Burnt Ridge
Extention - 1986
Geological Report
Confidential Analyses
(Wash + Fluidity Data).

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BURNT RIDGE EXTENSION

TABLE 7

DRILL HOLE QUALITY - UPPER MIST MOUNTAIN SECTION

	RAW					WASH 1.6 SG							
SEAM	INTERCEPT THICKNESS	HOLE THICKNESS	RECOVERY	AIR DRIED BASIS	ASH	YIELD	AIR DRIED BASIS	ASH	VOLS	FIXED CARBON	FSI	CALS	SULPHUR
6	3.39	4.54	72.9	0.74	23.4	76.5	1.04	8.6	25.0	65.4	8.0	7653	0.79
7	4.38	4.38	51.4	0.75	38.9	52.7	1.14	7.2	26.8	64.1	7.0	7769	0.99
8	1.08	1.44	75.0	0.96	9.4	91.1	1.34	4.7	27.8	67.8	9.0	8071	1.03
9	3.32	3.32	60.7	0.86	15.4	85.3	0.98	5.9	27.2	66.9	8.5	7963	0.82
10	3.08	3.08	74.0	0.90	31.4	71.5	0.83	6.9	28.1	63.7	8.0	7676	0.79
11	1.76	4.70	85.8	0.92	30.2	67.3	1.07	8.7	27.6	62.4	8.0	7613	0.90
12	1.94	2.59	74.6	0.85	24.6	76.3	0.97	8.7	28.8	60.7	8.0	7572	0.81
13	2.12	2.82	82.4	0.93	19.7	80.8	1.14	5.3	30.4	63.6	8.0	7879	0.77
14	0.65	0.65	?	0.94	30.9	64.0	0.90	10.3	28.5	60.3	8.0	7541	0.91
15	1.30	1.95	80.9	0.92	17.0	86.7	0.80	7.5	29.4	61.1	7.5	7563	0.94
16	0.32	0.32	?	1.04	31.6	65.0	0.79	11.4	30.0	57.9	8.5	7419	0.79
17	1.96	2.94	78.5	1.76	26.6	61.0	1.65	6.6	29.2	62.4	1.0	7249	0.57
18	2.40	2.40	53.0	4.81	6.5	94.1	2.81	3.4	30.1	65.5	0.5	7112	0.64

NOTE 1: Some drill intercepts near collar oxidized ie. seams 17 and 18.

NOTE 2: Some drill holes only intersect lower part of seam resulting in an unrealistically thin average thickness.

NOTE 3: If the seam has thinned to zero in a drill hole, this does not influence calculation of average thickness which will then be unrealistically thick.

BURNT RIDGE EXTENSION

TABLE 8

TRENCH QUALITY DATA - UPPER MIST MOUNTAIN SECTION

			RAW DATA		WASH 1.65G		
SEAM	INCREMENT THICKNESS	TRENCH THICKNESS	AIR DRIED BASIS	ASH	AIR DRIED BASIS	ASH	YIELD
6	3.60	9.36	3.80	28.1	3.7	9.1	64.7
7	1.62	2.16	4.70	26.2	3.4	9.8	51.2
8	1.55	1.55	6.20	20.6	3.2	8.7	74.4
9	4.18	4.18	4.50	16.5	2.7	7.6	72.8
10	2.23	3.13	5.50	23.1	2.8	7.4	62.8
11	2.63	4.39	4.60	31.8	2.7	6.5	22.0
12	1.68	2.24	6.70	20.6	3.2	6.5	67.0
13	2.44	3.25	4.20	20.3	3.1	5.7	74.0
14	1.13	2.26	3.36	27.3			
15							
16	0.93	0.93	4.21	21.3			
17	1.78	5.34	3.37	29.4			
18	2.94	2.94	3.84	42.5			

BURNT RIDGE EXTENSION

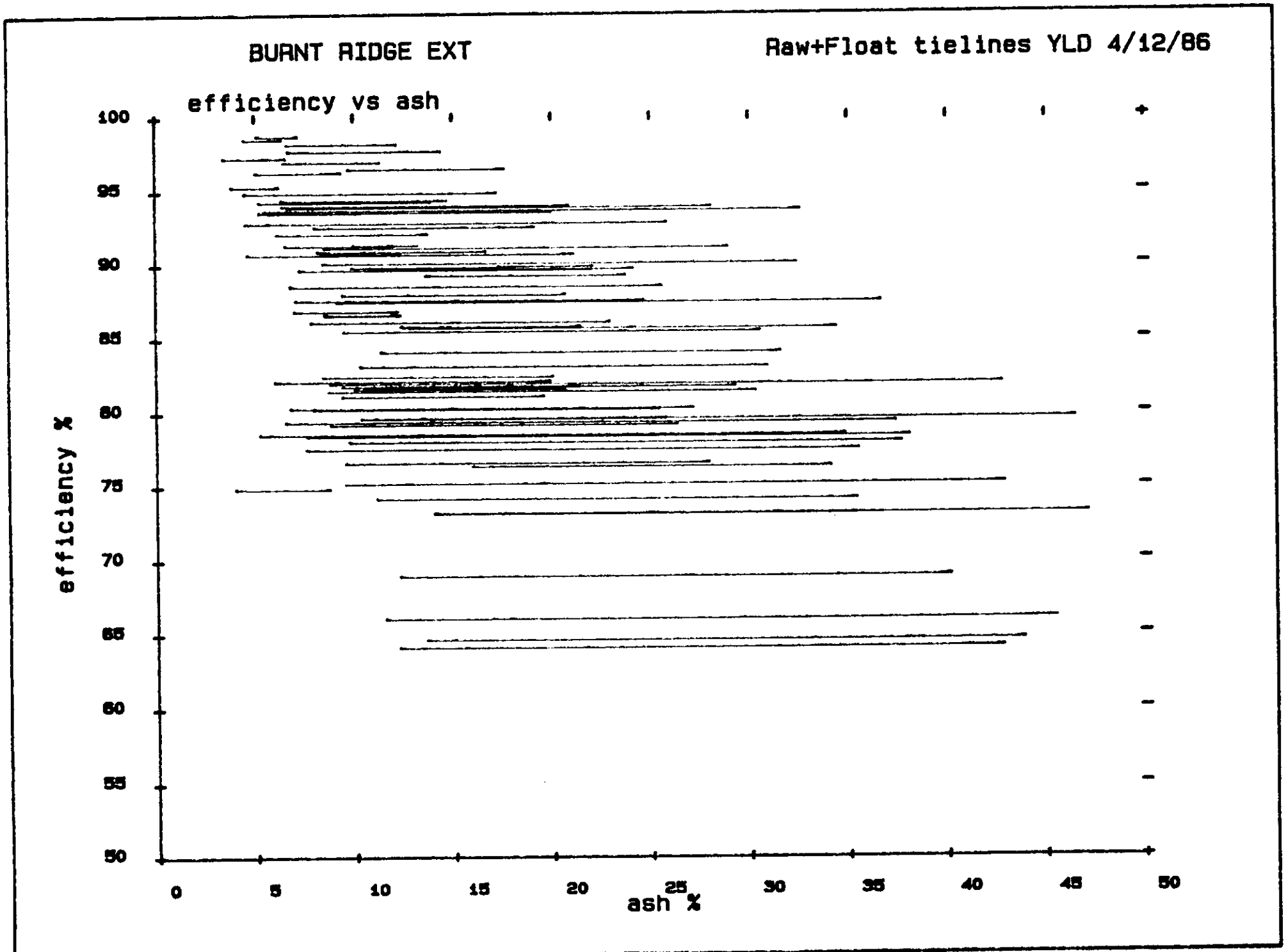
TABLE 9

SEAM FLUIDITY DATA

SEAM	LOCATION	CORE RECOVERY	MAX FLUIDITY DDPM	RANGE °C
6	DDH86-2	63	26	419 - 510
7	DDH86-1	35	264	432 - 509
9	DDH85-1	92.5	196	409 - 492
10L	DDH85-1	100	146	415 - 491
11	DDH86-1	90	107	424 - 492
12	DDH86-2	53	1,246	420 - 504
13	DDH85-1	92	467	409 - 489
15	DDH86-1	90	-	-
18	DDH86-1	53	347	413 - 499

C9/bnm.

En sure 16


BURNT RIDGE EXT
Raw+Float tielines YLD 4/12/86
efficiency vs ash
efficiency %
100
95
90
85
80
75
70
65
60
55
50
0
5
10
15
20
25
30
35
40
45
50
ash %

BURNT RIDGE EXTENSION

BENCH VOLUMES, COAL TONNAGES - MINI PIT 3

TABLE 10

BENCH	SEAMS	6	7	8	9	10	11	12	13		COAL TONNES	ROCK VOL
BENCH	BENCH VOLUME	STRIKE LENGTH / COAL VOLUME								DIP LENGTH		
1930	12899	15										
		2557								28.8	3836	10342
1910	25687	40	18									
		9215	594							28.3	14714	15878
1890	86141	115	83	70	60	28						
		25051	3213	1319	3202	1288				27.3	51110	52068
1870	242670	181	157	130	115	95	75	44				
		47838	7633	3767	9340	5658	4750	1219		27.3	120308	162465
1850	528270	408	208	190	182	154	147	140	128			
		89613	10928	11349	15851	10783	13237	4800	1760	25.7	237482	369949
1830	979000	430	400	387	376	216	199	195	190			
		127500	18204	10232	28036	16023	20630	8739	4372	25.7	350604	745264
1810	1440452	453	440	426	416	267	268	262	244			
		134343	25150	14417	39793	20916	27844	11921	5967	25.7	420527	1179002
Average Seam Thick		11.84	2.33	1.38	3.91	3.37	4.64	2.03	1.07			
Coal Tonnes		654176	98583	61626	144333	82002	99692	40019	18149		1198580	2534968
Ratio											2.1:1	

NOTE 1: Coal volume by bench = average strike length x dip length x thickness
NOTE 2: An average SG of 1.5 is assumed.

C9/bnm.

BURNT RIDGE EXT file is c:hold 2/12/86

hole	sm	from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals	S%	R/yld
101	5	7.0	9.71	R	.85	19.9	00	00	00	00	0	79
101	5	7.0	9.71	W	.91	6.0	22.8	70.7	6	8013	.63	70
102	5U	71.8	74.6	R	.64	40.13	0	0	0	0	0	66.2
102	5U	71.8	74.6	W	.57	12.24	20.6	66.8	5.5	7490	.62	47
102	5	82.6	84.4	R	.55	10.3	0	0	0	0	0	41.7
102	5	82.6	84.4	W	1.34	5.7	23.7	70.0	7.5	8020	.59	89
103	5	121.75	122.32	R	.53	21.34	0	0	0	0	0	43
103	5	121.75	122.32	W	.49	9.37	19.93	70.21	2.5	7744	.76	71
103	5	150.5	151.9	R	.66	19.98	0	0	0	0	0	82.7
103	5	150.5	151.9	W	2.5	5.2	22.54	69.76	8	7906	.63	79
501	5U	281.8	284.7	R	.71	28.91	0	0	4.0		0	85.7
501	5U	281.8	284.7	W	1.8	8.48	23.57	66.15	7.5	7750	.57	70.82
501	5L	286.2	289.6	R	.65	20.89	0	0	6.5	0	0	70
501	5l	286.2	289.6	W	1.29	6.37	24.44	67.90	7.5	7869	.51	79.45
601	5	266.05	267.48	R	.53	42.77	0	0	0	0	0	60
601	5	266.05	267.48	W	.86	12.19	21.64	65.31	7.0	7392	.82	41.79
601	5	242.4	242.6	R	.88	22.05	0	0	0	0	0	85
601	5	242.4	242.6	W	.55	17.26	23.05	59.14	7.0	7002	1.03	84.68

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BURNT RIDGE EXT file is c:hold 2/12/86

hole	sm	from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals	S%	R/yld
102	6L	12.23	13.51	R	.71	25.7	0	0	0	0	0	45.3
102	6L	12.23	13.51	W	.79	10.35	21.25	68	2	7470	.66	66
103	6	52.0	55.3	R	.75	11.98	0	0	0	0	0	95.6
103	6	52.0	55.3	W	1.3	6.53	23.99	68.38	8.5	7832	.74	86
103	6	57.0	58.0	R	.59	20.67	0	0	0	0	0	83.3
103	6	57.0	58.0	W	.65	9.4	21.81	68.14	6	7666	.63	77
103	6	68.5	70.1	R	.59	29.25	0	0	0	0	0	97.1
03	6	68.5	70.1	W	.54	10.98	22.86	65.62	7.5	7582	.96	65
104	6	53.9	55.2	R	.57	9.3	0	0	0	0	0	00
104	6	53.9	55.2	W	.68	6.5	25.6	67.6	8.5	7953	0	00
501	6U	204.8	222.1	R	.78	19.13	0	0	8.0	0	0	77.5
501	6U	204.8	222.1	W	1.29	7.99	26.45	64.27	8.5	7679	.87	81.36
501	6U	212.03	214.45	R	.81	18.04	0	0	6.0	0	0	77.5
501	6U	212.03	214.45	W	1.48	9.85	23.22	65.45	7.0	7515	.64	81.65
501	6L	217.7	219.35	R	.9	37.68	0	0	7.0	0	0	94.4
501	6L	217.7	219.35	W	1.4	9.71	25.42	63.47	7.5	7610	.82	53.83
601	6U	218.43	220.96	R	.66	14.73	0	0	0	0	0	35
601	6U	218.43	220.96	W	.85	6.32	25.41	67.42	8.0	7786	.82	85.92
601	6L	226	228.15	R	.67	30.52	0	0	0	0	0	28
601	6L	226	228.15	W	.73	9.45	23.1	66.72	7.5	7658	.78	65.59
o01	6L	228.35	229.3	R	1.04	66.7	0	0	0	0	0	63
601	6L	228.35	229.3	W	.65	11.25	25.55	62.55	8.0	7534	1.15	17.25

hole	sm	from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals		S%	R/yld
601	6L	239.25	241.15	R	.71	46.93	0	0	0	0	0		95
601	6L	239.25	241.15	W	.56	14.32	23.49	61.63	7.0	7191		.94	95
602	6	200.53	207.2	R	.73	30.29	0	0	0	0	0		63
602	6	200.53	207.2	W	.56	8.67	24.64	66.13	7.5	7643		.62	62.18

burnt ridge ext file is c:hold 2/12/86

hole	sm	from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals		S%	R/yld
501	7	194.8	197.3	R	.96	42.74	0	0	5.5	0	0		91.1
501	7	194.8	197.3	W	1.46	8.74	27.61	62.19	8.5	7631		1.12	51.44
601	7	205.47	211.73	R	.67	37.37	0	0	0	0	0		35
601	7	205.47	211.73	W	1.01	6.51	26.48	66	8.5	7907		.86	53.17

burnt ridge ext file is c:hold 2/12/86

hole	sm	from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals		S%	R/yld
103	8	35.0	35.73	R	1.0	21.1	0	0	0	0	0		44.8
103	8	35.0	35.73	W	1.42	4.6	25.21	68.77	9	8047		.94	75
104	8	35.7	36.24	R	.82	4.8	0	0	0	0	0		0
104	8	35.7	36.24	W	.88	4.1	25.5	69.8	9	8173		1.0	00
104	8	38.64	39.6	R	.72	6.9	0	0	0	0	0		00
104	8	38.64	39.6	W	1.37	4.1	25.9	69.3	9	8098		1.3	00
501	8	182.3	184.4	R	1.09	7.16	0	0	8.5	0	0		86.8
501	8	182.3	184.4	W	1.42	5.1	30.06	63.42	8.5	7967		.87	96.61

burnt ridge ext file is c:hold 2/12/86

hole	sm	from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals		S%	R/yld
103	9	20.0	21.9	R	1.0	6.2	0	0	0	0	0		64.1
103	9	20.0	21.9	W	.9	3.85	25.26	70.03	8.5	8170		.97	93
104	9	19.32	22.4	R	.8	13.6	0	0	0	0	0		00
104	9	19.32	22.4	W	.76	4.9	25.3	69.4	8.5	8088		.77	00
501	9	171.05	175.6	R	.9	16.66	0	0	7.5	0	0		92.5
501	9	171.05	175.6	W	1.22	8.15	28.2	62.43	8.0	7685		.79	82.46
601	9	186.07	190.45	R	.72	6.37	0	0	0	0	0		17
601	9	186.07	190.45	W	.73	4.46	28.19	66.62	8.0	7937		.77	96.57
602	9	158.40	161.1	R	.94	32.59	0	0	0	0	0		69
602	9	158.40	161.1	W	1.26	5.45	27.34	65.95	8.5	7937		.81	66.82

burnt ridge ext file is c:hold 2/12/86

hole	sm	from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals		S%	R/yld
501	10U	132.5	134.1	R	.97	35.38	0	0	6	0	0		70.3
501	10U	132.5	134.1	W	1.3	11.1	26.08	61.52	8.0	7235		.77	53.87
501	10L	136.15	139.0	R	.9	9.35	0	0	7.5	0	0		100
501	10L	136.15	139.0	W	1.04	5.05	29.16	64.75	8.0	7993		.71	91.94
601	10	165.06	165.66	R	.66	79.68	0	0	0	0	0		0
601	10	165.06	165.66	W	.96	8.28	26.85	63.91	9.0	7757		1.07	5.37
602	10	132.8	137.6	R	.88	40.48	0	0	0	0	0		63
602	10	132.8	137.6	W	.54	6.51	28.24	64.71	7.5	7717		.6	65.65

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burnt ridge ext file is c:hold 2/12/86

hole	sm	from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals		S%	R/yld
501	11U	109.05	111.80	R	1.0	13.73	0	0	8	0	0		100
501	11U	109.05	111.80	W	1.27	6.09	28.85	63.79	8.0	7853		.66	84.61
501	11U	113.05	114.4	R	.83	32.4	0	0	7	0	0		100
501	11U	113.05	114.4	W	1.86	8.43	29.29	60.42	8.0	7505		.92	66.51
501	11L	117.05	118.3	R	.94	34.39	0	0	5	0	0		81.5
501	11L	117.05	118.3	W	1.36	12.79	26.66	59.19	8.0	7232		.98	64.49
601	11	124.03	125.8	R	.89	21.97	0	0	0	0	0		90
601	11	124.03	125.8	W	.89	7.22	26.64	65.25	8.0	7629		.84	75.39
602	11	94.1	95.3	R	.8	12.19	0	0	0	0	0		75
602	11	94.1	95.3	W	.83	6.61	27.93	64.63	8.0	7846		.69	92.35
602	11	97.15	99.52	R	.82	46.45	0	0	0	0	0		0
602	11	97.15	99.52	W	.7	11.04	26.46	61.8	7.5	7479		.97	47.93
602	11	103.5	105.16	R	1.1	45.45	0	0	0	0	0		84
602	11	103.5	105.16	W	.71	11.48	27.4	60.41	7.5	7458		1.11	40.69
602	11	105.86	107.62	R	.95	25.56	0	0	0	0	0		62
602	11	105.86	107.62	W	1.14	6.77	29.15	62.94	8.5	7773		1.10	70.69

burnt ridge ext file is c:hold 2/12/86

hole	sm	from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals		S%	R/yld
501	12	90.07	91.02	R	.77	17.65	0	0	8	0	0		95.4
501	12	90.07	91.02	W	.95	9.72	30.02	59.31	8.5	7518		.83	88.03
501	12	91.42	93.3	R	.91	23.7	0	0	6	0	0		95.4
501	12	91.42	93.3	W	1.1	13.62	29.24	56.04	7.5	7280		.78	78.82
601	12	113.95	116.78	R	.73	17.23	0	0	0	0	0		53
601	12	113.95	116.78	W	1.04	4.48	28.11	66.37	8.5	8012		.82	82.23
602	12	83.95	86.05	R	.96	36.66	0	0	0	0	0		0
602	12	83.95	86.05	W	.77	9.12	28.87	61.24	8.5	7478		.80	60.96

burnt ridge ext file is c:hold 2/12/86

hole	sm	from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals		S%	R/yld
501	13	79.7	82.65	R	.91	11.32	0	0	8	0	0		100
501	13	79.7	82.65	W	1.53	6.44	31.58	60.45	8.0	7765		.76	91.95
601	13	102.87	103.15	R	1.09	10.31	0	0	0	0	0		100
601	13	102.87	103.15	W	.93	6.49	28.38	64.2	8.0	7800		.69	90.45
601	13	105.64	106.3	R	.73	13.89	0	0	0	0	0		85
601	13	105.64	106.3	W	1.08	5.21	28.62	65.09	8.5	7911		.93	85.63
602	13	69.96	74.53	R	.96	25.85	0	0	0	0	0		71
602	13	69.96	74.53	W	.91	4.48	30.02	64.59	8.5	8041		.68	72.08

burnt ridge ext file is c:hold 2/12/86

hole	sm	from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals		S%	R/yld
601	14	85.3	85.95	R	.94	30.9	0	0	0	0	0		0
601	14	85.3	85.95	W	.9	10.3	28.51	60.29	8.0	7541		.91	64.04
601	14	86.65	88.1	R	.97	53.78	0	0	0	0	0		0
601	14	86.65	88.1	W	.82	12.15	28.12	58.91	8.5	7394		.89	25.74

burnt ridge ext file is c:hold 2/12/86

hole	sm	from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals		S%	R/yld
601	15	72.8	73.7	R	1.03	14.42	0	0	0	0	0		100
601	15	72.8	73.7	W	.81	6.69	28	64.5	7.0	7864		1.41	89.63
601	15	76.95	79.35	R	.94	12.96	0	0	0	0	0		71
601	15	76.95	79.35	W	.79	5.53	30.33	63.35	8.5	7837		.71	92.83
602	15	27	27.6	R	.72	34.07	0	0	0	0	0		90
602	15	27	27.6	W	.83	15.94	27.93	55.3	7.5	6989		.72	59.87

BURNT RIDGE EXT file is c:hold 2/12/86

hole	sm	from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals		S%	R/yld
601	16	62.43	62.75	R	1.04	31.55	0	0	0	0	0	0	
601	16	62.43	62.75	W	.79	11.35	30.01	57.85	8.5	7419		.79	64.96

burnt ridge ext file is c:hold 2/12/86

hole	sm	from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals		S%	R/yld
601	17	23.9	26.15	R	1.71	8.7	0	0	0	0			
601	17	23.9	26.15	W	1.54	3.95	28.45	66.06	1.0	7726		.61	71.13
602	17	6.75	8.6	R	2.0	42.86	0	0	0	0	0		79
602	17	6.75	8.6	W	1.54	9.47	29.9	59.09	.1	6782		.48	47.44
602	17	10.57	12.35	R	1.54	27.12	0	0	0	0	0		78
602	17	10.57	12.35	W	1.89	6.75	29.28	62.08	.1	7239		.62	62.8

BURNT RIDGE EXT file is c:hold 2/12/86

hole	sm	from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals		S%	R/yld
601	18	7.1	9.5	R	4.81	6.54	0	0	0	0	0		53
601	18	7.1	9.5	W	2.81	3.41	30.12	65.5	0.5	7112		.64	94.13

BURNT RIDGE EXT trench data file is c:hold 2/12/86

hole	sm	from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals	S%	R/yld
9101	6U	0	4.68	R	3.98	16.41	0	0	0	0	0	100
9101	6U	0	4.68	W	4.71	8.67	30.03	56.83	0	6455	0	66
9101	6L	0	7.87	R	0	0	0	0	0	0		100
9101	6L	0	7.87	W	0	0	0	0	0	0	0	0
9111	6L	0	3.08	R	3.73	16.39	0	0	0	0	0	100
9111	6L	0	3.08	W	3.26	8.84	30.6	57.3	0	6112	0	66
9112	6L	0	1.31	R	4.22	17.18	0	0	0	0	0	100
9112	6L	0	1.31	W	3.27	10.17	30.44	56.12	0	5861	0	62
9112	6L	1.31	2.62	R	4.22	11.45	0	0	0	0	0	100
9112	6L	1.31	2.62	W	3.77	8.88	31.81	55.54	0	5794	0	74
9118	6L	0	10.77	R	4.26	12.16	0	0	0	0	0	100
9118	6L	0	10.77	W	4.55	8.88	30.4	56.17	0	6088	0	73
9118	6U	0	5.0	R	3.89	14.92	0	0	0	0	0	100
9118	6U	0	5.0	W	2.82	10.22	27.83	59.13	0	6166	0	74
9122	6L	0	3.82	R	2.36	31.24	0	0	0	0	0	100
9122	6L	0	3.82	W	1.70	9.49	28.43	60.38	0	6224	0	48
9123	6L	3.82	8.75	R	2.41	35.00	0	0	0	0	0	100
9123	6L	3.82	8.75	W	3.14	7.92	28.06	60.88	0	6360	0	51
9124	6U	0	1.65	R	5.74	23.41	0	0	0	0	0	100
9124	6U	0	1.65	W	6.3	11.28	31.15	51.27	0	5388	0	50
9033	6	0	2.62	R	3.00	22.55	26.62	0	0	0	.56	100
9033	6	0	2.62	W	0	0	0	0	0	0	0	0

729

hole	sm	from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals	Sx	R/yld
9034	6	0	3.08	R	2.97	25.76	26.43	44.84	0	0	.56	100
9034	6	0	3.08	W	0	0	0	0	0	0	0	0
9035	6	0	10.77	R	3.16	22.4	26.4	48.04	0	0	.45	100
9035	6	0	10.77	W	0	0	0	0	0	0	0	0
9036	6	0	5	R	3.53	14.03	29.2	53.18	0	0	.58	100
9036	6	0	5	W	0	0	0	0	0	0	0	0
9630	6	15.6	18.02	R	2.37	65.21	0	0	0	0	0	100
9630	6	15.6	18.02	W	0	0	0	0	0	0	0	0
9630	6	13.27	15.6	R	2.41	59.51	0	0	0	0	0	100
9630	6	13.27	15.6	W	0	0	0	0	0	0	0	0
9630	6	9.88	13.27	R	4.63	29.45	0	0	0	0	0	100
9630	6	9.88	13.27	W	0	0	0	0	0	0	0	0
9630	6	8.01	9.88	R	2.09	67.81	0	0	0	0	0	100
9630	6	8.01	9.88	W	0	0	0	0	0	0	0	0
9630	6	5.16	8.01	R	5.38	32.63	0	0	0	0	0	100
9630	6	5.16	8.01	W	0	0	0	0	0	0	0	0
9630	6	0	4.36	R	4.05	39.97	0	0	0	0	0	100
9630	6	0	4.36	W	0	0	0	0	0	0	0	0
9636	6	0	.46	R	4.73	47.26	0	0	0	0	0	100
9636	6	0	:46	W	0	0	0	0	0	0	0	0
9636	6	1.85	3.31	R	4.48	53.74	0	0	0	0	0	100
9636	6	1.85	3.31	W	0	0	0	0	0	0	0	0
9636	6	3.91	6.76	R	7.45	32.47	0	0	0	0	0	100
9636	6	3.91	6.76	W	0	0	0	0	0	0	0	0
9636	6	7.49	10.28	R	6.55	23.65	0	0	0	0	0	100
9636	6	7.49	10.28	W	0	0	0	0	0	0	0	0

729

BURNT RIDGE EXT trench data file is c:hold 2/12/86

hole	sm	from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals	S%	R/yld
9102	7	0	1.84	R	2.95	31.57	0	0	0	0	0	100
9102	7	0	1.84	W	3.45	9.44	30.32	55.79	0	5841	0	32
9102	7	1.84	3.67	R	3.2	10.49	0	0	0	0	0	100
9102	7	1.84	3.67	W	2.81	7.47	29.92	59.8	0	6426	0	74
9108	7	0	1.14	R	3.66	30.38	0	0	0	0	0	100
9108	7	0	1.14	W	3.21	12.57	29.96	54.26	0	5974	0	51
9109	7	0	.01	R	5.23	14.13	0	0	0	0	0	100
9109	7	0	.01	W	3.71	11.79	31.72	52.78	0	5759	0	77
9125	7	0	1.73	R	3.58	35.04	0	0	0	0	0	100
9125	7	0	1.75	W	4.17	10.74	30.31	54.78	0	5926	0	48
9623	7	0	3	R	7.14	27.98	0	0	0	0	0	100
9623	7	0	3	W	0	0	0	0	0	0	0	0
9626	7L	0	1.22	R	5.91	23.03	0	0	0	0	0	100
9626	7L	0	1.22	W	0	0	0	0	0	0	0	0
9626	7U	0	.6	R	5.44	12.78	0	0	0	0	0	100
9626	7U	0	.6	W	0	0	0	0	0	0	0	0

