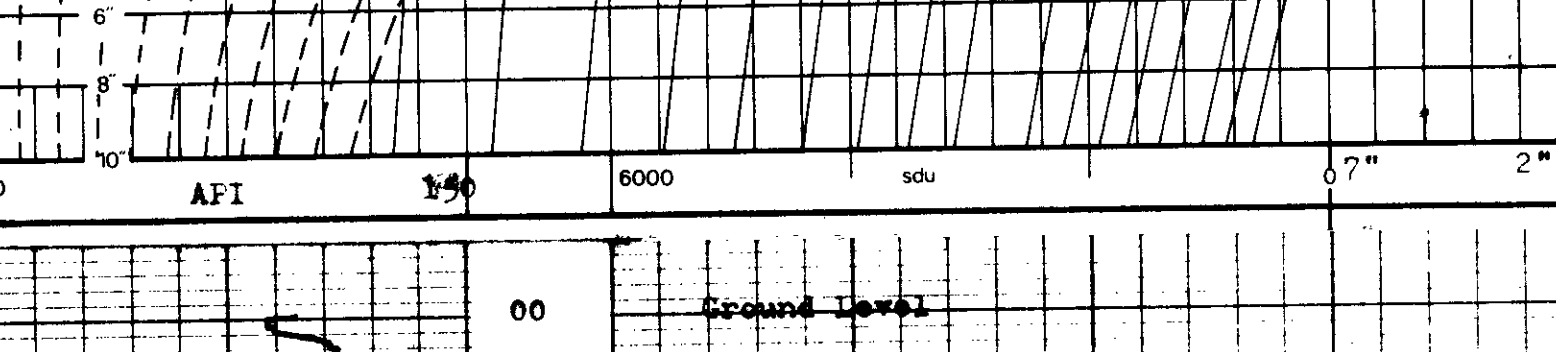
BPB COAL LITHOLOGY LOG

CALIBRATION DATA

JIG No. VALUES 21 @ 2" DIAM	JIG CAL DATE	JIG VALUE 5750	SDU @	g/cm ³	7 ms	906 cps
JIG MARK SHOWN AT ABOVE VALUE -	JIG No. 005	SPAN 6000	NORM	SDU = 6.14	2 ms	504 cps

GAMMA RAY	DEPTH	BULK DENSITY g/cm ³	CALIPER INCHES
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HOLE SIZE CORRECTION DATA



GAMMA RAY	DEPTH	BULK DENSITY g/cm ³	CALIPER INCHES
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BOREHOLE IC 202 AREA Line Creek, BC
CLIENT Crows Nest Resources Ltd. COUNTRY Canada

COAL LITHOLOGY LOG

CROWS NEST RESOURCES LIMITED
COAL CORE DESCRIPTION

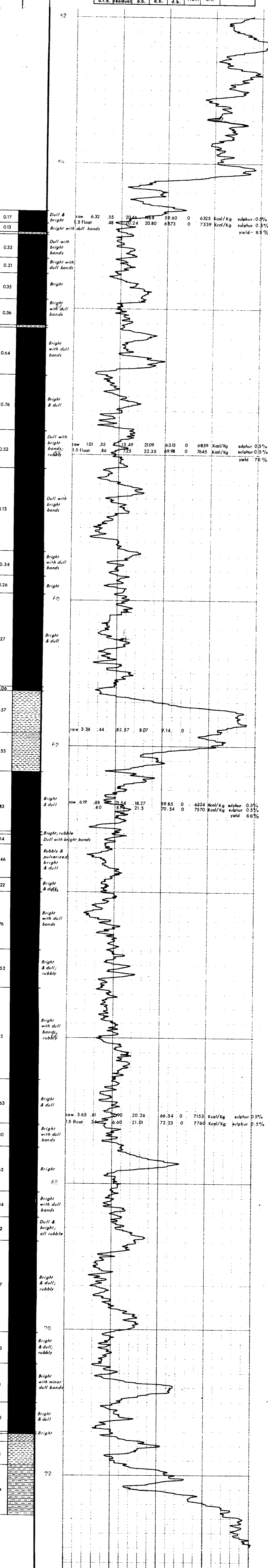
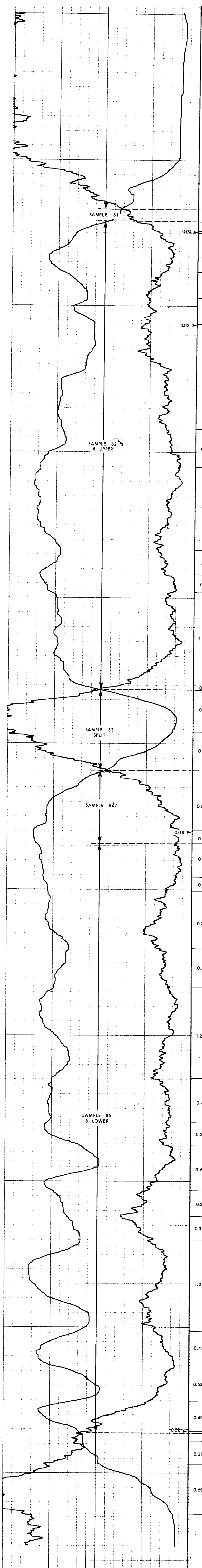
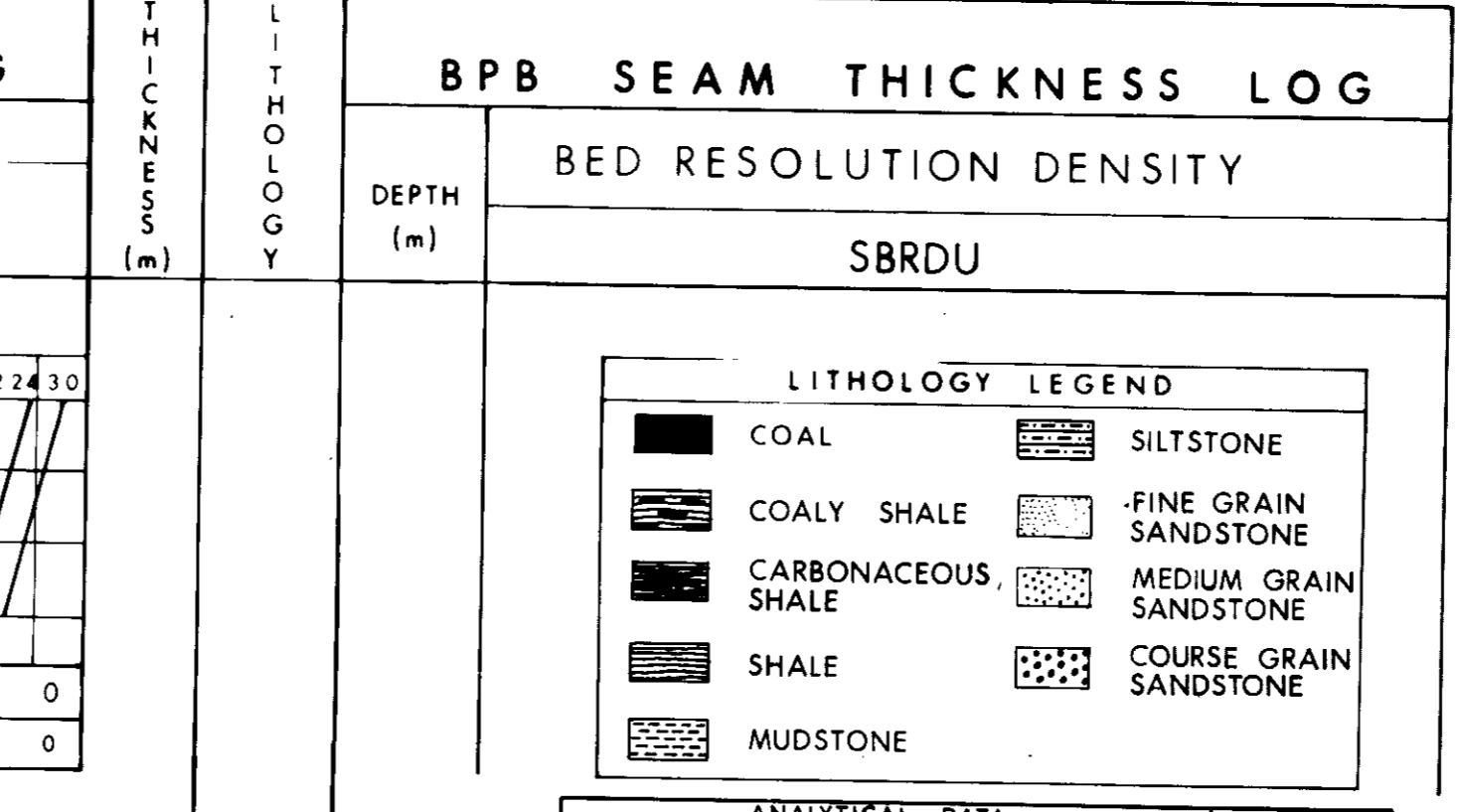
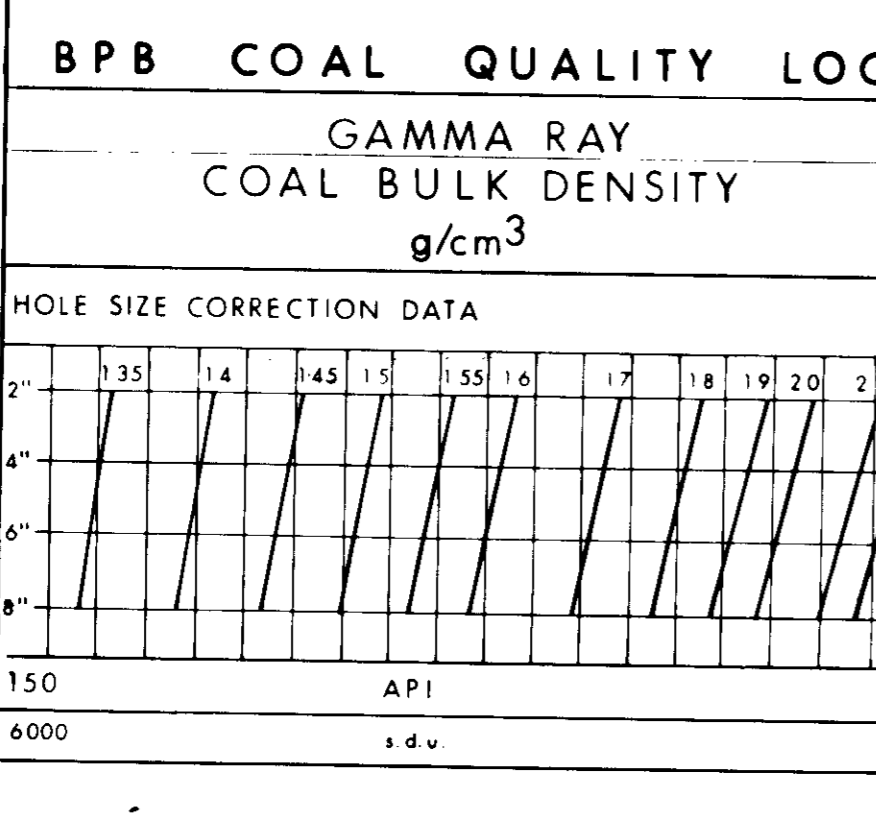
421

HOLE PARTICULARS

LOCATION	LINE CREEK (PIT) N 5 533 971.98
ELEVATION	2014.52 m
TOTAL DEPTH	78.33 m
S.E. B.C. E 659 416.70	
HOLE BEARING(AZ ⁹)	
HOLE ANGLE (9)* Ver.	

PROJECT	LINE CREEK RIDGE
AREA	S.E. B.C.
LOGS RUN	COAL LITHOLOGY SEAM THICKNESS COAL QUALITY
LOGGED BY	BPB
OTHER TESTS	RESISTIVITY NEUTRON-NEUTRON LOG

BEGIN	1979-08-11	HOLE No.	LC-202
END	1979-08-12		
COAL CORING PERFORMANCE		EXAMINATION	
CORE DIAMETER	4 7/8 in	LOG USED	SEAM THICKNESS
CORE RECOVERED	17.77m	No. OF SEAMS SAMPLED	1 - #8
LENGTH CORED	18.60m	EXAMINER (S)	M DORSAY
CORE RECOVERY	95.54%	DATE	1979-08-13



6000	s.d.u.	0
150	API	0
COAL BULK DENSITY g/cm ³		
GAMMA RAY		
202	AREA Line Creek, BC	
Crows Nest Resources Ltd.	COUNTRY Canada	
COAL QUALITY LOG		

540	cps	300
DEPTH		
BED RESOLUTION DENSITY		
HOLE LC 202	AREA Line Creek, BC	
Crows Nest Resources Ltd.	COUNTRY Canada	
SEAM THICKNESS LOG		



K-SHELL LINE CREEK 79(3)A 203A

Resistivity, Neutron-Neutron

BOREHOLE IC 203

CLIENT Shell

AREA Line Creek

COUNTRY Canada

DATE LOGGED 79/08/07

DEPTH SCALE 10011

4 OF 4 LOGS

BOREHOLE DATA REFER TO Lithology LOG

OPERATION DATA REFER TO Lithology LOG

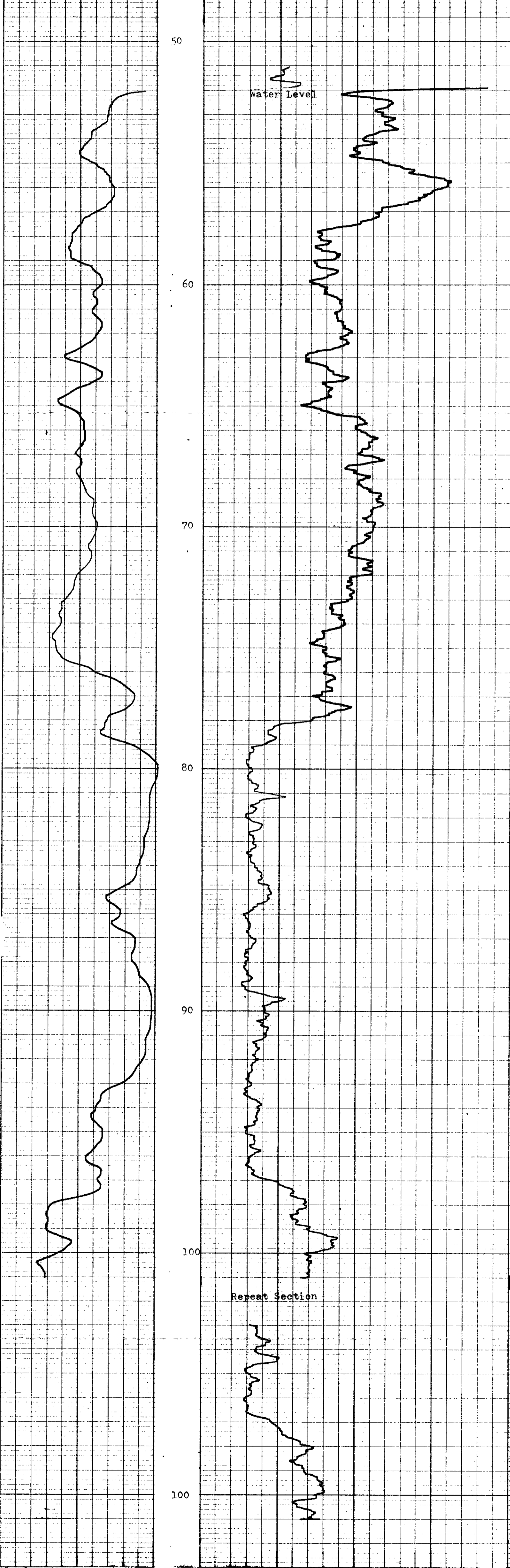
EQUIPMENT AND RECORDING DATA

LOG	TAPING		PANEL		DATE
	LOG TAPED	RECORDING SPEED	T.C. SECS	NORM	
Res.	N	D	9	1	6.2
N-N	N	D	9	1	6.2

REMARKS

421

Resistivity	DEPTH	Neutron-Neutron
	0	400



Resistivity	DEPTH	Neutron-Neutron
	0	400

BOREHOLE IC 203	AREA Line Creek BC
CLIENT Shell	COUNTRY Canada



K-STEEL LINE CREEK 79(3)N 120319



SEAM THICKNESS LOG

BOREHOLE I.C. 203
 CLIENT Shell
 AREA Line Creek
 COUNTRY Canada
 DATE LOGGED 29/08/07
 DEPTH SCALE 20:1
 3 OF 4 LOGS

BOREHOLE DATA REFER TO LITHOLOGY LOG
 OPERATION DATA REFER TO LITHOLOGY LOG
 EQUIPMENT AND RECORDING DATA
 COAL COMBINATION SONDE SIDEWALL POSITION

LOG TAPPING LOG RECORD FREQUENCY SPEED SCS WORK
 CALIPER Y 2 R R 2 1 1 7.25
 BR DENSITY Y 2 R R 2 1 1 7.25

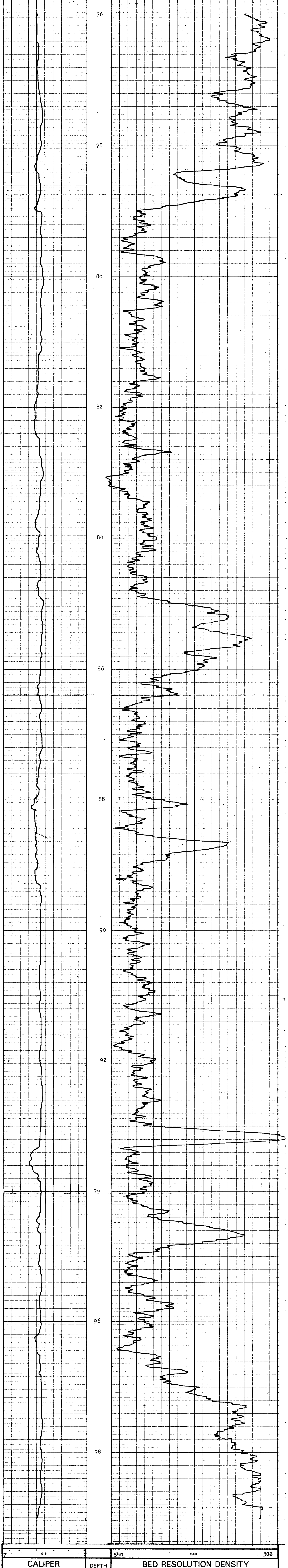
SONDE TYPE:
 COAL COMBINATION SONDE
 SEAM THICKNESS LOG INTERVALS

FROM 99m
 TO 76m
 INTERVAL 23m

LOG SUITE:
 CALIPER
 BR DENSITY

REMARKS
421

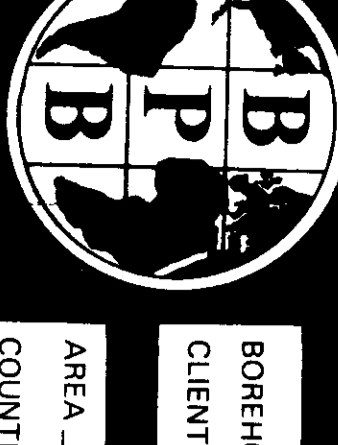
B P B SEAM THICKNESS LOG



CALIPER INCHES 2 DEPTH 76-98m BED RESOLUTION DENSITY 540-300 cps



BOREHOLE I.C. 203
 CLIENT Shell
 AREA Line Creek B. C.
 COUNTRY Canada
SEAM THICKNESS LOG



BOREHOLE LC 203
 CLIENT Shell

AREA Line Creek
 COUNTRY Canada
 DATE LOGGED 79/08/07

DEPTH SCALE
20.1

2 or 4 LOGS

COAL QUALITY LOG

BOREHOLE DATA REFER TO LITHOLOGY LOG
 OPERATION DATA REFER TO LITHOLOGY LOG
 EQUIPMENT AND RECORDING DATA REFER TO LITHOLOGY LOG
 COAL COMBINATION SONDE

LOG TAPPING SIDEWALL POSITION
 LOG RECORD SPEED 1.5 NORM
 LOG RECORD BEAT 2 SEC
 GAMMA 1 Z N R Z 1.00
 IS SENSITIVITY 2 Z 1 0.1
 SOURCE SONDE AND CALIBRATION
 REFER TO LITHOLOGY LOG

SONDE TYPE
 COAL COMBINATION
 SONDE

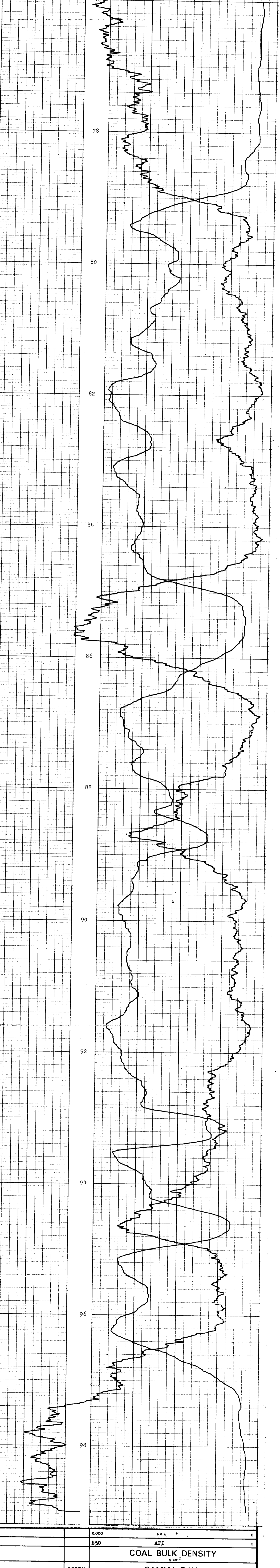
LOG SUITE
 GAMMA RAY
 L.S. DENSITY

FROM 99m
 TO 74m
 INTERVAL 2.3m
 FROM
 TO
 INTERVAL
 INTERVAL
 TOTAL
 # 2.3m

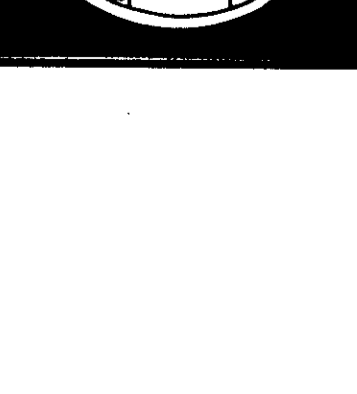
421

B P B COAL QUALITY LOG

DEPTH	GAMMA RAY	COAL BULK DENSITY
	g/cm ³	
	HOLE SIZE CORRECTION DATA	
	1.2	1.25
	1.3	1.35
	1.4	1.45
	1.5	1.55
	1.6	1.6
	1.7	1.7
	1.8	1.8
	1.9	1.9
	2.0	2.0
	2.2	2.2
	2.4	2.4
	3.0	3.0
	150	API
	6.000	sdu



	6.000	sdu	0
	150	API	0
	COAL BULK DENSITY		
	g/cm ³		
DEPTH	GAMMA RAY		



BOREHOLE LC 203 AREA Line Creek EC
 CLIENT Shell COUNTRY Canada

COAL QUALITY LOG



BOREHOLE IC 203 (redrill)
 CLIENT Crows Nest Resources Ltd.
 AREA Line Creek, EC
 COUNTRY Canada
 DATE LOGGED 79/08/16

DEPTH SCALE
 20:1
 3 OF 4 LOGS

SEAM THICKNESS
 LOG

SEAM THICKNESS LOG INTERVALS

SEAM THICKNESS LOG INTERVALS

COAL COMBINATION SONDE

LOG SUITE:
 CALIPER
 BR DENSITY

421

BOREHOLE DATA REFER TO LITHOLOGY LOG
 OPERATION DATA REFER TO LITHOLOGY LOG
 EQUIPMENT AND RECORDING DATA
 COAL COMBINATION SONDE

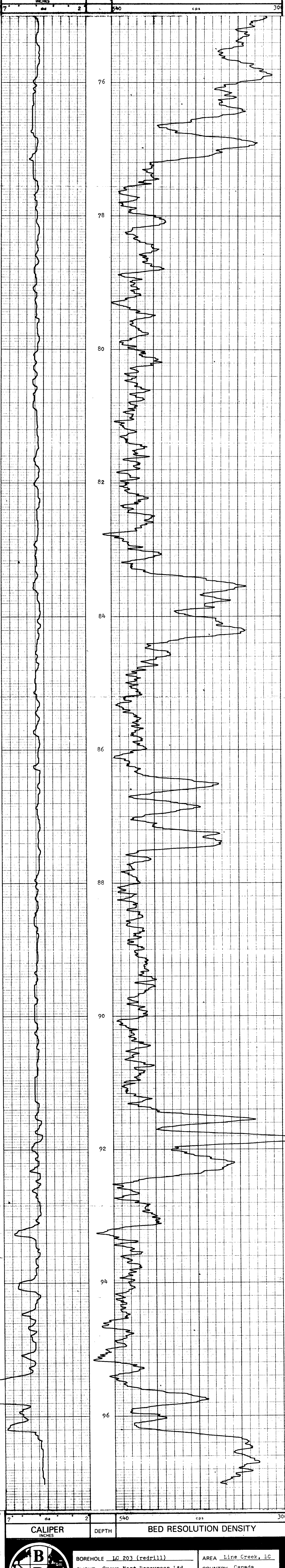
LOG TAPPING SIDEWALL POSITION PANEL CODE
 LOG SPEED (FEET/SEC) NORMAL
 CALIPER 1 R 2 1 1 7.75
 BR DENSITY 1 R 2 1 1 7.75

SEAM THICKNESS LOG INTERVALS

FROM 97m TO 75m
 INTERVAL 22m

SEAM THICKNESS LOG INTERVALS

B P B SEAM THICKNESS LOG



CALIPER INCHES 7 2 540 cps 300



BOREHOLE IC 203 (redrill)
 CLIENT Crows Nest Resources Ltd.

AREA Line Creek, EC
 COUNTRY Canada

SEAM THICKNESS LOG



K-SHELL LINE CREEK 79(3)A 203B

RESISTIVITY
NEUTRON-NEUTRON

BOREHOLE IC 203 (redrill)

CLIENT Crows Nest Resources Ltd.

AREA Line Creek, BC

COUNTRY Canada

DATE LOGGED 79/08/16

DEPTH SCALE
100:1

4 OF 4 LOGS

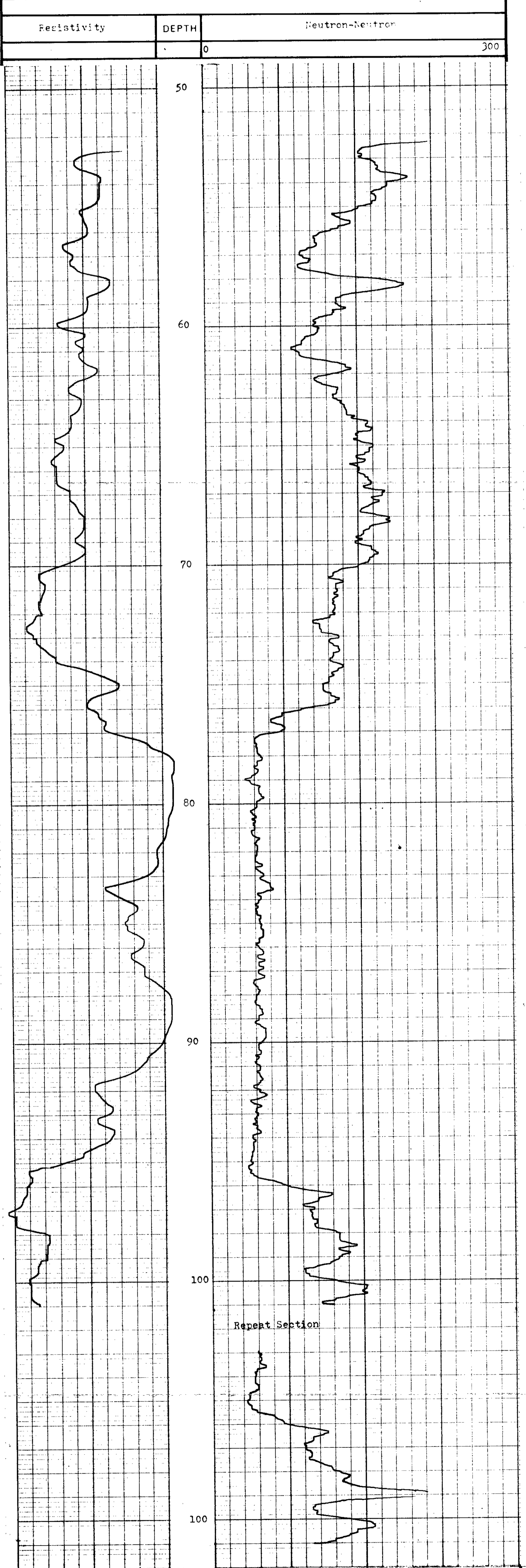
BOREHOLE DATA REFER TO Lithology LOG

OPERATION DATA REFER TO Lithology LOG

EQUIPMENT AND RECORDING DATA

LOG	TAPING	PANEL	CAT
LOG TAPED	RECORD DIRECT SPEED	T.C. SECS	NORM
Res. N	D	9	
N-N Y	R	9	1 0.62
	SONDE	10	SONDE

REMARKS
421



Resistivity	DEPTH	Neutron-Neutron
	0	300

	BOREHOLE IC 203 (redrill)	AREA Line Creek, BC
	CLIENT Crows Nest Resources Ltd.	COUNTRY Canada



SONDE TYPE:
COAL COMBINATION SONDE

LOG SCALE:
GAMMA RAY
1 & DENSITY
CALIPER

COAL LITHOLOGY LOG

BOREHOLE LC 203 (redrill)
CLIENT Crows Nest Resources Ltd.
AREA Line Creek, BC
COUNTRY Canada
DATE LOGGED 29/08/16

DEPTH SCALE 100:1
L of 4 LOGS

BOREHOLE DATA

PERMANENT DATUM: Ground Level
ELEVATION OF P.D.: BRB
MAGNETIC DEVIATION: G.L. - G.L.
DEPTH REACHED: 101.53
CASING DEPTH: 1.0
CASING SIZES: 1 1/8 to 1.0, 2 to 2 1/8 to 101.2

FLUID DATA
NATURE: Water/Air
LEVEL: 53m

OPERATION DATA
FIRST READING: 101m
LAST READING: 101m
INTERVAL LOGGED: 42/25
UNIT TRACK No.:
ENGINEER: D. Reed
WITNESSES: T. Hannah

EQUIPMENT AND RECORDING DATA

LOG	EQUIPMENT			TAPING			PANEL		CAL COEFF	DEPTHS			SEAM LOG RUN
	SONDE	SOURCE	CALIBRATOR	LOG TAPE	RECORD SPEED	DIRECT OF REPLAY	SPEED	TC SECS		NORM	FROM	TO	
GAMMA RAY	134			Y	9	R	9	1/3	1.6	100	0	100	Y
DENSITY	134	5821		Y	9	R	9	1/3	1.6	100	0	100	Y
CALIPER				Y	9	R	9	1/3	1.6	100	0	100	Y

COAL QUALITY/SEAM THICKNESS LOG INTERVALS (Refer to relevant log)

FROM	97m	INTERVAL TOTAL
TO	75m	
INTERVAL	22m	22m

ADDITIONAL SONDES RUN

SONDE	LOG	GENERAL SCALE LOG	DETAIL SCALE LOG
	Res.	100:1	
	F-N	100:1	
	Vert.	20m	Interval

REFER TO ADDITIONAL HEADINGS

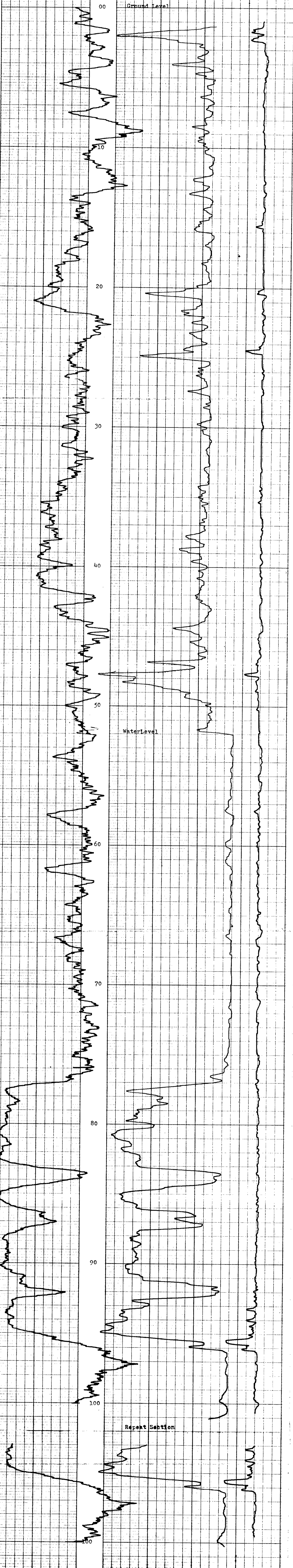
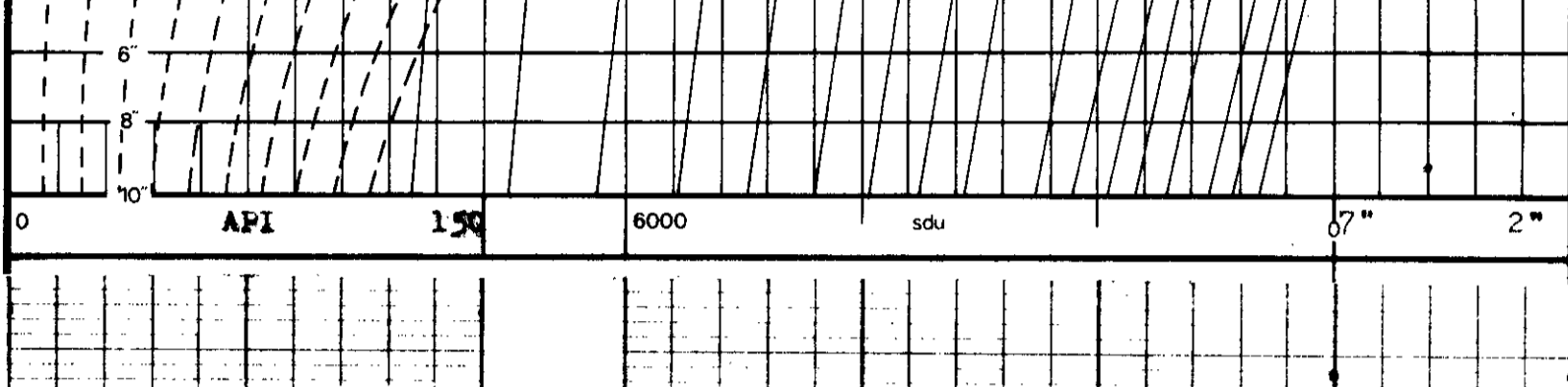
BPB COAL LITHOLOGY LOG

CALIBRATION DATA

JIG No. VALU521@ 2" DIAM JIG CAL DATE JIG VALUE 5750SDU@ g/cm³ 7 ins. 894 cps
JIG MARK SHOWN AT ABOVE VALUE SPAN 6000 NORM SDU @ 2 ins. 490 cps

GAMMA RAY DEPTH **BULK DENSITY** CALIPER
g/cm³ INCHES

HOLE SIZE CORRECTION DATA



GAMMA RAY DEPTH **BULK DENSITY** CALIPER
g/cm³ INCHES



BOREHOLE LC 203 (redrill) **AREA** Line Creek, BC
CLIENT Crows Nest Resources Ltd. **COUNTRY** Canada

COAL LITHOLOGY LOG

K-SHELL LIVE GREEN 29(3)A 103B



BOREHOLE IC 203 (redrill)
 CLIENT Crows Nest Resources Ltd.

AREA Line Creek, BC
 COUNTRY Canada

DEPTH SCALE
 20.1

DATE LOGGED 29/08/16
 2 of 4 LOGS

BOREHOLE DATA REFER TO LITHOLOGY LOG
 OPERATION DATA REFER TO LITHOLOGY LOG
 EQUIPMENT AND RECORDING DATA

COAL QUALITY LOG
 COAL COMBINATION SONDE

LOG	TAPPING	RECORDING SPEED	PANEL	SIDEWALL POSITION	DATE
GAMMA	1	2	2	NORM	1.61
RAY	2	2	2	NORM	1.61
S DENSITY	Y	2	R	2	1
					6.00

COAL QUALITY LOG INTERVALS
 REFER TO LITHOLOGY LOG

SONDE TYPE:
 COAL COMBINATION SONDE

LOG SUITE:
 GAMMA RAY
 L.S. DENSITY

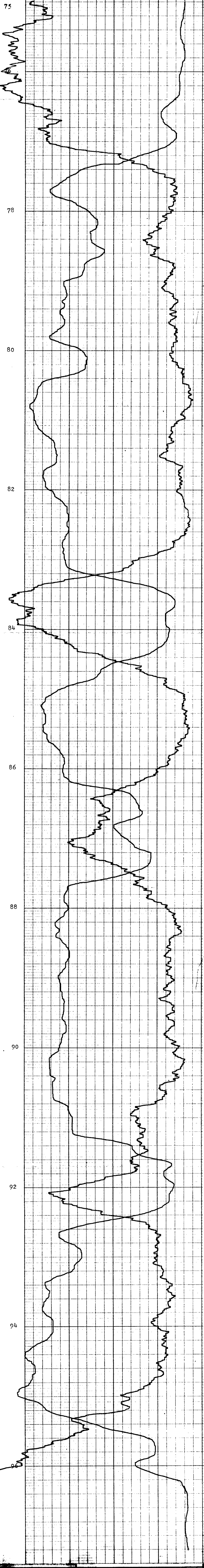
421

B P B COAL QUALITY LOG

DEPTH GAMMA RAY
 COAL BULK DENSITY g/cm³

HOLE SIZE CORRECTION DATA

DEPTH	1.25	1.3	1.35	1.4	1.45	1.5	1.55	1.6	1.7	1.8	1.9	2.0	2.2	2.4	3.0
2"															
4"															
6"															
8"															



6.000	s.d.u.	0
1.50	API	0

COAL BULK DENSITY g/cm³
 GAMMA RAY
 DEPTH



BOREHOLE IC 203 (redrill)
 CLIENT Crows Nest Resources Ltd.
 AREA Line Creek, BC
 COUNTRY Canada
COAL QUALITY LOG

CROWS NEST RESOURCES LIMITED
COAL CORE DESCRIPTION

REDRILL
421

HOLE PARTICULARS

PROJECT	LINE CREEK	BEGIN	1979-08-14	HOLE No.	REDRILL LC-203
AREA	S.E. B.C.	END	1979-08-16		
LOGGING		COAL LITHOLOGY SEAM THICKNESS, COAL QUALITY		LOG USED	SEAM THICKNESS
LOGS RUN	BPB	COAL CORING PERFORMANCE		CORE DIAMETER	4 1/2"
LOGGED BY	BPB	CORE RECOVERED	13.6 m	CORE RECOVERED	13.6 m
OTHER	RESISTIVITY	LENGTH CORED	13.6 m	EXAMINER(S)	B. MacDOUGALL
TESTS	NEUTRON-NEUTRON LOG	CORE RECOVERY	100%	DATE	1979-08-17

BPB COAL QUALITY LOG

GAMMA RAY
COAL BULK DENSITY
g/cm³

HOLE SIZE CORRECTION DATA

2"	1.35	1.4	1.45	1.5	1.55	1.6	1.7	1.8	1.9	2.0	2.2	2.4	3.0
----	------	-----	------	-----	------	-----	-----	-----	-----	-----	-----	-----	-----

150 API 0
6000 s.d.u. 0

BPB SEAM THICKNESS LOG

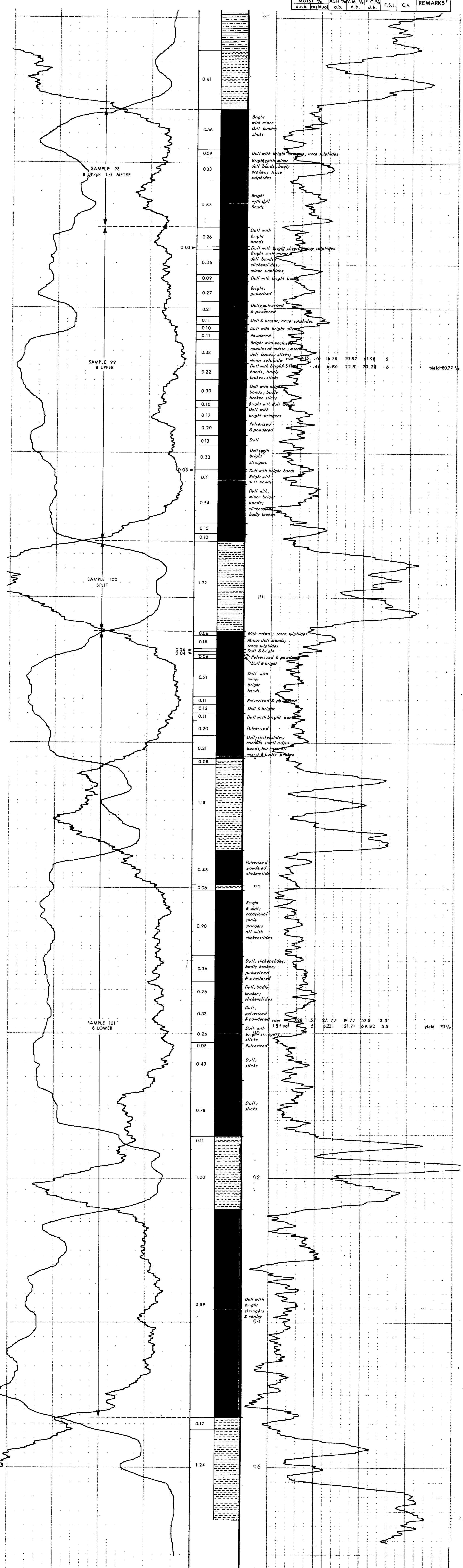
BED RESOLUTION DENSITY
SBRDU

LITHOLOGY LEGEND

COAL	FINE GRAIN SANDSTONE
COALY SHALE	MEDIUM GRAIN SANDSTONE
CARBONACEOUS SHALE	COURSE GRAIN SANDSTONE
SHALE	MUDSTONE

ANALYTICAL DATA

MOIST %	ASH %	V.M. %	F.S.I.	C.V.	REMARKS
o.r.b. Residual	d.b.	d.b.	d.b.		