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BURNT RIDGE EXT file is c:hold 3/12/86

hole	sm		from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals		S%	R/yld
9107	8	0		2.12	R	3.23	16.53	0	0	0	0	0		100
9107	8	0		2.12	W	3.05	8.47	30.31	58.17	0	6366	0		73
9126	8	0		.78	R	3.99	14.87	0	0	0	0	0		100
9126	8	0		.78	W	3.57	9.35	30.64	56.44	0	6198	0		78
9601	8	0		1.45	R	9.47	18.18	0	0	0	0	0		100
9601	8	0		1.45	W	0	0	0	0	0	0	0		0
9622	8	0		1.83	R	7.82	28.71	0	0	0	0	0		100
9622	8	0		1.83	W	0	0	0	0	0	0	0		0

BURNT RIDGE EXT file is c:hold 3/12/86

hole	sm		from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals		S%	R/yld
9104	9	0		4.9	R	1.43	10.45	0	0	0	0	0		100
9104	9	0		4.9	W	1.59	6.88	26.03	65.5	0	6666	0		81
9106	9	0		4.74	R	3.05	12.8	0	0	0	0	0		100
9106	9	0		4.74	W	2.52	6.53	28.07	62.88	0	6841	0		71
9127	9	0		4.51	R	4.11	18.88	0	0	0	0	0		100
9127	9	0		4.51	W	3.96	9.47	31.01	56.56	0	6001	0		66
9602	9	0		3.21	R	8.64	19.67	0	0	0	0	0		100
9602	9	0		3.21	W	0	0	0	0	0	0	0		0
9621	9	0		3.19	R	6.63	20.87	0	0	0	0	0		100
9621	9	0		3.19	W	0	0	0	0	0	0	0		0
9628	9	0		4.54	R	4.85	18.51	0	0	0	0	0		100
9628	9	0		4.54	W	0	0	0	0	0	0	0		0

BURNT RIDGE EXT file is c:hold 3/12/86

hole	sm		from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals		S%	R/yld
9105	10	0		1.65	R	2.45	22.37	0	0	0	0	0		100
9105	10	0		1.65	W	3.36	10.9	30.37	55.37	0	5958	0		48
9110	10	0		.01	R	3.94	21.58	0	0	0	0	0		100
9110	10	0		.01	W	4.25	10.85	30.77	54.13	0	5973	0		61
9120	10L	0		2.10	R	2.84	14.38	0	0	0	0	0		100
9120	10L	0		2.10	W	2.34	4.57	30.05	63.04	0	6449	0		75
9120	10U	0		1.73	R	0	0	0	0	0	0	0		100
9120	10U	0		1.73	W	0	0	0	0	0	0	0		0
9619	10U	0		1.84	R	6.84	34.95	0	0	0	0	0		100
9619	10U	0		1.84	W	0	0	0	0	0	0	0		0
9619	10L	0		4.36	R	6.75	22.32	0	0	0	0	0		100
9619	10L	0		4.36	W	0	0	0	0	0	0	0		0
9629	10	0		1.22	R	6.9	21.03	0	0	0	0	0		100
9629	10	0		1.22	W	0	0	0	0	0	0	0		0

BURNT RIDGE EXT file is c:hold 3/12/86

hole	sm		from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals		S%	R/yld
9128	11	0		5.48	R	2.43	37.27	0	0	0	0	0		100
9128	11	0		5.48	W	2.69	6.47	28.90	61.94	0	6358	0		22
9603	11L	0		2.6	R	7.81	22.61	0	0	0	0	0		100
9603	11L	0		2.6	W	0	0	0	0	0	0	0		0
9604	11U	0		1.17	R	5.37	34.38	0	0	0	0	0		100
9603	11U	0		1.17	W	0	0	0	0	0	0	0		0
9617	11U	0		2.51	R	6.66	28.39	0	0	0	0	0		100
9617	11U	0		2.51	W	0	0	0	0	0	0	0		0
9617	11L	0		1.4	R	3.3	28.93	0	0	0	0	0		100
9617	11L	0		1.4	W	0	0	0	0	0	0	0		0

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BURNT RIDGE EXT file is c:hold 3/12/86

hole	sm		from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals		S%	R/yld
9129	12	0		2.21	R	3.41	20.79	0	0	0	0	0		100
9129	12	0		2.21	W	3.20	6.54	30.15	60.11	0	6414	0		67
9605	12L	0		1.01	R	11.54	21.73	0	0	0	0	0		100
9605	12L	0		1.01	W	0	0	0	0	0	0	0		0
9605	12U	0		1.7	R	11.55	14.08	0	0	0	0	0		100
9605	12U	0		1.7	W	0	0	0	0	0	0	0		0
9616	12	0		1.8	R	3.6	25.44	0	0	0	0	0		100
9616	12	0		1.8	W	0	0	0	0	0	0	0		0

BURNT RIDGE EXT file is c:hold 3/12/86

hole	sm		from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals		S%	R/yld
9130	13	0		4.96	R	3.84	14.15	0	0	0	0	0		100
9130	13	0		4.96	W	3.11	5.71	31.85	59.33	0	6319	0		74
9607	13	0		2.64	R	4.19	17.58	0	0	0	0	0		100
9607	13	0		2.64	W	0	0	0	0	0	0	0		0
9614	13U	0		.65	R	6.05	22.08	0	0	0	0	0		100
9614	13U	0		.65	W	0	0	0	0	0	0	0		0
9614	13L	0		1.5	R	4.32	40.44	0	0	0	0	0		100
9614	13L	0		1.5	W	0	0	0	0	0	0	0		0

MASTER FILE SORT PROGRAM 3/12/86

BURNT RIDGE EXT file is c:hold 3/12/86

hole	sm		from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals		S%	R/yld
9608	14	0		.43	R	2.56	30.23	0	0	0	0	0		100
9608	14	0		.43	W	0	0	0	0	0	0	0		0
9608	14U	0		1.83	R	4.16	26.63	0	0	0	0	0		100
9608	14U	0		1.83	W	0	0	0	0	0	0	0		0

BURNT RIDGE EXT file is c:hold 3/12/86

hole	sm		from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals		S%	R/yld
9610	16	0		.93	R	4.21	21.26	0	0	0	0	0		100
9610	16	0		.93	W	0	0	0	0	0	0	0		0

BURNT RIDGE EXT file is c:hold 3/12/86

hole	sm		from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals		S%	R/yld
9640	17		3.25	5.34	R	3.73	16	0	0	0	0	0		100
9640	17		3.25	5.34	W	0	0	0	0	0	0	0		0
9640	17		1.38	3.25	R	2.48	39.12	0	0	0	0	0		100
9640	17		1.38	3.25	W	0	0	0	0	0	0	0		0
9640	17	0		1.38	R	3.89	33.64	0	0	0	0	0		100
9640	17	0		1.38	W	0	0	0	0	0	0	0		0

BURNT RIDGE EXT file is c:hold 3/12/86

hole	sm		from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals		S%	R/yld
9611	18	0		2.94	R	3.84	42.45	0	0	0	0	0		100
9611	18	0		2.94	W	0	0	0	0	0	0	0		0

729

BURNT RIDGE EXTENSION

1986 GEOLOGICAL REPORT
15/1/87

This report was prepared by myself. I was assisted in the field by Steve Cameron.

I received an undergraduate honours degree in geology in 1967 from U.B.C. and a Phd. in geology in 1973 from the same university. From 1973 to 1976 I was a post doctoral fellow at the University of Witwatersrand.

I have been employed by Crows Nest Resources since 1981; presently as Manager Geology. I have previous experience with other mining companies.

Barry Ryan, Phd. P. Geol.
Manager Geology

00729

B.7.bq

BURNT RIDGE EXTENSION

GEOLOGICAL REPORT ON COAL LICENCES 272, 273 and 267

KOOTENAY LAND DISTRICT, BRITISH COLUMBIA

B.C. COAL LICENCE NUMBERS: 272, 273 AND 267

GROUP NUMBER: PART OF GROUP 214

OWNER: SHELL CANADA LIMITED

OPERATOR: CROWS NEST RESOURCES LIMITED

NTS: 82J/2

LONGITUDE: 114° 49' WEST

LATITUDE: 50° 05' NORTH

REPORT PREPARED BY:

B.D. RYAN, Phd, P. Geol.
MANAGER - GEOLOGY
JANUARY, 1987

C9/bn.1

BURNT RIDGE EXTENSION

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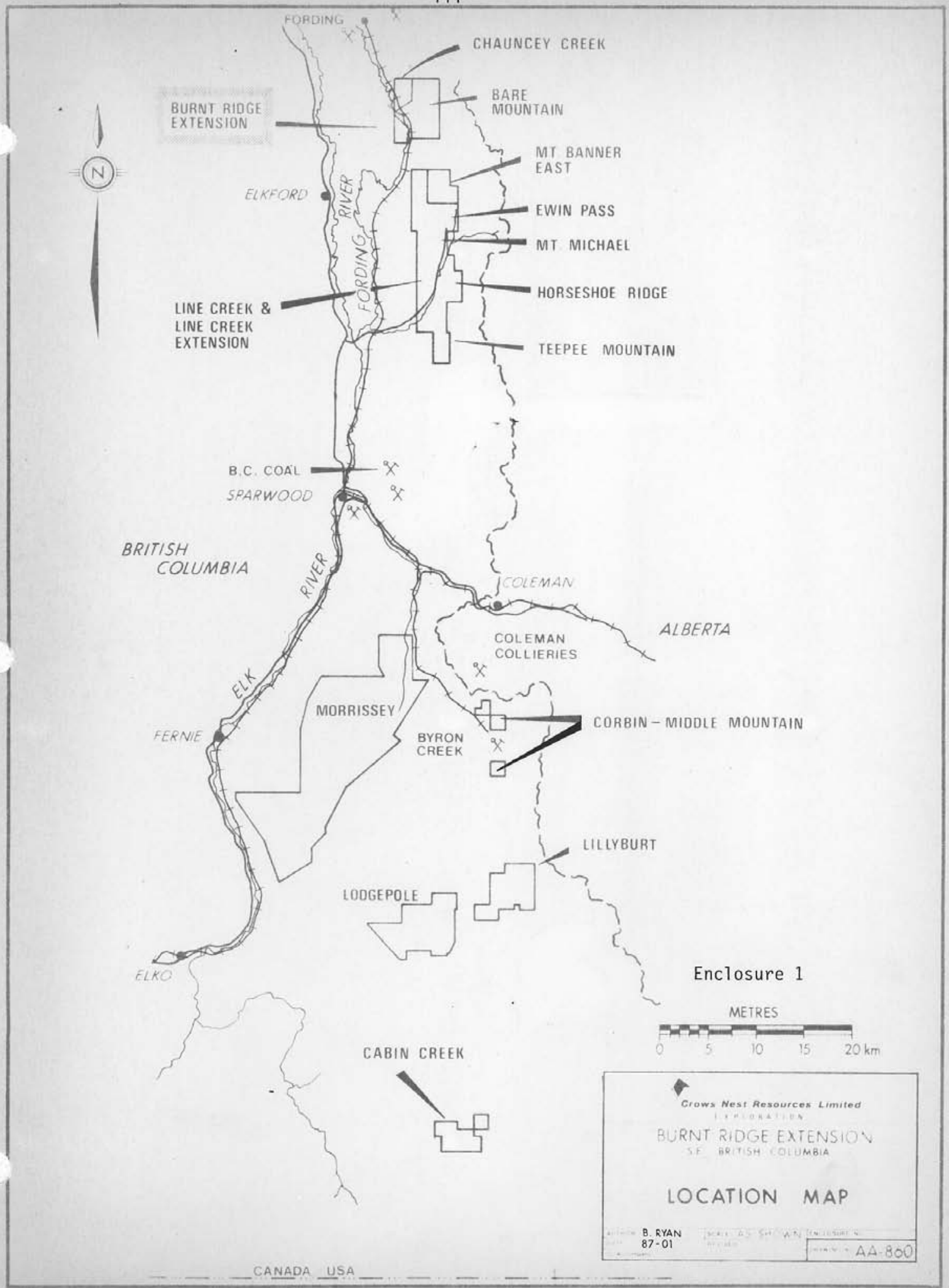


Enclosure 1

Crows Nest Resources Limited
EXPLORATION
BURNT RIDGE EXTENSION
S.E. BRITISH COLUMBIA

LOCATION MAP

B. RYAN
87-01

AA-860

1.0 SUMMARY

Burnt Ridge Extension is the property name assigned by Crows Nest Resources Limited (CNRL) to a block of 3 coal Licences in Southeast B.C. The property is 10 air kilometres northeast of Elkford on the west side of the Fording River.

In this region coal-bearing rocks of the Jura-Cretaceous Kootenay Group are preserved in the core of the north trending Alexander Creek Syncline (Fording Syncline). This remnant of contiguous coal-bearing rocks is referred to as the Elk Valley Coal Field. (Pearson and Grieve 1980). There are three major coal mines located in the Elk Valley coal field; the Fording Mine 4 km to the north; Greenhills Mine 3 km to the west, and the Line Creek Mine 20 km to the south of Burnt Ridge Extension. The road and rail transport routes to the Fording Mine follow the Fording Valley at the eastern edge of the property.

The Kootenay Group is divided into three formations (Gibson 1979), a lowermost Morrissey formation, a middle Mist Mountain formation and an upper Elk formation with the Mist Mountain formation containing mineable quantities of coal. A complete section of Mist Mountain formation averaging 412m in thickness crops out on the property. It contains an aggregate thickness of 59.3m of coal distributed in 18 coal seams or zones. Ranks of the coal vary from medium to high volatile bituminous.

Strata on Burnt Ridge Extension dip 45° to 65° east, 5° to 30° steeper than the topographic slope which forms the west side of the Fording River Valley; the property is therefore amenable to open pit mining.

The in place coal resource for the property is about 80 million tonnes down to the elevation of the Fording River. Mineable reserves based on open pit geometry are 51.4 million tonnes with a stripping ratio of 3.8 to 1 using a 1.5 specific gravity for coal in place. This pit has its west wall on the base of the 4 lower seam and descends eastward to an elevation of 1490 meters at its deepest level.

Crows Nest Resources Limited explored the property in 1979, 1980, 1981 and 1985 prior to the 1986 project. The 1986 program involved the construction of 1730 meters of road and the drilling of 2 NQ holes for a total length of 501.4 meters. The roads were mapped and in some instances the coal seams trenched.

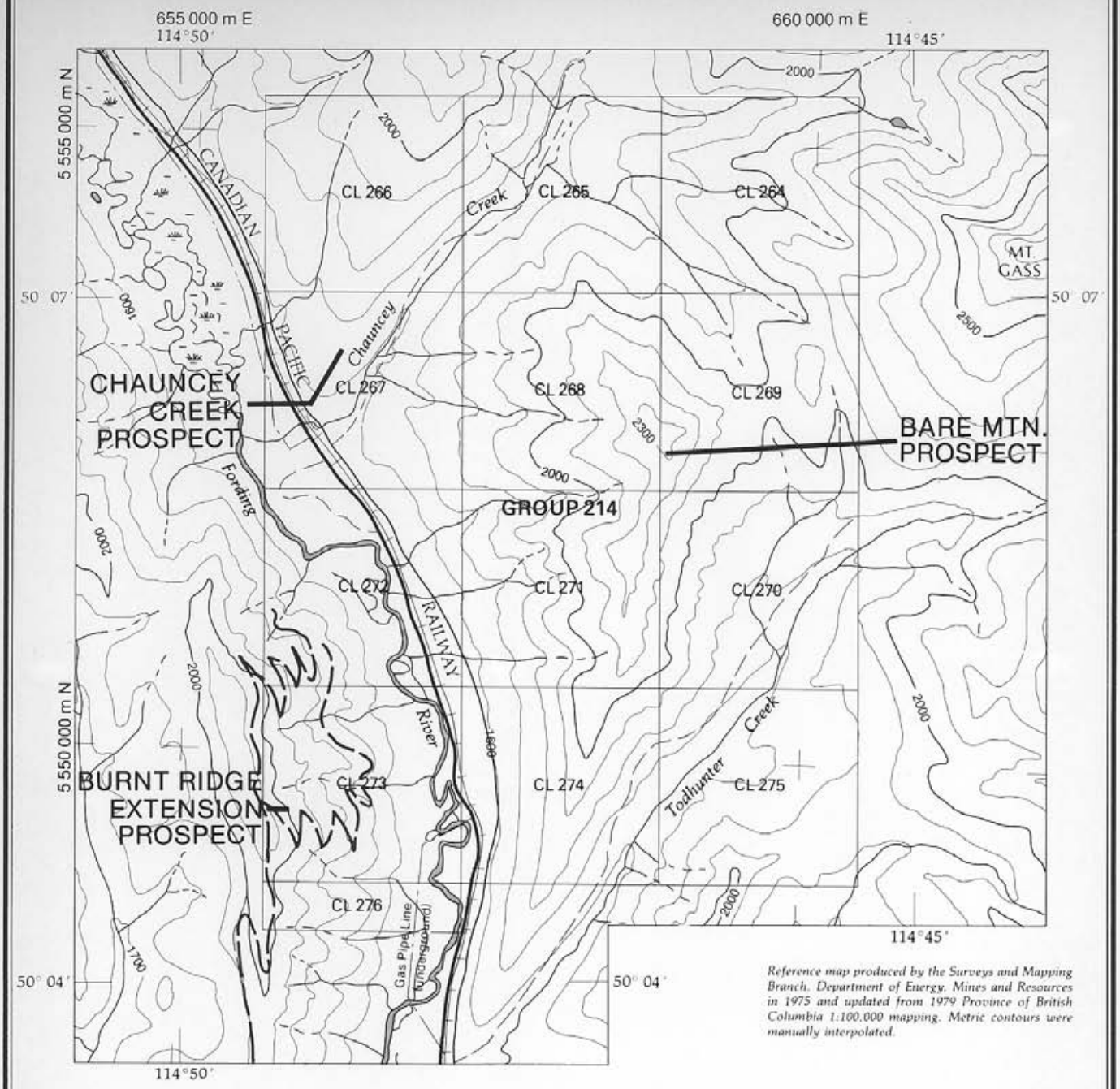
2.0 INTRODUCTION

2.1 Location, Physiography, Access

Burnt Ridge Extension coal property, which forms part of CNRL's "North Block" of coal licences, is located in southeast B.C., 10 km northeast of Elkford. Latitude 50° 05' and longitude 114° 49' intersect on the property. (Enclosure 1)

"North Block" is located in the physiographic region referred to as the Front Ranges of the Rocky Mountains (Holland 1964). The property covers part of a north trending ridge on the west side of the Fording River. The west side of the ridge is grass covered and dips more steeply than the east slope which, except for patches is treed. The maximum height of the ridge is 2100m. A linear drainage pattern is established on the east slope where creeks are mostly small and seasonal. These creeks flow directly into the Fording River which meanders through a 1 km wide valley whose elevation is about 1540m.

A paved road connects Elkford to Sparwood. The Fording Mine has constructed a paved road from Elkford to its mine site 4km north of Burnt Ridge Extension and 22 km from Elkford. This road and a parallel CPR rail line traverse the property where it overlies the Fording River Valley. Access to the ridge crest and upper slopes of the property is by a four wheel drive road which branches off the Fording Mine road 3 km south of the property. (Enclosure 2)



Reference map produced by the Surveys and Mapping Branch, Department of Energy, Mines and Resources in 1975 and updated from 1979 Province of British Columbia 1:100,000 mapping. Metric contours were manually interpolated.

Km. 0.5 0 0.5 1.0 1.5 2.0 Km.

Mi. 0.5 0 0.5 1.0 1.5 Mi.

Contour Interval 100m
Transverse Mercator Projection
Universal Transverse Mercator Grid Zone 11

T.N.
1°44'
Grid North

Enclosure 2

Legend

- Road; Highway, Main road
- Road; Loose surface, Dry weather
- Track or trail
- Railway
- River
- Stream
- Contours 2000 / 1500
- Licence boundary
- Access road (four wheel drive)

Crows Nest Resources Limited

BURNT RIDGE EXTENSION
S.E. BRITISH COLUMBIA

ACCESS MAP

NTS 82J/2

AUTHOR: DR B. RYAN	SCALE: 1:50 000	ENCLOSURE No:
DATE: 87-01	REVISED:	AA-812
To Accompany		

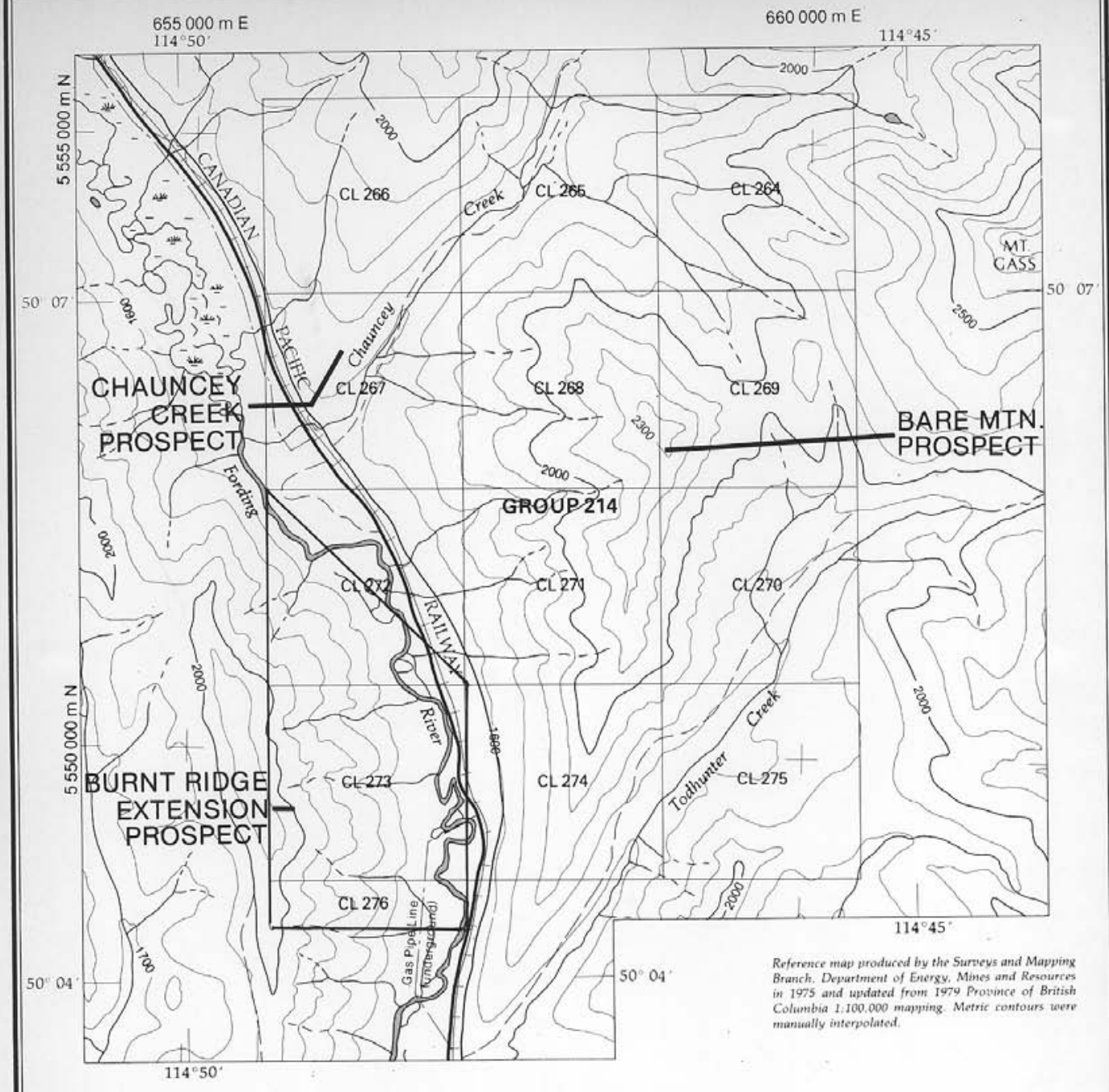
ENCLOSURE 2

2.2 Coal Land Tenure/Property History

Burnt Ridge Extension forms part of CNRL's North Block Group 214 which comprises licences 264 to 276 inclusive. Burnt Ridge Extension is made up of 3 of these licences (276, 273 and 272) (Enclosure 3). The licences are held by Shell Canada Limited and are operated by its wholly owned subsidiary Crows Nest Resources Limited. Shell acquired the licences in 1978 when it acquired Crows Nest Industries (CNI) through purchase. CNRL personnel started mapping North Block in 1978 (Horachek and Fietz 1979), while more detailed mapping was undertaken in 1980 (Morris, 1981). In 1981 a major program of detailed geological mapping (scale 1:2000), road construction and drilling was undertaken (Ryan, 1982). The 1985 program consisted of drilling a 323 meter HQ diamond hole. The 1986 program consisted of the construction of 1730 meters of new road and the drilling of 2 NQ holes for a total length of 501.4 meters. The total cost of the program was $153,941.10 (Enclosure 17).

2.3 Summary of 1986 Exploration Activities

The 1986 program was initiated on June 17th with road flagging; the roads were slashed in early July and road construction lasted for most of July. The roads traversed steep terrain with numerous outcrops of sandstone. Road construction was slow requiring a lot of drilling and blasting; equipment used was a D8 cat and air track.



Reference map produced by the Surveys and Mapping Branch, Department of Energy, Mines and Resources in 1975 and updated from 1979 Province of British Columbia 1:100,000 mapping. Metric contours were manually interpolated.

Km. 0.5 0 0.5 1.0 1.5 2.0 Km.

Mi. 0.5 0 0.5 1.0 1.5 Mi.

Contour Interval 100m
Transverse Mercator Projection
Universal Transverse Mercator Grid Zone 11

T.N.
1°44'
Grid North

Legend

- Road; Highway, Main road
- Road; Loose surface, Dry weather
- Track or trail
- Railway
- River
- Stream
- Contours 2000 / 1500
- Licence boundary

Enclosure 3

Crows Nest Resources Limited

BURNT RIDGE EXTENSION
S.E. BRITISH COLUMBIA
INDEX MAP
TO COAL LICENSES
NTS 82J/2

AUTHOR: DR. B. RYAN	SCALE: 1:50 000	ENCLOSURE No.
DATE: 87 - 01	REVISED:	AA - 811
To Accompany		

ENCLOSURE 3

The drill rig was mobilized on to the property with a D7 cat on July 27th. The first hole was completed and geophysically logged on August 3rd (total length drilled 273.4 M). The second hole was finished and logged on August 7th (total length drilled 228.0 M). The holes were logged by Century Geophysical; the logs, deviation data, and cementing certificates are in Enclosures 10 and 11. Both holes were drilled NQ and cored. The core is described in Enclosure 8 and the core is stored in core boxes at the Line Creek Core storage facility.

In August the holes and new road were surveyed using an electronic transit from the mine. The locations of the 1981, 1985 and 1986 holes are given in Table 1. Survey stakes were placed along the new road, the locations of which are numbered on the 1:1000 maps (Enclosure 6) and are given in Table 2. The roads were seeded and drainage berms established in September. All exploration activity occurred on Licence 273.

BURNT RIDGE EXTENSION

TABLE 1

DRILL HOLE LOCATIONS GROUND LEVEL

HOLE	NORTHING	EASTING	ELEVATION	COMMENTS
DDH 85-1	5549920.0	656238.0	1847.4	Controlled compass survey
DDH 86-1	5549206.0	656370.0	1835.0	Controlled compass survey
DDH 86-2	5550672.7	656171.9	1777.6	Transit Survey
DDH 81-1	5550486.9	655777.3	1944.3	Transit Survey
DDH 81-2	5549531.1	656012.2	1914.3	Transit Survey
DDH 81-3	5549260.2	656100.5	1934.6	Transit Survey

BURNT RIDGE EXTENSION

ROAD SURVEY POINTS

TABLE 2

	NORTHING	EASTING	ELEVATION
81-409	5549 597.130	655 970.220	1916.840
81-408	5549 266.400	656 087.470	1941.700
81-407	5549 461.800	655 985.850	1963.660
81-406	5549 299.420	655 981.770	1992.050
81-405	5549 427.420	655 898.270	2011.540
81-404	5549 310.580	655 911.260	2029.420
81-403	5549 452.080	655 692.280	2085.150
81-402	5549 414.320	655 626.680	2117.850
81-401	5548 885.120	655 679.330	2057.710
79-401	5552 636.890	659 866.920	2362.270
86-27	5549 929.721	656 247.994	1846.400
86-26	5550 574.798	656 145.108	1771.409
86-25	5550 444.758	656 097.344	1788.552
86-24	5550 279.314	656 007.717	1807.624
86-23	5550 146.793	656 020.534	1824.262
86-22	5550 660.832	656 171.177	1777.767
86-21	5550 477.781	656 160.158	1780.624
86-20	5550 370.059	656 100.496	1795.106
86-19	5550 031.386	656 026.416	1831.299
86-18	5550 003 029	656 169.901	1842.076
86-17	5549 964.951	656 195.436	1845.817
86-16	5549 934.087	656 227.453	1848.043
86-15	5549 848.614	656 212.795	1844.206
86-14	5549 856.581	656 141.377	1854.587
86-13	5549 832.341	656 075.274	1863.516
86-12	5549 746.440	656 984.410	1875.890
86-11	5549 703.739	656 956.734	1879.646
86-10	5549 636.066	656 012.815	1886.074
86-09	5549 590.319	656 015.118	1887.269
86-08	5549 552.197	656 042.116	1894.430
86-07	5549 888.553	656 250.434	1848.958
86-06	5549 467.885	656 115.241	1886.279
86-05	5549 458.156	656 196.690	1883.682
86-04	5549 407.883	656 195.390	1879.553
86-03	5549 274.142	656 289.886	1862.402
86-02	5549 208.345	656 311.351	1853.944
86-01	5549 144.541	656 893.103	2031.864
86-00	5549 564.859	656 531.244	2135.700

3.0 GEOLOGY

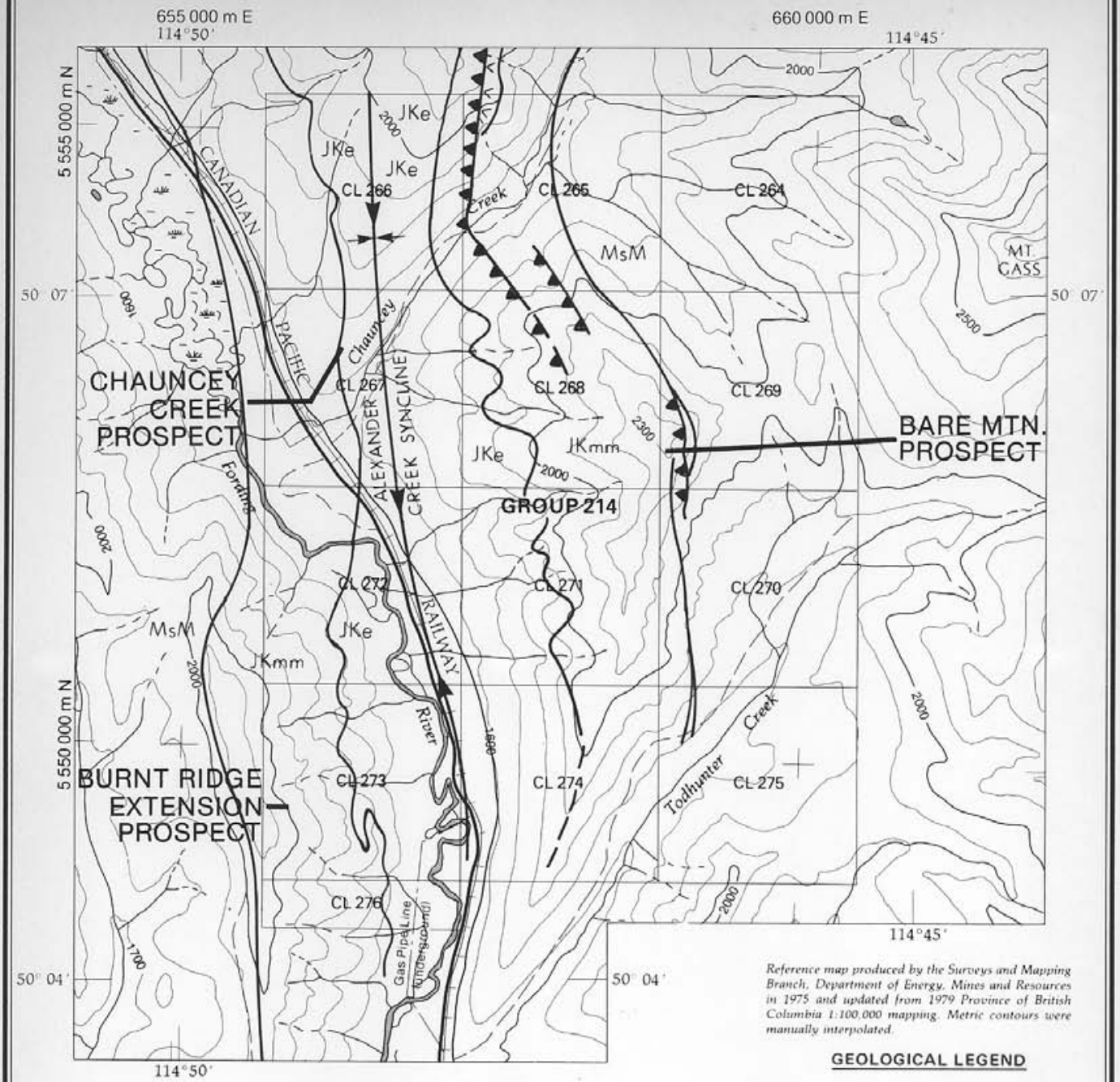
3.1 Regional Geology and Stratigraphy

North Block is located within the "Flat Ranges" of the Rocky Mountains. This area is characterized by major northeast directed thrusts and associated north-south trending folds that stack and fold sedimentary rocks ranging in age from late Proterozoic to early Tertiary (Price and Mountjoy 1970).

Coal-bearing rocks of the Jurassic-Cretaceous Kootenay Group were disrupted by this tectonism and now survive in the cores of major synclines and in separate thrust sheets. Surviving coherent areas of the Kootenay Group define the three major coal fields of southeast B.C.: the Elk Valley, Crows Nest and Flathead coal fields.

North Block occupies part of the Elk Valley coal field. This coal field has been mapped by Pearson and Grieve (1980), Grieve (1981) and Grieve and Pearson (1983). Regionally it is sandwiched between the north trending Borgeau thrust to the west and the Lewis thrust to the east. The coal-bearing rocks are preserved for the most part in the core of the Alexander Creek Syncline and an en. echelon smaller syncline to the west. The hinges of these folds plunge gently north or south forming culminations and depressions along the axial traces. (Enclosure 4)

The stratigraphic nomenclature of the Jurassic-Cretaceous coal-bearing rocks of southeast B.C. (Kootenay Group) has been reviewed by Gibson (1979). This report adheres to the nomenclature suggested by Gibson (1979) (Table 3).



Reference map produced by the Surveys and Mapping Branch, Department of Energy, Mines and Resources in 1975 and updated from 1979 Province of British Columbia 1:100,000 mapping. Metric contours were manually interpolated.

GEOLOGICAL LEGEND

- JKe — Elk Formation
- JKmm — Mist Mtn. Formation
- MsM — Moose Mtn. Member
- Thrust Fault
- Syncline

Km. 0.5 0 0.5 1.0 1.5 2.0 Km.

Mi. 0.5 0 0.5 1.0 1.5 Mi.

Contour Interval 100m
Transverse Mercator Projection
Universal Transverse Mercator Grid Zone 11

T.N. 1°44' Grid North

Legend

- Road; Highway, Main road
- Road; Loose surface, Dry weather
- Track or trail
- Railway
- River
- Stream
- Contours (2000, 1500)
- Licence boundary

Enclosure 4

Crows Nest Resources Limited

BURNT RIDGE EXTENSION
S.E. BRITISH COLUMBIA

COMPILATION GEOLOGY MAP

NTS 82J/2

AUTHOR: B. RYAN	SCALE: 1:50 000	ENCLOSURE No.
DATE: 87 - 01	REVISED:	AA-813
To Accompany		

ENCLOSURE 4

TABL.. 3

TABLE OF FORMATIONS (North Block)

ERA	PERIOD	FORMATION	LITHOLOGY	THICKNESS (M)
MESOZOIC	Lower Cretaceous	Cadomin Fm.	non-marine: sandstone, conglomerate and shale	360 - 1980
	LOWER CRETACEOUS AND JURASSIC	KOOTENAY GROUP: Pocaterra Creek	non-marine: sandstones, conglomerate, siltstones and shales	
		KOOTENAY GROUP: ELK FORMATION	non-marine: interbedded medium to coarse grain sandstone, chert-pebble conglomerate with minor siltstone shale and uneconomic coals	150 - 490
		KOOTENAY GROUP: MIST MTN. FORMATION	non-marine and brackish: interbedded coal, siltstones, shales, and sandstones	380 - 480
		KOOTENAY GROUP: MORRISSEY FORMATION: Moose mtn. / Weary Ridge	non-marine: massive cliff-forming sandstone	40 - 60
	Jurassic	Fernie Fm.	marine: shales, siltstone, sandstone, limestone	180 - 380

The Fernie formation is composed of dark brown recessive weathering mudstones that, near the top of the unit, alternate with fine-grained sandstones, and contains an upper Jurassic marine fauna.

The Kootenay Group is subdivided into three formations, (Table 3). The lowermost, Morrissey formation is subdivided into a lower and upper member. The upper Moose Mountain Member is a distinctive and critically important sandstone marker which is comformably and abruptly overlain by the coal-bearing Mist Mountain formation. The Moose Mountain Member is a grey-weathering, medium-grained, massive sandstone that was deposited in a shallow marine beach environment. The Mist Mountain formation is composed of sandstone, mudstone, siltstone, and coal; it was deposited in a deltaic environment that contained large swampy flood plains. The uppermost, Elk formation is composed of sandstone, siltstone, mudstone and thin coal seams and is considered to be a product of an alluvial plain depositional environment.

The lower Cretaceous Cadomin formation of the Blairmore Group is present to the south of the property in the core of the Alexander Syncline. It is composed of resistant chert pebble conglomerate derived from possibly braided stream and alluvial fan origin.

3.2 Stratigraphy of Burnt Ridge Extension

The Moose Mountain member of the Morrissey formation is a resistant medium-coarse grained sandstone unit cropping out along the ridge top of the property and provides a western geological boundary to the area of economic interest (Enclosure 5). East of this unit is the Mist Mountain formation consisting of rhythmically interlayered mudstones, siltstones, coal seams and medium to fine-grained channel sandstones. These strata dip uniformly east with values ranging from 10 to 70° but averaging 50°. The general outcrop pattern of coal seams is not overly complicated by folds or thrusts, although on a more detailed scale seams thicken and thin along strike, rock splits appear and disappear, and minor thrusts fold and disjoint the seams. The Mist Mountain section is approximately 410 meters thick. The upper section is dominated by recessively weathering mudstones, coal and siltstone whereas the lower 250 meters of section is characterized by 3 thick channel sandstones (#2 sandstone, #4 sandstone and #6 sandstone respectively).

Eighteen (18) coal bands greater than 1 meter thick occur within the Mist Mountain formation. Fourteen of them occur stratigraphically above 4 sandstone and present the greatest economic potential for this property. The aggregate thickness of these seams comprises 21% of the composite stratigraphic thickness and provides a desirable overburden to coal ratio.

The Elk formation overlies the Mist Mountain formation with a gradational contact, which on Burnt Ridge Extension is placed at the first occurrence of buff, weathering-resistant sandstone which is usually found above seams 13 to 17.

3.3 Structural Geology

The property occupies part of the west limb of the north-trending Alexander Creek Syncline. Further to the west the limb is broken by the north striking Erickson Normal Fault which down-drops beds on its east side. The east limb of the Alexander Creek Syncline is complicated by the Ewin Pass thrust (also called the Fording thrust).

Beds strike uniformly north-south and dip east on Burnt Ridge Extension. Dips vary from 35 - 45° in the west near the Moose Mountain sandstone to 45 to 65° near the Elk contact. This change in dip may reflect a steepening of beds towards the core of the syncline or a stepped profile for the west limb (Enclosure 7). The latter is not unlikely and could be related to incipient east directed thrusts in the Moose Mountain sandstone.

Local east-dipping, west-directed thrusts are common in the lower part of the Mist Mountain section. They are evidenced by intense fracture zones up to 1m thick, drag folds and minor displacements in which the upper plate moves relatively westward. These thrusts probably formed at the same time as the Alexander Creek Syncline in response to a room problem in the core of the fold. Minor fold axes related to these thrusts trend northeast or south with shallow plunges; slickensides scatter widely, but a majority plunge easterly. To date, no significant thrusting or folding is observed above #4 sandstone.

The strike of beds in the Upper Mist Mountain is usually in the area of 340° to 010°, with the dip varying from 40° to 65°. The small variation in strike implies a shallow plunge to the Alexander Syncline in this region; consequently drill hole data is projected along an average strike into sections. The down hole deviation data, the UTM coordinates of coal intercepts in the holes and the UTM coordinates of those intercepts projected into the sections are all tabulated in Enclosure 12. For completeness sake, data is included for the 1981 and 1985 holes.

3.4 Lithology

The lithology of the Upper Mist Mountain section is illustrated by the true thickness stratigraphic section (Enclosure 9). Lithologies in the upper section are very variable along strike and no attempt has been made to illustrate non-coal lithologies on the 1:1000 map or the 1:1000 scale sections. If the Elk contact is arbitrarily placed at the first appearance of prominent sandstone then it does not occupy a constant stratigraphic level as shown on Enclosure 9. True sections to the north and south contain a thicker package of non-sandy rocks than the true sections adjacent to hole DDH 85-1. It is not possible to explain this thickenning of the Mist Mountain section by thrusting, consequently it is ascribed to changes in lithology.

In detail the lithology of the Upper Mist Mountain is composed of bands of coal, mudstone and siltstone, often sequenced together to form small coarsening upwards cycles from 2 to 5 meters thick or thicker fining-upwards cycles. These patterns of grain size and clay content gradations are illustrated on the true sections using upward (fining-upwards) or downwards (coarsening-upwards) pointing triangles and are apparent on the geophysical logs on the gamma traces. Sandstones are the least abundant rock type in most of the true sections.

4.0 COAL QUALITY

The two drill holes and 1986 road when combined with existing road and the 1985 drill hole provide seven true thickness sections for the interval 6 seam to 18 seam and the presumed Elk contact (Enclosure 9). Enclosure 9 provides true thickness information for seams 6 to 18. This thickness information comes in part from road side trenches which have been surveyed. In most cases the hanging wall and foot wall of the full seam or zone were surveyed; these data are tabulated in Table 4. Some of the 1981 coal trenches were re-measured and surveyed. For completeness, all 1981 (Table 5) and 1980 (Table 6) coal thickness seam numbers and location data are included.

All the proximate analysis data available for the upper seams are tabulated on a seam by seam basis in Enclosures 13 and 14. Enclosure 13 lists, by seam, all the drill hole quality data available for seams 5 to 18; this includes all the data for 1986 drill holes and some of the data from the 1981 and 1985 holes. All core samples were washed at 1.6 SG and all moistures are on an air-dried basis. Enclosure 14 lists, by seam, all the trench quality data available for seams 6 to 18; this includes all the 1986 data and some 1980 and 1981 data. In some cases trench samples were washed at 1.6 SG; in other cases only raw analyses were performed.

Tables 7 and 8 provide mass weighted average quality data, on a seam by seam basis, for drill hole data and trench data. It should be appreciated that in some cases "averages" are based on only one or two intercepts.

BURNT RIDGE EXTENSION

TABLE 4

1986 TRENCH SURVEY DATA

TRENCH	SEAM	CODE	NORTHING +5500000	EASTING +6500000	ELEVATION +0	T/T METERS (COAL)
9601	8	FW	49524.8	6058.4	1894.9	1.45
		HW	49523.3	6060.3	1892.6	
9602	9	FW	49518.3	6069.8	1891.5	3.21
		HW	49512.4	6075.9	1891.3	
9603	11L	FW	49457.9	6135.2	1884.6	2.60
		HW	49457.9	6137.7	1884.4	
9603	11U	FW	49548.7	6144.2	1884.3	1.17
		HW	49548.9	6145.8	1884.4	
9605	12L	FW	49547.8	6159.2	1884.2	1.01
		HW	49547.5	6160.1	1884.2	
9605	12U	FW	49546.3	6165.7	1884.1	1.70
		HW	49456.4	6167.9	1883.8	
9607	13	FW	49456.0	6173.0	1883.7	2.64
		HW	49455.9	6176.3	1883.4	
9608	14	FW	49365.5	6225.2	1874.1	2.26
9610	16	FW	49317.0	6251.0	1863.0	0.93
9611	18	FW	49208.0	6538.0	1835.0	2.94
9612	Q	FW	49451.9	6190.8	1838.4	0.80
9613	Q	FW	49990.0	6170.0	1837.0	0.35
9614	13	FW	49997.1	6145.8	1840.6	2.15
		HW	49995.7	6152.1	1840.7	
9616	12	FW	49999.1	6125.3	1837.7	1.80
		HW	49999.7	6137.7	1839.1	
9617	11	FW	500-0.1	6119.3	1837.9	3.91
		HW	49999.0	6123.4	1838.1	
9619	10L	FW	50011.3	6082.1	1834.4	4.36
		HW	50013.0	6085.6	1834.8	

BURNT RIDGE EXTENSION

TABLE 4 (CONTINUED

TRENCH	SEAM	CODE	NORTHING +5500000	EASTING +6500000	ELEVATION +0	T/T METERS (COAL)
9619	10U	FW	50014.2	6090.4	1835.4	1.84
		HW	50014.1	6104.9	1837.3	
9621	9	FW	49998.4	6045.8	1832.6	3.19
		HW	50000.1	6049.6	1832.7	
9622	8	FW	49996.9	6035.3	1831.5	1.83
		HW	49997.3	6037.6	1831.7	
9623	7	FW	49266.1	5995.3	1808.2	3.0
		HW	49269.8	5997.9	1807.8	
9626	7	FW	50145.3	6001.7	1823.2	1.82
		HW	50144.7	6005.8	1823.4	
9628	9	FW	50314.8	6032.7		4.54
		HW	50320.7	6037.8		
9629	10	FW	50355.9	6074.7	1798.0	1.22
		HW	50360.7	6080.3	1797.5	
9630	6	FW	50247.8	5974.6	1810.4	14.89
		HW	50260.6	5990.4	1808.8	
9636	6	FW	50152.9	5977.6	1818.6	7.56
		HW	50146.1	5996.9	1822.3	
9640	17	FW	50512.0	6154.0	1777.0	5.34
9641	17	FW	49540.5	6037.0	1894.9	3.52
9642	17	FW	49260.0	6328.0	1837.0	3.05
9643	15	FW	49345.3	6328.4	1871.3	4.25
		HW	49333.2	6243.0	1869.9	

BURNT RIDGE EXTENSION

TABLE 5

1981 TRENCH SURVEY DATA

TRENCH	SEAM	CODE	NORTHING +5500000	EASTING +6500000	ELEVATION +0	T/T METERS COAL
9101	6U	FW	49538	6008	1903	4.68
9101	6L	FW	49545	5590	1905	7.87
9102	7U	FW	49514	6025	1910	1.84
9103	7L	FW	49514	6025	1910	1.83
9104	9	FW	49474	6056	1910	4.9
9105	10	FW	49338	6068	1942	1.65
9106	9	FW	49400	6035	1945	4.74
9107	8	FW	49435	6014	1950	2.12
9108	7	FW	49420	6000	1961	1.14
9109	7	FW	49380	6000	1967	?
9110	10	FW	49275	6085	1940	?
9111	6L	FW	49356	55911	2012	3.08
9112	6L	FW	49305	55890	2035	1.31
9114	4	FW	49402	5728	2075	4.3
9115	4	FW	49190	5734	2070	3.8
9116	5U	FW	49313	5774	2087	5.1
9117	5U	FW	49414	5760	2058	4.88
9118	6L	FW	49415	5913	2000	10.77
9118	6U	FW	49388	5925	1993	5.0
9120	10	FW	49839.3	6075.4	1863.4	2.1
		HW	49840.1	6077.4	1863.3	
9121	10	FW	49846	6085	1863	1.73
9122	6L	FW	49752.9	5982.8	1874.6	3.82
		HW	49757	5988	1873	
9123	6L	FW	49757	5988	1873	4.93
		HW	49764.6	5994.3	1872.6	

BURNT RIDGE EXTENSION

TABLE 5 (CONTINUED)

TRENCH	SEAM	CODE	NORTHING +5500000	EASTING +6500000	ELEVATION +0	T/T METERS COAL
9124	6U	FW	49769.5	5998.0	1872.2	1.65
		HW	49772.1	5999.9	1872.1	
9125	7	FW	49780.4	6006.9	1871.4	1.73
		HW	49783.2	6010.1	1870.9	
9126	8	FW	49796.2	6022.3	1868.8	0.78
		HW	49799.8	6026.5	1867.9	
9127	9	FW	49808.5	6033.8	1867.0	4.51
		HW	49811.4	6038.6	1867.0	
9128	11	FW	49851.8	6100.7	1860.4	5.48
		HW	49855.9	6110.7	1859.7	
9129	12	FW	49861.7	6132.5	1856.3	2.21
		HW	49862.4	6135.0	1856.0	
9130	13	FW	49863.3	6144.2	1853.9	4.96
		HW	49864.0	6149.2	1853.8	
9131	1	FW	49255.0	5565.0	2070.0	5.00
9132	1	FW	50610.0	5315.0	2063.0	23.27
9133	1	FW	50730.0	5347.0	2000.0	3.95
9134	1	FW	50825.0	5348.0	1975.0	6.90
9135	1	FW	49245.0	5933.0	1624.0	13.61
9136	2	FW	50734.0	5440.0	1955.0	3.02
9137	2	FW	50807.0	5477.0	1895.0	2.72
9138	2	FW	50938.0	5330.0	2115.0	3.00
9139	3	FW	50832.0	5526.0	1894.0	3.22
9140	3	FW	49428.0	5070.0	2100.0	2.82
9141	4	FW	50630.0	5700.0	1915.0	6.35
9142	4	FW	50215.0	5860.0	1850.0	7.50
9143	4	FW	49770.0	5770.0	1990.0	5.39
9144	4	FW	49368.0	5750.0	2083.0	5.10
9145	5	FW	49400.0	5780.0	2055.0	0.65

BURNT RIDGE EXTENSION

TABLE 5 (CONTINUED)

TRENCH	SEAM	CODE	NORTHING +5500000	EASTING +6500000	ELEVATION +0	T/T METERS COAL
9146	5	FW	49306.0	5734.0	2095.0	1.47
9147	5	FW	50604.0	5752.0	1923.0	5.64
9148	5	FW	49253.0	5765.0	2088.0	3.90
9149	5	FW	49153.0	5844.0	2031.0	1.50
9150	5	FW	49148.0	5866.0	2029.0	5.00

BURNT RIDGE EXTENSION

TABLE 6

1980 TRENCH SURVEY DATA

TRENCH	SEAM	CODE	NORTHING +5500000	EASTING +6500000	ELEVATION +0	T/T METERS (COAL)
9001	1	FW	48835	5660	2045	7.8
9002	1	FW	50977	5364	1890	2.86
9003	1	FW	51200	5400	1850	?
9004	1	FW	50977	5364	1890	?
9005	1	FW	50970	5374	1885	5.5
9006			?			?
9007	2	FW	50832	5488	1880	3.4
9008	2	FW	50852	5464	1900	3.9
9009	2	FW	50953	5456	1890	3.06
9010	3	FW	50006	5468	2110	7.71
9011	3	FW	50976	5530	1895	4.81
9012	3	FW	50940	5500	1895	1.7
9013	3	FW	50632	5512	1962	1.7
9014	3	FW	50060	5490	2070	3.46
9015	3	FW	50630	5520	1965	1.50
9016	3	FW	50800	5526	1894	4.81
9017	4	FW	50356	5776	1945	3.90
9018	4	FW	50373	5769	1950	5.10
9019	4	FW	49190	5738	2070	3.80
9020	4	FW	49402	5728	2075	4.30
9021	4	FW	49368	5750	2083	4.73
9022	4	FW	49430	5744	2065	4.43
9023	4	FW	50450	5742	1963	3.80
9024	4	FW	50632	5695	1918	6.10
9025	4	FW	50472	5715	1960	11.00
9026	4	FW	50630	5711	1915	4.59
9027	5	FW	50604	5758	1923	5.64

BURNT RIDGE EXTENSION

TABLE 6 (CONTINUED)

TRENCH	SEAM	CODE	NORTHING +5500000	EASTING +6500000	ELEVATION +0	T/T METERS (COAL)
9028	5	FW	50604	5758	1923	5.64
9029	5	FW	50410	5790	1935	6.10
9030	5	FW	50410	5790	1935	6.10
9031	5	FW	49313	5774	2087	5.10
9032	5	FW	49416	5762	2060	4.88
9033	6	FW	49292	5900	2030	2.62
9034	6	FW	49365	5910	2010	3.08
9035	6	FW	49402	5915	2000	10.77
9036	6	FW	49374	5930	1995	5.00

BURNT RIDGE EXTENSION

TABLE 7

DRILL HOLE QUALITY - UPPER MIST MOUNTAIN SECTION

	RAW				
SEAM	INTERCEPT THICKNESS	HOLE THICKNESS	RECOVERY	AIR DRIED BASIS	ASH
6	3.39	4.54	72.9	0.74	23.4
7	4.38	4.38	51.4	0.75	38.9
8	1.08	1.44	75.0	0.96	9.4
9	3.32	3.32	60.7	0.86	15.4
10	3.08	3.08	74.0	0.90	31.4
11	1.76	4.70	85.8	0.92	30.2
12	1.94	2.59	74.6	0.85	24.6
13	2.12	2.82	82.4	0.93	19.7
14	0.65	0.65	?	0.94	30.9
15	1.30	1.95	80.9	0.92	17.0
16	0.32	0.32	?	1.04	31.6
17	1.96	2.94	78.5	1.76	26.6
18	2.40	2.40	53.0	4.81	6.5

NOTE 1: Some drill intercepts near collar oxidized

NOTE 2: Some drill holes only intersect lower part unrealistically thin average thickness.

NOTE 3: If the seam has thinned to zero in a drill calculation of average thickness which wil..