6000 s.d.u. 0
150 API 0

COAL BULK DENSITY
g/cm³

GAMMA RAY

REDRILL (redrill) AREA Line Creek, BC
Crows Nest Resources Ltd. COUNTRY Canada

COAL QUALITY LOG

6000 cps 0

BED RESOLUTION DENSITY

HOLE LC 203 (redrill) AREA Line Creek, BC
Crows Nest Resources Ltd. COUNTRY Canada

SEAM THICKNESS LOG

20-200 H1-42C MT 88002

CROWS NEST RESOURCES LIMITED
COAL CORE DESCRIPTION

10203
421

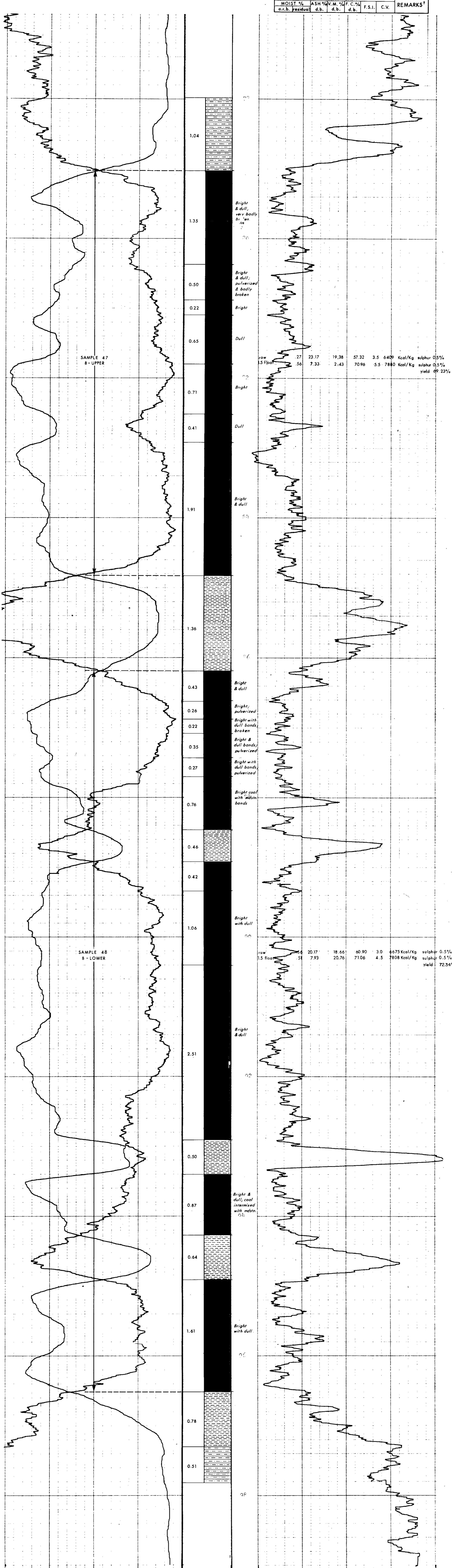
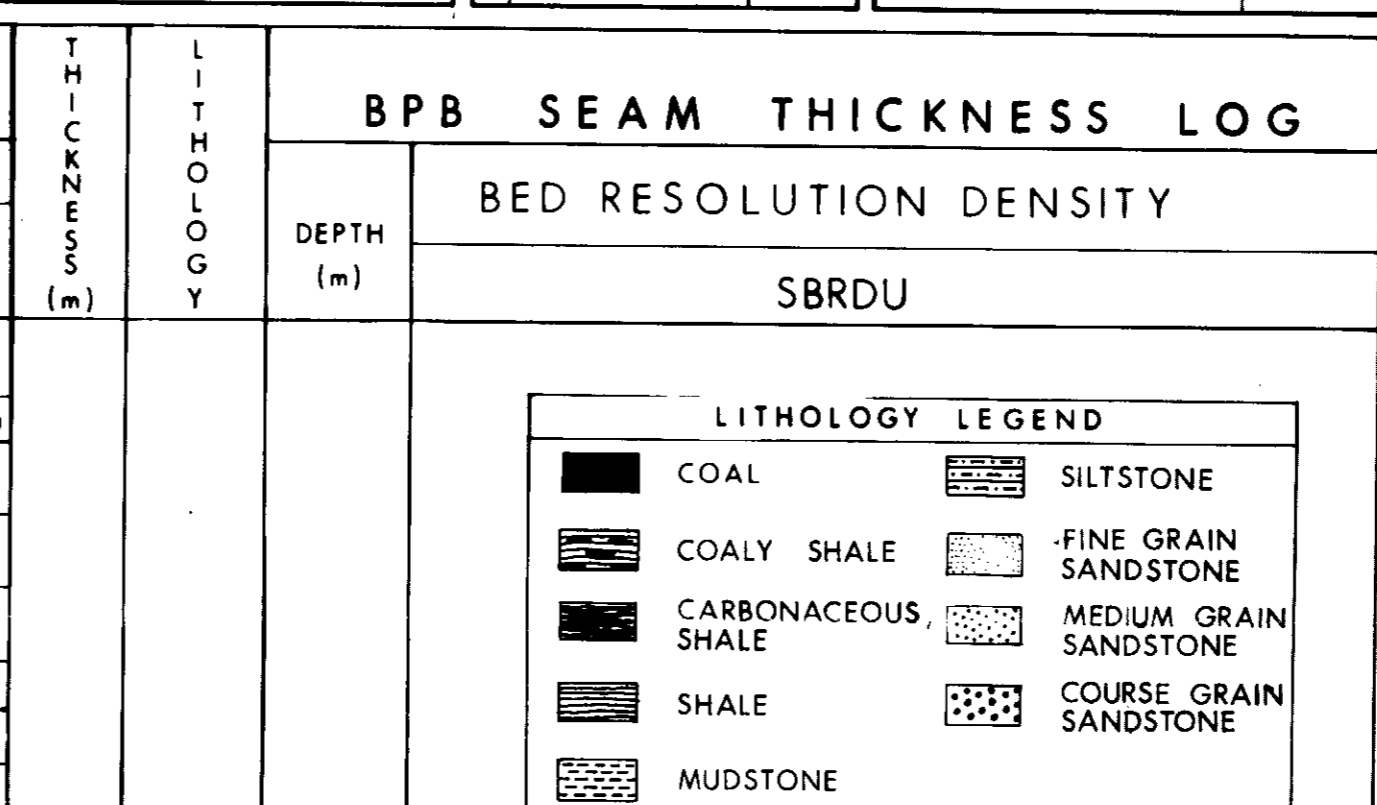
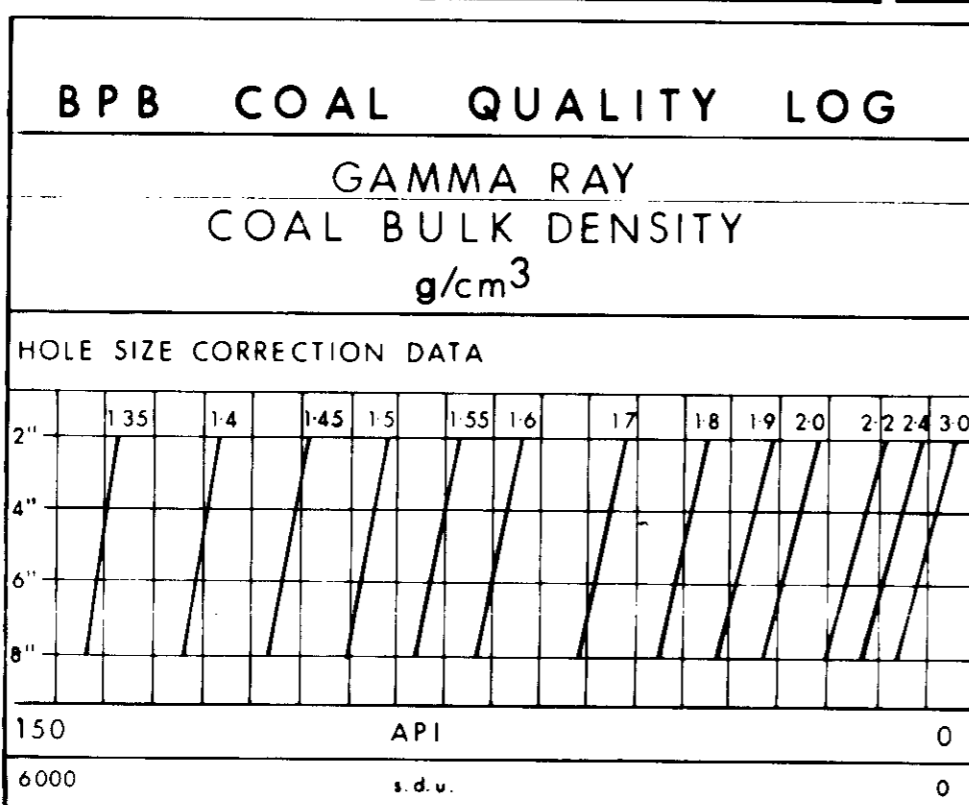
HOLE PARTICULARS

PROJECT	LINE CREEK	DATE	BEGIN 1979-08-05	HOLE No.	LC-203
AREA	S.E. B.C.	DATE	END 1979-08-06		
LOGGING	LOGS RUN	COAL LITHOLOGY, SEAM THICKNESS, COAL QUALITY	LOG USED	SEAM THICKNESS	
	LOGGED BY	BPB			
	OTHER TESTS	RESISTIVITY			
		NEUTRON-NEUTRON LOG			

LOCATION	LINE CREEK (PIT) N 5 534 316.99
ELEVATION	S.E. B.C. E 550 285.47
TOTAL DEPTH	101.50 m HOLE BEARING(AZ°) Vert
	HOLE ANGLE (°) Vert

COAL CORING PERFORMANCE	EXAMINATION
CORE DIAMETER	LOG USED
CORE RECOVERED	NO. OF SEAMS SAMPLED
LENGTH CORED	EXAMINER(S)
CORE RECOVERY	DATE

COAL CORING PERFORMANCE	EXAMINATION
CORE DIAMETER	LOG USED
CORE RECOVERED	NO. OF SEAMS SAMPLED
LENGTH CORED	EXAMINER(S)
CORE RECOVERY	DATE



COAL BULK DENSITY	GAMMA RAY
AREA Line Creek BC	COUNTRY Canada
COAL QUALITY LOG	

BED RESOLUTION DENSITY	SEAM THICKNESS LOG
AREA Line Creek BC	COUNTRY Canada



K-SHELL LINE CREEK 79(3)A 204

BOREHOLE IC 204
CLIENT Crows Nest Resources Ltd.

AREA Line Creek, BC
COUNTRY Canada

DATE LOGGED 79/08/17
3 OF 4 LOGS

DEPTH SCALE
20.1

SEAM THICKNESS LOG

SONDE TYPE:
COAL COMBINATION SONDE

LOG SUITE:
CALIPER
BR DENSITY

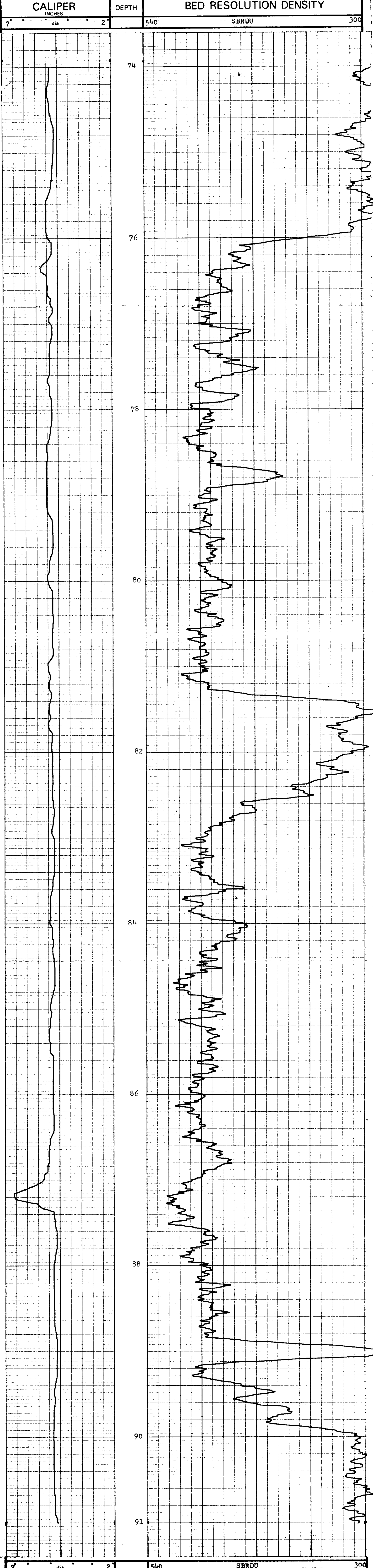
BOREHOLE DATA REFER TO LITHOLOGY LOG
OPERATION DATA REFER TO LITHOLOGY LOG
EQUIPMENT AND RECORDING DATA
COAL COMBINATION SONDE

LOG TAPING LOG SPEED RELAY SPEED SLS NORM CALIPER Y 2 R 2 1 .725 BR DENSITY 1 2 R 2 1 .725 SOURCE SONDE AND CALIBRATION REFER TO LITHOLOGY LOG

SEAM THICKNESS LOG INTERVALS
FROM 0.1m TO 7.5m
INTERVAL 1.7m
FROM TO
INTERVAL TOTAL
REMARKS

421

B P B SEAM THICKNESS LOG



CALIPER INCHES	DEPTH	BED RESOLUTION DENSITY
2	540	SBRDU



BOREHOLE IC 204
CLIENT Crows Nest Resources Ltd.

AREA Line Creek, BC
COUNTRY Canada

SEAM THICKNESS LOG

K-S-HILL LINE CREEK 79(3)29 204



COAL QUALITY LOG

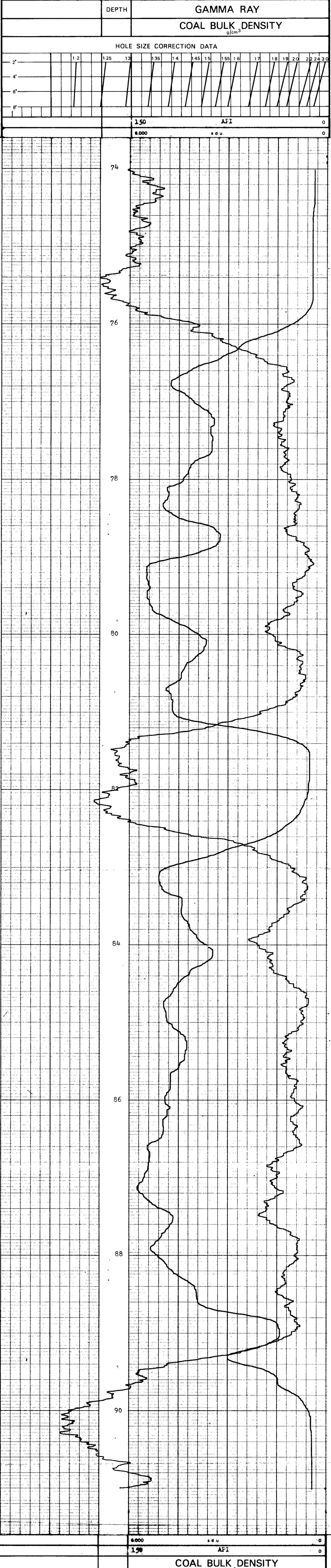
BOREHOLE LC 201
 CLIENT Crows Nest Resources Ltd.
 AREA Line Creek, BC
 COUNTRY Canada
 DATE LOGGED 79/08/17
 DEPTH SCALE 20:1
 2 of 4 LOGS

BOREHOLE DATA REFER TO LITHOLOGY LOG
 OPERATION DATA REFER TO LITHOLOGY LOG
 EQUIPMENT AND RECORDING DATA
 COAL COMBINATION SONDE

LOG TAPPING SIDEWALL POSITION
 LOG NO. 135 RECORD SPEED 1.5 NORM 1.28
 GAMMA RAY Y 2 R 2 I 1 6.02
 S.D. Y 2 R 2 I 1 6.02
 SOURCE, SONDE AND CALIBRATION
 REFER TO LITHOLOGY LOG

SONDE TYPE: LOG INTERVALS
 COAL COMBINATION SONDE
 LOG SUITE: GAMMA RAY
 L.S. DENSITY

B P B COAL QUALITY LOG



DEPTH 6.000 s.d.u. 0
1.50 API 0
 COAL BULK DENSITY g/cm^3
 GAMMA RAY

BOREHOLE LC 204 AREA Line Creek, BC
 CLIENT Crows Nest Resources Ltd. COUNTRY Canada
COAL QUALITY LOG



NY 88003 B



L-SHELL LINE CREEK 79(3)A 204

Resistivity
Neutron-Neutron

BOREHOLE IC 204

CLIENT Crows Nest Resources Ltd.

AREA Line Creek, BC

COUNTRY Canada

DATE LOGGED 79/08/18

DEPTH SCALE
100:1

4 OF 4 LOGS

BOREHOLE DATA REFER TO Lithology LOG

OPERATION DATA REFER TO Lithology LOG

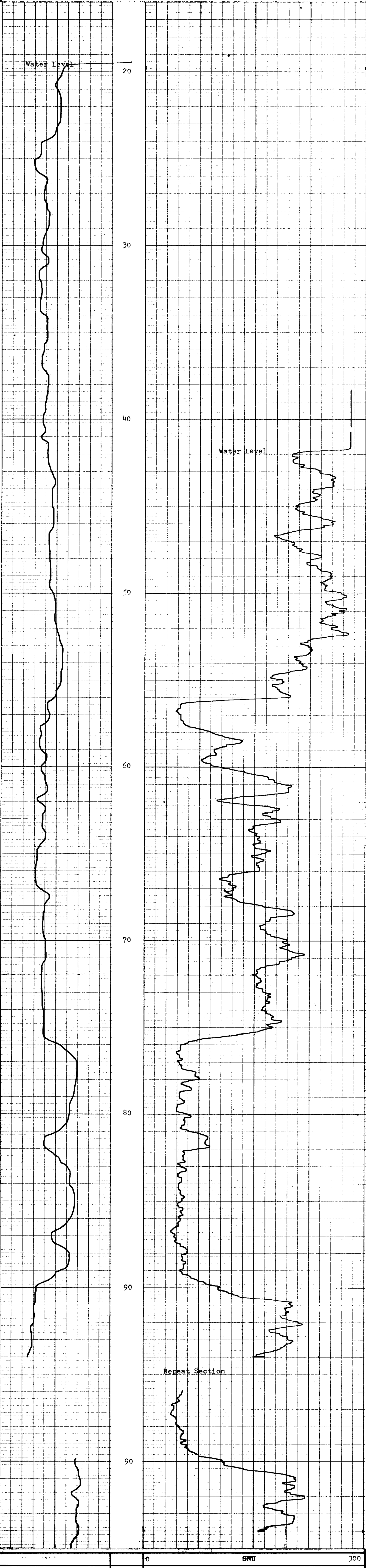
EQUIPMENT AND RECORDING DATA

LOG	TAPING	PANEL	DATE
LOG	RECORDING	T.C.	WORK
RES.	SPEED	REPAIR	SECS
N	D	9	
K-N	Y	R	9 1
			0.62
			SCALE 10
			START 1960

REMARKS

421

Resistivity	DEPTH	Neutron-Neutron
	0	SNU
		300



Resistivity	DEPTH	Neutron-Neutron
	0	SNU
		300



BOREHOLE IC 204
CLIENT Crows Nest Resources Ltd.