BURNT RIDGE EXTENSION

TABLE 8

TRENCH QUALITY DATA - UPPER MIST MOUNTAIN SECTION

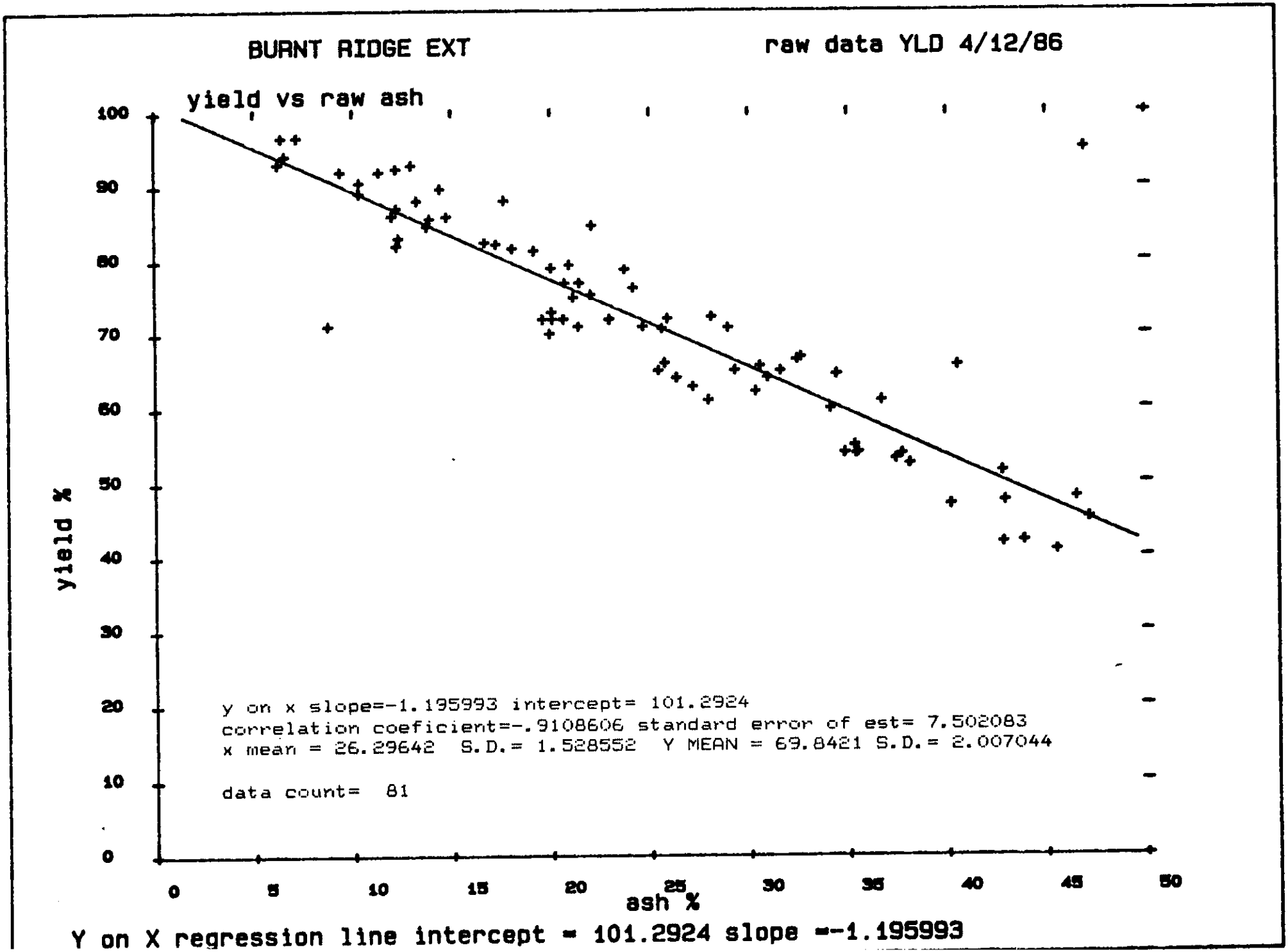
			RAW DATA	
SEAM	INCREMENT THICKNESS	TRENCH THICKNESS	AIR DRIED BASIS	ASH
6	3.60	9.36	3.80	28.1
7	1.62	2.16	4.70	26.2
8	1.55	1.55	6.20	20.6
9	4.18	4.18	4.50	16.5
10	2.23	3.13	5.50	23.1
11	2.63	4.39	4.60	31.8
12	1.68	2.24	6.70	20.6
13	2.44	3.25	4.20	20.3
14	1.13	2.26	3.36	27.3
15				
16	0.93	0.93	4.21	21.3
17	1.78	5.34	3.37	29.4
18	2.94	2.94	3.84	42.5

The Upper Mist Mountain coals are medium to high volatile with volatile contents ranging from 27.7% to 34.2% DAF basis. FSI values are usually 8 or better on the 1.6 SG washed product. Sulphurr contents are generally less than 1% on the washed product. Fluidity measurements are now available for most of the upper section seams; values range from 26 to 1246 DDPM. Fluidity data for seam 18 is affected by oxidation and the data for the other seams may be low because of the delay between drilling and analysis. The heat content of the coal ranges from 8100 to 7200 K cals/Kgm for the 1.6 SG product; heat values for seams 17 and 18 are affected by oxidation.

To date CNRL has not analysed any bulk samples for washability. The 1.6 SG float data imply that the coal will be fairly easy to wash (Enclosure 15). A plot of all the drill hole data (Enclosure 15) provides a mean raw ash (ADB) of 26.3% with a mean yield of 69.8% and mean float ash of 8.6%. When a sample is floated some coal is lost; if the coal lost is expressed as a percentage of the coal in the raw sample, then a simple measure of efficiency can be calculated. Enclosure 16 is a plot of Efficiency (at 1.6 SG) versus raw ash and float ash "pairs" identified by horizontal lines. It can be seen that most raw samples lose less than 20% of their coal when floated and that the float ash does not increase much as the raw ash concentration increases.

On an individual seam basis, seam 6 is the thickest seam in the upper section; it is usually split into a number of bands with cumulative thicknesses ranging up to 14.9 M; an area weighted average thickness is probably around 8 meters. It has a moderate raw ash concentration and usually a fine size-consist.

Enclo .re 15


BURNT RIDGE EXT
raw data YLD 4/12/86
yield vs raw ash
yield %
ash %
y on x slope=-1.195993 intercept= 101.2924
correlation coeficient=-.9108606 standard error of est= 7.502083
x mean = 26.29642 S.D.= 1.528552 Y MEAN = 69.8421 S.D.= 2.007044
data count= 81
Y on X regression line intercept = 101.2924 slope =-1.195993

Seam 7 is characterized by a yellow weathering split and generally has a high raw ash concentration. It is reasonably consistent in thickness averaging around 2-4 meters, though it is absent in drill hole 86.2.

Seam 8 has an average thickness in the range of 1-2 meters but is not always present. The raw ash content is low.

Seam 9 is one of the thicker and more persistent seams with a thickness in the range of 2.5 - 4.5 meters. The raw ash is moderate and the size consist fairly fine.

Seam 10 is usually a split seam with a cumulative thickness of 3 - 4 meters. The raw ash content is moderate to high.

Seam 11 is better described as a zone with a cumulative coal thickness of 4 - 5 meters. The raw ash content is generally high. This seam is persistent laterally.

Seam 12 is usually a split seam with a cumulative coal thickness of 2 - 3 meters and a moderate raw ash content. Seams 12 and up are generally difficult to correlate and it has not been demonstrated that coal occurring at the same stratigraphic level in different sections is continuous along strike.

Seam 13 has a cumulative thickness of 2.5 to 3.5 M and a moderate raw ash content. The seam is persistent over the length of the 1986 road.

Seam 14 is identified in the south but is cut out by an increase in sand content in the sections to the north. Where present the seam ranges up to 2 meters in thickness, with a high raw ash content.

Seam 15 is tentatively identified in the south and north but is interrupted by sand in the middle part of the mapped area. Where present the seam is very variable in thickness and has a moderate raw ash content.

Seam 16 is only identified in the more coally southern section. It is thin and has a moderate raw ash content.

Seam 17 is tentatively identified in the south and north. The thickness varies widely, but an area-weighted average thickness where present, is probably about 2 -3 meters. The raw ash content is moderate to high.

Seam 18 is only present in the south where it is 2 - 3 meters thick and has a variable raw ash content.

5.0 COAL RESERVES

Coal reserves for Burnt Ridge Extension have been calculated in the 1981, 1982 and 1986 reports. The most detailed (1986 report) used 20 meter bench plans and a footwall that was the footwall of seam 6. The pit started at the 2090 M level and reached the 1490 meter level. This pit released 51.4 million tonnes (1.5 SG) raw coal at an in place strip ratio of 3.8:1 BCM/tonne.

It is apparent from the map that four smaller pits could be defined by the four east-trending spurs down to an elevation of about 1800 meters and the footwall of 6 seam. Numbering these spurs from the south, number 2 spur is penetrated by holes 86-1 and 81-3.

Number 3 spur is penetrated by drill hole 85-1 and number 4 spur by drill hole 86-2. Preliminary calculations prior to the 1986 program indicated that these four spurs could contain in excess of 5 million tonnes of low-ratio coal.

Table 10 provides preliminary data for a mini-pit 3, which is the number 3 spur drilled by BRE 85-1. Average coal thicknesses are used as defined by true sections DC, 85-1 and DE (Enclosure 9). Bench volumes have been calculated from 1930 meters to 1810 meters. This pit releases approximately 1.2 million raw tonnes at an in-place ratio of 2.1:1. A deeper mini-pit 3 could release over 2 million tonnes at less than 3:1. Volume calculations for mini-pits 1, 2 and 4 have not yet been updated using the 1986 data.

6.0 RECOMMENDATIONS FOR FURTHER WORK

Ongoing office work will involve the appraisal of the upper seam reserve potential of the four mini-pits in the four east trending spurs off the main Burnt Ridge. Construction of the 1986 roads and drilling of the two 1986 holes provides the minimum amount of information for a computer data base. A computer model will be created using mining software available at the Line Creek mine. If it can be shown that there is potential for 5 to 10 million tonnes of low ratio metallurgical coal from the upper seams, then further rotary drilling will be required to provide tighter control on quality and seam thicknesses, and bulk sampling and washability test will also be necessary.

7.0 SELECTED BIBLIOGRAPHY

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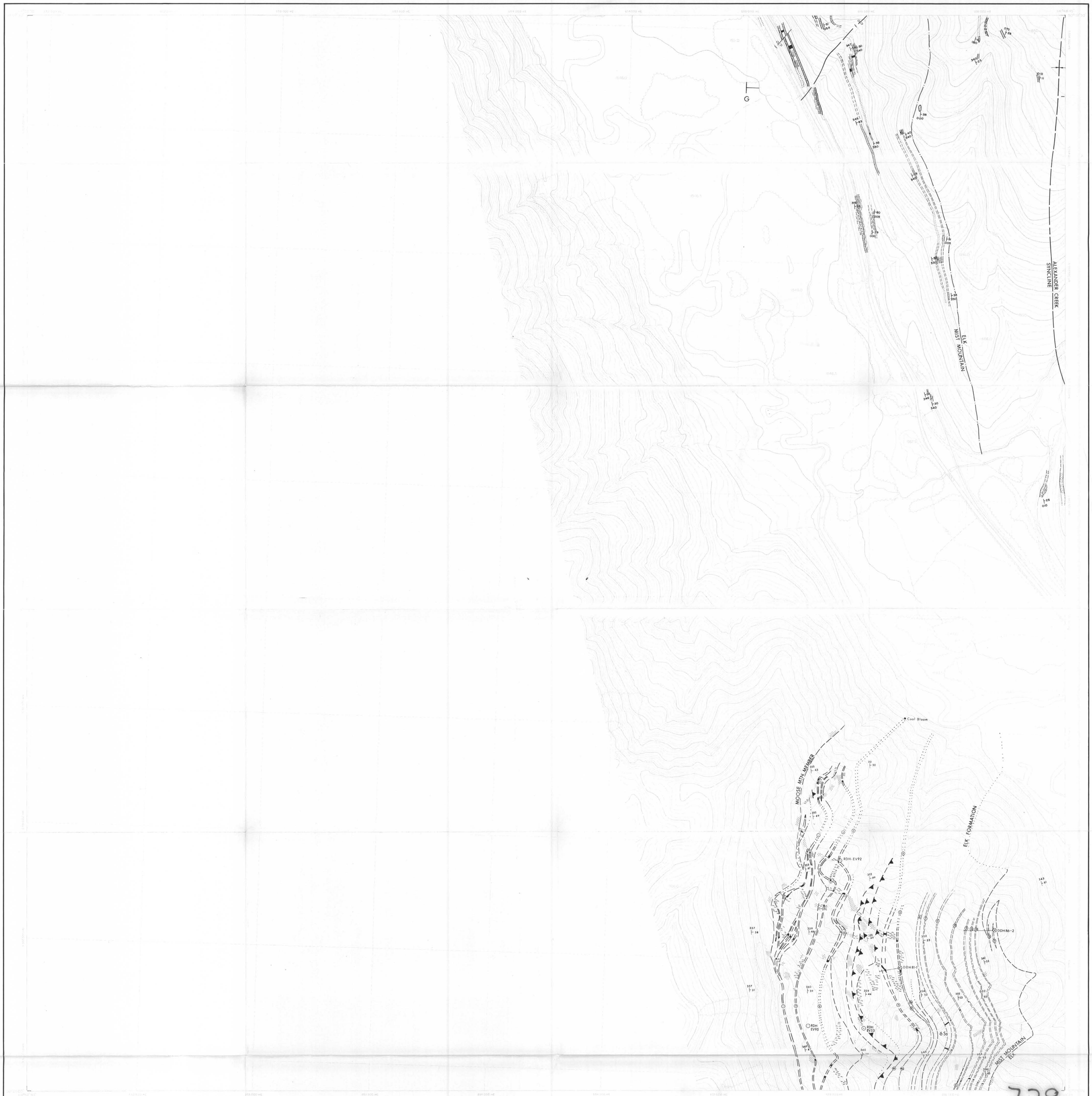
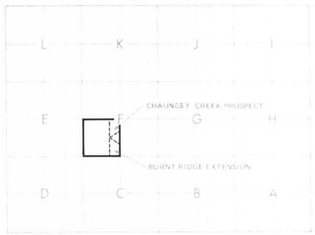


MAP INDEX AND AERIAL PHOTO INDEX

82J/2



G.N.
T.N.

REFERENCE

MAIN ROAD — RIVER, LAKE
SECONDARY ROAD — INTERMITTENT RIVER
TRACK OR TRAIL — TREED AREA
RAILWAY — LINE OF TREES
HEDGE FENCE — INDIVIDUAL TREES
BRIDGE CULVERT — VERTICAL INTERVAL
CUT BANK — DEPRESSION
SWAMP — SPOT HEIGHT
DRILL HOLE — CONTROL POINT

MAP PROJECTION: UNIVERSAL TRANSVERSE MERCATOR
CENTRAL MERIDIAN REFERENCE 117° W.

PREPARED BY
NORTH WEST SURVEY CORPORATION (YUKON) LTD.

GEOLOGICAL LEGEND

JURASSIC - CRETACEOUS

- JKk — Kootenay Group
- JKe — Elk Formation
- JKmm — Mist Mountain Formation
- JKm — Morrissey Formation
- MbM — Moose Mountain Member
- WrM — Weary Ridge Member

- CONGLOMERATE (Cong)
- COARSE SANDSTONE (CsSst)
- FINE SANDSTONE (FSst)
- SILTSTONE (Siltst)
- MUDSTONE/SHALE (Mdst/sh)
- COAL

- NORMAL FAULT
- DEFINED THRUST FAULT
- ASSUMED THRUST FAULT
- BEDDING ATTITUDE
- SYNCLINE
- ANTICLINE
- COAL SEAMS

- STRIATIONS
- ASSUMED CONTACT
- APPROXIMATE CONTACT
- DEFINED CONTACT
- DIAMOND DRILL HOLE (INCLINED, VERTICAL)
- ROTARY DRILL HOLE (BC COAL)

METRES 100 50 0 100 200 300 METRES

SCALE 1 : 5000

729

Crows Nest Resources Limited

BURNT RIDGE EXTENSION — CHAUNCEY CREEK PROSPECT
S.E.B.C.

GEOLOGY MAP

NTS. 82J2 — UTM ZONE 11

AUTHOR: B. RYAN	SCALE: 1:5000 METRES	ENCLOSURE No: 5
DATE: 87-01	REVISED:	DRAWING No: BR2U09
To Accompany		

MAP INDEX AND AERIAL PHOTO INDEX 82J/2

REFERENCE

MAIN ROAD		RIVER, LAKE	
SECONDARY ROAD		INTERMITTENT RIVER	
TRACK OR TRAIL		TREED AREA	
RAILWAY		LINE OF TREES	
HEDGE FENCE		INDIVIDUAL TREES	
BRIDGE CULVERT		VERTICAL INTERVAL	100 ft
CUT FILL		DEPRESSION	
SWAMP		SPOT HEIGHT	1805 ft
DRILL HOLE		CONTROL POINT	

MAP PROJECTION: UNIVERSAL TRANSVERSE MERCATOR
CENTRAL MERIDIAN REFERENCE 117° W.

PREPARED BY
NORTH WEST SURVEY CORPORATION (YUKON) LTD

METRES 100 50 0 100 200 300 METRES
SCALE 1 : 5000

GEOLOGICAL LEGEND

JURASSIC - CRETACEOUS
- JKk Kootenay Group
- JKe Elk Formation
- JKmm Mist Mountain Formation
- JKm Morrissey Formation
- MsM Moose Mountain Member
- WrM Weary Ridge Member

- CONGLOMERATE (Cong)
- COARSE SANDSTONE (CsSst)
- FINE SANDSTONE (FSst)
- SILTSTONE (Siltst)
- MUDSTONE/SHALE (Mdst/sh)
- COAL

- NORMAL FAULT
- DEFINED THRUST FAULT
- ASSUMED THRUST FAULT
- BEDDING ATTITUDE
- SYNCLINE
- ANTICLINE
- COAL SEAMS

- STRIATIONS
- ASSUMED CONTACT
- APPROXIMATE CONTACT
- DEFINED CONTACT
- DIAMOND DRILL HOLE (INCLINED, VERTICAL)
- ROTARY DRILL HOLE (BC COAL)

729

Crows Nest Resources Limited

BURNT RIDGE EXTENSION
S.E. B.C.

GEOLOGY MAP

NTS. 82J2 UTM ZONE 11

AUTHOR: B. RYAN		SCALE: 1:5000 METRES	ENCLOSURE No: 5A
DATE: 82 01		REVISED: 87-01	DRAWING No: BR2U10
To Accompany			

50°05'00"

114°48'45"

B

B'

C

C'

5 549 800 mN

5 549 600 mN

5 549 400 mN

5 549 200 mN

5 549 000 mN

656 000 mE

656 200 mE

656 400 mE

DDH 85-1

DDH 81-2

DDH 81-3

DDH 86-1

86-27 86-7 86-14 86-15 86-13 86-12 86-11 86-10 86-9 86-8 86-6 86-5 86-4 86-3 86-2

81-409 81-407 81-405 81-404 81-406

1900 1850 1800 1750 1700 1650

6l 6u 7 8 9 10 11 12 13 14 15 16 17 18

LEGEND

- APPROXIMATE CONTACT
- DEFINED CONTACT
- 5 COAL SEAMS
- COAL TRENCH
- BEDDING ATTITUDE
- DIAMOND DRILL HOLE (INCLINED, VERTICAL)
- 86-27 SURVEY PICKET LOCATIONS
- ROAD
- A SECTION LOCATION POINT

G.N. T.N.

20 0 20 40 60 80 100 metres

729

Crows Nest Resources Limited

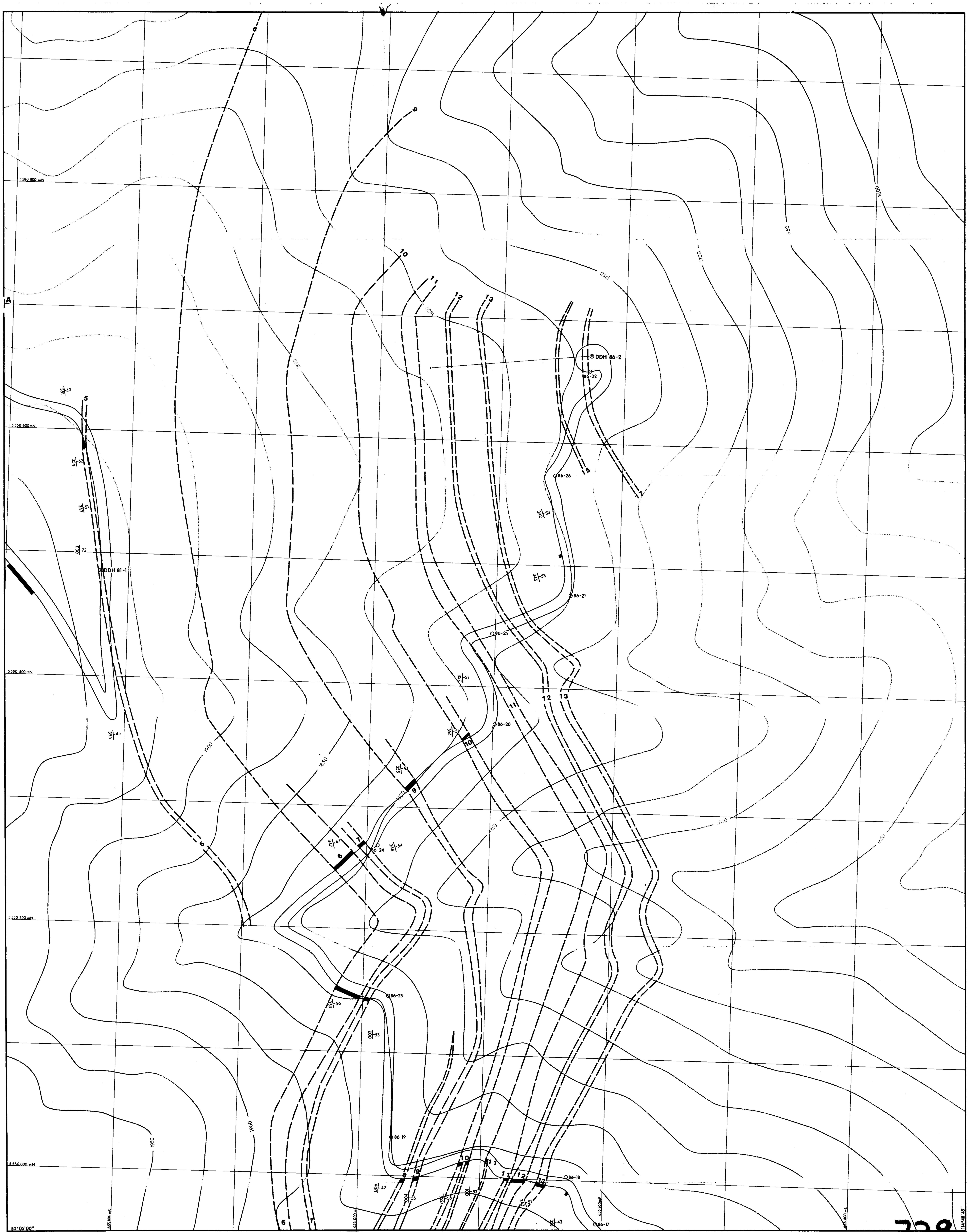
BURNT RIDGE EXTENSION
S.E. B.C.

COAL GEOLOGY MAP

ENCL. 6

NTS-82J/2 CONTOUR INTERVAL: 25m UTM ZONE 11

AUTHOR: B. RYAN	SCALE: 1:1000	DRAWN BY: R.G.P.
DATE: 87-01	REVISED:	DRAWING No: BRGU01
To Accompany		



LEGEND

- APPROXIMATE CONTACT
- DEFINED CONTACT
- 5 COAL SEAMS
- COAL TRENCH
- 345/45 BEDDING ATTITUDE
- DIAMOND DRILL HOLE
- O86-19 SURVEY PICKET LOCATION
- ROAD
- ├A SECTION LOCATION POINT

G.N.
T.N.

20 0 20 40 60 80 100 metres

729

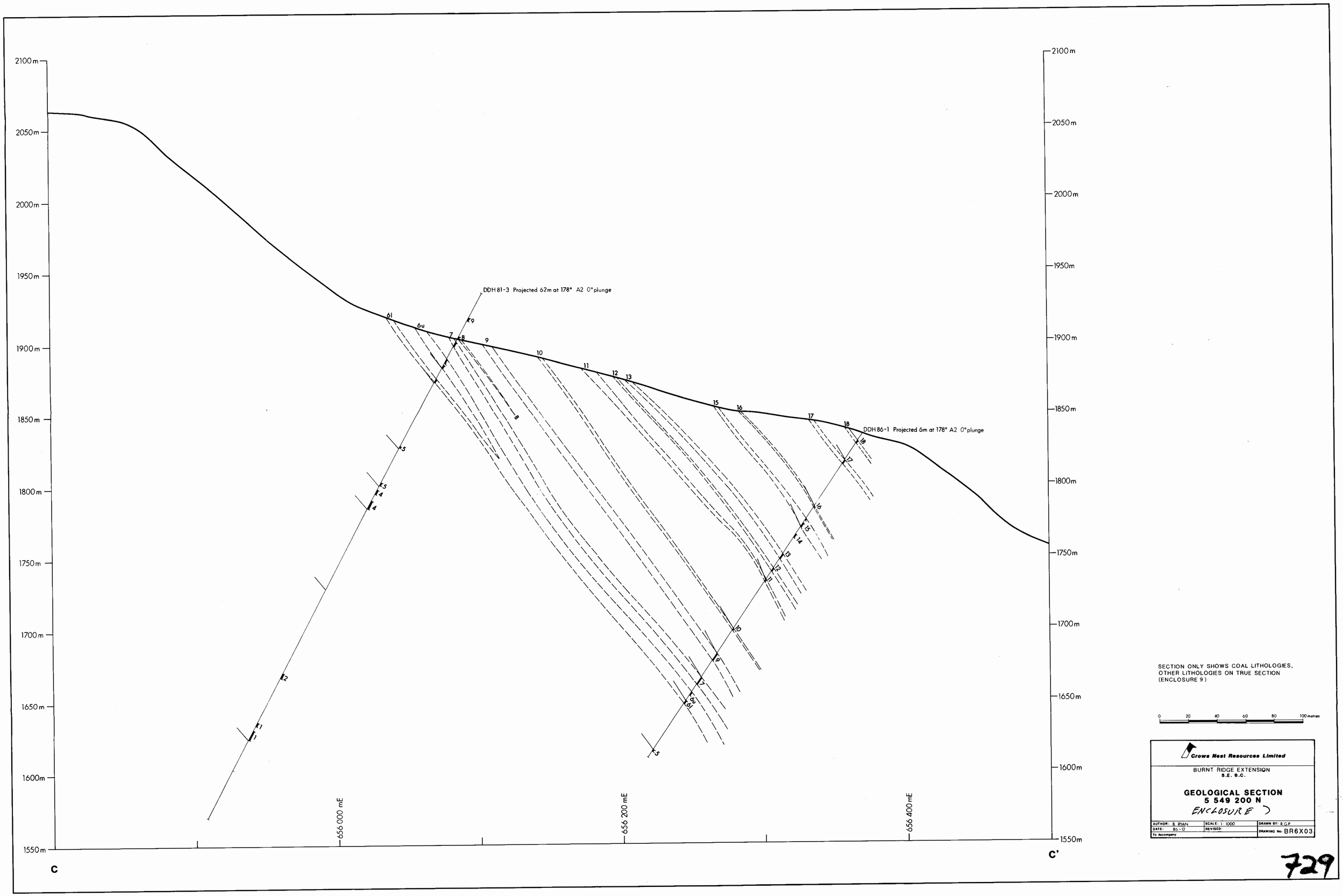
Crows Nest Resources Limited

BURNT RIDGE EXTENSION
S.E. B.C.