AREA Line Creek, BC
COUNTRY Canada

K-SHELL LINE CREEK 79(3)R 204



BOREHOLE IC 204
 CLIENT Crows Nest Resources Ltd.

AREA Line Creek, BC
 COUNTRY Canada
 DATE LOGGED 20/08/17

DEPTH SCALE 100:1
 1 or 4 logs

BOREHOLE DATA

PERMANENTIAL Ground Level
 ELEVATION OF P.D. BRB
 MASS REMAINS FROM G.L. DRILLER
 DEPTH REACHED 94.8 G.L.
 CASING SHOE 4.5 94.2
 BIT SIZES 1 5/8 TO 6 9 2 1/8 TO 9 1/2
 CASING SIZES 1 1/2 TO 4 1/2 2 4 TO

LITHOLOGY LOG

SONDE TYPE Water/Air
 COAL COMBINATION
 SONDE

LOG SUITE
 GAMMA RAY
 L.S. DENSITY
 CALIPER

OPERATION DATA
 FIRST READING 9:30m
 LAST READING 9:30m
 INTERVAL LOGGED 12/25
 UNIT TRACK No. D. Reed
 WORKERS T. Hannah

421

EQUIPMENT AND RECORDING DATA

LOG	EQUIPMENT			TAPING			PANEL		CAL COEFF	DEPTHS			SEAM LOG RUN
	SONDE	SOURCE	CALIBRATOR	LOG TAPED	RECORD SPEED	DIRECT REPLAY	SPEED	TC SECS		FROM	TO	INTERVAL	
GAMMA RAY	134			Y	9	R	9	1/3	1.68	93	0	93	Y
L.S. DENSITY				Y	9	R	9	1/3	6.02	93	0	93	Y
CALIPER	SIDEWALL POSITION			Y	9	R	9	1/3	6.02	93	0	93	Y

COAL QUALITY/SEAM THICKNESS LOG INTERVALS (Refer to relevant log)

FROM	91	INTERVAL TOTAL	
TO	74		
INTERVAL	17m		17m

ADDITIONAL SONDES RUN				REMARKS
SONDE	LOG	GENERAL SCALE LOG	DETAIL SCALE LOG	
	Res.	100:1		REFER TO ADDITIONAL HEADINGS
	N-N	100:1		
	Vert.	20m intervals		

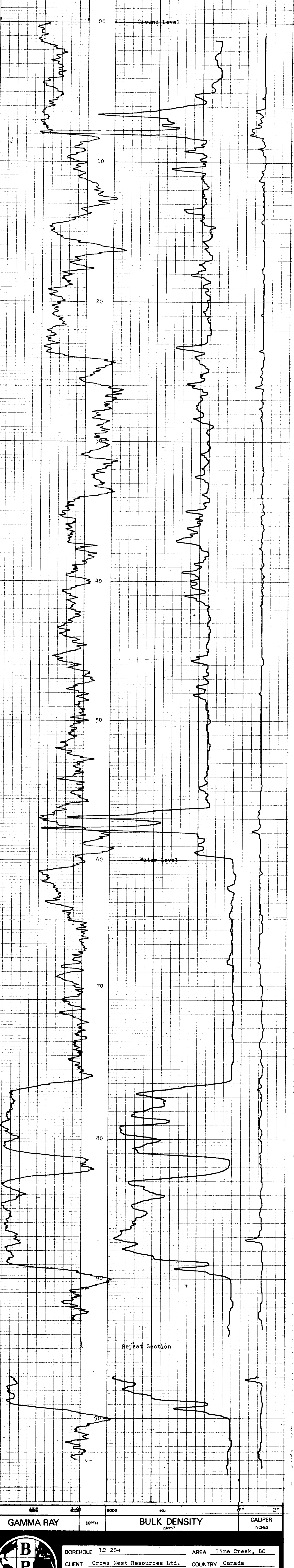
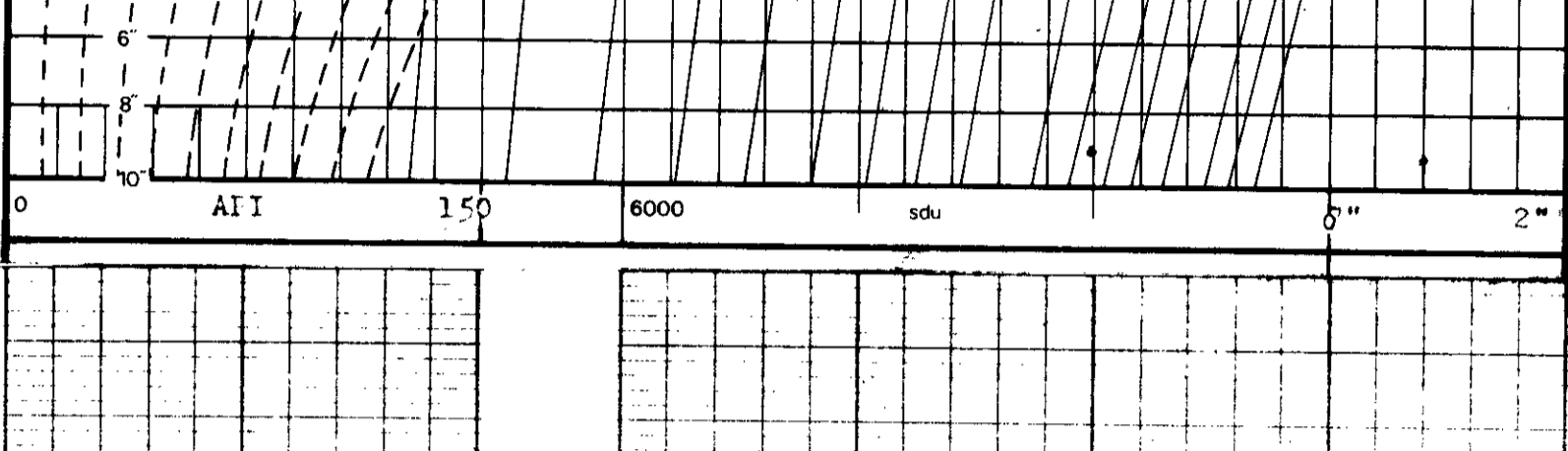
BPB COAL LITHOLOGY LOG

CALIBRATION DATA

JIG No. VALUE 52 @ 2" DIAM JIG CAL DATE JIG VALUE 5750 SDU @ g/cm³ 7 ins 904 cps
 JIG MARK SHOWN AT ABOVE VALUE JIG No. SPAN 6000 NORM 6.02 2 ins 509 cps

GAMMA RAY	DEPTH	BULK DENSITY g/cm ³	CALIPER INCHES
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HOLE SIZE CORRECTION DATA



GAMMA RAY	DEPTH	BULK DENSITY g/cm ³	CALIPER INCHES
-----------	-------	--------------------------------	----------------

BOREHOLE IC 204 AREA Line Creek, BC
 CLIENT Crows Nest Resources Ltd. COUNTRY Canada

COAL LITHOLOGY LOG



CROWS NEST RESOURCES LIMITED
COAL CORE DESCRIPTION

421

HOLE PARTICULARS

PROJECT LINE CREEK		K-SHELL LINE CREEK 79(3)A	
AREA S.E. B.C.		LOG BEGIN 1979-08-16	HOLE No. LC-204
LOGGING		LOG END 1979-08-17	
LOCATION LINE CREEK (PIT) N 5 533 330.96	LOGS RUN	COAL LITHOLOGY, SEAM THICKNESS, COAL QUALITY	COAL CORING PERFORMANCE
ELEVATION 1342.28 m	LOGGED BY	BPB	LOG USED
TOTAL DEPTH 94.8 m	OTHER TESTS	RESISTIVITY NEUTRON-NEUTRON LOG	EXAMINATION
			SEAM THICKNESS
			NO. OF SEAMS SAMPLED 1 - # 8
			EXAMINER(S) MacDOUGALL SCHWAB
			DATE 1979-08-18

BPB COAL QUALITY LOG

GAMMA RAY
COAL BULK DENSITY
g/cm³

HOLE SIZE CORRECTION DATA

150 6000
API 0
s.d.u. 0

BPB SEAM THICKNESS LOG

DEPTH (m)

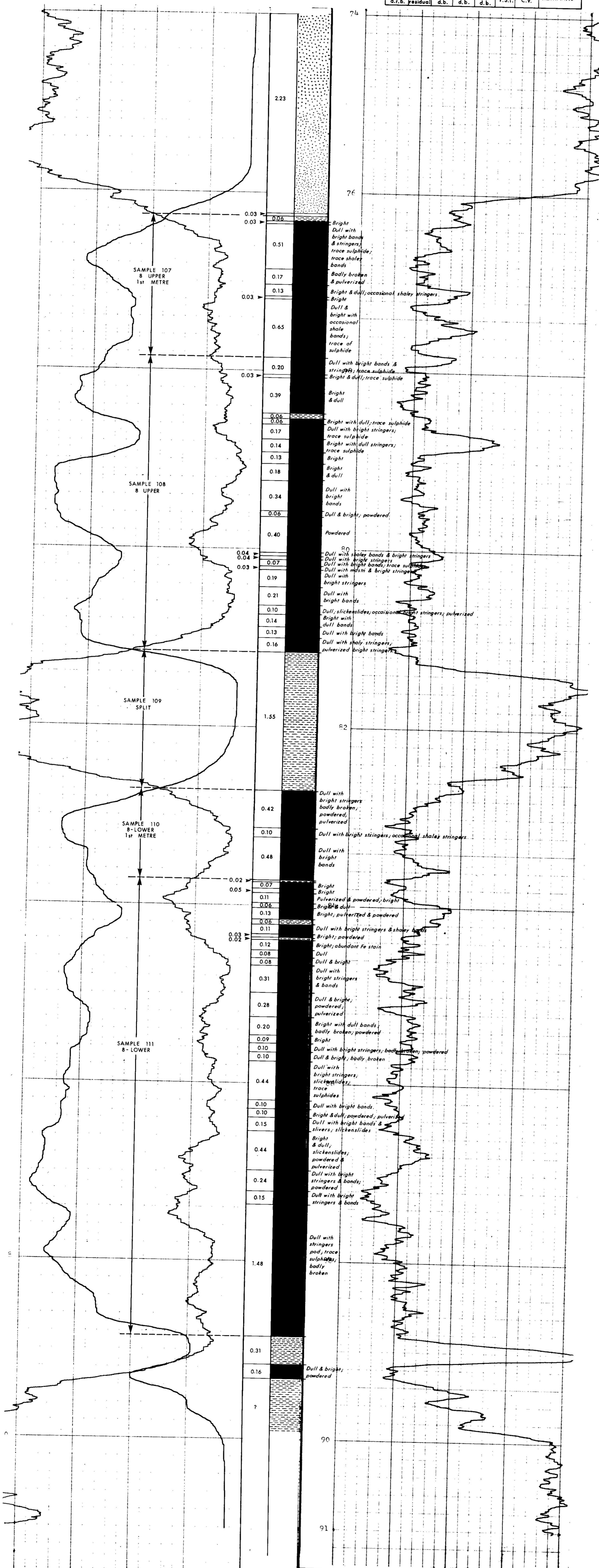
BED RESOLUTION DENSITY
SBRDU

LITHOLOGY LEGEND

- COAL
- COALY SHALE
- CARBONACEOUS SHALE
- SHALE
- MUDSTONE
- SILTSTONE
- FINE GRAIN SANDSTONE
- MEDIUM GRAIN SANDSTONE
- COURSE GRAIN SANDSTONE

ANALYTICAL DATA

MOIST %	ASH %	V.M. %	F.C. %	F.S.I.	C.V.	REMARKS
a.r.b.	residual	d.b.	d.b.	d.b.		



6000	s.d.u.	0
150	API	0
COAL BULK DENSITY g/cm ³		
GAMMA RAY		
HOLE LC 204		
AREA Line Creek, BC		COUNTRY Canada
SEAM THICKNESS LOG		
HOLE LC 204		
AREA Line Creek, BC		COUNTRY Canada
COAL QUALITY LOG		

41-42D



K-SHELL LINE CREEK 79(3)A 205

COAL LITHOLOGY LOG	COAL	SONDE TYPE: COAL COMBINATION SONDE	LOG SUITE: GAMMA RAY L.S. DENSITY CALIPER	BOREHOLE DATA
PERMANENT DIAL: Ground Level		ELEVATION OF #0: 698		DRILLER: G.L.L.
MEASUREMENTS: 73.33		DEPTH REACHED: 73.6		CASING SHOE: 3.5
BIT SIZES: 1 1/8 to 5/8, 5/8 to 7/8, 7/8 to 1 1/8		CASING SIZES: 1 1/2 to 3 1/2		FLUID DATA:
NATURE: Water/Air		LEVEL: variable		LOG TAPED: Y
VISCOSITY: variable		LOG TAPED: Y		RECORD SPEED: 9
BHT: variable		LOG TAPED: Y		DIRECT REPLAY: R
OPERATION DATA		LOG TAPED: Y		SPEED: 9
FIRST READING: 73m		LOG TAPED: Y		TC SECS: 1
LAST READING: 0		LOG TAPED: Y		NORM: 6.00
INTERVAL LOGGED: 73m		LOG TAPED: Y		DEPTHS FROM: 71
UNIT-TRUCK No: 42/25		LOG TAPED: Y		DEPTHS TO: 71
ENGINEER: D. Reed		LOG TAPED: Y		INTERVAL: 71
WITNESS: T. Hannah		LOG TAPED: Y		SEAM LOG RUN: Y

EQUIPMENT AND RECORDING DATA													
COAL COMBINATION SONDE													
LOG	EQUIPMENT			TAPING			PANEL		CAL COEFF	DEPTHS		SEAM LOG RUN	
	SONDE	SOURCE	CALIBRATOR	LOG TAPED	RECORD SPEED	DIRECT REPLAY	SPEED	TC SECS		FROM	TO		INTERVAL
GAMMA RAY	134			Y	9	R	9	1	1.66	71	0	71	Y
L.S. DENSITY	134	5821		Y	9	R	9	1/3	6.00	71	0	71	Y
CALIPER	SIDEWALL POSITION			Y	9	R	9	1/3	6.00	71	0	71	Y

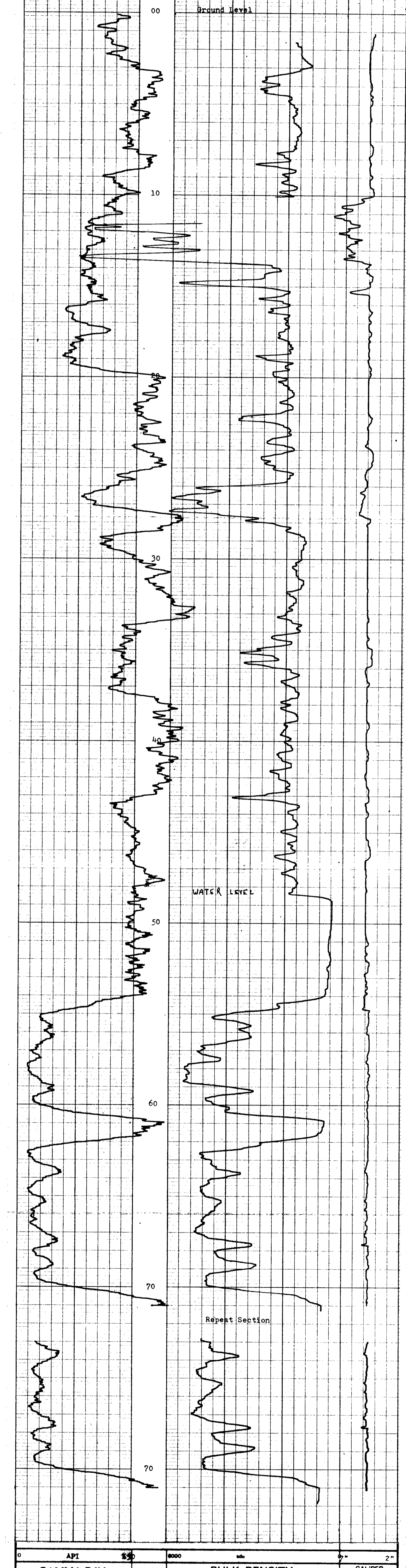
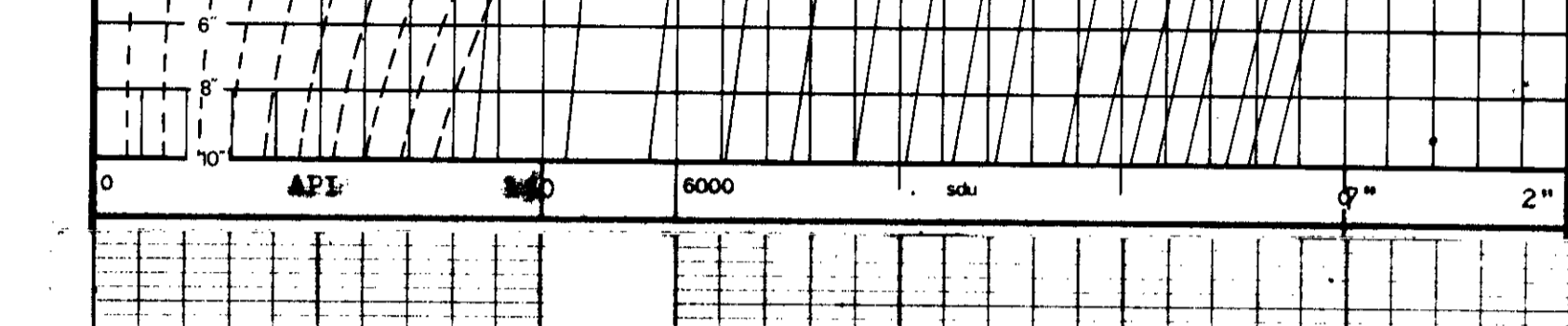
COAL QUALITY/SEAM THICKNESS LOG INTERVALS (Refer to relevant log)		
FROM	71m	INTERVAL TOTAL = 19m
TO	52m	
INTERVAL	19m	

ADDITIONAL SONDES RUN				REMARKS
SONDE	LOG	GENERAL SCALE LOG	DETAIL SCALE LOG	
	Res.	100:1		REFER TO ADDITIONAL HEADINGS
	N-N	100:1		
	Vert.	20m	intervals	

BPB COAL LITHOLOGY LOG

CALIBRATION DATA			
JIG No. VALUE 521 @ 2" DIAM.	JIG CAL DATE	JIG VALUE 5750 SDU @	g/cm ³ 7 ins 905 cps
JIG MARK SHOWN AT ABOVE VALUE -	JIG No. SPAN 6000	NORM 500 cps = 6.00	2 ins 50E cps

GAMMA RAY	DEPTH	BULK DENSITY g/cm ³	CALIPER INCHES
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GAMMA RAY	DEPTH	BULK DENSITY g/cm ³	CALIPER INCHES
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BOREHOLE LC 205	AREA Line Creek, BC
CLIENT Crows Nest Resources Ltd.	COUNTRY Canada

COAL LITHOLOGY LOG

K-SHELL LINE CREEK 79(3)A 205



BOREHOLE IC 205
 CLIENT Crows Nest Resources Ltd.

AREA Line Creek, BC
 DEPTHSCALE 20:1

COUNTRY Canada
 DATE LOGGED 79/08/13 3 of 4 LOGS

BOREHOLE DATA REFER TO LITHOLOGY LOG

OPERATION DATA REFER TO LITHOLOGY LOG

EQUIPMENT AND RECORDING DATA

COAL COMBINATION SONDE

SEAM THICKNESS LOG

LOG TAPPING PANEL CODE
 LOG RECORDING SPEED YCS NORMAL
 CALIPER X 2 R 2 I 1 7-25
 BAR PRESSURE X 2 2 1 7-25

SOURCE SONDE AND CALIBRATION
 REFER TO LITHOLOGY LOG

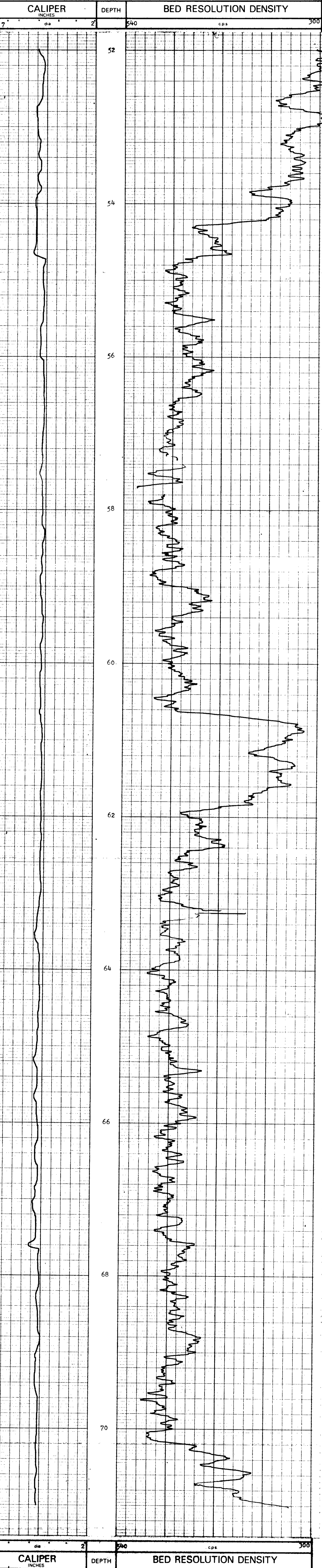
SEAM THICKNESS LOG INTERVALS

SONDE TYPE:
 COAL COMBINATION SONDE

LOG SUITE:
 CALIPER
 BR DENSITY

421

B P B SEAM THICKNESS LOG



CALIPER INCHES

DEPTH

BED RESOLUTION DENSITY



BOREHOLE IC 205
 CLIENT Crows Nest Resources Ltd.

AREA Line Creek, BC
 COUNTRY Canada

SEAM THICKNESS LOG



L-SHELL CREEK 79(3)A 205

RESISTIVITY
NEUTRON-NEUTRON

BOREHOLE LC 205

CLIENT Crows Nest Resources Ltd.

AREA Line Creek, BC

COUNTRY Canada

DATE LOGGED 79/08/13

DEPTH SCALE
100.1

4 or 4
100S

BOREHOLE DATA

REFER TO Lithology LOG

OPERATION DATA

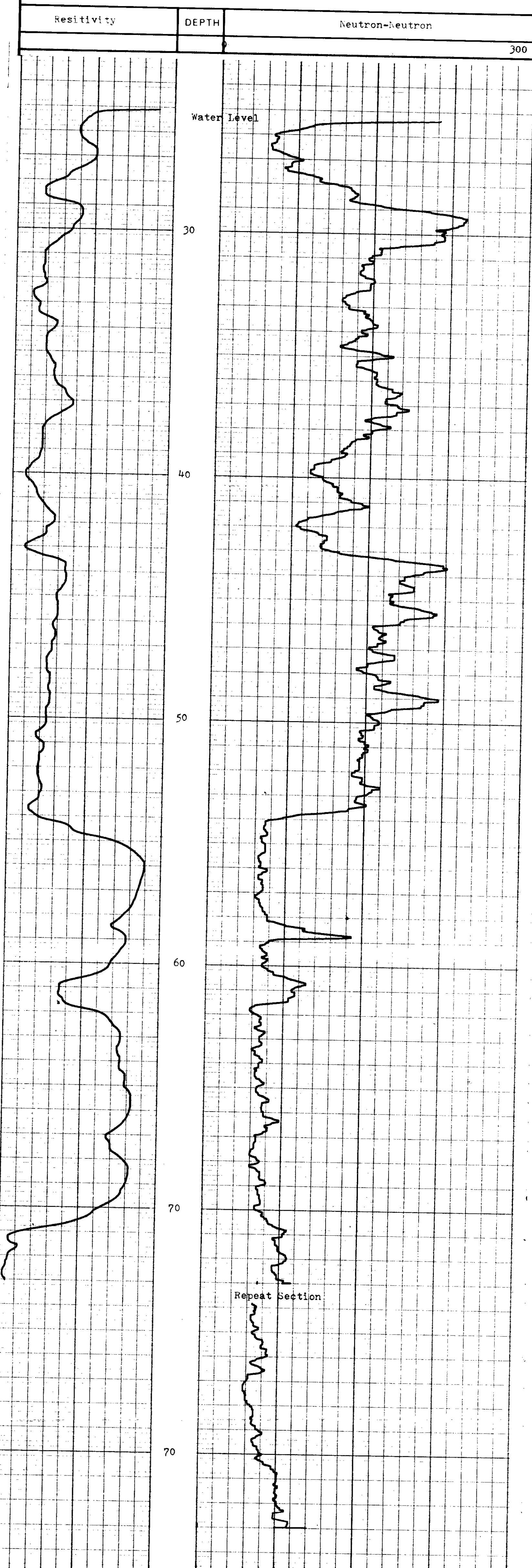
REFER TO Lithology LOG

EQUIPMENT AND RECORDING DATA

LOG	TAPING	PANEL	CAL
LOG	RECORDING	RECORDING	RECORDING
TAPED	RECORDING	SPEED	SCALE
Y	9	R	9
N-N	Y	9	1/3
			0.62
	SOURCE	NO	
	10		

REMARKS

421



Resistivity	DEPTH	Neutron-Neutron	300
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BOREHOLE LC 205	AREA Line Creek, BC
CLIENT Crows Nest Resources Ltd.	COUNTRY Canada



CROWS NEST RESOURCES LIMITED
COAL CORE DESCRIPTION

421

K-SHELL LINE CREEK 79(3)A

HOLE PARTICULARS

PROJECT	LINE CREEK	DATE	BEGIN 1979-08-12	HOLE No.	LC-205
AREA	S.E. B.C.	DATE	END 1979-08-13		
LOGGING	LOGS RUN	COAL LITHOLOGY, SEAM THICKNESS, COAL QUALITY	LOGGED BY	BPB	EXAMINATION
	OTHER TESTS	RESISTIVITY	NEUTRON-NEUTRON LOG		
LOCATION	LINE CREEK N 5 533 426.75				
	S.E. B.C. E 659 744.44				
ELEVATION	1929.38 m	HOLE BEARING (AZP)			
TOTAL DEPTH	73.30 m	HOLE ANGLE (°)*	VERT.	LOG USED	SEAM THICKNESS
				No. OF SEAMS SAMPLED	1 - # 8
				EXAMINER (S)	M DORSAY
				DATE	1979-08-14

BPB COAL QUALITY LOG

GAMMA RAY
COAL BULK DENSITY
g/cm³

HOLE SIZE CORRECTION DATA

2"	1.35	1.4	1.43	1.5	1.55	1.6	1.7	1.8	1.9	2.0	2.2	2.4	3.0
----	------	-----	------	-----	------	-----	-----	-----	-----	-----	-----	-----	-----

150 API 0
6000 s.d.u. 0

BPB SEAM THICKNESS LOG

BED RESOLUTION DENSITY

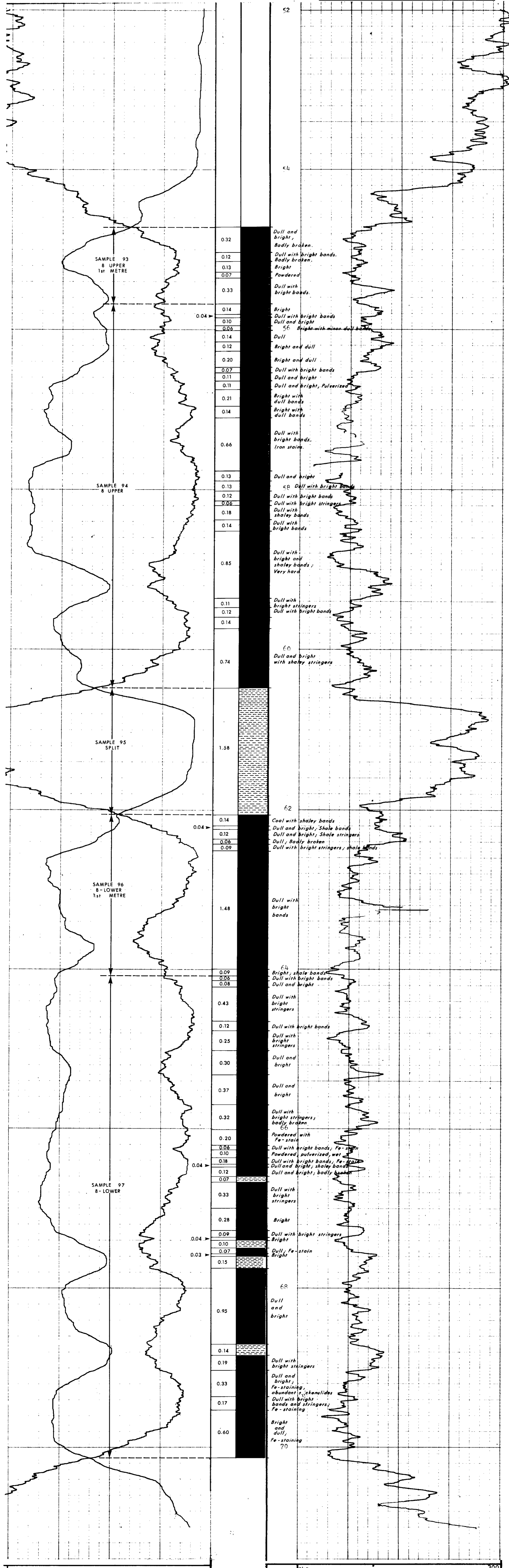
SBRDU

LITHOLOGY LEGEND

COAL	SILTSTONE
COALY SHALE	FINE GRAIN SANDSTONE
CARBONACEOUS SHALE	MEDIUM GRAIN SANDSTONE
SHALE	COURSE GRAIN SANDSTONE
MUDSTONE	

ANALYTICAL DATA

MOIST %	ASH %	V.M. %	F.C. %	F.S.I.	C.V.	REMARKS
a.r.b. residual	d.b.	d.b.	d.b.			



6000 s.d.u. 0
150 API 0

COAL BULK DENSITY
g/cm³

GAMMA RAY

AREA Line Creek, BC
Crows Nest Resources Ltd. COUNTRY Canada

COAL QUALITY LOG

540 cps 300

DEPTH

BED RESOLUTION DENSITY

HOLE LC 205 AREA Line Creek, BC
VT Crows Nest Resources Ltd. COUNTRY Canada

SEAM THICKNESS LOG

HI-42E MT 880018



BOREHOLE LC 206
 CLIENT Crows Nest Resources Ltd.

AREA Line Creek, BC
 COUNTRY Canada

DATE LOGGED 79/08/74

DEPTH SCALE
 20:1

3 of 4 LOGS

SEAM THICKNESS LOG

BOREHOLE DATA REFER TO LITHOLOGY LOG
 OPERATION DATA REFER TO LITHOLOGY LOG
 EQUIPMENT AND RECORDING DATA

SONDE TYPE:

COAL COMBINATION SONDE

LOG SUITE:
 CALIPER
 BR DENSITY

LOG TAPPING PANEL COAL
 LOG RECORDING SPEED 15 INCHES
 LOG SPEED BEYOND 2 INCHES NORM
 CALIPER Y 2 R 2 1 7.25
 BR DENSITY Y 2 R 2 1 7.25

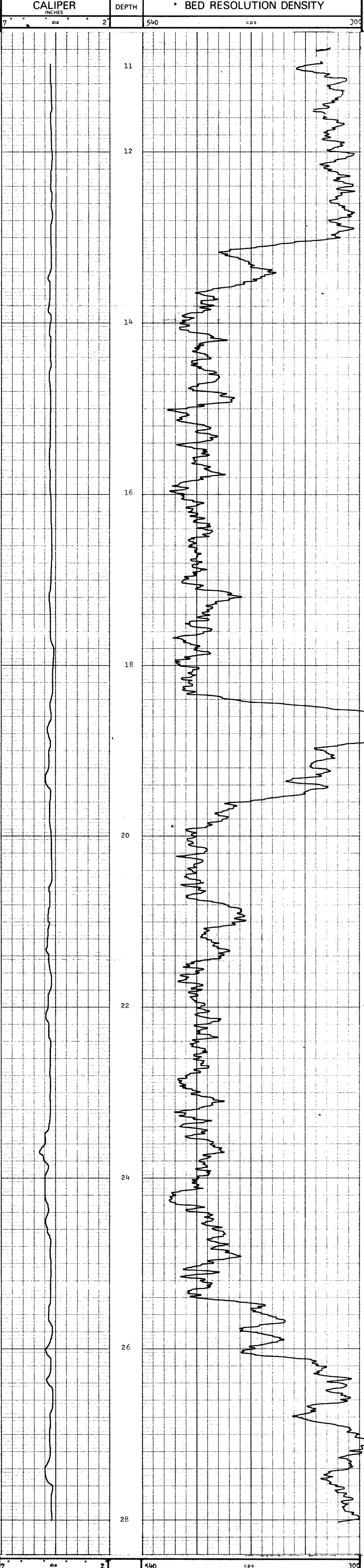
SEAM THICKNESS LOG INTERVALS

FROM 28m
 TO 11m
 INTERVAL 17m

INTERNAL TOTAL
 17m

421

B P B SEAM THICKNESS LOG



CALIPER INCHES	DEPTH	BED RESOLUTION DENSITY
7 dia 2	540	300 cps



BOREHOLE LC 206
 CLIENT Crows Nest Resources Ltd.

AREA Line Creek, BC
 COUNTRY Canada

SEAM THICKNESS LOG

421

206

K-SHELL LIVE CREEK 79 (3)A



RESISTIVITY
NEUTRON-NEUTRON

BOREHOLE LC 206
CLIENT Crows Nest Resources Ltd.

AREA Line Creek, BC
COUNTRY Canada
DATE LOGGED 79/08/14

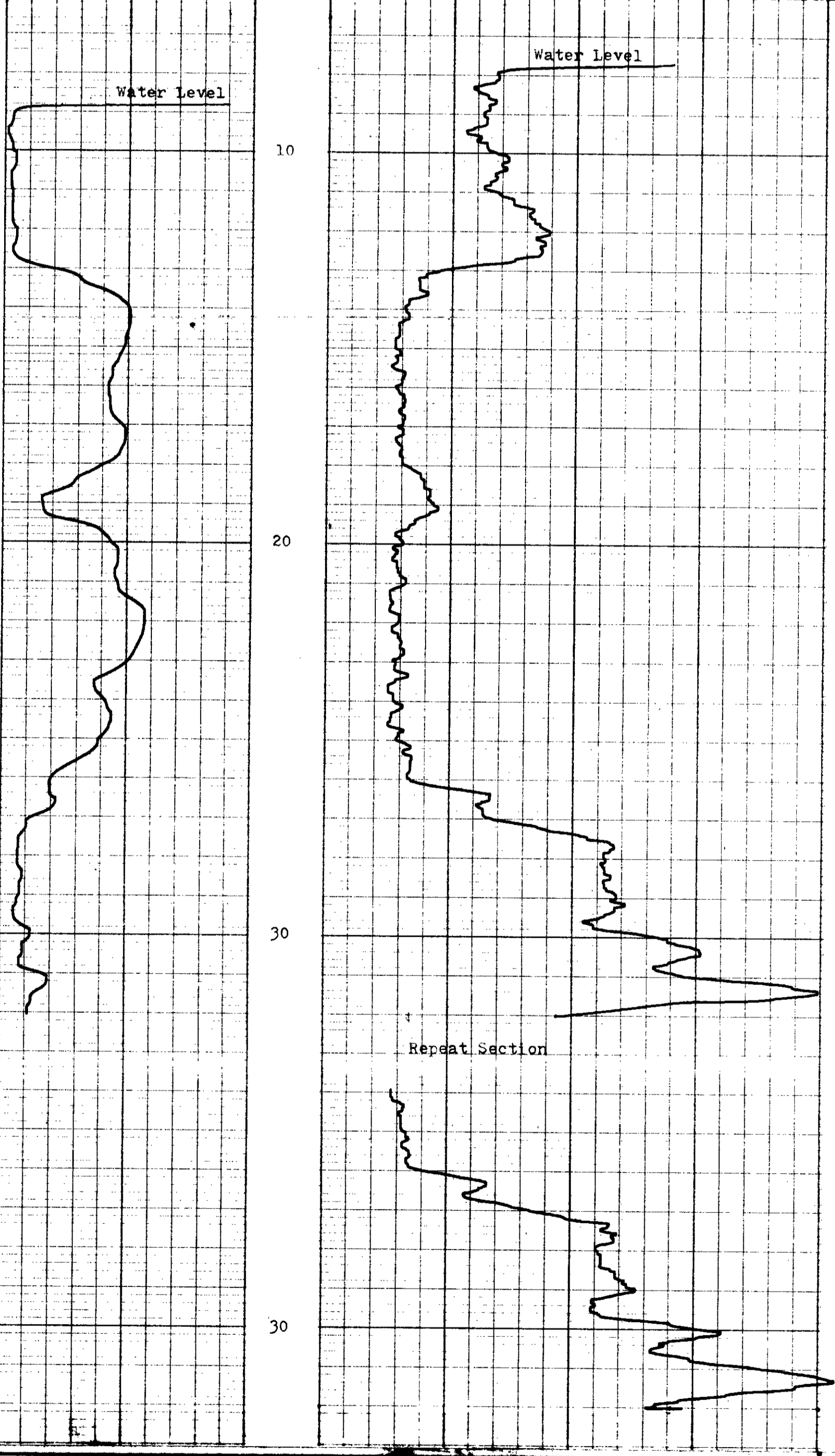
BOREHOLE DATA REFER TO Lithology LOG
OPERATION DATA REFER TO Lithology LOG

EQUIPMENT AND RECORDING DATA

LOG	TAPING LOG	RECORDING	DIRECTION	SPEED	T.C.	PANEL	NORM	CAL
LOG	TAPED	SPEED	REPLV	AV	SECS			COEFF
Res.	N	D		9				
N-N	Y	R		9	1	0.62		
		SONDE NO		10				
		SURF NO						

REMARKS

Resistivity	DEPTH	Neutron-Neutron
	0	300



Resistivity	DEPTH	Neutron-Neutron
	0	300



BOREHOLE LC 206
CLIENT Crows Nest Resources Ltd.
AREA Line Creek, BC
COUNTRY Canada



L-SHELL LIVE CREEK 2019A 206

LOG SUITE:
GAMMA RAY
L.S DENSITY
CALIPER

SONDE TYPE:
COAL
COMBINATION
SONDE

COAL
LITHOLOGY
LOG

BOREHOLE LC 206
CLIENT Crows Nest Resources Ltd.
AREA Line Creek, BC
COUNTRY Canada
DATE LOGGED 29/08/14
1 of 4 LOGS

DEPTH SCALE
100:1

BOREHOLE DATA	
PERMANENT DATUM	Ground Level
ELEVATION OF P.D.	
MEASUREMENTS FROM	G.L.
DEPTH REACHED	32.8
CASING SHOKE	3.5
BIT SIZES	1 5/8 to 10m, 2 1/4 7/8 to 32.4
CASING SIZES	1 5/8 to 32.4, 2 TO
FLUID DATA	
NATURE	Water/Air
SS	
LEVEL	
VISCOSITY	
PH at meas temp	
BHT	
OPERATION DATA	
FIRST READING	32m
LAST READING	0m
INTERVAL LOGGED	32m
UNIT-TRUCK No	42/25
ENGINEER	D. Reed
WITNESS	J. Hannah

421

EQUIPMENT AND RECORDING DATA

COAL COMBINATION SONDE														
LOG	EQUIPMENT			TAPING			PANEL			CAL COEFF	DEPTHS		SEAM LOG RUN	
	SONDE	SOURCE	CALIBRATOR	LOG TAPED	RECORD SPEED	DIRECT or REPLAY	SPEED	TC SECS	NORM		FROM	TO		INTERVAL
GAMMA RAY	134			Y	9	R	9	1		1.66	31	6	25	Y
L.S DENSITY	134	5821		Y	9	R	9	1/3		6.08	31	0	31	Y
CALIPER		SIDEWALL POSITION		Y	9	R	9	1/3			31	0	31	Y

COAL QUALITY/SEAM THICKNESS LOG INTERVALS (Refer to relevant log)			INTERVAL TOTAL
FROM	28m		
TO	11m		
INTERVAL	17m		17m

ADDITIONAL SONDES RUN				REFER TO ADDITIONAL HEADINGS	REMARKS
SONDE	LOG	GENERAL SCALE LOG	DETAIL SCALE LOG		
	Res.	100:1			
	N-N	100:1			
	Vert.	20m intervals			