COAL GEOLOGY MAP

ENCL 6A

NTS-82J/2	CONTOUR INTERVAL: 25m	UTM ZONE 11
AUTHOR: B. RYAN	SCALE: 1:1000	DRAWN BY: R.G.P.
DATE: 87-01	REVISED:	DRAWING No: BR6U02
To Accompany		



SECTION ONLY SHOWS COAL LITHOLOGIES,
OTHER LITHOLOGIES ON TRUE SECTION
(ENCLOSURE 9)

0 20 40 60 80 100 metres

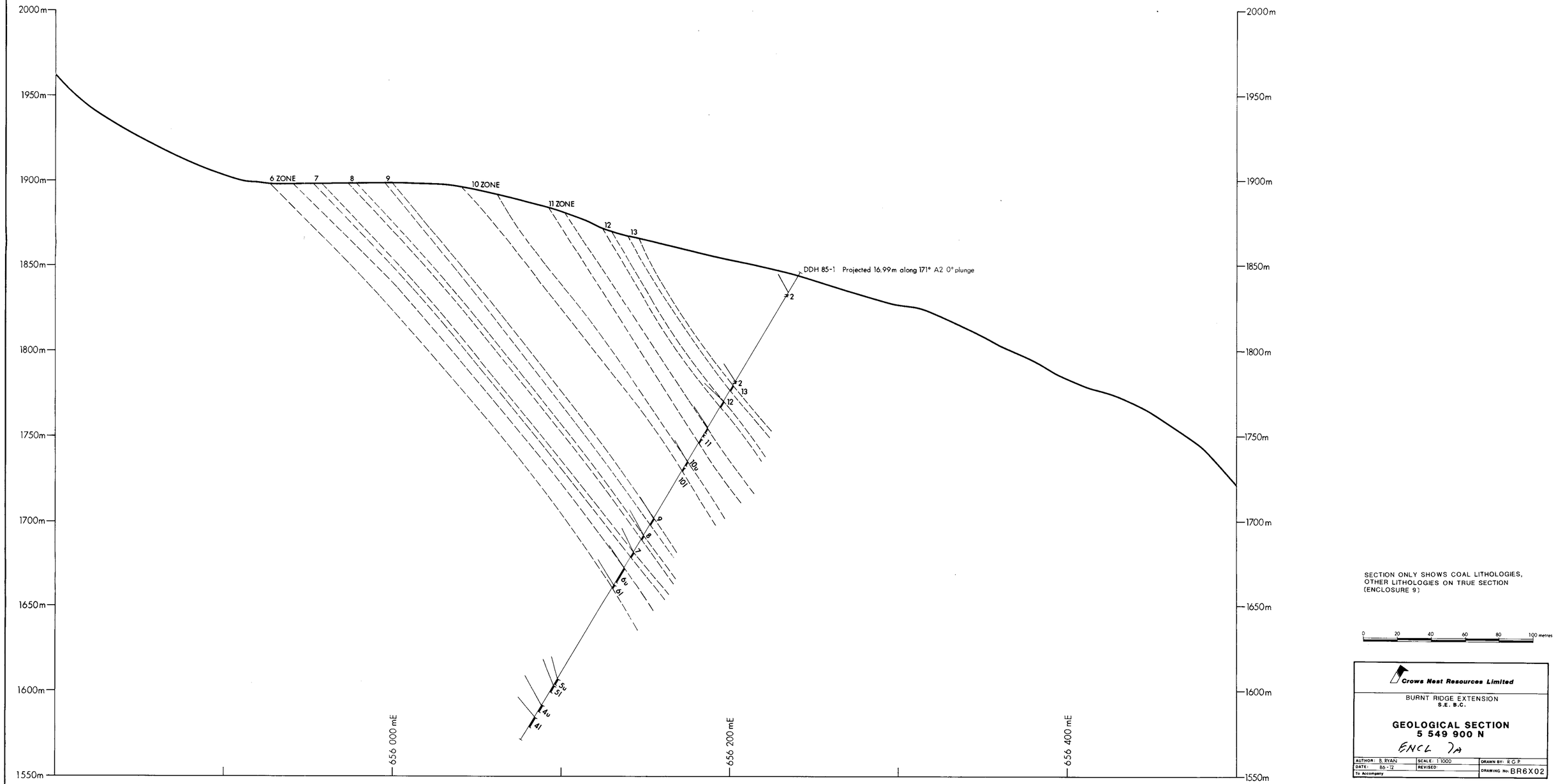
Crows Nest Resources Limited

BURNT RIDGE EXTENSION
S.E. B.C.

GEOLOGICAL SECTION
5 549 200 N
ENCLOSURE)

AUTHOR: B. RYAN	SCALE: 1:1000	DRAWN BY: R.G.P.
DATE: 85-12	REVISED:	DRAWING No: BR6X03
To Accompany		

729



SECTION ONLY SHOWS COAL LITHOLOGIES, OTHER LITHOLOGIES ON TRUE SECTION (ENCLOSURE 9)

0 20 40 60 80 100 metres

Crows Nest Resources Limited

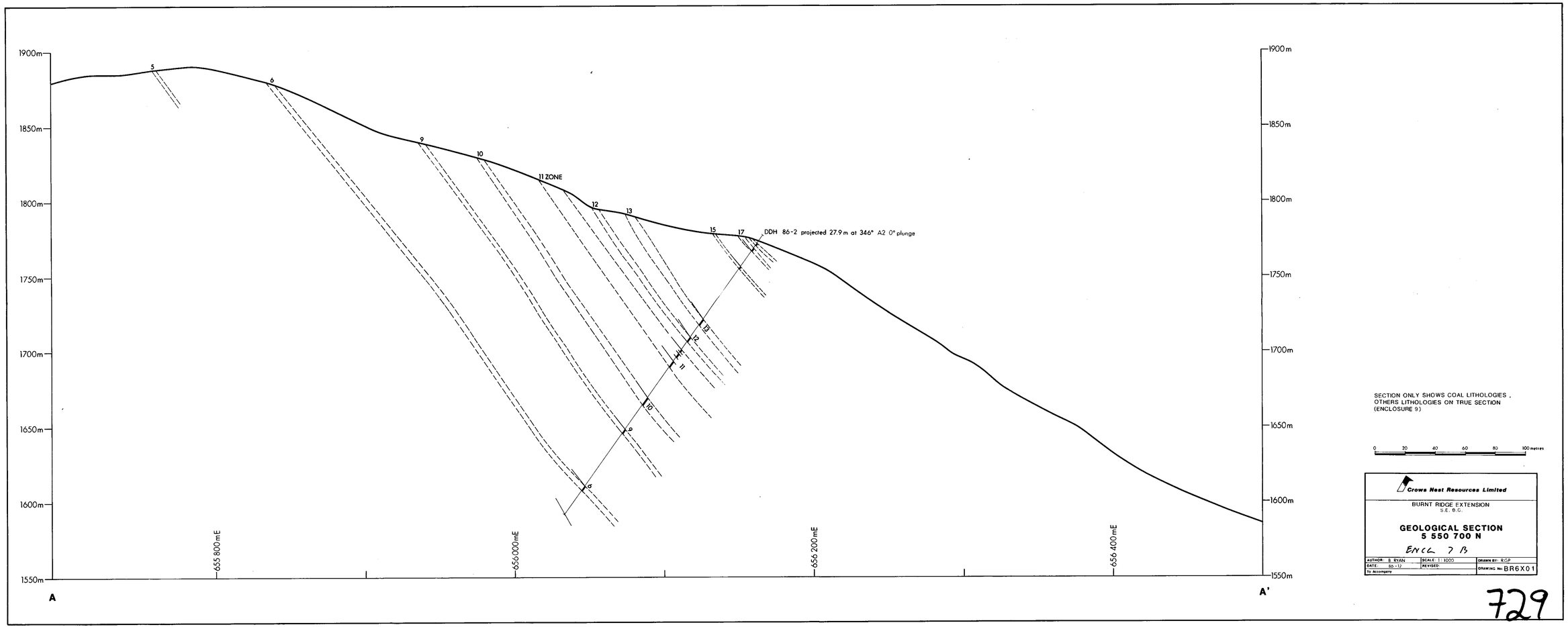
BURNT RIDGE EXTENSION
S.E. B.C.

GEOLOGICAL SECTION
5 549 900 N

ENCL 7A

AUTHOR: B. RYAN	SCALE: 1:1000	DRAWN BY: R.G.P.
DATE: 86-12	REVISED:	DRAWING No: BR6X02
To Accompany		

729



SECTION ONLY SHOWS COAL LITHOLOGIES, OTHERS LITHOLOGIES ON TRUE SECTION (ENCLOSURE 9)

0 20 40 60 80 100 metres

Crows Nest Resources Limited

BURNT RIDGE EXTENSION
S.E. B.C.

GEOLOGICAL SECTION
5 550 700 N

ENCL 7B

AUTHOR: B. RYAN	SCALE: 1:1000	DRAWN BY: R.G.P.	
DATE: 86-12	REVISED:	DRAWING No: BR6X01	
To Accompany			

729

CROWS NEST RESOURCES LIMITED

CORE & COAL CORE DESCRIPTION

PROJECT	BURNT RIDGE EXTENSION
AREA	

DATE		
BEGIN	27 July/86	
END	3 Aug./86	

HOLE No. BRE 86-1

HOLE PARTICULARS

LOCATION	5349206 656370		
ELEVATION	1835	HOLE BEARING (AZ°)	272.3
TOTAL DEPTH	273.4	HOLE ANGLE (°)*	64.6

LOGGING

LOGS RUN	Dev. Gamma
LOGGED BY	Density Caliper
OTHER TESTS	Resistivity, Neutron, Century Geophysical

COAL CORING PERFORMANCE

CORE DIAMETER		NQ
TOTAL	CORE RECOVERED	
	LENGTH CORED	
	CORE RECOVERY	%

EXAMINATION

LOG USED	G - D
No. OF SEAMS SAMPLED	
EXAMINER (S)	BDR
DATE	15/8/86

BOX No.	DEPTH AT TOP OF BOX	DEPTH FROM	DEPTH TO	TH.	LITHO DESCRIPTION MAIN	LITHO DESCRIPTION AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)	SEAM DESIG.	▲ BEDDING ANGLE (°)	SUMMARY GEOTECH HARDNESS	FRAC. FREQ.	RQD	SAMPLE NO.	ANALYTICAL DATA MOIST % a.r.b.	MOIST % residual	ASH %	V.M. %	F.C. %	F.S.I.	C.V.
		0.07	3.00	3.00		No core													
		3.00	7.00	4.00	SST	Mixed siltstone and sandstone	6.1	76											
		7.10	7.00	2.40	Coal	Dull semistick and fragments	S/S												
						recovery = 53.3%	8.2	70											
		9.50	17.40	7.90	Mdst	Silty black mudstone some less than 10cm thick													
						coal seams	11.2	68											
		17.4	18.4	1.00	Coal	High ash dull coal Recovery = 42%	19.3	66											
		18.4	20.4	2.00	Mdst	Carbonaceous mudstone with minor coal seams	16.1	66											
		20.4	21.4	1.00	Mdst	Black mudstone													
		21.4	23.9	2.40	Mdst	Carbonaceous mudstone and minor coal seams. At	22.7	66											
						base red stained weathered carb mudstone with													
						"holes" = burn?													
		23.9	26.15	2.25	Coal	Semistick & fragments some hard bright coal no	S/7												
						splits Recovery = 71%													
		26.15	29.00	2.85	S/st	Siltstone & fine sandstone cross bedded	27.5	64											
		29.00	30.30	1.30	SST	Uniform grey sandstone	28.3	60											
		30.30	32.07	1.77	Mdst	Mudstone	32.9	75											
		32.07	32.61	0.35	Coal	Semistick & fragments dull coal 100% Recovery													
		32.61	36.40	3.79	S/st	Siltstone overlain by carbonaceous mudstone													
						minor coal seams 10cm or less	34.4	70											
		36.40	37.60	1.20	Sst	Massive sandstone extensive calcite veins and	36.2	62											
						orange weathered fractures													
		37.60	41.20	3.60	Mdst	Black mudstone massive grading up to siltstone	41.7	66											
						medium banded some slumping													
		41.20	42.00	0.80	Coal	High ash coal 10cm mdst split Recovery 63%													
		42.00	44.00	2.00	Mdst	Black mudstone minor 10cm seams of coal	44.2	59											
		44.00	45.80	1.80	Sst	Medium banded sandstone													
		45.80	48.00	2.20	Mdst	Mudstone grading upwards to medium banded													
						siltstone and sandstone													
		48.00	51.00	3.00	Sst	Cross bedded sandstone medium grained grades													
						upwards to siltstone and mudstone													
		51.00	52.80	1.80	Mdst	Mudstone grades upwards to cross bedded sandstone													
		52.80	57.4	4.60	Mdst	Mudstone grades upwards to cross bedded	53.4	65											
						sandstone													
		57.4	60.0	2.6	Mdst	Carbonaceous mudstone black massive	56.6	69											
						Minor coal seams less than 10cm	59.5	54											

ALL LINEAR UNITS IN METRES

* : MEASURED FROM THE HORIZONTAL PLANE

† : H &/OR S — GOLDER ASSOCIATES HARDNESS CODE

▲ ANGLE MEASURED FROM CORE AXIS

RQD — ROCK QUALITY DESIGNATION (%)

FF — FRACTURE FREQUENCY

HOLE No.

FILE No BA-267
REVISED Feb. 1981
FORMERLY FILE No. BA-211A

729

CROWS NEST RESOURCES LIMITED

CORE & COAL CORE DESCRIPTION

PROJECT	
AREA	

DATE	
BEGIN	
END	

HOLE No. [ ]

HOLE PARTICULARS

LOCATION			
ELEVATION		HOLE BEARING (AZ°)	
TOTAL DEPTH		HOLE ANGLE (°)*	

LOGGING

LOGS RUN	
LOGGED BY	
OTHER TESTS	

COAL CORING PERFORMANCE

CORE DIAMETER		
TOTAL	CORE RECOVERED	
	LENGTH CORED	
	CORE RECOVERY	%

EXAMINATION

LOG USED	
No. OF SEAMS SAMPLED	
EXAMINER (S)	
DATE	

BOX No.	DEPTH AT TOP OF BOX	DEPTH FROM	DEPTH TO	TH.	LITHO DESCRIPTION MAIN	LITHO DESCRIPTION AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)	SEAM DESIG	BEDDING ANGLE (°) ▲	SUMMARY GEOTECH HARDNESS	SUMMARY GEOTECH FRAC. FREQ.	SUMMARY GEOTECH RQD	SAMPLE NO.	ANALYTICAL DATA MOIST % a.r.b.	ANALYTICAL DATA MOIST % residual	ASH %	V.M. %	F.C. %	F.S.I.	C.V.
		60.00	62.43	2.43	Mdst	Black massive mudstone													
		62.43	62.75	0.32	Coal	Semi stick & fragments 100% Recovery	S/6												
		62.75	64.00	1.25	Slst	Siltstone													
		64.00	64.40	2.40	Sst	Massive medium grained sandstone	63.09	65											
						some slumped bedding calcite veins													
		64.90	69.00	2.60	Slst	Siltstone and mudstone													
		69.00	70.40	1.40	Mdst	Mudstone overlain by 40cm of siltstone													
		70.40	71.30	0.90	Sst	Sandstone calcite veins and brown Fe stone	69.49	59											
		71.30	72.80	1.50	Mdst	Black massive mudstone	72.24	74											
		72.80	73.70	0.90	Coal	Dull coal as simi stick & fragments	S/5												
						Recovery = 100%													
		73.70	76.95	3.25	Mdst	Black mudstone	75.29	56											
		76.95	79.35	2.40	Coal	Stick to crushed coal no splits Recovery = 71%	S/5												
		79.35	80.80	1.45	Mdst	Mudstone	79.86	66											
		80.80	82.40	1.60	Mdst	Mudstone to sandstone coarsening upwards													
		82.40	83.00	0.60	Sst	Sandstone	81.38	82											
		83.00	84.80	1.80	Mdst	Mudstone													
		84.80	85.95	1.05	Coal	Fragments & powder Recovery = 33%													
		85.95	86.65	0.70	Mdst	Mudstone	84.41	60											
		86.65	88.10	0.93	Coal	High ash coal stick and fragments	S/4												
						Recovery = 100%													
		88.10	90.53	2.43	Mdst	Black carbonaceous mudstone													
		90.53	94.00	3.47	Slst	Siltstone coarsening upwards to sandstone	90.53	60											
						which contains 2 orange stained zones													
		94.00	96.80	2.80	Mdst	Grey to black massive mudstone	93.57	64											
		96.80	98.60	1.80	Sst	Fine sandstone 2 orange stained clay zones	96.62	71											
						5cm thick													
		98.60	102.87	4.27	Slst	Siltstone and mudstone massive grey	99.69	62											
		102.87	105.15	2.28	Coal	From hanging wall 28cm bright coal 9cm dull	102.7	66											
						coal 117 cm bright coal as stick & fragments	S/3												
						5cm mudstone then bright coal 15 foot wall													
						Recovery = 100%													
		105.15	105.64	0.49	Mdst	Mudstone split													
		105.64	106.30	0.66	Coal	Dull coal stick & fragments Recovery = 85%	108.8	60											
		106.30	107.00	0.70	Mdst	Black massive mudstone	S/3												
		107.00	110.00	3.00	Slst	50% siltstone & fine sandstone													
		110.00	113.95	3.95	Slst	2 siltstone mudstone cycles coarsening upwards	109.8	68											
						minor quartz filled veins	111.8	70											

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. [ ]

FILE No. BA-267
REVISED Feb. 1981
FORMERLY FILE No. BA-211A

729

CROWS NEST RESOURCES LIMITED

CORE & COAL CORE DESCRIPTION

PROJECT	
AREA	

DATE	
BEGIN	
END	

HOLE No. [ ]

HOLE PARTICULARS

LOCATION			
ELEVATION		HOLE BEARING (AZ°)	
TOTAL DEPTH		HOLE ANGLE (°)*	

LOGGING

LOGS RUN	
LOGGED BY	
OTHER TESTS	

COAL CORING PERFORMANCE

CORE DIAMETER		
TOTAL	CORE RECOVERED	
	LENGTH CORED	
	CORE RECOVERY	%

EXAMINATION

LOG USED	
No. OF SEAMS SAMPLED	
EXAMINER (S)	
DATE	

BOR No.	DEPTH AT TOP OF BOR	DEPTH FROM	DEPTH TO	TH.	LITHO DESCRIPTION MAIN	LITHO DESCRIPTION AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)	SEAM DESIG	▲ BEDDING ANGLE (°)	SUMMARY GEOTECH HARDNESS	SUMMARY GEOTECH FRAC. FREQ.	SUMMARY GEOTECH RQD	SAMPLE NO.	ANALYTICAL DATA MOIST % ar.b.	ANALYTICAL DATA MOIST % residual	ASH %	V.M. %	F.C. %	F.S.I.	C.V.
		113.95	116.78	2.83	Coal	Semi stick to powder 3cm split at hanging wall Recovery = 53%	116.74 S/Z	60											
		116.78	120.50	3.72	Mdst	Grey massive siltstone minor mudstone	117.96	61											
		120.50	124.30	3.80	Sst	Fine sandstone mixed sandstone and siltstone load cast structures	121.01	60											
		124.03	125.80	1.77	Coal	Generall bright coal semi stick and mudstone split 5cm in middle Recovery = 90%	124.03 S//	55											
		125.80	130.50	4.70	Slst	Siltstone minor grey massive mudstone													
		130.50	134.30	3.80	Sst	Fine sandstone sower and fill structures some quartz fractures	127. 130.	60 52											
		134.30	138.00	3.70	Sst	Fine sandstone and siltstone Massive grey	133.2 135.6	35 62											
		138.00	141.00	3.00	Slst	Massive grey uniform siltstone	138.7	43											
		141.00	144.20	3.20	Sst	Fine sandstone to mudstone cycle scower and fill structures	141.	44											
		144.20	146.70	2.50	Slst	Siltstone some sandstone													
		146.70	147.40	0.70	Slst	Very broken core	145.4	50											
		147.40	150.10	2.70	Sst	Coarse grained sandstone disturbed bedding and quartz veins	147.5 150.6	22 30											
		150.10	151.10																
		151.10	154.60	3.50	Sst	2 cycles slst to medium grained sandstone coarsening upwards minor quartz veins	151.9	53											
		154.60	155.40	0.80	Coal	Not recovered	154.5	55											
		155.40	158.00	2.60	Mdst	Black mudstone minor siltstone 10cm brown Fe stone band	156.8	55											
		158.00	163.00	5.00	Mdst	Black mudstone up to 5 less than 10cm bands of coal	157.6	60											
		163.00	165.06		Mdst	Brown mudstone + Fe stone	160.5	80											
		165.06	165.66	0.60	Coal	First of 4 bands of coal separated by mudstone other 3 thin not sampled Recovery = 53%	169.8 S/E	62											
		165.66	167.80	2.14	Mdst	See above													
		167.80	168.77	0.97	Mdst	Brown mudstone and massive Fe stone													
		168.77	173.32	4.55	Sst	Medium grained sandstone slumped bedding and quartz veins some brown mudstone	172.8	70											
		173.32	182.00	8.68	Sst	Fine sandstone topped by 50cm mudstone cross-bedded and bioturbation	175.9	63											
		182.00	183.40	1.40	Slst	2 fining upwards cycles sandstone to siltstone	178.9	76											
		183.40	185.01	1.61	Slst	2 fining upwards cycles as above	185.0	63											
		185.01	186.07	1.06	Slst	Grey massive siltstone													

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. [ ]

FILE No. BA-267
REVISED Feb. 1981
FORMERLY FILE No. BA-211A

729

CROWS NEST RESOURCES LIMITED

CORE & COAL CORE DESCRIPTION

PROJECT		DATE	BEGIN		HOLE No.	
AREA			END			

PAGE 4 OF 4

HOLE PARTICULARS

LOCATION			
ELEVATION		HOLE BEARING (AZ°)	
TOTAL DEPTH		HOLE ANGLE (°)*	

LOGGING

LOGS RUN	
LOGGED BY	
OTHER TESTS	

COAL CORING PERFORMANCE

CORE DIAMETER		
TOTAL	CORE RECOVERED	
	LENGTH CORED	
	CORE RECOVERY	%

EXAMINATION

LOG USED	
No. OF SEAMS SAMPLED	
EXAMINER (S)	
DATE	

BOX No.	DEPTH AT TOP OF BOX	DEPTH FROM	DEPTH TO	TH.	LITHO DESCRIPTION MAIN	LITHO DESCRIPTION AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)	SEAM DESIG	▲ BEDDING ANGLE (°)	SUMMARY GEOTECH HARDNESS	FRAC. FREQ.	RQD	SAMPLE NO.	ANALYTICAL DATA MOIST % a.r.b.	MOIST % (residual)	ASH %	V.M. %	F.C. %	F.S.I.	C.V.
		186.07	190.45	4.38	Coal	Powdery coal Recovery = 17% 59	186.0	66											
		190.45	192.07	1.62	Mdst	Black mudstone	190.0	55											
		192.07	197.21		Slst	Siltstone & sandstone 50% mixture some major bedding slumps and quartz veins	191.1	50											
		197.21	200.97	3.76	Sst	Medium grained sandstone and siltstone	194.5	72											
							197.2	71											
		200.97	202.39	1.42	Slst	Siltstone, minor sandstone, some quartz veins	200.2	71											
		202.39	204.36	1.97	Mdst	Black mudstone, very broken core	202.4	65											
		204.36	205.00	0.64	Sst	Sandstone	203.3	60											
		205.00	205.47	0.47	Mdst	Mudstone	205.5	58											
		205.47	211.73	6.26	Coal	From hanging wall 1m ~~SF/F/K~~/stick dull coal Foot wall 1m coal powdery 2 mudstone splits in lower part of seam Recovery = 35%	57												
		211.73	218.43	6.70	Slst	Siltstone fine banded scower andfill structures	212.5	68											
		218.43	220.96	2.53	COAL	Semistick dull coal no splits Recovery = 28%	218.5	66	S64										
		220.96	223.13	2.17	Sst	Mudstone black homogeneous	221.6	72											
		223.13	226.00	2.87		Sandstone, medium grained, bioturbation minor siltstone	224.6	62											
		226.00	228.15	2.15	Coal	Stick to fragments dull coal with mudstone splits Recovery = 100%	S62												
		228.15	230.00	1.85	Mdst	Carbonaceous mudstone very broken	229.2	66											
		230.00	230.93	0.93	Mdst	50% mudstone & 50% siltstone	230.7	58											
		230.93	239.33	8.40	Sst	Sandstone, cross bedded, some slump structures 20% siltstone	233.8	58											
		239.00	239.25	0.25	Mdst	Mudstone, hanging wall	236.7	69											
		239.25	241.15	1.90	Coal	Top, dull high ash, 2 mudstone splits about 10cm thick Recovery = 95%	239.4	70											
		241.15	243.02	1.87	Mdst	Black mudstone with 7cm of coal	242.5	60											
		243.02	252.77	9.75	Mdst	Black mudstone homogeneous	249.0	55											
		252.77	255.95	3.18	Sst	Medium grained sandstone capped by 10cm carbonaceous mudstone	252.0	70											
		255.95	258.17	2.22	Sst	Fine grained sandstone to siltstone some mudstone, minor coal	255.2	70											
		258.17	261.21	3.04	Sst	Fining upwards from sandstone to mudstone	258.2	60											
		261.21	265.05	4.84	Slst	Siltstone, black to grey, some mudstone	261.2	80											
		266.05	267.48	1.43	Coal	Coal, dull fractured high ash Recovery = 60%	266.3	72	S5										
		267.48	270.00	2.52	Mdst	Black mudstone	270.4	63											
		270.00	273.4	3.40	Sst	Sandstone, fine banded grey sandstone bio-turbation, minor coaly lenses	273.4	72											

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

729

HOLE No.

FILE No. BA-267
REVISED Feb. 1981
FORMERLY FILE No. BA-211A

CROWS NEST RESOURCES LIMITED

CORE & COAL CORE DESCRIPTION

PROJECT	BURNT RIDGE EXTENSION
AREA	S.E. B.C.

DATE	
BEGIN	AUG. 3/86
END	AUG. 7/86

HOLE No. BRE 86-2

HOLE PARTICULARS NO CORE

LOCATION	NORTHING: 5550672.7 EASTING: 656171.9		
ELEVATION		HOLE BEARING (AZ°)	
TOTAL DEPTH		HOLE ANGLE (°)#	

LOGGING

LOGS RUN	DEV GAMMA
LOGGED BY	DENSITY CALIPES
OTHER TESTS	RESISTIVITY NEUTRON
	CENTURY GEOPHYSICAL

COAL CORING PERFORMANCE

CORE DIAMETER		
TOTAL	CORE RECOVERED	
	LENGTH CORED	
	CORE RECOVERY	%

EXAMINATION

LOG USED	G - D
No. OF SEAMS SAMPLED	
EXAMINER (S)	S. CAMERON
DATE	8/13/86

BOX No.	DEPTH AT TOP OF BOX	DEPTH FROM	DEPTH TO	TH.	LITHO DESCRIPTION MAIN	MINOR	AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)	▲BEDDING ANGLE DEPTH	▲BEDDING ANGLE ANGLE	SUMMARY GEOTECH HARDNESS	FRAC. FREQ.	RQD	SAMPLE NO.	ANALYTICAL DATA MOIST % a.r.b.	MOIST % residual	ASH %	V.M. %	F.C. %	F.S.I.	C.V.
		0.00	3.20		0.30															
		3.20	6.20		Mdst		Gr	5.0	70											
		6.20	8.72		Coal		Recovery = 79% Seam 17	7.0	79											
		8.72	10.56		Mdst	Carb	Bk													
		10.56	12.60		Coal		Recovery = 78% Seam 17													
		12.60	16.40		Slst	Ssi	Interbedded, abdu bioturbation	16	73											
		16.40	19.40		Ssi		Light grey interbedded w dark grey Slst													
		19.40	23.30		Mdst	Carb	Black, occ coal stringes	22	67											
		23.20	24.00		Ssi		Salt & pepper, thinly bedded		76											
		24.00	26.20		Slst			25	72											
		26.20	27.00		Mdst	Carb	Bk	27	76											
		27.00	27.60		Coal		Recovery = 90% Seam 15													
		27.60	29.50		Mdst	Carb	Black													
		29.50	31.10		Slst															
		31.10	31.25		Coal															
		31.25	38.30		Mdst		Bk Mdst int in coal and shaley coal occ.	33	71											
							interbeds of light gy Slst	36	71											
								43	62											
		38.30	44.40		Slst		Interbeds of light gy Ssi near base	44	60											
		44.40	51.20				Thinly interbedded salt & pepper ss.	46	53											
							occ. coaly													
							Blebs near base of unit grades to ss2	49	65											
							near base x bedded													
								51	74											
		51.20	59.20		Slst	Mdst	Gy Slst int. w/ dk gy Mdst. Occ. thin	56	63											
							band of light gy Ssi	57	66											
		59.20	68.60		Slst	Ssi	Gy Slst thinly int bd w/ light gy Ssi	62	64											
							Occ IRST band	63	67											
		68.60	69.20		Mdst		Bk. Carb													
		69.20	69.40		Coal		Seam 13													
		69.40	70.00		Mdst	Carb	Bk													
		70.00	72.70		Coal		Recovery = 71% Seam 13													
		72.70	73.00		Mdst	Carb	Bk													
		73.00	74.60		Coal		Seam 13													
		74.60	79.20		Mdst	Slst	Bk Mdst int w/ dk gy Slst	75	69											
							occ. band of thinly x bedded light gy Ssi													

ALL LINEAR UNITS IN METRES

: MEASURED FROM THE HORIZONTAL PLANE

▲ ANGLE MEASURED FROM CORE AXIS

† : • R &/OR S — GOLDER ASSOCIATES HARDNESS CODE

• RQD — ROCK QUALITY DESIGNATION (%)

FF — FRACTURE FREQUENCY

HOLE No.