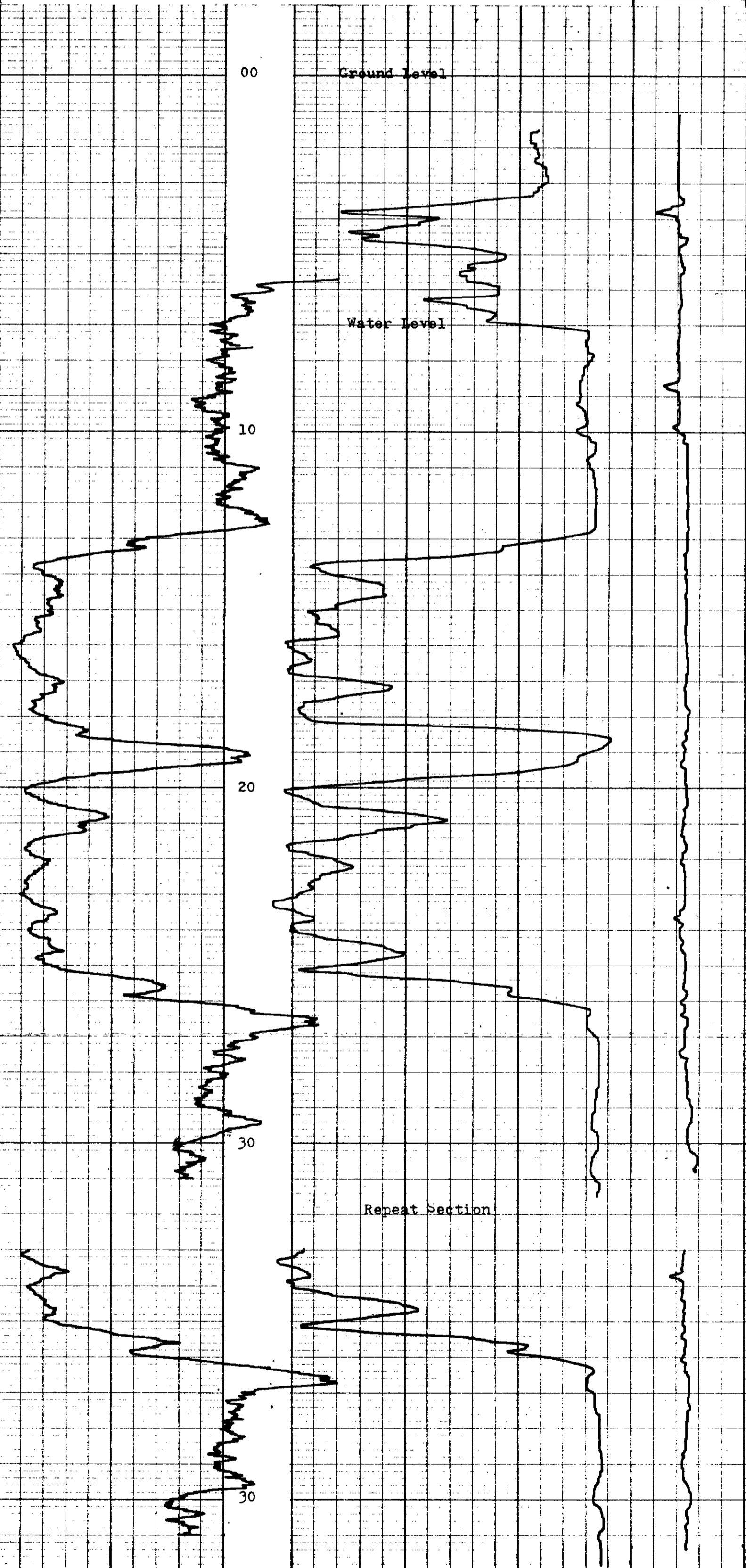
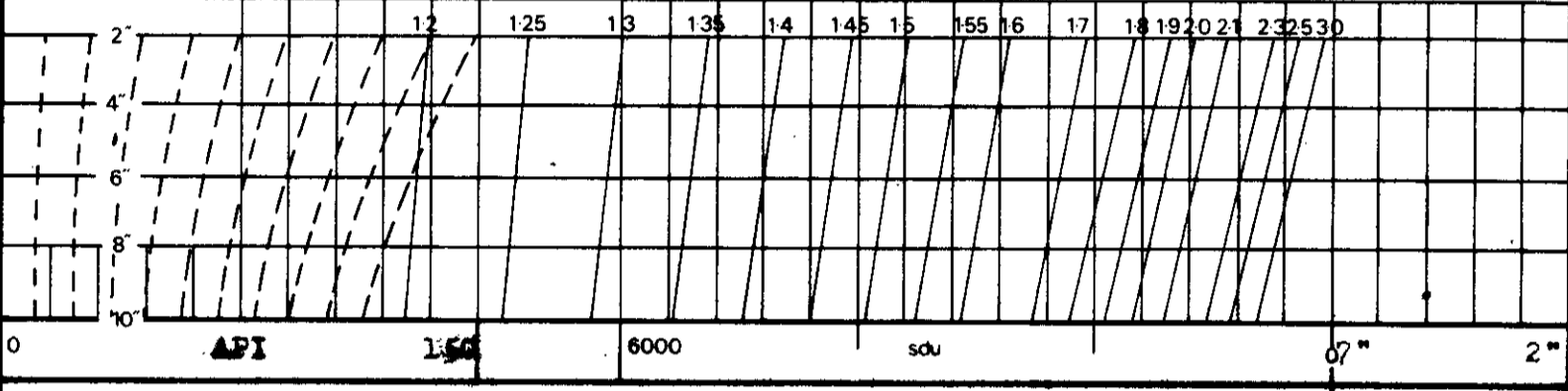
BPB COAL LITHOLOGY LOG

CALIBRATION DATA

JIG No. <u>VALUES 21@ 2" DIAM</u>	JIG CAL DATE	JIG VALUE <u>575</u>	SDU @ <u>g/cm³</u>	<u>7</u> ins. <u>905</u> cps
JIG MARK SHOWN AT ABOVE VALUE-	JIG No <u>005</u>	SPAN <u>6000</u>	NORM <u>SDU = 6.08</u>	<u>2</u> ins. <u>508</u> cps

GAMMA RAY	DEPTH	BULK DENSITY g/cm ³	CALIPER INCHES
-----------	-------	--------------------------------	----------------

HOLE SIZE CORRECTION DATA



GAMMA RAY	DEPTH	BULK DENSITY g/cm ³	CALIPER INCHES
-----------	-------	--------------------------------	----------------

BOREHOLE LC 206 AREA Line Creek, BC
CLIENT Crows Nest Resources Ltd. COUNTRY Canada

COAL LITHOLOGY LOG



K-SHELL LINE CREEK 79(3)A 206



LOG SUITE:
GAMMA RAY
L.S. DENSITY

SONDE TYPE:
COAL
COMBINATION
SONDE

COAL
QUALITY
LOG

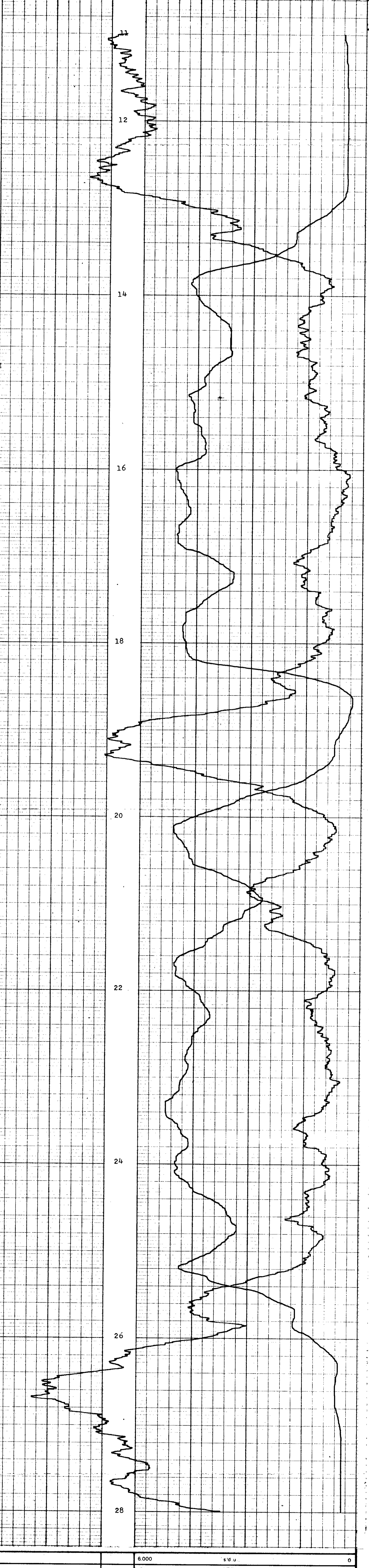
BOREHOLE IC 206
CLIENT Crows Nest Resources Ltd.
AREA Line Creek, EC
COUNTRY Canada
DATE LOGGED 29/08/14
DEPTH SCALE 20.1
2 OF 4 LOGS

BOREHOLE DATA REFER TO LITHOLOGY LOG
OPERATION DATA REFER TO LITHOLOGY LOG
EQUIPMENT AND RECORDING DATA
COAL COMBINATION SONDE
LOG TAPPING SIDEWALL POSITION
LOG TAPPING SPEED NORM 1.57
GAMMA RAY 2 R 2 2 1 6.08
L.S. DENSITY 1 2 R 2 1 6.08
SOURCE SONDE AND CALIBRATION
REFER TO LITHOLOGY LOG

421

B P B COAL QUALITY LOG

DEPTH	GAMMA RAY
	COAL BULK DENSITY g/cm ³
HOLE SIZE CORRECTION DATA	
2"	1.2 1.25 1.3 1.35 1.4 1.45 1.5 1.55 1.6 1.7 1.8 1.9 2.0 2.2 2.4 3.0
4"	
6"	
8"	
	1.50 API 0
	6.000 s.d.u. 0



DEPTH	GAMMA RAY
	COAL BULK DENSITY g/cm ³
	1.50 API 0
	6.000 s.d.u. 0



BOREHOLE IC 206
CLIENT Crows Nest Resources Ltd.
AREA Line Creek, EC
COUNTRY Canada

COAL QUALITY LOG

NY 490023

CROWS NEST RESOURCES LIMITED
COAL CORE DESCRIPTION

421

HOLE PARTICULARS

PROJECT LINE CREEK RIDGE		LOGS RUN COAL LITHOLOGY, SEAM THICKNESS, COAL QUALITY	LOGGED BY BPB	COAL CORING PERFORMANCE	EXAMINATION
AREA S.E. B.C.		RESISTIVITY	OTHER TESTS NEUTRON-NEUTRON LOG	COAL CORE PERFORMANCE	LOG USED SEAM THICKNESS
LOCATION LINE CREEK (PIT) N 5 533 497.09	ELEVATION 1745.20 m	HOLE BEARING(AZ°) 660	HOLE ANGLE (°)* VERT.	CORE DIAMETER 4 1/2 in	NO. OF SEAMS SAMPLED 1 - # 8
TOTAL DEPTH 32.80 m				CORE RECOVERED 18.03 m	EXAMINER (S) H. SCHWARZ & ASSOCIATES
				LENGTH CORED 18.40 m	DATE 1979-08-14
				CORE RECOVERY 98 %	

BPB COAL QUALITY LOG

GAMMA RAY
COAL BULK DENSITY
g/cm³

HOLE SIZE CORRECTION DATA

2"	1.35	1.4	1.45	1.5	1.55	1.6	1.7	1.8	1.9	2.0	2.2	2.4	3.0
----	------	-----	------	-----	------	-----	-----	-----	-----	-----	-----	-----	-----

150 API 0
6000 s.d.u. 0

BPB SEAM THICKNESS LOG

BED RESOLUTION DENSITY

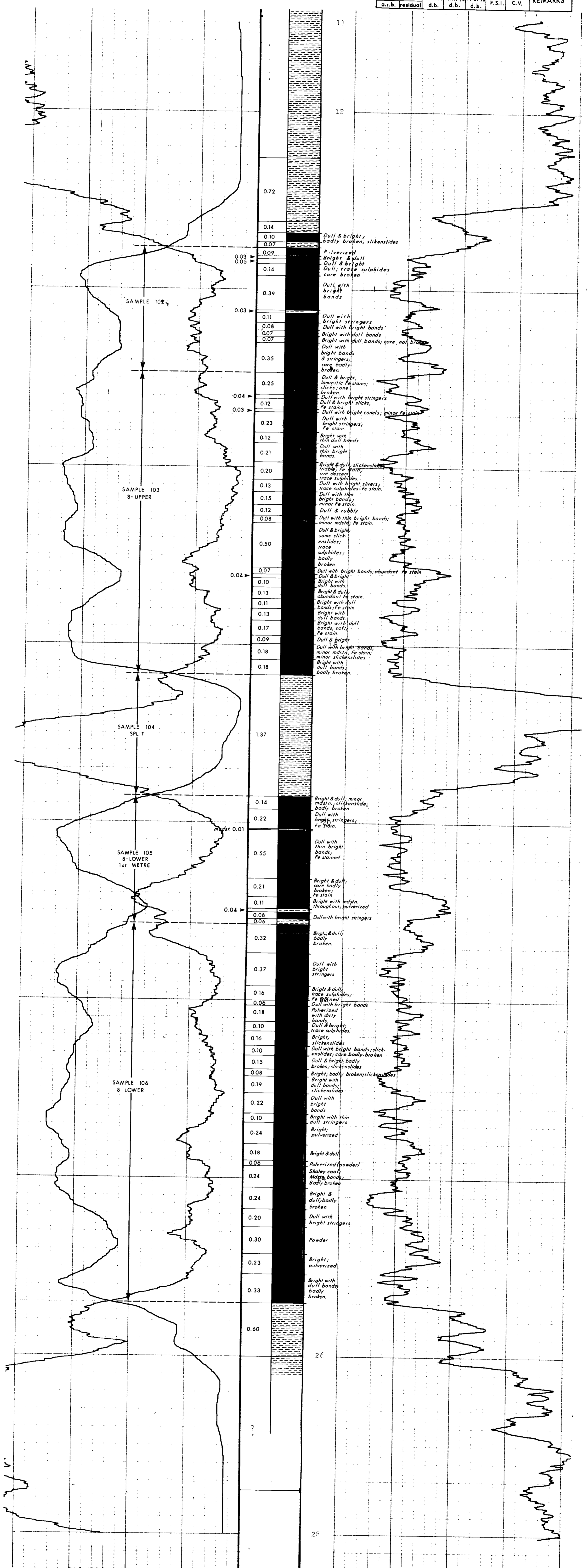
SBRDU

LITHOLOGY LEGEND

- COAL
- COALY SHALE
- CARBONACEOUS SHALE
- SHALE
- MUDSTONE
- SILTSTONE
- FINE GRAIN SANDSTONE
- MEDIUM GRAIN SANDSTONE
- COURSE GRAIN SANDSTONE

ANALYTICAL DATA

MOIST % a.s. residual	ASH % d.b.	V.M. % d.b.	F.C. % d.b.	F.S.I.	C.V.	REMARKS
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6000	s.d.u.	0
150	API	0

COAL BULK DENSITY	g/cm ³
GAMMA RAY	

HOLE LC 206	AREA Line Creek, B.C.
Crows Nest Resources Ltd.	COUNTRY Canada

COAL QUALITY LOG

540	cps	300
-----	-----	-----

DEPTH	BED RESOLUTION DENSITY
-------	------------------------

HOLE LC 206	AREA Line Creek, B.C.
Crows Nest Resources Ltd.	COUNTRY Canada

SEAM THICKNESS LOG

H1-12F MY80028

K-SHELL LIVE CREEK 2A(3)A 207.B



SEAM THICKNESS LOG

BOREHOLE LC-207
 CLIENT SHELL
 AREA LINE CREEK DEPTH SCALE 201
 COUNTRY CANADA
 DATE LOGGED 5-8-79 3 OF 4 LOGS

BOREHOLE DATA REFER TO LITHOLOGY LOG
 OPERATION DATA REFER TO LITHOLOGY LOG
 EQUIPMENT AND RECORDING DATA
 COAL COMBINATION SONDE

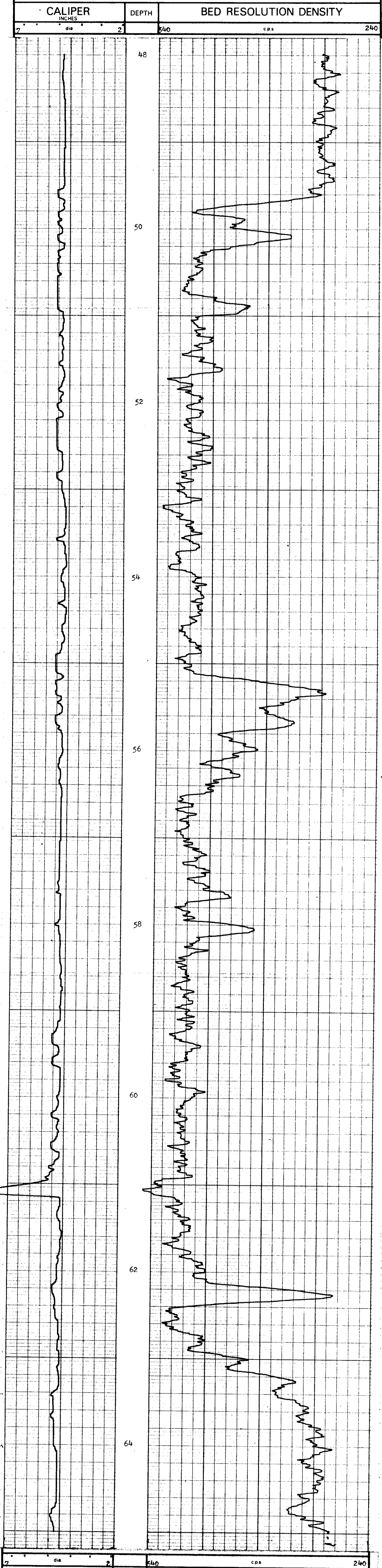
LOG TARING SIDE WALL POSITION
 LOG RECORD SPEED (FTS) PANEL COEFF.
 CALIBER LABEL SERIAL NO. 2 1 1 0.725
 BR DENSITY 2 1 1 0.725
 SOURCE SONDE AND CALIBRATION
 REFER TO LITHOLOGY LOG

SONDE TYPE _____
 COAL COMBINATION SONDE _____
 SEAM THICKNESS LOG INTERVALS

FROM 65
 TO 48
 INTERVAL 1.7m
 FROM TO
 INTERVAL TO
 INTERVAL TOTAL 1.7m

LOG SUITE _____
 CALIPER _____
 BR DENSITY _____

B P B SEAM THICKNESS LOG



CALIPER INCHES	DEPTH	BED RESOLUTION DENSITY
7	2	240

BOREHOLE LC-207 AREA LINE CREEK
 CLIENT SHELL COUNTRY CANADA

SEAM THICKNESS LOG



MY 88002 R



K-SHELL LINE CREEK 79(3)A 207B

NEUTRON-NEUTRON, RESISTIVITY LOG.