FILE No. BA-267
REVISED Feb. 1981
FORMERLY FILE No. BA-211A

729

CROWS NEST RESOURCES LIMITED

CORE & COAL CORE DESCRIPTION

PROJECT	
AREA	

DATE	
BEGIN	
END	

HOLE No. [ ]

HOLE PARTICULARS

LOCATION			
ELEVATION		HOLE BEARING (AZ°)	
TOTAL DEPTH		HOLE ANGLE (°)*	

LOGGING

LOGS RUN	
LOGGED BY	
OTHER TESTS	

COAL CORING PERFORMANCE

CORE DIAMETER		
TOTAL	CORE RECOVERED	
	LENGTH CORED	
	CORE RECOVERY	%

EXAMINATION

LOG USED	
No. OF SEAMS SAMPLED	
EXAMINER (S)	
DATE	

BOX No.	DEPTH AT TOP OF BOX	DEPTH FROM	DEPTH TO	TH.	LITHO DESCRIPTION MAIN	AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM) MINOR		BEDDING ANGLE ▲ DEPTH	BEDDING ANGLE ▲ ANGLE	SUMMARY GEOTECH HARDNESS	FRAC. FREQ.	RQD	SAMPLE NO.	ANALYTICAL DATA MOIST % a.r.b.	MOIST % residual	ASH %	V.M. %	F.C. %	F.S.I.	C.V.
		79.20	82.20		Slst		Gy interbedded w/ bk Mdst													
		82.20	83.30		Ssi		Light gy thinly interbedded w/ dark gy Slst	82	73											
		83.30	83.90		Mdst	Carb	Bk													
		83.90	86.00		Coal		Seam 12													
		86.00	87.20		Mdst		Dk gy occ. bioturbation & oc fd fracture													
		87.20	88.33		Ssi	Slst	Light gy thinly interbedded	88	74											
		88.33	94.10		Mdst	Slst	Thinly interbedded, light gy	89	71											
								93	73											
		94.10	95.30		Coal		Recovery = 75% Seam 11													
		95.30	97.20		Mdst	Ssi	Dk gy Mdst w/ thin interbeds of light gy Ssi	96	71											
		92.70	99.60		Coal		Seam 11													
		99.60	103.60		Mdst		Dk gy occ. grades to Slst													
		103.60	104.00		Coal		Seam 11													
		104.00	104.60		Mdst	Carb	Coaly blebs throughout	104	72											
		104.60	105.20		Coal		Recovery = 84% Seam 11													
		105.20	105.80		Mdst	Carb	Dk gy	105	73											
		105.80	107.90		Coal		Recovery = 62% Seam 11													
		107.90	111.90		Mdst	Carb	Dk gy, some thin interbeds of gy Slst	114	73											
		111.90	117.15		Ssi		Light gy, abn py, abn c.c. fd fractures	115	74											
							Occ. Mdst interbed thinly bedded near base of unit	117	65											
								119	70											
		117.15	132.85		Mdst		Massive, occ cc. fd fracture, occ thin Slst bank	121	74											
								126	68											
								128	67											
		132.85	137.60		Coal		Shaley band near top of seam Recovery = 63% Seam 10	131	71											
		137.60	138.50		Mdst	Carb	Silty													
		138.50	139.55		Coal	Shaley	Recovery = 28%													
		139.55	141.30		Mdst	Carb	Bk, coaly stringers													
		141.30	145.60		Slst		Occ. coaly stringers, thin interbeds of light gy Ssi	145	82											
		145.60	147.20		Ssi		Gy massive													
		147.20	148.00		Mdst	Carb	Bk	148	59											

ALL LINEAR UNITS IN METRES

* : MEASURED FROM THE HORIZONTAL PLANE

▲ ANGLE MEASURED FROM CORE AXIS

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• RQD — ROCK QUALITY DESIGNATION (%)

FF — FRACTURE FREQUENCY

HOLE No. [ ]

FILE No. BA-267
REVISED Feb. 1981
FORMERLY FILE No. BA-211A

729

CROWS NEST RESOURCES LIMITED

CORE & COAL CORE DESCRIPTION

PROJECT	
AREA	

DATE	
BEGIN	
END	

HOLE No. [ ]

HOLE PARTICULARS

LOCATION			
ELEVATION		HOLE BEARING (AZ°)	
TOTAL DEPTH		HOLE ANGLE (°)▲	

LOGGING

LOGS RUN	
LOGGED BY	
OTHER TESTS	

COAL CORING PERFORMANCE

CORE DIAMETER		
TOTAL	CORE RECOVERED	
	LENGTH CORED	
	CORE RECOVERY	%

EXAMINATION

LOG USED	
No. OF SEAMS SAMPLED	
EXAMINER (S)	
DATE	

BOX No.	DEPTH AT TOP OF BOX	DEPTH FROM	DEPTH TO	TH.	LITHO DESCRIPTION MAIN	LITHO DESCRIPTION MINOR	LITHO DESCRIPTION AMPLIFIED (INCLUDE COAL RECOVERY FOR EACH SEAM)	BEDDING ANGLE ▲		SUMMARY GEOTECH HARDNESS	SUMMARY GEOTECH FRAC. FREQ.	SUMMARY GEOTECH RQD	SAMPLE NO.	ANALYTICAL DATA MOIST % a.r.b.	ANALYTICAL DATA MOIST % residual	ASH %	V.M. %	F.C. %	F.S.I.	C.V.
		148.00	149.20		Ssi		Interbedded carb mdst. conveluted bedding	149	69											
		149.20	156.90		Mdst	Slst	Thinly interbedded. occ coal stringers	155	70											
		156.90	158.35		Mdst	Carb	Bk													
		158.35	161.15		Coal	Sheared Surfaces	Sheared in middle of seam Recovery = 69% Seam 9													
		161.15	161.60		Slst															
		161.60	162.40		Ssi		Light gy, thinly bedded	164	80											
		162.40	170.70		Mdst		Bk, occ. thin interbedded Slst & Ssi	167	83											
							Some bioturbation	169	85											
							fault guage at 164m													
		170.7	171.50		Coal	Shaley	Recovery = 0%													
		171.50	173.80		Mdst		Dk. gy													
		173.80	174.50		Coal		Recovery = 0%													
		174.50	175.60		Mdst		Dk gy massive													
		175.60	176.40		Ssi		Light gy	176	68											
		176.40	180.00		Mdst		Bk occ. coal stringers and lenses	179	71											
		180.00	180.90		Ssi		Light gy													
		180.90	182.20		Mdst		Bk													
		182.20	183.20		Ssi		Light gy	183	69											
		183.20	184.20		Mdst	Carb	Bk coal stringers throughout													
		184.20	196.80		Ssi	Slst	Thinly interbedded occ. thin (1cm) coal	186	78											
							stringers and blebs throughout. x	191	66											
							bedded, occ. bioturbation occ. cc fd	192	59											
							fracture	194	83											
		196.80	197.20		Mdst	Carb	Bk													
		197.20	197.60		Coal	Shaley	Recovery = 0% Seam 6													
		197.60	199.20		Mdst	Carb	Bk													
		199.20	199.50		Coal		Recovery = 0% Seam 6													
		199.50	200.40		Mdst															
		200.40	207.10		Coal		Recovery = 63% Seam 6													
		207.10	211.90		Mdst	Coal	Carb Mdst w/ interbeds of coal up to 5cm thick, occ. IRST band	210	74											
		211.90	226.80		Slst	Ssi	Thinly interbedded. x bedded. occ. thin interbeds of Carb Mdst. Ssi dominate near base of unit		71											
									72											
									65											
									58											
									59											

ALL LINEAR UNITS IN METRES

R : MEASURED FROM THE HORIZONTAL PLANE

† : • R &/OR S — GOLDER ASSOCIATES HARDNESS CODE

• RQD — ROCK QUALITY DESIGNATION (%)

FF — FRACTURE FREQUENCY

▲ ANGLE MEASURED FROM CORE AXIS

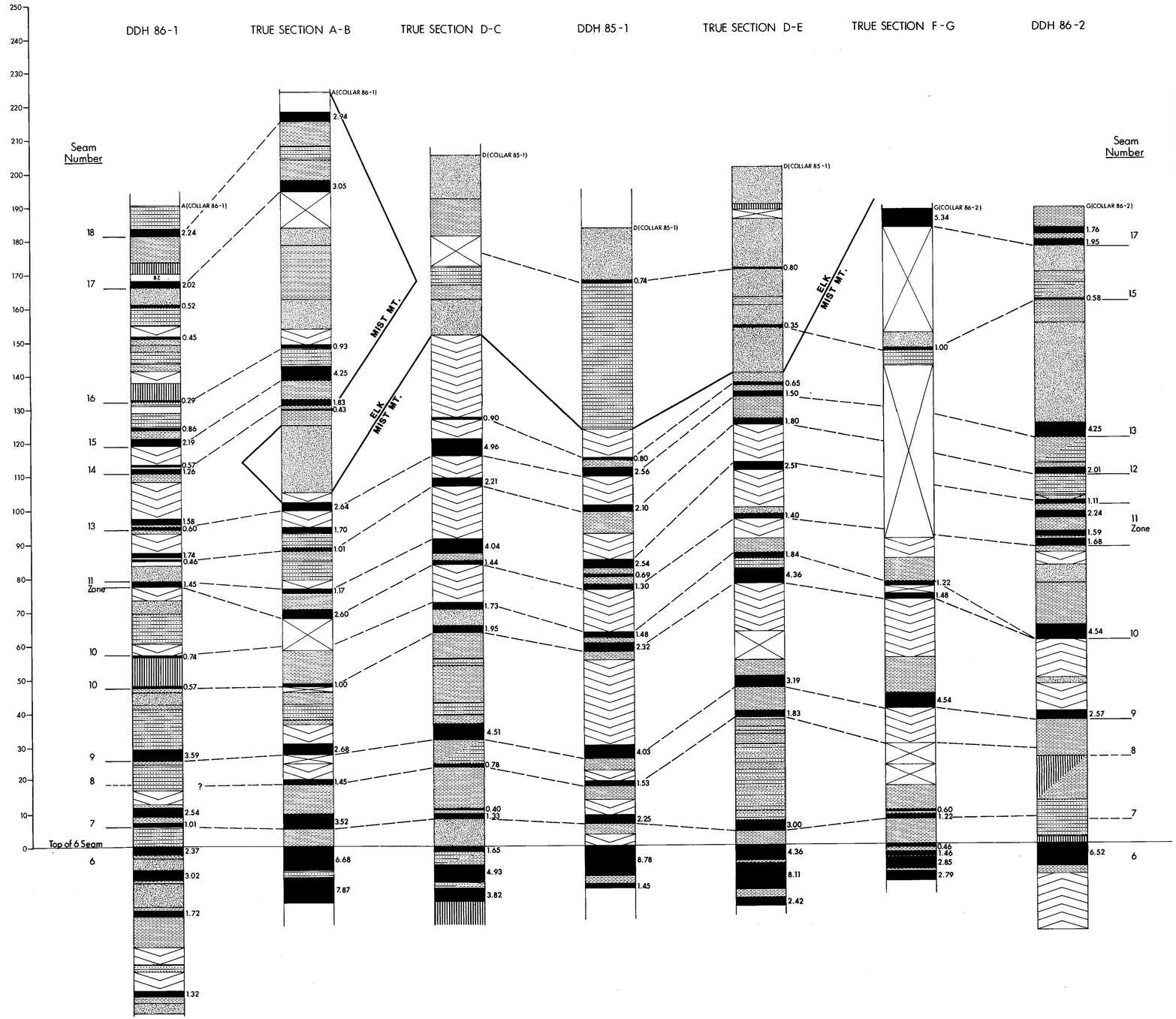
HOLE No. [ ]

729

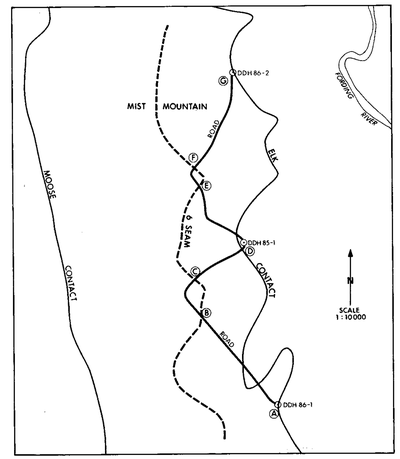
FILE No. BA-267
REVISED Feb. 1981
FORMERLY FILE No. BA-211A

Metres - True Section

DDH 86-1 | TRUE SECTION A-B | TRUE SECTION D-C | DDH 85-1 | TRUE SECTION D-E | TRUE SECTION F-G | DDH 86-2



LOCATION MAP



NOTES:

- TRUE THICKNESS SECTIONS FOR ROADS AND DRILLHOLES 85-1, 86-1, 86-2 CONSTRUCTED STRATIGRAPHICALLY UPSECTION FROM HANGING WALL SEAM 6 UPPER.
- ALL COAL SEAM THICKNESSES ARE INDICATED AS TRUE THICKNESSES

- NO OUTCROP
- COAL
- MUDSTONE
- CARBONACEOUS MUDSTONE
- SILTSTONE
- SILTSTONE / MUDSTONE INTERLAYERS
- SANDSTONE
- COARSENING UPWARDS CYCLE MUDSTONE TO SILTSTONE OR SANDSTONE
- FINING UPWARDS CYCLE SANDSTONE OR SILTSTONE TO MUDSTONE
- BZ — BURN ZONE

Crows Nest Resources Limited

BURNT RIDGE EXTENSION
S.E. B.C.

TRUE STRATIGRAPHIC SECTIONS FOR ROADS AND DRILLHOLES

9

AUTHOR: B. RYAN	SCALE: 1:500	DRAWN BY: R.G.P.
DATE: 86-12	REVISED:	DRAWING No: BR6C03
To Accompany		

729

Report on the Sealing of drillholes

Inspection District Kootenay Fort Steele Date of Report

Company Land District Kootenay

Certificate Number CL 273 Licence Number CL 273

1. Number of Drillhole. Burnt Ridge Ext DDH 86-1
2. Surface elevation. ~~1834~~ 1834
3. Type (Vertical, diamond, rotary, size etc. diamond 60° from horizontal
4. Drilled by: Name of Contractor DW Coates Enterprises
   Name of Exploration Company Crows Nest Resources
5. Date of completion. Aug 3. 1986
6. Date of Sealing Aug 3 1986
7. Sealed by: Name of Contractor DW Coates Enterprises
   Name of Exploration Company Crows Nest Resources
8. (a) Has any casing, drill pipe, drill bits, core barrel, etc. been left in the hole?
   (b) If so, give details and location. No
9. (a) Was the drillhole sealed in the manner outlined in the Chief Inspectors Instructions? Yes
   (b) If No, give reasons and details of variation.
10. (a) Was the sealing effective? Yes
    (b) Details of any tests carried out.
11. I certify that the above drillhole has been effectively sealed in accordance with the instructions of the Chief Inspector of Mines.

Signature
Designation Manager Geology CNRL
Date 15/9/86
Countersignature
Designation Contract Coordinator
Date Sept 18/86

729

CENTURY GEOPHYSICAL CORPORATION

* * * * * * * * VERTICAL DEVIATION * * * * * * * *

COMPU-LOG VSLI DEVIATION

CLIENT : CROWSNEST RES. HOLE ID : DDH-86-1

LOCATION : BURNT RIDGE EXT. DATE OF LOG : 08-03-86

DATA FROM : VSL2*A PROBE : 9055A 0245

TD = TOTAL DEPTH
T = TOP OF ZONE
B = BOTTOM OF ZONE

	DEPTH	TRUE DEPTH	NORTH DEV	EAST DEV	DISTANCE	AZIMUTH	SA	SAB
	.00	.00	.00	.00	.00	.0	.0	.0
	10.00	9.14	.23	-3.73	3.69	272.3	37.4	272.3
	20.00	16.26	.33	-11.57	11.58	271.7	35.5	271.7
	30.00	24.47	-.62	-17.17	17.18	267.9	34.7	268.0
	40.00	32.72	-1.52	-22.73	22.81	266.2	34.4	266.2
	50.00	40.98	-2.42	-28.34	28.43	267.1	34.4	266.9
	60.00	49.20	-3.37	-33.93	34.10	264.5	34.5	266.5
	70.00	57.44	-4.33	-39.50	39.74	263.7	34.4	265.7
	80.00	65.70	-5.42	-45.03	45.37	263.1	34.3	265.4
	90.00	73.93	-6.42	-50.60	51.01	262.9	34.3	263.7
	100.00	82.21	-7.44	-56.15	56.64	262.4	34.3	263.5
	110.00	90.46	-8.47	-61.71	62.29	262.2	34.4	259.5
	120.00	98.70	-9.51	-67.28	67.94	261.9	34.5	259.3
	130.00	105.94	-10.56	-72.84	73.61	261.8	34.5	259.3
	140.00	115.19	-11.63	-78.39	79.25	261.6	34.4	259.6
	150.00	123.44	-12.69	-83.94	84.89	261.4	34.3	259.0
	160.00	131.69	-13.73	-89.49	90.54	261.3	34.4	258.9
	170.00	139.93	-14.84	-95.05	96.20	261.1	34.5	259.1
	180.00	148.16	-15.93	-100.64	101.88	261.1	34.5	260.0
	190.00	156.41	-16.93	-106.20	107.53	261.0	34.4	259.7
	200.00	164.67	-17.90	-111.74	113.16	260.9	34.3	259.6
	210.00	172.92	-19.01	-117.27	118.80	260.8	34.3	259.6
	220.00	181.17	-20.16	-122.79	124.44	260.7	34.3	259.3
	230.00	189.41	-21.18	-128.36	130.10	260.6	34.5	259.5
	240.00	197.66	-22.27	-133.91	135.75	260.6	34.4	259.5
	250.00	205.91	-23.35	-139.47	141.38	260.5	34.3	259.3
	260.00	214.18	-24.44	-144.98	147.03	260.4	34.3	259.2
	270.00	222.43	-25.45	-150.57	152.72	260.4	34.3	259.4
TD	272.00	224.57	-25.77	-151.57	154.14	260.4	34.4	259.5

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VERTICAL DEVIATION

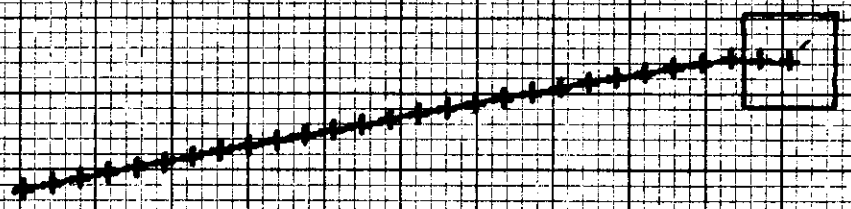
COMPU-LOG V8L1 DEVIATION
DATA FROM : V8L2*A

CLIENT : CROWSNEST RES.
LOCATION : BURNT RIDGE EXT.
HOLE ID : DDH-86-1
DATE OF LOG : 08-03-86
PROBE : 9055A 0245

SCALE: 15.00 M/DIV
MAG DECL: 21.0
TRUE DEPTH: 224.6 M
AZIMUTH: 260.4
DISTANCE: 154.14 M

+ = 10.0 M INCR
Δ = TOP OF ZONE
◇ = BOTTOM OF ZONE

TRUE NORTH ↑



729


CENTURY GEOPHYSICAL CORP. PART NO. 786-0040
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25.0
28.0
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75.0
80.0
82.0
100.0
105.0
110.0
115.0
120.0
125.0
128.0
184.0
185.0
190.0
192.0
202.0
205.0
210.0
215.0
220.0
225.0
230.0
232.0
238.0
240.0
246.0
264.0
265.0
270.0
0
960
GAMMA API
4
16
CALIPER CM
1
3
APPARENT DENSITY GRAMS / CC

COMPU-LOG V8L2 PLOT 08-03-86

729

DDH-86-1
CROWSNEST RES.
BURNT RIDGE EXT.

HOLE DIAMETER : 07.5
PROBE # 9030A - 444
SENSOR #4 CAL STD CPS = 6588
SENSOR #4 CAL RUN CPS = 6464
SENSOR #4 CAL BIAS = 17
DATA V8L2#A TRUCK # 7713
D. BOMBACK APPL.#2709L1

CENTURY GEOPHYSICAL CORPORATION
Tulsa, Oklahoma

729

COMPANY	CROWSNEST RESOURCES
BOREHOLE	DDH - 86 - 1
AREA	BURNT RIDGE EXT.
ELEVATION	
COUNTY	
STATE	BRITISH COLUMBIA
SECTION	
TOWNSHIP	
RANGE	

BOREHOLE	DATE
DDH - 86 - 1	08 - 02 - 86
UNIT/OPERATOR	FIELD OFFICE
7713 / D. BOMBACK	NISKU

HOLE DATA

TOTAL DEPTH — DRILLER	273.4m	BIT SIZE	7.5 cm.
TOTAL DEPTH — LOGGER	272.8m	CASING — TYPE & SIZE	HW STEEL
TOTAL FOOTAGE LOGGED	272.8m	CASING DEPTH	
LOGGING SPEED	9.0m/MIN.	BOREHOLE FLUID	H2O + MUD
REFERENCE LEVEL	TOP OF CASING	FLUID RESISTIVITY	@ °F
PROBE NO.	9030A 444	SOFTWARE LEVEL	8.2 * A
SURVEY BEFORE		SCALE SELECTION	☒ OPERATOR ☐ CLIENT
SURVEY AFTER		TAPE #1	TRACK #3

REMARKS:

LOGGED OPEN HOLE.

EQUIPMENT DATA

PROBE MODEL		9030	9030/9056
PROBE DIAMETER		2.8"	1.87"
NATURAL GAMMA	DETECTOR TYPE	NaI	NaI
	DETECTOR SIZE	1.125" x 4.5"	.875" x 4.0"
	STD. K-FACTOR	—	558 x 10⁻⁴
	STD. DEADTIME	—	1.18 μsec
	CALIB. MODEL LOC.	—	
	CALIB DATE	—	
	K-FACTOR x 10⁻⁴	—	
	DEADTIME μsec	—	
	TEST READING	—	
	WATER FACTOR	—	
	CASING FACTOR	—	
DENSITY	DETECTOR TYPE	NaI	—
	DETECTOR SIZE	.5" x 1.5"	—
	SOURCE TYPE	Cs¹³⁷	—
	SOURCE NO.	VL-264	—
	SOURCE STRENGTH	125mCi	—
	SOURCE SPACING	19cm.	—
	CAL. STD.	6588	
	CAL. RUN	6464	
NEUTRON	DETECTOR TYPE	—	He³
	DETECTOR SIZE	—	1.0" x 8.0"
	SOURCE TYPE	—	AmBe
	SOURCE NO.	—	
	SOURCE STRENGTH	—	
	SOURCE SPACING	—	
SNGL PT RESISTANCE		—	14"D x 2.5"L
RESISTIVITY		6" FOCUSED	—
SELF POTENTIAL		—	YES
TEMPERATURE		—	YES
DEVIATION		—	NO YES
CALIPER		YES	—

CT-112, REV 6/11/86

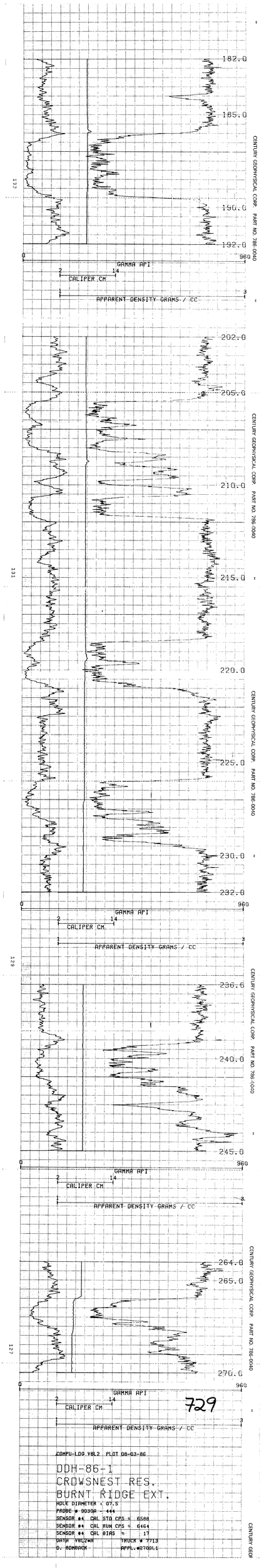
COMPU-LOG V8L2 PLOT 08-03-86

DDH-86-1
CROWSNEST RES.
BURNT RIDGE EXT.