BOREHOLE IC-207

CLIENT SHELL

AREA LINE CREEK

COUNTRY CANADA

DATE LOGGED 5-8-79

DEPTH SCALE 100:1

4 OF 4 LOGS

BOREHOLE DATA

REFER TO Lithology LOG

OPERATION DATA

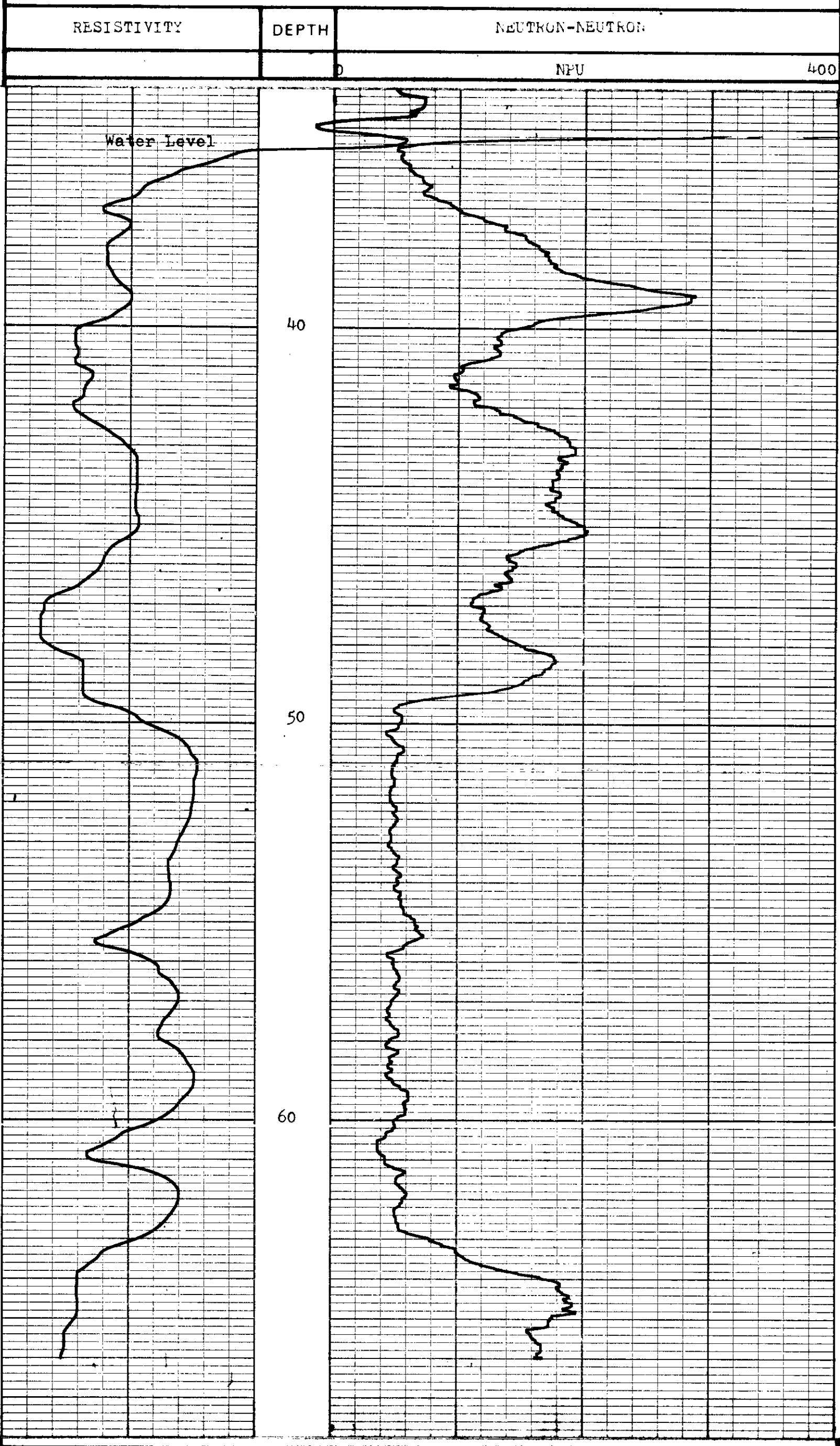
REFER TO Lithology LOG

EQUIPMENT AND RECORDING DATA

LOG	TAPING	PANEL	CAL
LOG RECORD	DIRECTOR	T C	COEFF
TAPED	SPEED	REPLAY	SECS
	12		NORM
RES		9	1 0.62
N-N			
	SPONDE	NO	NO
	10		N-N

REMARKS

421



RESISTIVITY	DEPTH	NEUTRON-NEUTRON
	0	NPU 400

BOREHOLE	IC-207	AREA	LINE CREEK
CLIENT	SHELL	COUNTRY	CANADA





K-SHELL LINE CREEK 79(13)A 207B

BOREHOLE IC-207
CLIENT SHELL

AREA LINE CREEK
COUNTRY CANADA
DEPTH SCALE 100:1

DATE LOGGED 5-8-79
1 OF 1 LOSS

COAL LITHOLOGY LOG

SONDE TYPE: COAL COMBINATION SONDE

LOG SUITE: GAMMA RAY
 L.S. DENSITY
 CALIPER

BOREHOLE DATA

PERMANENT DATUM: C.T.
ELEVATION OF P.D.: B.P.B.
MEASUREMENTS FROM: C.T.
DEPTH REACHED: 66.5m
CASING SHOE: 3m
BIT SIZES: 1 7/8" TO 66.42 TO 3m
 3 TO 4 TO 3m
 5" TO 3m 2 TO

FLUID DATA

NATURE: WATER

SG:
LEVEL: 3.5m
VISCOSITY:
PH:

OPERATION DATA

FIRST READINGS: 6.5m
LAST READINGS: 0
INTERVAL LOGGED: 6.5m
UNIT-TRUCK No: 42/25
ENGINEER: D. Reed, E. Maxwell
WITNESS: P. Hannah

EQUIPMENT AND RECORDING DATA

COAL COMBINATION SONDE												
LOG	EQUIPMENT			TAPING		PANEL		CAL COEFF	DEPTHS		SEAM LOG RUN	
	SONDE	SOURCE	CALIBRATOR	LOG TAPED	RECORD SPEED	DIRECT or REPLAY	SPEED	T.C SECS	NORM	FROM	TO	INTERVAL
GAMMA RAY							9	1	1.98			
L.S. DENSITY	13b		5921				9	1/3	6.1	65	0	65m
CALIPER							9	1/3	-			

COAL QUALITY/SEAM THICKNESS LOG INTERVALS (Refer to relevant log)

FROM	65m	INTERVAL TOTAL
TO	48m	
INTERVAL	17m	17m

ADDITIONAL SONDES RUN

SONDE	LOG	GENERAL SCALE LOG	DETAIL SCALE LOG
10	N-N	Y	
RES	RES	Y	
VERT			

REMARKS

Water level raised for CCS but would not stay up.

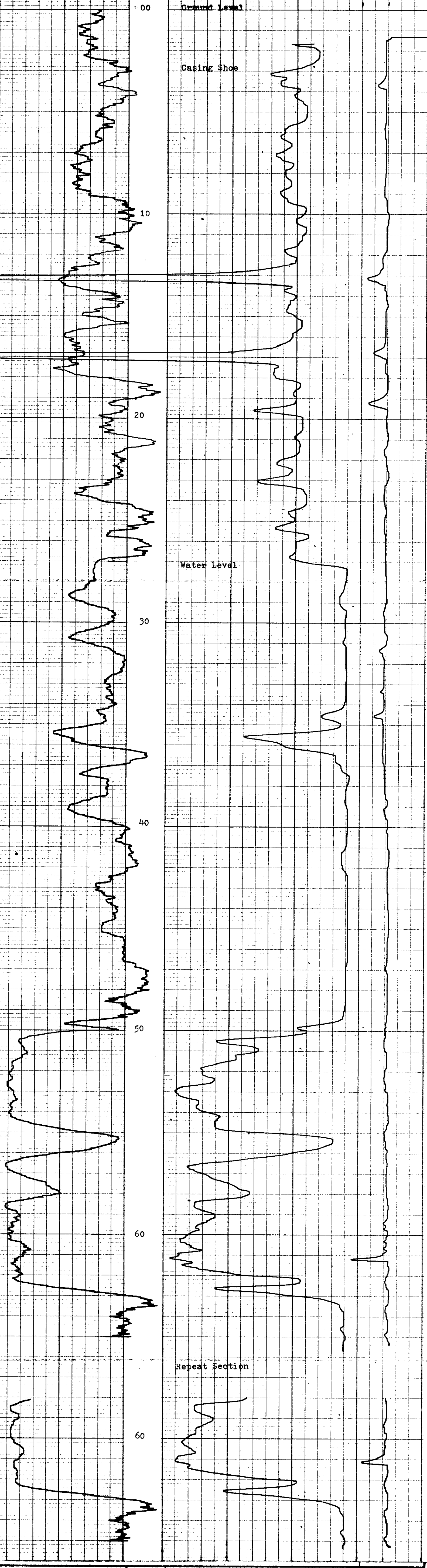
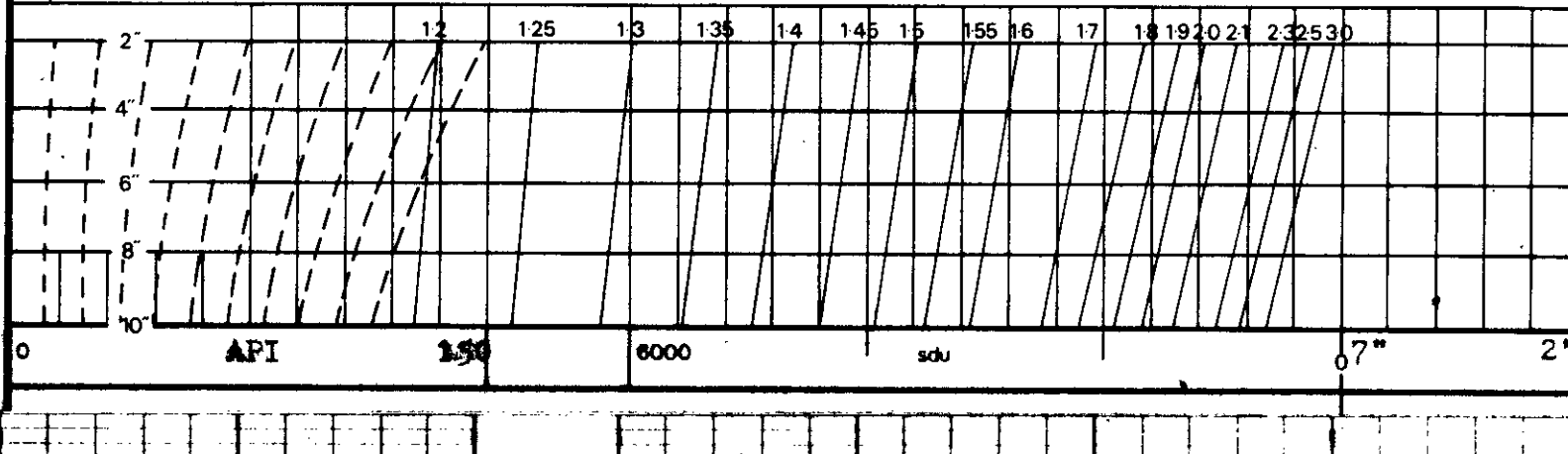
BPB COAL LITHOLOGY LOG

CALIBRATION DATA

JIG No.	VALUE @ 2" DIAM	JIG CAL DATE	JIG VALUE	SOU @	g/cm ³	ins.	cps.
JIG MARK SHOWN AT ABOVE VALUE -		JIG No.	SPAN	NORM	SOU +	ins.	cps.

GAMMA RAY	DEPTH	BULK DENSITY g/cm ³	CALIPER INCHES
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HOLE SIZE CORRECTION DATA



GAMMA RAY	DEPTH	BULK DENSITY g/cm ³	CALIPER INCHES
------------------	--------------	--	--------------------------



BOREHOLE IC-207
CLIENT SHELL
AREA LINE CREEK
COUNTRY CANADA

COAL LITHOLOGY LOG



K-SHEEL LAKE CREEK 29(3)A 2072

LOG SUITE:
GAMMA RAY
L.S. DENSITY

SONDE TYPE:
COAL
COMBINATION
SONDE

COAL
QUALITY
LOG

BOREHOLE IC 207 (redrill)
CLIENT Crows Nest Resources Ltd.
AREA Line Creek, B.C.
COUNTRY Canada
DATE LOGGED _____

DEPTH SCALE
2011

2 OF 4 LOGS

BOREHOLE DATA REFER TO LITHOLOGY LOG

OPERATION DATA REFER TO LITHOLOGY LOG

EQUIPMENT AND RECORDING DATA

COAL COMBINATION SONDE

LOG TABBING PANEL COAL
LOG RECORDING SPEED SCS NORM
GAMMA RAY 2 R 2 Z 2
L.S. DENSITY Y 2 R 2 I 0.06
SOURCE SONDE AND CALIBRATION
REFER TO LITHOLOGY LOG

COAL QUALITY LOG INTERVALS
FROM 68m
TO 158m
INTERVAL 20m
FROM 158m
TO 178m
INTERVAL 20m
REMARKS

421

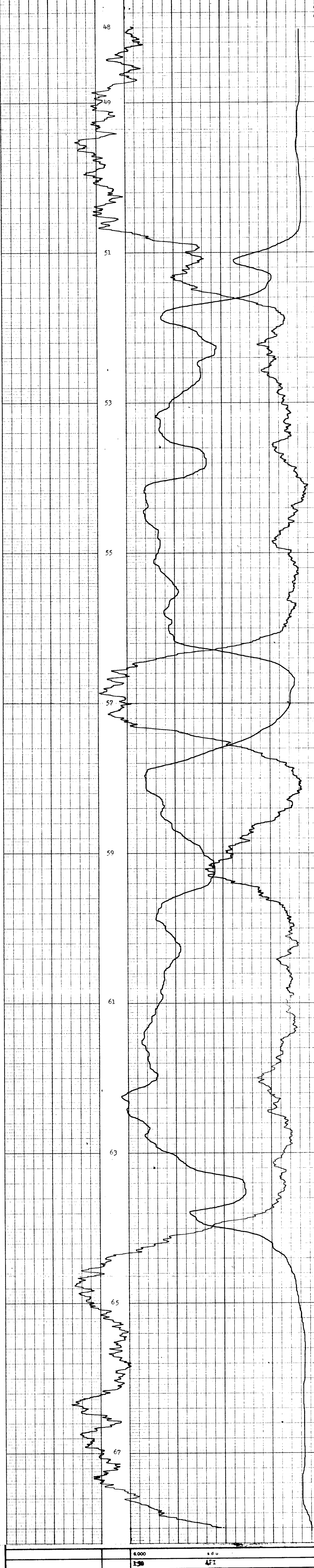
B P B COAL QUALITY LOG

DEPTH GAMMA RAY
COAL BULK DENSITY
g/cm³

HOLE SIZE CORRECTION DATA

2"	1.2	1.25	1.3	1.35	1.4	1.45	1.5	1.55	1.6	1.7	1.8	1.9	2.0	2.2	2.4	3.0
4"																
6"																
8"																

150 API 0
6.000 s.d.u. 0



6.000 s.d.u. 0
150 API 0

COAL BULK DENSITY
g/cm³
DEPTH GAMMA RAY



BOREHOLE IC 207 (redrill)
CLIENT Crows Nest Resources Ltd.

AREA Line Creek, BC
COUNTRY Canada

COAL QUALITY LOG



L-SHELL LINE CREEK 79/81A 207C

Resistivity
Neutron-Neutron

BOREHOLE LC 207 (redrill)
CLIENT Crows Nest Resources Ltd.

AREA Line Creek, B.C. DEPTH SCALE 100:1
COUNTRY Canada 4 OF 4 LOGS
DATE LOGGED 29/08/11

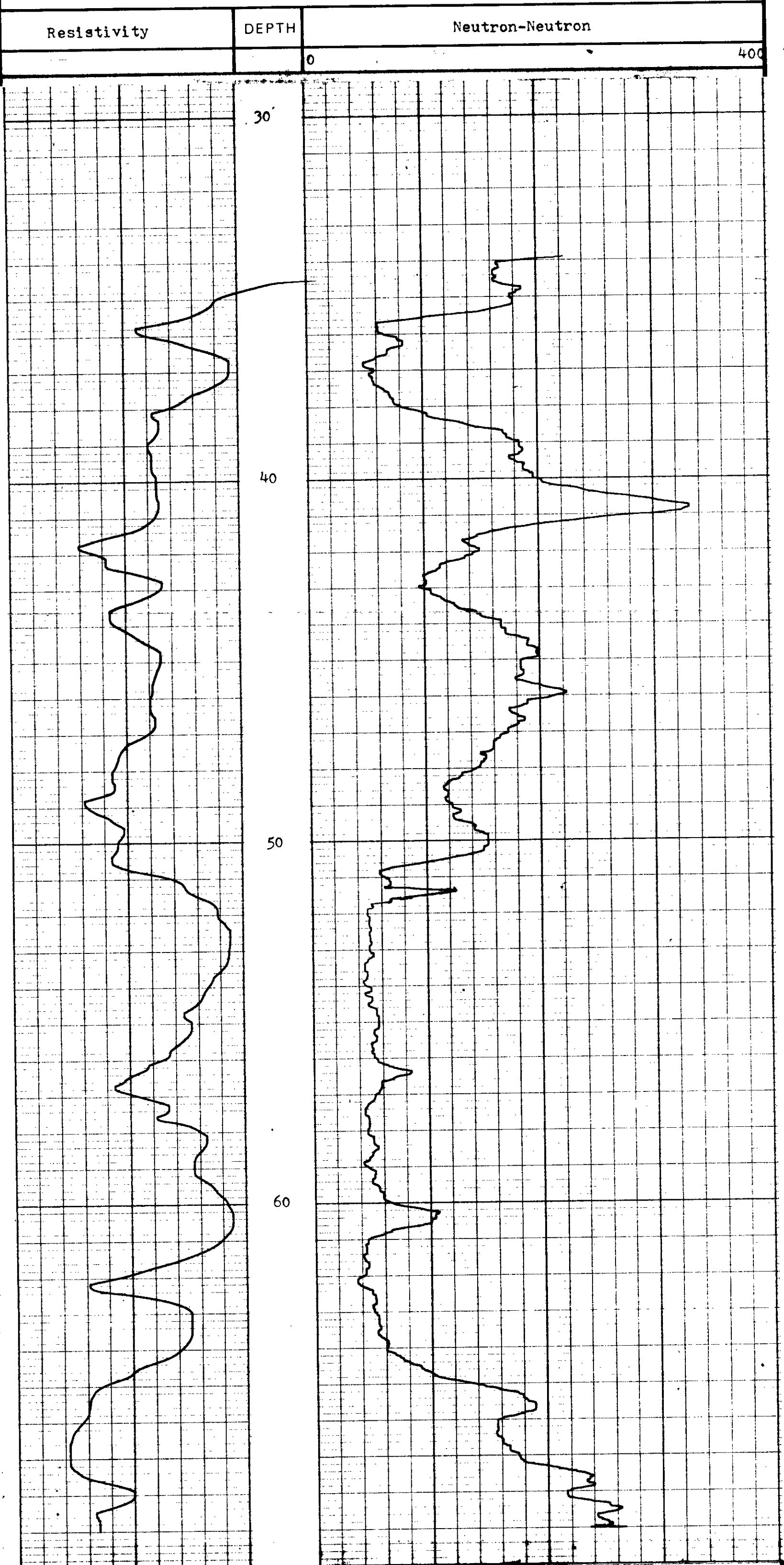
BOREHOLE DATA REFER TO Lithology LOG
OPERATION DATA REFER TO Lithology LOG

EQUIPMENT AND RECORDING DATA

LOG	TAPING	RECORD	DIRECTOR	PANEL	T.C.	CAL
LOG	TAPED	SPEED	REPLAY	NO.	NO.	COEFF
Res	Y	9	R	9	1	0.62
N-N	Y	9	R	9	1	0.62

REMARKS

421



Resistivity	DEPTH	Neutron-Neutron
	0	400



BOREHOLE LC 207 (redrill) AREA Line Creek, BC
CLIENT Crows Nest Resources Ltd. COUNTRY Canada



K-SHELL LIME CREEK 79(3)A 207C

BOREHOLE IC 207 (redrill)
CLIENT Crows Nest Resources Ltd.