HOLE DIAMETER : 07.5
PROBE # 9030A - 444
SENSOR #4 CAL STD CPS = 6588
SENSOR #4 CAL RUN CPS = 6464
SENSOR #4 CAL BIAS = 17
DATA V8L2WA TRUCK # 7713
D. BOMBACK APPL.#2030L1

CENTURY GEOPHYSICAL CORP. PART NO. 786-0040

151
149
147
145


182.0
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192.0
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960
GAMMA API
2
14
CALIBER CM
1
3
APPARENT DENSITY GRAMS / CC
CENTURY GEOPHYSICAL CORP. PART NO. 786-0040
202.0
205.0
210.0
215.0
220.0
225.0
230.0
232.0
236.6
240.0
245.0
264.0
265.0
270.0
729
COMPU-LOG V8L2 PLOT 08-03-86
DDH-86-1
CROWSNEST RES.
BURNT RIDGE EXT.
HOLE DIAMETER : 07.5
PROBE # 9030A - 444
SENSOR #4 CAL STD CPS = 6588
SENSOR #4 CAL RUN CPS = 6464
SENSOR #4 CAL BIAS = 17
UNIT VELDWR TRUCK # 7713
O. BOMBACK APPL. #2700L1
CENTURY GEOP

CENTURY GEOPHYSICAL CORPORATION
Tulsa, Oklahoma

729

COMPANY	CROWSNEST RESOURCES
BOREHOLE	DDH-86-1
AREA	BURNT RIDGE EXT.
ELEVATION	
COUNTY	
STATE	BRITISH COLUMBIA
SECTION	
TOWNSHIP	
RANGE	
BOREHOLE	DDH-86-1
DATE	08-02-86
UNIT/OPERATOR	7713 / D. BOMBACK
FIELD OFFICE	NISKU

HOLE DATA

TOTAL DEPTH — DRILLER	273.4m	BIT SIZE	7.5 cm.
TOTAL DEPTH — LOGGER	269.0m	CASING — TYPE & SIZE	HW STEEL
TOTAL FOOTAGE LOGGED	269.0m	CASING DEPTH	
LOGGING SPEED	9.0m/MIN.	BOREHOLE FLUID	H2O + MUD
REFERENCE LEVEL	TOP OF CASING	FLUID RESISTIVITY	@ °F
PROBE NO.	9055A 245	SOFTWARE LEVEL	8.2 *A
SURVEY BEFORE		SCALE SELECTION	*OPERATOR / CLIENT
SURVEY AFTER			TAPE #1 TRACK #1

REMARKS:

LOGGED THROUGH DRILL STEM

EQUIPMENT DATA

PROBE MODEL		9030	9055
PROBE DIAMETER		2.0"	1.87"
NATURAL GAMMA	DETECTOR TYPE	NaI	NaI
	DETECTOR SIZE	1.125" x 4.5"	.875" x 4.0"
	STD. K FACTOR	—	
	STD. DEADTIME	—	
	CALIB. MODEL LOC	—	
	CALIB DATE	—	
	K-FACTOR	—	
	DEADTIME	—	
	TEST READING	—	
	WATER FACTOR	—	
	CASING FACTOR	—	
DENSITY	DETECTOR TYPE	NaI	—
	DETECTOR SIZE	5" x 1.5"	—
	SOURCE TYPE	Cs137	—
	SOURCE NO.		—
	SOURCE STRENGTH		—
	SOURCE SPACING		—
NEUTRON	DETECTOR TYPE	—	He3
	DETECTOR SIZE	—	1.0" x 4.0"
	SOURCE TYPE	—	AmBe
	SOURCE NO.	—	71-1-181
	SOURCE STRENGTH	—	1 Ci.
	SOURCE SPACING	—	48 cm.
	CAL. STD.		152
	CAL. RUN		126
SINGL. PT. RESISTANCE		—	
RESISTIVITY		8" FOCUSED	—
SELF POTENTIAL		—	YES
TEMPERATURE		—	YES
DEVIATION		—	NO / YES
CALIPER		YES	—

CT-112, REV. 8/11/86

193

191

189

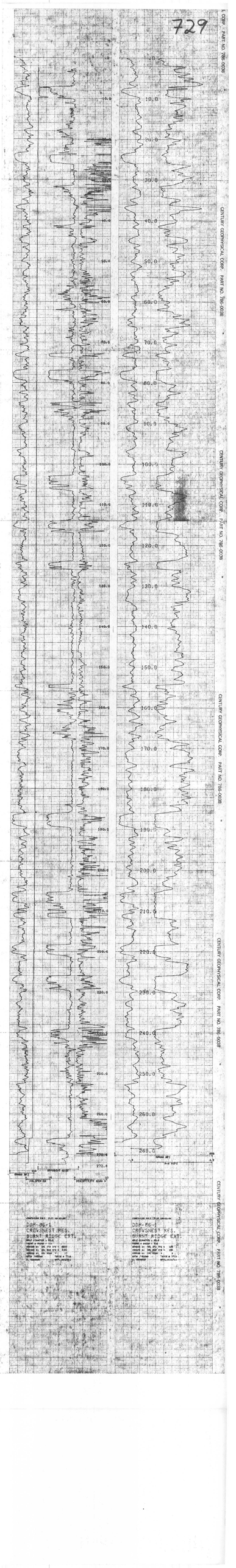
187

COMPU-LOG V8L2 PLOT 08-03-86

DDH-86-1
CROWSNEST RES.
BURNT RIDGE EXT.

HOLE DIAMETER : 07.5
PROBE # 9055A - 245
SENSOR #4 CAL STD CPS = 152
SENSOR #4 CAL RUN CPS = 126
SENSOR #4 CAL BIAS = 0
DATA V8L2#A TRUCK # 7713
D. BOMBACK APPL.#1007L1

CENTURY GEOPHYSICAL CORP.


DDH-86-1
CROWSNEST RES.
BURNT RIDGE EXT.
DDH-86-1
CROWSNEST RES.
BURNT RIDGE EXT.
CENTURY GEOPHYSICAL CORP. PART NO. 786-0038

Report on the Sealing of drillholes

Inspection District Kootenay East Steele Date of Report

Company Crows Nest Resources Land District Kootenay

Coal Mining Lease Number CL 272 Licence Number CL 272

1. Number of Drillhole. Burnt Ridge East DDH 86-2
2. Surface elevation.
3. Type (Vertical, diamond, rotary, size etc. Diamond 60° from horizontal
4. Drilled by: Name of Contractor DW Coates Enterprises
   Name of Exploration Company Crows Nest Resources
5. Date of completion. 7 August 86
6. Date of Sealing 7 August 86
7. Sealed by: Name of Contractor DW Coates Enterprises
   Name of Exploration Company Crows Nest Resources
8. (a) Has any casing, drill pipe, drill bits, core barrel, etc. been left in the hole?
   (b) If so, give details and location. No
9. (a) Was the drillhole sealed in the manner outlined in the Chief Inspectors Instructions? Yes
   (b) If No, give reasons and details of variation.
10. (a) Was the sealing effective? Yes
    (b) Details of any tests carried out.
11. I certify that the above drillhole has been effectively sealed in accordance with the instructions of the Chief Inspector of Mines.

Signature
Designation Manager Geology CNRL
Date 15/9/86
Countersignature
Designation Contract Coordinator
Date Sept 18/86

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CENTURY GEOPHYSICAL CORPORATION

* * * * * * * * VERTICAL DEVIATION * * * * * * * *

COMPU-LOG VALI DEVIATION

CLIENT : CROWSNEST RES. HOLE ID : DDH-86-2

LOCATION : BURNT RIDGE EXT. DATE OF LOG : 08-06-86

DATA FROM : VAL2+6 PROBE : 9055A 6243

TD = TOTAL DEPTH
T = TOP OF ZONE
B = BOTTOM OF ZONE

	DEPTH	TRUE DEPTH	NORTH DEV	EAST DEV	DISTANCE	AZIMUTH	SA	SAB
	.00	.00	.00	.00	.00	.0	.0	.0
	10.00	8.15	-.00	-5.78	5.78	270.0	35.3	269.9
	20.00	16.30	-.00	-11.57	11.57	270.0	35.3	269.9
	30.00	24.46	-.35	-17.33	17.33	268.8	35.2	266.5
	40.00	32.64	-.85	-23.06	23.08	267.5	35.1	264.9
	50.00	40.82	-1.40	-28.79	28.83	267.2	35.1	264.5
	60.00	48.98	-1.99	-34.53	34.59	266.7	35.2	264.1
	70.00	57.14	-2.61	-40.23	40.36	266.3	35.3	263.8
	80.00	65.30	-3.26	-46.03	46.14	265.9	35.3	263.5
	90.00	73.46	-3.94	-51.78	51.93	265.6	35.3	263.2
	100.00	81.61	-4.63	-57.52	57.71	265.4	35.3	263.2
	110.00	89.77	-5.31	-63.26	63.49	265.2	35.3	263.1
	120.00	97.91	-6.05	-69.01	69.28	265.0	35.4	262.7
	130.00	106.07	-6.81	-74.73	75.06	264.8	35.3	262.4
	140.00	114.22	-7.56	-80.49	80.84	264.6	35.3	262.5
	150.00	122.37	-8.36	-86.20	86.61	264.5	35.2	262.0
	160.00	130.53	-9.12	-91.93	92.38	264.3	35.3	262.4
	170.00	138.69	-9.77	-97.63	98.16	264.3	35.3	263.0
	180.00	146.86	-10.53	-103.40	103.93	264.2	35.2	262.5
	190.00	155.02	-11.32	-109.11	109.70	264.1	35.2	262.1
	200.00	163.21	-12.11	-114.81	115.45	264.0	35.1	262.1
	210.00	171.43	-12.96	-120.48	121.18	263.9	35.0	261.4
	220.00	179.57	-13.81	-126.19	126.94	263.8	35.2	261.5
TD	227.39	185.52	-14.46	-130.33	131.13	263.7	35.2	261.8

729

VERTICAL DEVIATION

729

COMPU-LOG V8L1 DEVIATION
DATA FROM : V8L2*A

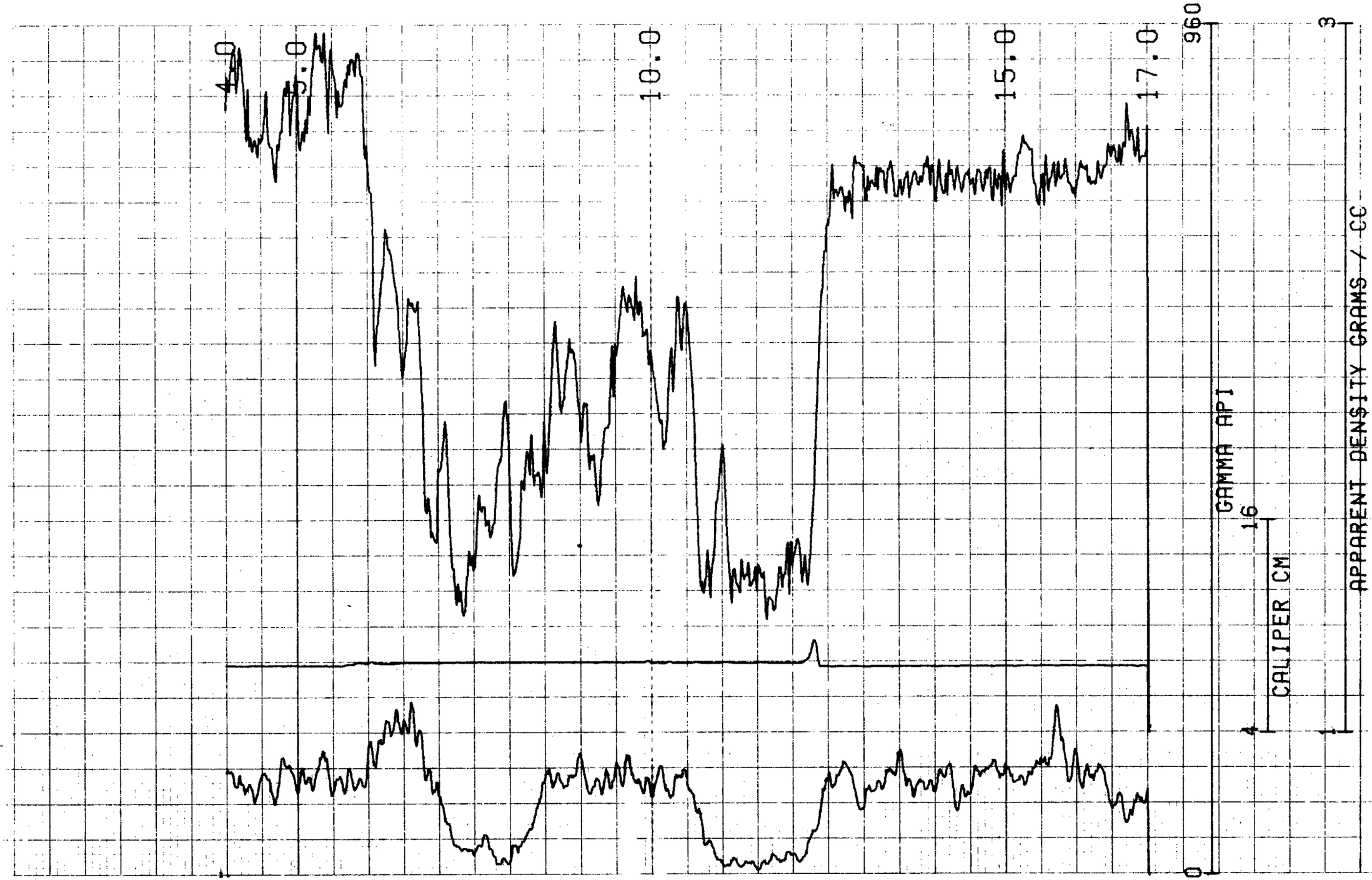
CLIENT : CROWSNEST RES.
LOCATION : BURNT RIDGE EXT.
HOLE ID : DDH-86-2
DATE OF LOG : 08-08-86
PROBE : 9055A 0245

SCALE: 15.00 M/DIV
MAG DECL: 21.0
TRUE DEPTH: 185.5 M
AZIMUTH: 263.7
DISTANCE: 131.15 M

+ = 10.0 M INCR
△ = TOP OF ZONE
◇ = BOTTOM OF ZONE

TRUE NORTH ↑

CENTURY GEOPHYSICAL CORP. PART NO. 786-0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GAMMA API
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4
CALIPER CM
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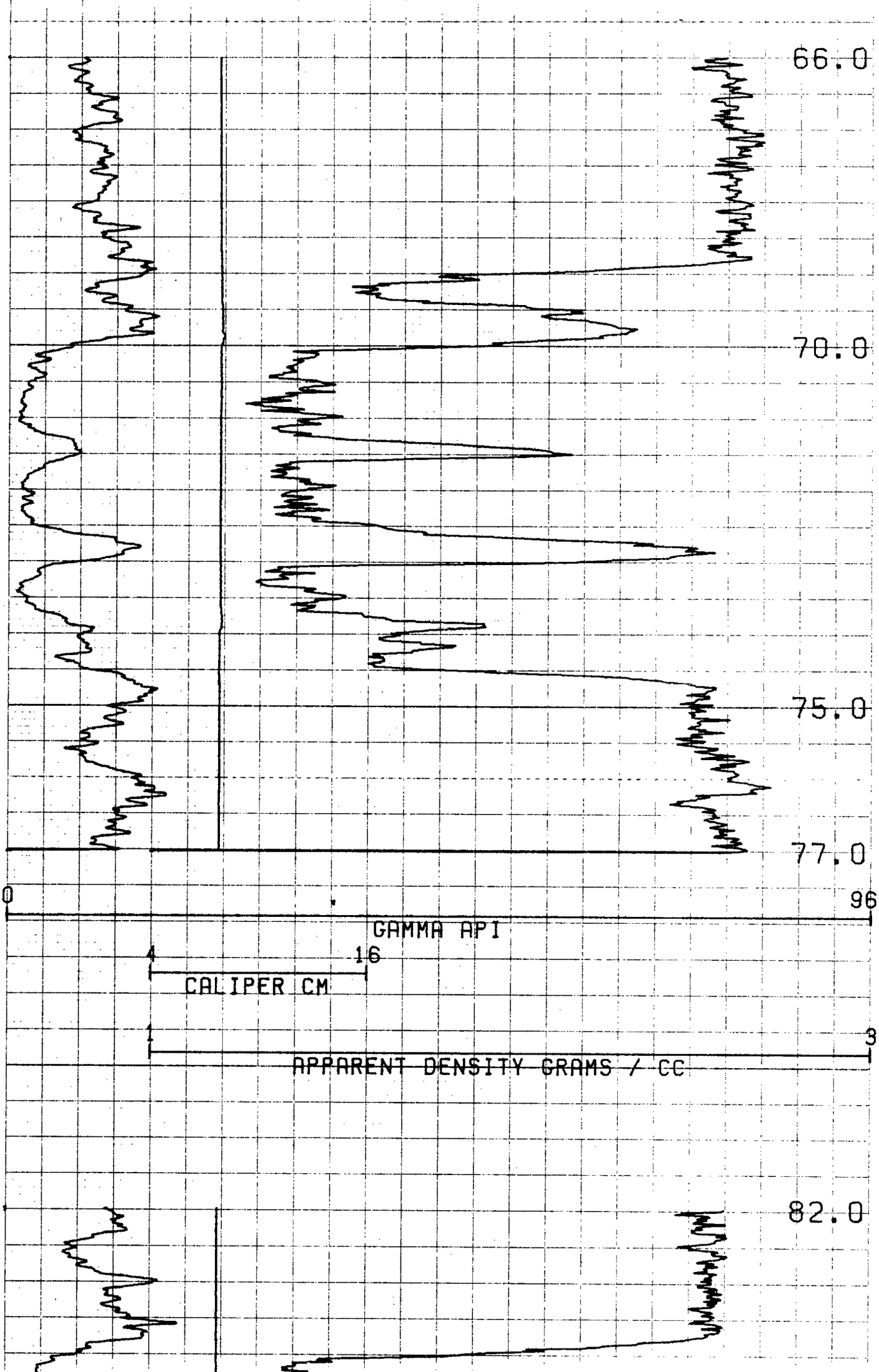
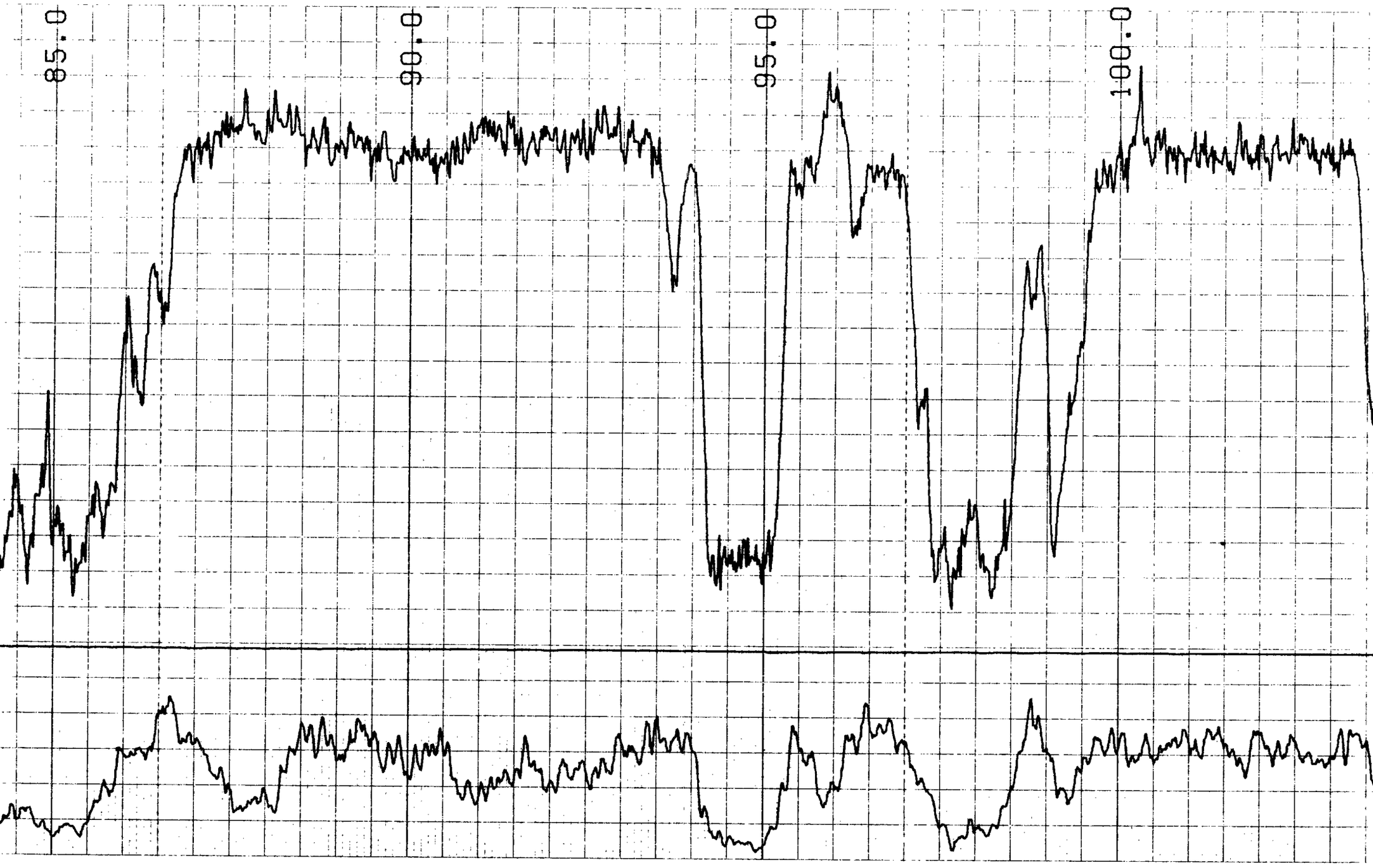
1
APPARENT DENSITY GRAMS / CC



CENTURY GEOPHYSICAL CORP. PART NO. 786-0040

0040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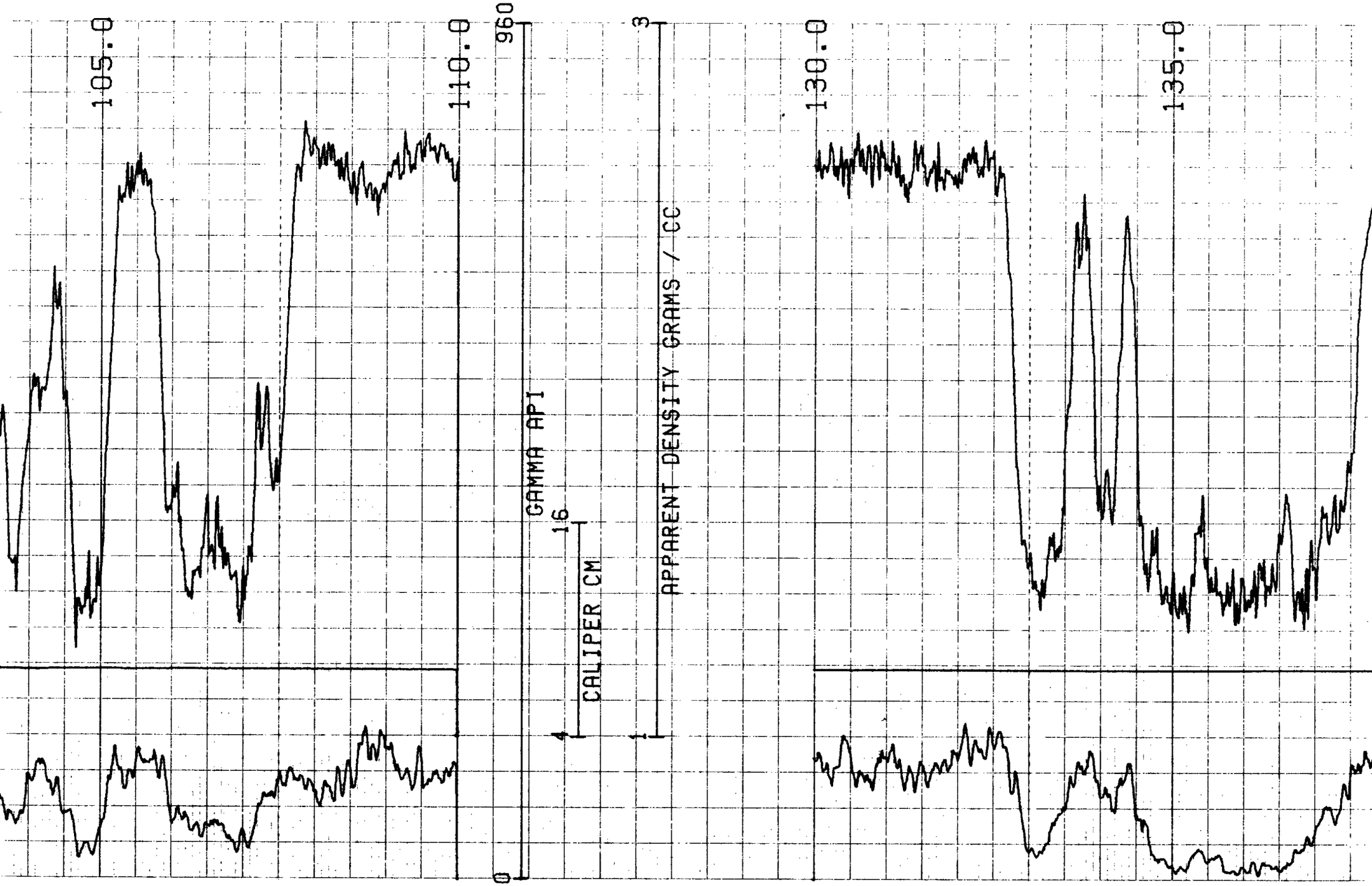
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110.0
960
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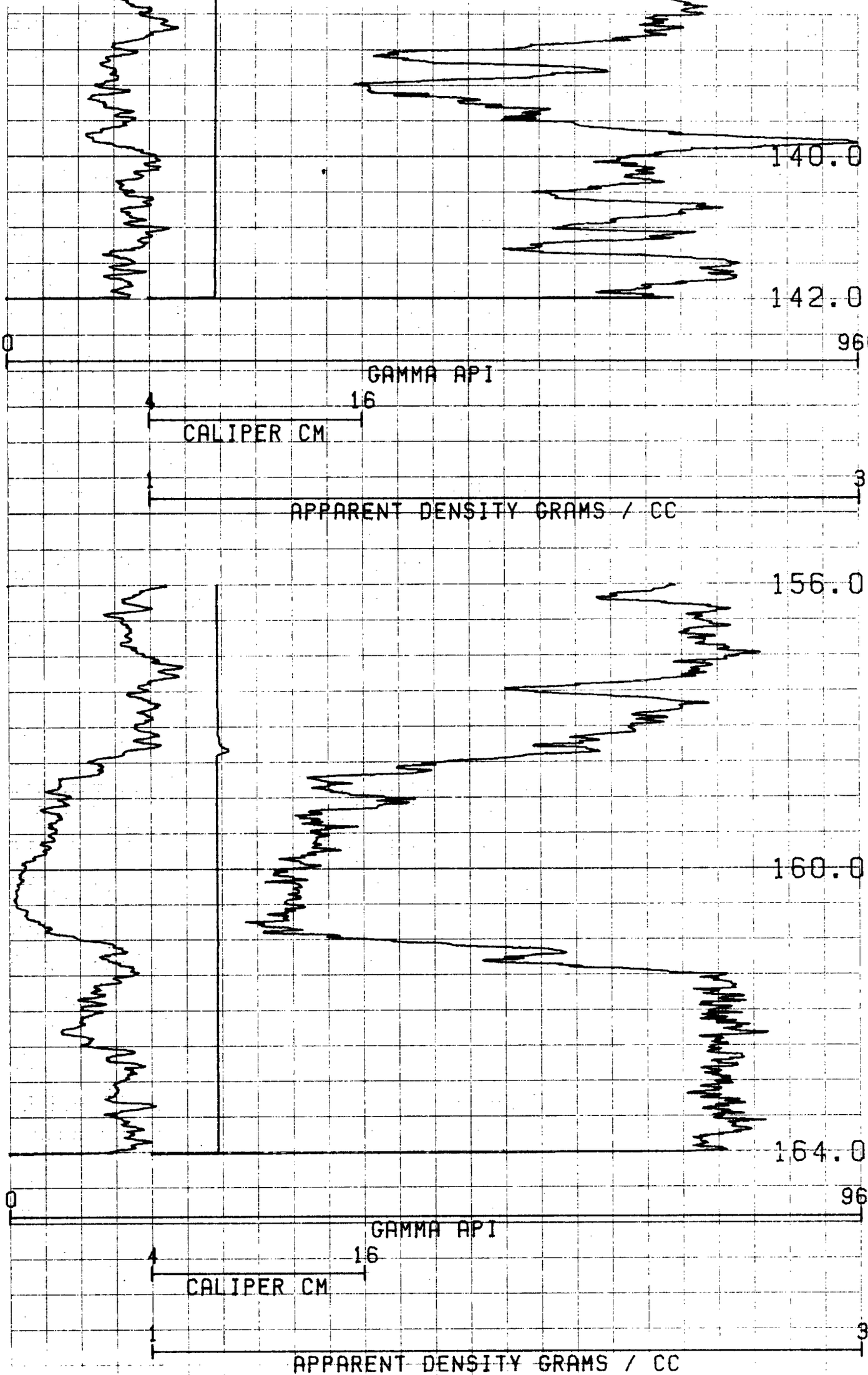
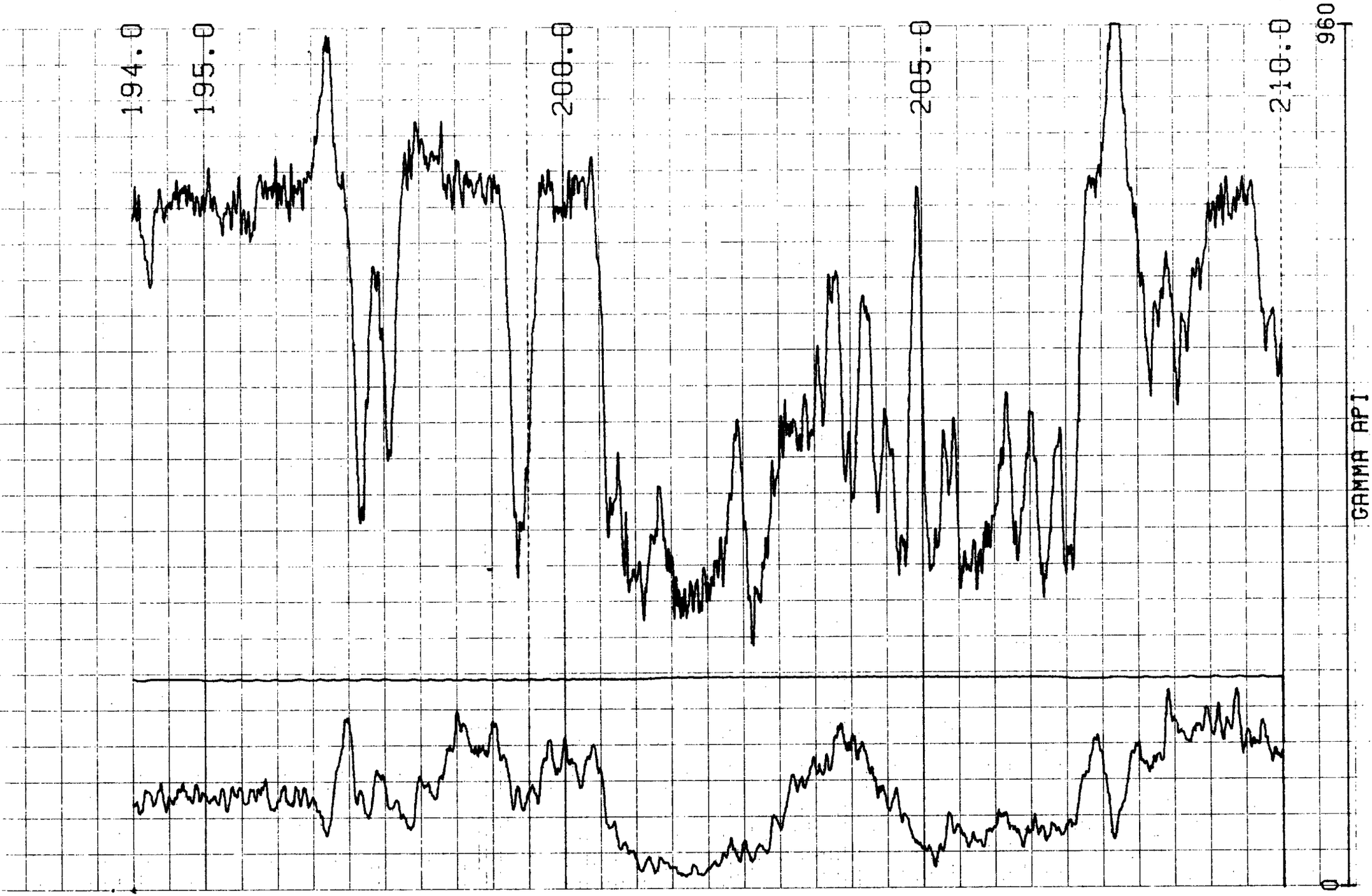
GAMMA API
16
4
CALIPER CM
3
1
APPARENT DENSITY GRAMS / CC
130.0
135.0