AREA Line Creek, BC
COUNTRY Canada

DATE LOGGED 79/08/11

3 of 4 LOGS

SEAM THICKNESS LOG

SEAM THICKNESS LOG

BOREHOLE DATA REFER TO LITHOLOGY LOG

OPERATION DATA REFER TO LITHOLOGY LOG

EQUIPMENT AND RECORDING DATA

COAL COMBINATION SONDE

LOG TAPPING LOG RECORDING SPEED TO CALIPER Y 2 R 2 1 7.25

BR DENSITY X 2 R 2 1 7.25

SOURCE SONDE AND CALIBRATION REFER TO LITHOLOGY LOG

SEAM THICKNESS LOG INTERVALS

COAL COMBINATION SONDE

LOG SUITE: CALIPER BR DENSITY

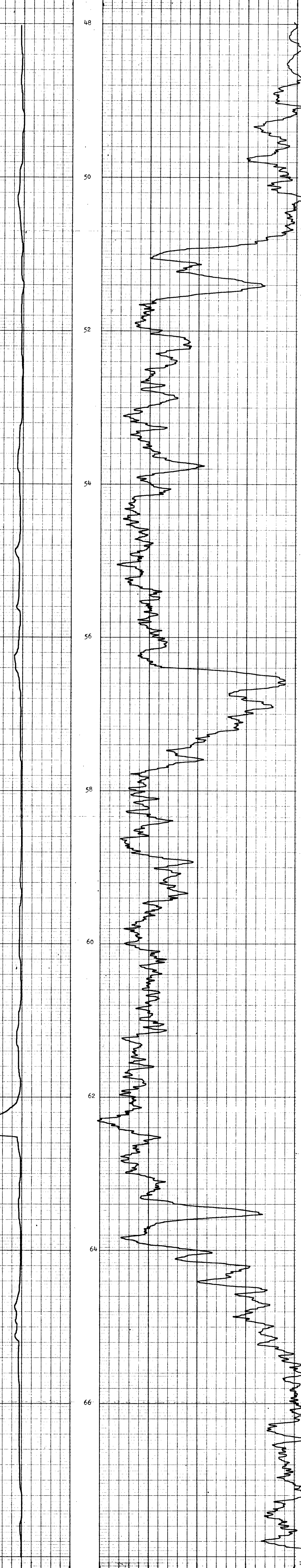
FROM 68m TO 48m INTERVAL 20m

REMARKS

421

B P B SEAM THICKNESS LOG

CALIPER INCHES	DEPTH	BED RESOLUTION DENSITY cps
7	2	540

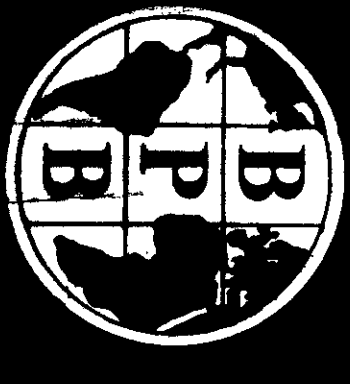


CALIPER INCHES	DEPTH	BED RESOLUTION DENSITY cps
7	2	540



BOREHOLE IC 207 (redrill) AREA Line Creek, BC
 CLIENT Crows Nest Resources Ltd. COUNTRY Canada

SEAM THICKNESS LOG



6-SHELL LINE CREEK 74(3)A 207C

LOG SUITE:
GAMMA RAY
L.S DENSITY
CALIPER

SONDE TYPE:
COAL
COMBINATION
SONDE

COAL
LITHOLOGY
LOG

BOREHOLE IC 207 (redrill)
CLIENT Crows Nest Resources Ltd.
AREA Line Creek, EC
COUNTRY Canada
DATE LOGGED 79/08/11
DEPTH SCALE 100:1
LOG SCALE 100:1

BOREHOLE DATA
PERMANENT DATUM Ground Level
ELEVATION OF P.D. g.p.s
ORILLER G.L.L.
MEASUREMENT FROM G.L.L.
DEPTH REACHED 69.85
G.L.L. 70.00
CASING SHAPE 3.5
BIT SIZES 1 5 1/8/80 1.0 2 1/4 7/8 70.0
CASING SIZES 1 5 4/8 3.5 2

FLUID DATA
NATURE Water/Air
SG Variable
LEVEL Variable
VISCOSITY Variable
TEMPERATURE Variable
PH Variable
OPERATION DATA
FIRST READING 68m
LAST READING 0.0m
INTERVAL LOGGED 68m
UNIT-TRUCK No. 42/25
ENGINEER D. Reed
WITNESS P. Hannah

421

EQUIPMENT AND RECORDING DATA

LOG	EQUIPMENT			TAPING		PANEL		CAL COEFF	DEPTHS		SEAM LOG RUN		
	SONDE	SOURCE	CALIBRATOR	LOG TAPED	RECORD SPEED	DIRECTOR REPLAY	SPEED		T.C. SECS	FROM		TO	INTERVAL
GAMMA RAY				Y	9	R	9	1	1.62	68	0	68	Y
L.S DENSITY	134	5821	005	Y	9	R	9	1/3	6.05	68	0	68	Y
CALIPER	POSITION									68	0	68	Y

COAL QUALITY/SEAM THICKNESS LOG INTERVALS (Refer to relevant log)			INTERVAL TOTAL
FROM	68m		
TO	48m		
INTERVAL	20m		20m

ADDITIONAL SONDES RUN				REFER TO ADDITIONAL HEADINGS	REMARKS
SONDE	LOG	GENERAL SCALE LOG	DETAIL SCALE LOG		
	Res.	100:1			
	N-N	100:1			
	Vert.	20m interval			

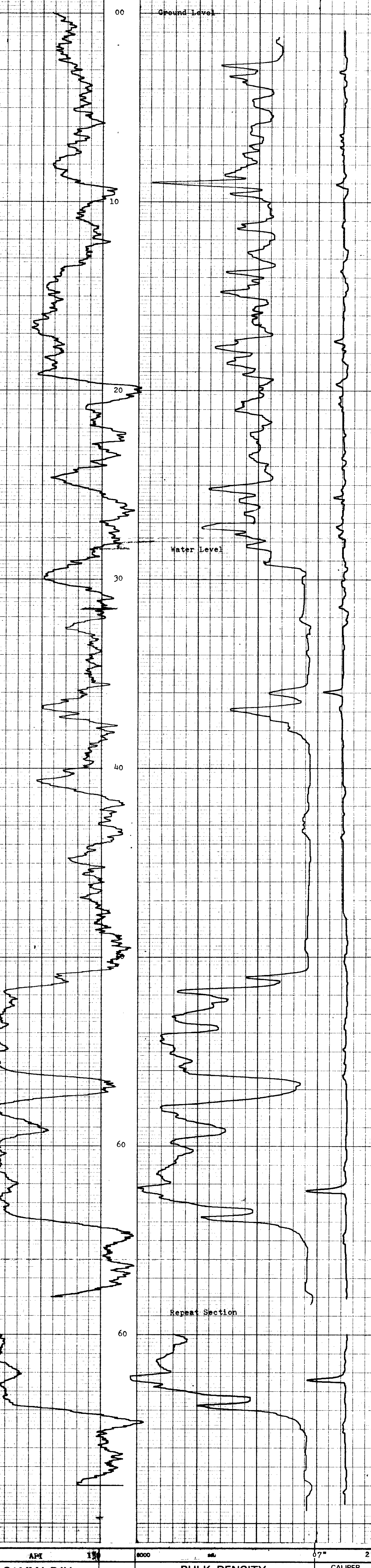
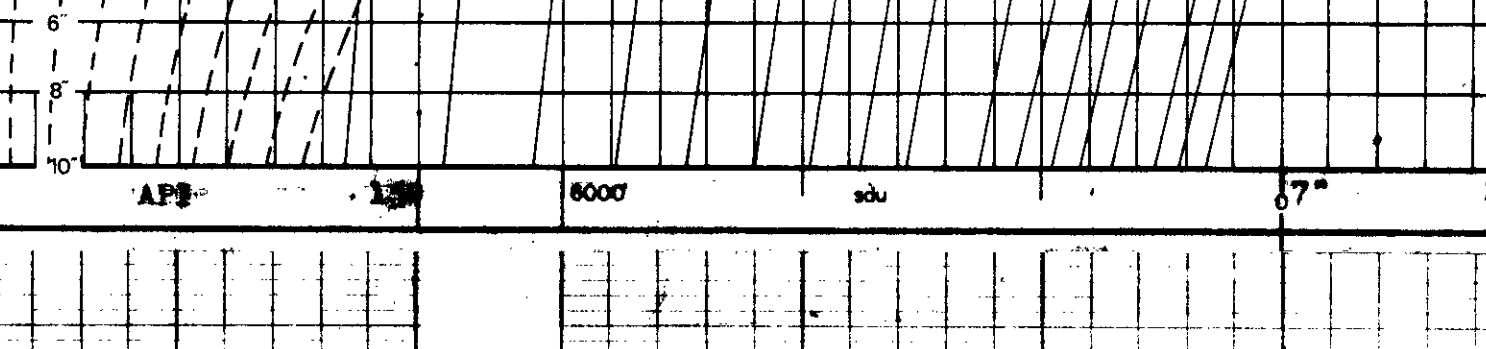
BPB COAL LITHOLOGY LOG

CALIBRATION DATA

JIG No. <u>VALUE521@ 2" DIAM</u>	JIG CAL. DATE <u>JIG VALUE 5750 SDU@</u>	g/cm ³ <u>7 ins 106 cps</u>
JIG MARK SHOWN AT ABOVE VALUE	JIG No. <u>SPAN 6000</u>	NORM <u>600</u> <u>2 ins 504 cps</u>

GAMMA RAY	DEPTH	BULK DENSITY g/cm ³	CALIPER INCHES
-----------	-------	--------------------------------	----------------

HOLE SIZE CORRECTION DATA



0	APX	134	6000	07"	2"
GAMMA RAY	DEPTH	BULK DENSITY g/cm ³	CALIPER INCHES		

BOREHOLE IC 207 (redrill) AREA Line Creek, E.C.
 CLIENT Crows Nest Resources Ltd. COUNTRY Canada

COAL LITHOLOGY LOG



CROWS NEST RESOURCES LIMITED
COAL CORE DESCRIPTION

421

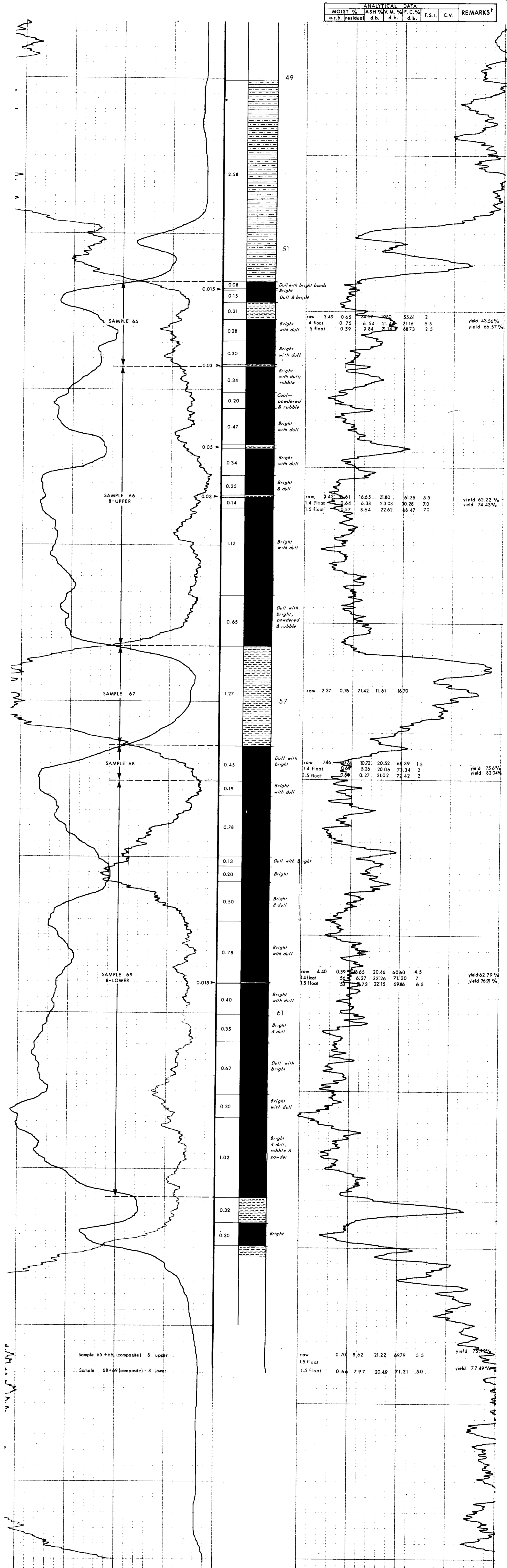
K-SHELL LINE CREEK 79131A

HOLE PARTICULARS

PROJECT	LINE CREEK RIDGE	LOGS RUN	COAL LITHOLOGY, SEAM THICKNESS, COAL QUALITY	COAL CORING PERFORMANCE	EXAMINATION
AREA	S. E. B. C.	LOGGED BY	BPB	LOG USED	SEAM THICKNESS
LOCATION	LINE CREEK (PIT) N 5 533 895.08 S. E. B. C. E 660 236.24	OTHER TESTS	RESISTIVITY NEUTRON-NEUTRON LOG	CORE DIAMETER	1 1/2 in
ELEVATION	1666.83 m	HOLE BEARING(AZ°)		CORE RECOVERED	15.6 m
TOTAL DEPTH	69.85 m	HOLE ANGLE (°)	VERT	LENGTH CORED	16.9 m
				CORE RECOVERY	92.3%
				NO. OF SEAMS SAMPLED	1 - # 8
				EXAMINER(S)	M'DORSAY
				DATE	1979-08-11

BPB COAL QUALITY LOG	
GAMMA RAY COAL BULK DENSITY g/cm ³	
HOLE SIZE CORRECTION DATA	
2"	1.35
4"	1.4
6"	1.45
8"	1.5
10"	1.55
12"	1.6
14"	1.7
16"	1.8
18"	1.9
20"	2.0
22"	2.1
24"	2.0
26"	2.0
28"	2.0
30"	2.0
150	API
6000	g/cc

BPB SEAM THICKNESS LOG	
BED RESOLUTION DENSITY	
SBRDU	
LITHOLOGY LEGEND	
COAL	SILTSTONE
COALY SHALE	FINE GRAIN SANDSTONE
CARBONACEOUS SHALE	MEDIUM GRAIN SANDSTONE
SHALE	COURSE GRAIN SANDSTONE
MUDSTONE	



6000	g/cc	0
150	API	0
COAL BULK DENSITY		
GAMMA RAY		
C 207 (redrill)		
AREA Line Creek, BC		
ws Nest Resources Ltd.		
COUNTRY Canada		
COAL QUALITY LOG		

540	cps	300
BED RESOLUTION DENSITY		
207 (redrill)		
AREA Line Creek, BC		
ws Nest Resources Ltd.		
COUNTRY Canada		
SEAM THICKNESS LOG		

111-12 H

CROWS NEST RESOURCES LIMITED
COAL CORE DESCRIPTION

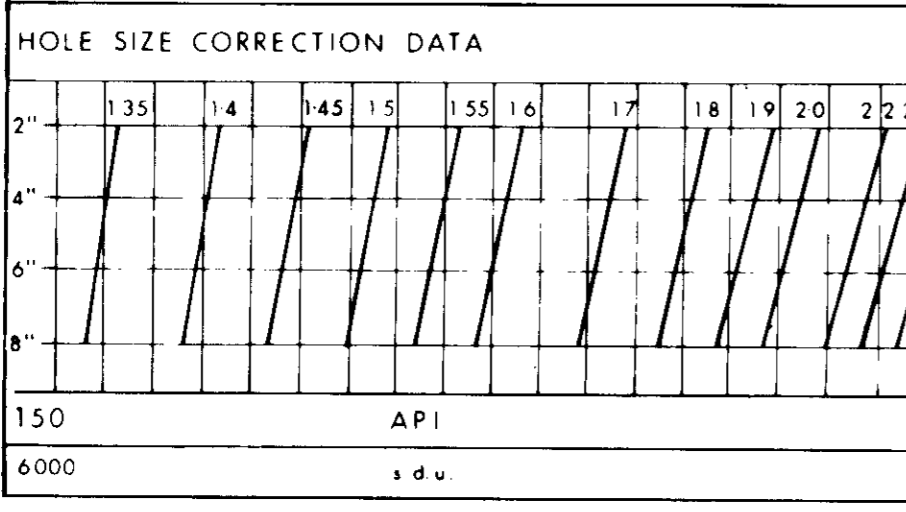
421

HOLE PARTICULARS

PROJECT LINE CREEK RIDGE		K-SHELL LINE CREEK 79(3)A		HOLE No. LC-207	
AREA S.E. B.C.		LOGS BEGIN A 1979-08-03	LOGS END 1979-08-05		
LOGGING		COAL CORING PERFORMANCE		EXAMINATION	
LOCATION LINE CREEK (PIT) N 5 533 885.54	LOGS RUN COAL LITHOLOGY, SEAM THICKNESS, COAL QUALITY	LOGS USED	LOG USED	SEAM THICKNESS	
SE B.C. E 660 238.04	LOGGED BY BPB	LOGS	LOGS	No. OF SEAMS SAMPLED 1 - # 8	
ELEVATION 1666.32 m	OTHER TESTS RESISTIVITY	CORE DIAMETER 4 3/8 in	EXAMINER(S) M D'ORSAY		
HOLE BEARING(AZ°)	TESTS NEUTRON-NEUTRON LOG	CORE RECOVERED 21.7 m	DATE 1979-08-05		
TOTAL DEPTH 66.20 m		LENGTH CORED 27.2 m			
HOLE ANGLE (°) Veri.		CORE RECOVERY 79.8%			

BPB COAL QUALITY LOG

GAMMA RAY
COAL BULK DENSITY
g/cm³



BPB SEAM THICKNESS LOG

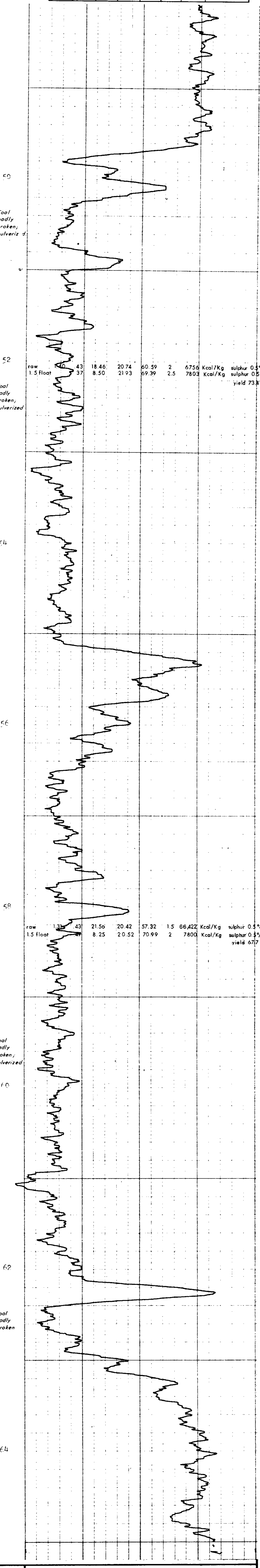
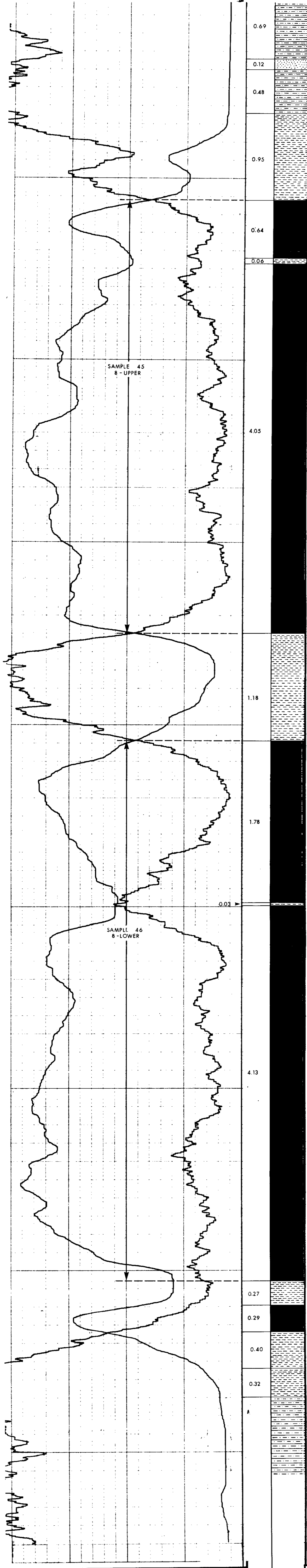
DEPTH (m)
BED RESOLUTION DENSITY
SBRDU

LITHOLOGY LEGEND

COAL	SILTSTONE
COALY SHALE	FINE GRAIN SANDSTONE
CARBONACEOUS SHALE	MEDIUM GRAIN SANDSTONE
SHALE	COURSE GRAIN SANDSTONE
MUDSTONE	

ANALYTICAL DATA

MOIST %	ASH %	V.M. %	F.C. %	F.S.I.	C.V.	REMARKS
a.r.b. residual	d.b.	d.b.	d.b.			



6000	S.D.V.	0
150	API	0
COAL BULK DENSITY g/cm ³		
GAMMA RAY		
LC-207	AREA LINE CREEK	
SHELL	COUNTRY CANADA	
COAL QUALITY LOG		

6000	C.P.S.	240
BED RESOLUTION DENSITY		
HOLE LC-207	AREA LINE CREEK	
WT SHELL	COUNTRY CANADA	
SEAM THICKNESS LOG		

H-423

K-Shell Line Creek 79(4)A
CCA

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**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

00 421

AREA: LI. CREEK

HOLE NO. LC 201

D. : January 29, 1980

ANALYST Bernie Hudyma

LAB. NO.	SAMPLE NO.	SEAM	INTERVAL (METRES)	FRACTION	% AIR DRY LOSS	% MOISTURE	% ASH	% V.M.	% F.C.	F.S.I.	SULFUR	% YIELD	BTU/LB	CALC BASI	
79-297	77	8 Upper	Approx 1M	RAW	.60	.46	18.31	19.52	61.71	2	0.5		12,250	ADB	
							18.39	19.61	62.00					12,324	DB
				1.5 FLOAT		.47	9.22	20.57	69.74	3	0.5	73		13,951	ADB
							9.26	20.67	70.07					14,017	DB
				FLOAT											ADB
															DB
				FLOAT											ADB
															DB
9-298	78	8 Upper		RAW	.57	.40	13.71	20.84	65.05	4	0.5		13,106	ADB	
							13.76	20.92	65.32					13,159	DB
				1.5 FLOAT		.35	7.59	21.89	70.17	5	0.5	79		14,203	ADB
							7.62	21.97	70.41					14,253	DB
				FLOAT											ADB
															DB
				FLOAT											ADB
															DB
79-299	79	8 Lower	Approx 1M	RAW	1.56	.22	13.40	21.26	65.12	4	0.5		13,232	ADB	
							13.43	21.31	65.26					13,261	DB
				1.5 FLOAT		.22	6.17	22.49	71.12	7 1/2	0.5	82		14,481	ADB
							6.18	22.54	71.28					14,513	DB
				FLOAT											ADB
															DB
				FLOAT											ADB
															DB

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