CENTURY GEOPHYSICAL CORP. PART NO. 786-0040

CENTURY GEOPHYSICAL CORP. PART NO. 786-0040


194.0
195.0
200.0
205.0
210.0
960
GAMMA API
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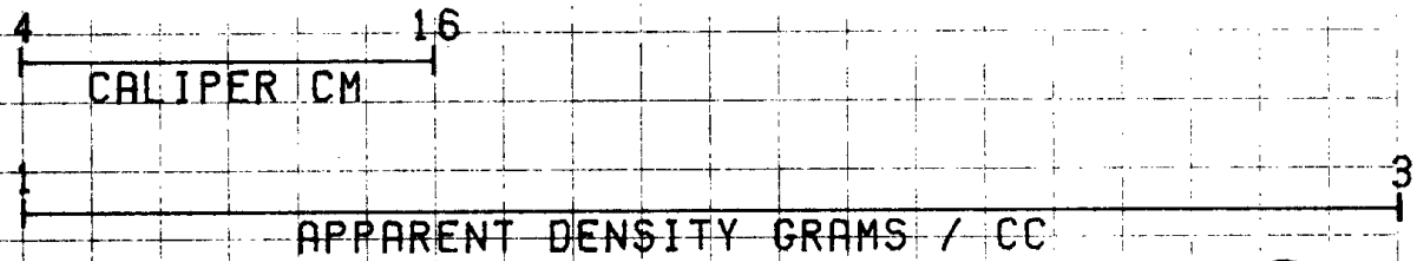


729

COMPU-LOG V8L2 PLOT 08-08-86

DDH-86-2
CROWSNEST RES.
BURNT RIDGE EXT.

HOLE DIAMETER = 07.5
PROBE # 9030A - 444
SENSOR #4 CAL STD CPS = 6588
SENSOR #4 CAL RUN CPS = 6464
SENSOR #4 CAL BIAS = 17
DATA V8L2*A TRUCK # 7713
D. BOMBACK APPL.#1709L1

CENTURY GEOPHYSICAL CORP. PART NO. 786-0C

CENTURY GEOPHYSICAL CORPORATION
Tulsa, Oklahoma

729

COMPANY	CROWSNEST RESOURCES
BOREHOLE	DDH - 86 - 2
AREA	BURNT RIDGE EXT.
ELEVATION	
COUNTY	
STATE	BRITISH COLUMBIA
SECTION	
TOWNSHIP	
RANGE	
BOREHOLE	DDH - 86 - 2
DATE	08-07-86
UNIT/OPERATOR	7713 / D. BOMBACK
FIELD OFFICE	NISKU

HOLE DATA

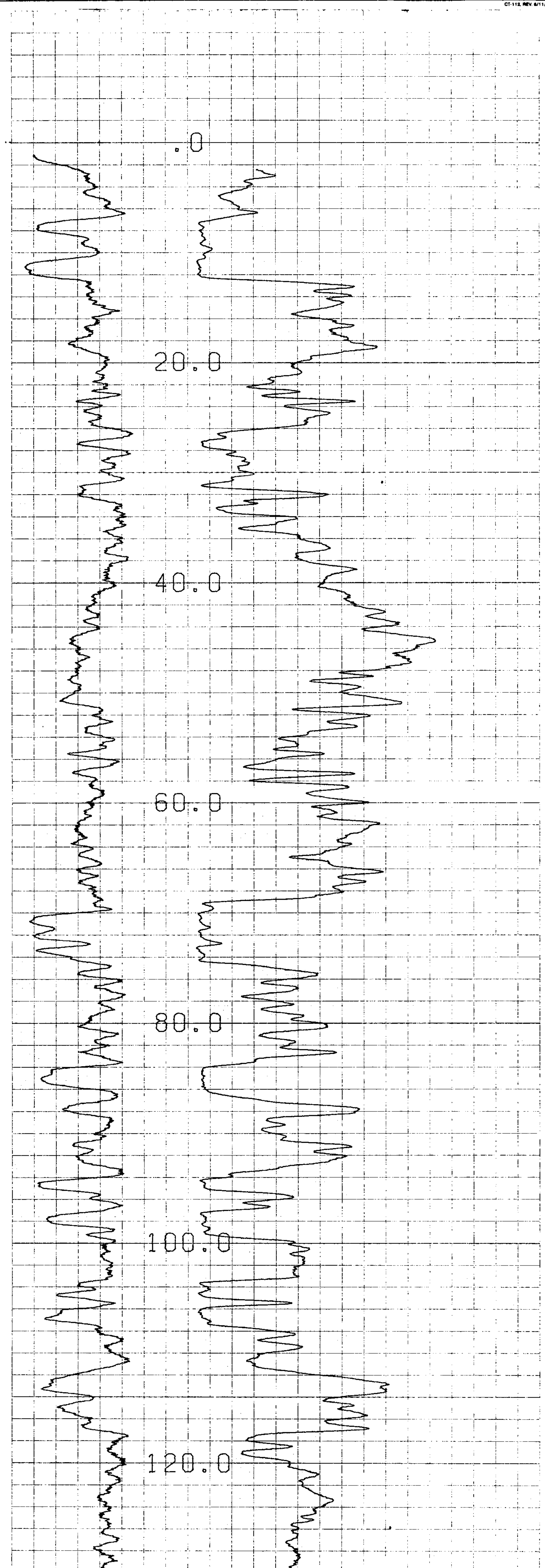
TOTAL DEPTH — DRILLER	228.0 m	BIT SIZE	7.5 cm.
TOTAL DEPTH — LOGGER	223.6 m	CASING — TYPE & SIZE	HW STEEL
TOTAL FOOTAGE LOGGED	223.6 m	CASING DEPTH	6.1 m
LOGGING SPEED	9.0 m/MIN.	BOREHOLE FLUID	H_2O + MUD
REFERENCE LEVEL	TOP OF CASING	FLUID RESISTIVITY	@ °F
PROBE NO.	9055A 245	SOFTWARE LEVEL	8.2 *A
SURVEY BEFORE		SCALE SELECTION	X OPERATOR ☐ CLIENT
SURVEY AFTER		TAPE #2	TRACK #1

REMARKS:
LOGGED THROUGH DRILL STEM.

EQUIPMENT DATA

PROBE MODEL		9030	9050/55			
PROBE DIAMETER		2.0"	1.87"			
NATURAL GAMMA	DETECTOR TYPE	NaI	NaI			
	DETECTOR SIZE	1.125" x 4.5"	.875" x 4.0"			
	STD. K-FACTOR	—	.568 x 10⁻⁴			
	STD. DEADTIME	—	1.18 μ sec			
	CALIB. MODEL LOC.	—				
	CALIB DATE	—				
	K-FACTOR x 10⁻⁴	—				
	DEADTIME μ sec	—				
	TEST READING	—				
	WATER FACTOR	—				
	CASING FACTOR	—				
DENSITY	DETECTOR TYPE	NaI	—			
	DETECTOR SIZE	.5" x 1.5"	—			
	SOURCE TYPE	Cs¹³⁷	—			
	SOURCE NO.		—			
	SOURCE STRENGTH		—			
	SOURCE SPACING		—			
NEUTRON	DETECTOR TYPE	—	He³			
	DETECTOR SIZE	—	1.0" x 6.0"			
	SOURCE TYPE	—	AmBe			
	SOURCE NO.	—	71-1-181			
	SOURCE STRENGTH	—	1 Ci.			
	SOURCE SPACING	—	48 cm.			
	CAL. STD.		152			
	CAL. RUN		126			
SNGL. PT. RESISTANCE		—	1.0 x 2.5			
RESISTIVITY		8" FOCUSED	—			
SELF POTENTIAL		—	YES			
TEMPERATURE		—	YES			
DEVIATION		—	NO / YES			
CALIPER		YES	—			

CT-112 REV. 8/11/85

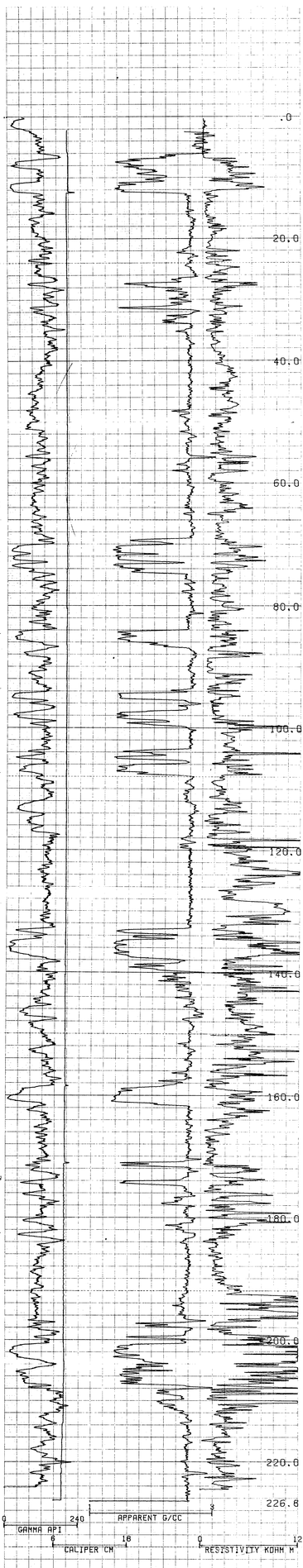


COMPU-LOG V8L2 PLOT 08-07-86

DDH-86-2
CROWSNEST RES.
BURNT RIDGE EXT.

HOLE DIAMETER : 07.5
PROBE # 9055A - 245
SENSOR #4 CAL STD CPS = 152
SENSOR #4 CAL RUN CPS = 126
SENSOR #4 CAL BIAS = 0
DATA V8L2*A TRUCK # 7713
D. BOMBACK APPL.#1007L1

CENTURY GEOPHYSICAL CORP. PART NO. 786-0040



COMPU-LOG V8L2 PLOT 08-08-86

729

DDH-86-2
CROWSNEST RES.
BURNT RIDGE EXT.

HOLE DIAMETER : 07.5
PROBE # 9030A - 444
SENSOR #4 CAL STD CPS = 6508
SENSOR #4 CAL RUN CPS = 6464
SENSOR #4 CAL BIAS = 17
DATA V8L2#A TRUCK # 7713
D. BOMBACK APPL.:#2030L1

DOWN HOLE DEVIATION

BURNT RIDGE EXT DRILL HOLE NO. BRE 81/1 3/12/86

COLLAR COORDINATES

angle grid north clockwise of deviation north= 1.7 degrees

NORTHING	EASTING	ELEVATION
5550486.9	655777.3	1944.3

BURNT RIDGE EXT BRE 81/1 3/12/86

DIRECTIONAL DATA

DEPTH	TILT	AZIMUTH
0	16	258
25	16	258
50	16	256
75	16	256
100	16.1	258
125	16.2	258
150	16.4	259
175	16.8	277
200	17	261
225	18.5	265
250	18.5	263
275	17.8	259
300	17.8	259
320	18	250

729

DOWN HOLE DEVIATION

BURNT RIDGE EXT DRILL HOLE NO. 81/1 1/12/86

COLLAR COORDINATES

angle grid north clockwise of deviation north= 1.7 degrees

NORTHING	EASTING	ELEVATION
5550486.9	655777.3	1944.3

DOWN HOLE CALCULATED COORDINATES

GEOL. LENGTH	NORTHING	EASTING	ELEVATION	TOP/BOTTOM	CODE
0.00	5550486.90	655777.30	1944.30	top	
7.00	5550486.44	655775.43	1937.57	t	5
9.71	5550486.27	655774.70	1934.97	b	
35.30	5550484.60	655767.85	1910.37	t	4
50.00	5550483.52	655763.94	1896.24	b	
179.90	5550476.34	655728.58	1771.52	t	3
181.11	5550476.37	655728.24	1770.36	b	
206.04	5550475.54	655721.07	1746.52	t	2
209.86	5550475.33	655719.97	1742.86	b	
254.16	5550473.46	655706.11	1700.83	t	1
255.30	5550473.41	655705.75	1699.75	b	
261.51	5550473.11	655703.81	1693.86	t	1
268.80	5550472.64	655701.62	1686.92	b	
271.38	5550472.46	655700.85	1684.47	t	1
273.10	5550472.35	655700.33	1682.83	b	
322.80	5550468.41	655685.65	1635.52	TD	

DOWN HOLE DEVIATION

BURNT RIDGE EXT DRILL HOLE NO. BRE 81/2 3/12/86

COLLAR COORDINATES

angle grid north clockwise of deviation north= 1.7 degrees

NORTHING	EASTING	ELEVATION
5549531.1	656012.2	1914.3

BURNT RIDGE EXT BRE 81/2 3/12/86

DIRECTIONAL DATA

DEPTH	TILT	AZIMUTH
0	28	276
25	28	276
50	27.75	277
75	27	275
100	27	275
125	26.75	275
150	26.5	274
175	27.25	277
200	27.5	278
225	27	275
250	26.5	273
275	26.5	276
300	26	273

729

BURNT RIDGE EXT DRILL HOLE NO. BRE 81/2 2/12/86

COLLAR COORDINATES

angle grid north clockwise of deviation north= 1.7 degrees

NORTHING	EASTING	ELEVATION
5549531.1	656012.2	1914.3

DOWN HOLE CALCULATED COORDINATES

GEOL. LENGTH	NORTHING	EASTING	ELEVATION	TOP/BOTTOM	CODE
0.00	5549531.10	656012.20	1914.30	top	
12.23	5549531.53	656006.47	1903.50	t	61
13.51	5549531.58	656005.88	1902.37	b	
71.80	5549533.74	655978.84	1850.78	t	5u
74.60	5549533.81	655977.57	1848.28	b	
82.60	5549534.02	655973.94	1841.16	t	51
84.40	5549534.07	655973.13	1839.55	b	
96.50	5549534.38	655967.64	1828.77	t	4u
100.80	5549534.50	655965.69	1824.94	b	
105.40	5549534.62	655963.61	1820.84	t	41
106.33	5549534.64	655963.19	1820.01	b	
108.62	5549534.70	655962.15	1817.97	t	41
113.50	5549534.83	655959.94	1813.62	b	
215.13	5549538.29	655913.95	1723.07	t	3
217.15	5549538.34	655913.03	1721.27	b	
240.90	5549538.91	655902.29	1700.10	t	2
244.20	5549538.94	655900.82	1697.14	b	
276.40	5549539.59	655886.47	1668.33	t	1
276.88	5549539.61	655886.26	1667.90	b	
284.95	5549539.88	655882.67	1660.68	t	1
290.90	5549540.00	655880.04	1655.34	b	
316.00	5549540.25	655869.04	1632.78	TD	

DOWN HOLE DEVIATION

BURNT RIDGE EXT DRILL HOLE NO. BRE 81/3 3/12/86

COLLAR COORDINATES

angle grid north clockwise of deviation north= 1.7 degrees

NORTHING	EASTING	ELEVATION
5549260.2	656100.5	1934.6

BURNT RIDGE EXT BRE 81/3 3/12/86

DIRECTIONAL DATA

DEPTH	TILT	AZIMUTH
0	29	276
25	29	276
100	28.25	269
125	28.25	268
150	28.25	267
175	28.25	267
200	28.25	267
225	28.25	267
250	28	266
275	28	265
300	28	268
325	28	269
350	27.75	268
375	27.75	269
400	27.5	263

729

DOWN HOLE DEVIATION

BURNT RIDGE EXT DRILL HOLE NO. BRE 81/3 2/12/86

COLLAR COORDINATES

angle grid north clockwise of deviation north= 1.7 degrees

NORTHING	EASTING	ELEVATION
5549260.2	656100.5	1934.6

DOWN HOLE CALCULATED COORDINATES

GEOL. LENGTH	NORTHING	EASTING	ELEVATION	TOP/BOTTOM	CODE
0.00	5549260.20	656100.50	1934.60	top	
20.00	5549260.93	656090.83	1917.11	t	9
21.90	5549261.00	656089.91	1915.45	b	
35.00	5549261.47	656083.58	1903.99	t	8
35.70	5549261.50	656083.24	1903.38	b	
38.40	5549261.60	656081.94	1901.01	t	7
40.60	5549261.68	656080.87	1899.09	b	
52.00	5549262.09	656075.36	1889.12	t	6
55.30	5549262.21	656073.77	1886.23	b	
57.00	5549262.27	656072.94	1884.75	t	6
58.00	5549262.31	656072.46	1883.87	b	
68.50	5549262.34	656067.45	1874.65	t	6
70.10	5549262.30	656066.69	1873.24	b	
121.75	5549261.07	656042.28	1827.74	t	5
122.32	5549261.06	656042.01	1827.24	b	
150.50	5549260.09	656028.70	1802.42	t	5
151.90	5549260.03	656028.04	1801.18	b	
156.07	5549259.87	656026.08	1797.51	t	4
159.26	5549259.75	656024.57	1794.70	b	
164.60	5549259.54	656022.05	1790.00	t	4
169.90	5549259.34	656019.55	1785.33	b	
300.15	5549253.80	655958.40	1670.46	t	2
303.30	5549253.70	655956.93	1667.68	b	
338.95	5549252.83	655940.22	1636.20	t	1
340.80	5549252.77	655939.36	1634.57	b	
345.54	5549252.63	655937.16	1630.37	t	
349.00	5549252.52	655935.55	1627.31	b	
349.63	5549252.51	655935.26	1626.75	t	1
352.50	5549252.42	655933.92	1624.21	b	
376.50	5549251.81	655922.76	1602.97	moose	
413.50	5549249.75	655905.78	1570.17	TD	

DOWN HOLE DEVIATION

BURNT RIDGE EXT DRILL HOLE NO. BRE 81/3 2/12/86

COLLAR COORDINATES

angle grid north clockwise of deviation north= 1.7 degrees

NORTHING	EASTING	ELEVATION
5549260.2	656100.5	1934.6

PROJECTION TO SECTION 5549200N

PROJECTION ALONG AZIMUTH OF 358 (from Grid North) PLUNGE= 0
horizontal projection distance from collar to section = 60.23

SECTION POINT 1
5549200 NORTH, 656000 EAST

SECTION POINT 2
5549200 NORTH, 656500 EAST

GEOL. LENGTH	NORTHING	EASTING	ELEVATION	TOP/BOTTOM	CODE
0	5549200	656102.6	1934.6	top	
20	5549200	656092.95	1917.1	t	9
21.89	5549200	656092.04	1915.44	b	
35	5549200	656085.72	1903.98	t	8
35.7	5549200	656085.38	1903.37	b	
38.4	5549200	656084.08	1901.01	t	7
40.59	5549200	656083.02	1899.09	b	
52	5549200	656077.52	1889.11	t	6
55.29	5549200	656075.93	1886.23	b	
57	5549200	656075.11	1884.74	t	6
58	5549200	656074.63	1883.87	b	
68.5	5549200	656069.62	1874.65	t	6
70.09	5549200	656068.86	1873.24	b	
121.75	5549200	656044.4	1827.74	t	5
122.31	5549200	656044.13	1827.24	b	
150.5	5549200	656030.8	1802.41	t	5
151.89	5549200	656030.14	1801.18	b	
156.07	5549200	656028.16	1797.51	t	4
159.25	5549200	656026.65	1794.7	b	
164.6	5549200	656024.13	1789.99	t	4
169.89	5549200	656021.62	1785.32	b	
300.14	5549200	655960.28	1670.46	t	2
303.29	5549200	655958.8	1667.68	b	
338.95	5549200	655942.06	1636.2	t	1
340.79	5549200	655941.2	1634.56	b	
345.54	5549200	655938.99	1630.37	t	
349	5549200	655937.38	1627.3	b	
349.63	5549200	655937.08	1626.75	t	1
352.5	5549200	655935.75	1624.21	b	
376.5	5549200	655924.57	1602.97	moose	
413.5	5549200	655907.51	1570.17	TD	

DOWN HOLE DEVIATION

BURNT RIDGE EXT DRILL HOLE NO. BRE 85/1 3/12/86

COLLAR COORDINATES

angle grid north clockwise of deviation north= 1.7 degrees

NORTHING	EASTING	ELEVATION
5549920	656238	1847.4

BURNT RIDGE EXT BRE 85/1 3/12/86

DIRECTIONAL DATA

DEPTH	TILT	AZIMUTH
0	31.5	249.6
20	31.5	249.6
40	31.5	249.6
60	31.4	249.6
80	31.3	249.7
100	31.2	249.7
120	31.3	249.8
140	31.4	249.9
160	31.5	250
180	31.4	250.1
200	31.5	250.1
220	31.3	250.2
240	31.1	250.1
260	31	250
280	30.9	250.1
300	30.7	250
320	30.7	250
323.3	30.6	250

729

DOWN HOLE DEVIATION

BURNT RIDGE EXT DRILL HOLE NO. BRE 85/1 2/12/86

COLLAR COORDINATES

angle grid north clockwise of deviation north= 1.7 degrees

NORTHING	EASTING	ELEVATION
5549920	656238	1847.4

DOWN HOLE CALCULATED COORDINATES

GEOL. LENGTH	NORTHING	EASTING	ELEVATION
16.35	5549916.79	656230.08	1833.46
17.20	5549916.62	656229.67	1832.73
76.00	5549905.08	656201.25	1782.57
76.88	5549904.91	656200.83	1781.82
79.34	5549904.43	656199.64	1779.72
81.96	5549903.92	656198.38	1777.48
90.50	5549902.26	656194.27	1770.18
92.80	5549901.82	656193.16	1768.21
108.72	5549898.73	656185.51	1754.60
111.52	5549898.18	656184.17	1752.20
113.20	5549897.86	656183.36	1750.77
113.96	5549897.71	656182.99	1750.12
116.68	5549897.18	656181.68	1747.79
118.10	5549896.91	656181.00	1746.58
132.14	5549894.19	656174.22	1734.58
133.82	5549893.86	656173.41	1733.15
135.90	5549893.46	656172.41	1731.38
138.48	5549892.96	656171.16	1729.17
170.64	5549886.75	656155.57	1701.74
175.29	5549885.85	656153.31	1697.77
182.56	5549884.46	656149.79	1691.57
184.26	5549884.13	656148.97	1690.12
194.30	5549882.21	656144.10	1681.55
196.95	5549881.70	656142.81	1679.29
204.57	5549880.23	656139.11	1672.79
214.18	5549878.39	656134.45	1664.59
217.46	5549877.76	656132.86	1661.79
219.10	5549877.45	656132.07	1660.39
281.84	5549865.53	656101.97	1606.65
284.45	5549865.03	656100.73	1604.41
286.57	5549864.63	656099.72	1602.59
289.82	5549864.02	656098.16	1599.80
299.90	5549862.12	656093.38	1591.13
303.15	5549861.50	656091.84	1588.34
307.98	5549860.59	656089.55	1584.18
313.74	5549859.50	656086.82	1579.23
323.25	5549857.71	656082.31	1571.05

DOWN HOLE DEVIATION

BURNT RIDGE EXT DRILL HOLE NO. BRE 85/1 2/12/86

COLLAR COORDINATES

angle grid north clockwise of deviation north= 1.7 degrees

NORTHING	EASTING	ELEVATION
5549920	656238	1847.4

PROJECTION TO SECTION 5549900N

PROJECTION ALONG AZIMUTH OF 351 (from Grid North) PLUNGE= 0

horizontal projection distance from collar to section = 16.99

SECTION POINT 1 — 5549900 NORTH, 656000 EAST

SECTION POINT 2 — 5549900 NORTH, 656500 EAST

GEOL. LENGTH	NORTHING	EASTING	ELEVATION	TOP/BOTTOM	CODE
16.34	5549900	656232.74	1833.45	t	q
17.2	5549900	656232.3	1832.73	b	
76	5549900	656202.05	1782.57	t	q
76.87	5549900	656201.6	1781.81	b	
79.33	5549900	656200.34	1779.71	t	13
81.95	5549900	656199	1777.47	b	
90.5	5549900	656194.62	1770.18	t	12
92.8	5549900	656193.44	1768.21	b	
108.72	5549900	656185.31	1754.59	t	11
111.51	5549900	656183.87	1752.2	b	
113.19	5549900	656183.01	1750.76	t	11
113.95	5549900	656182.62	1750.11	b	
116.67	5549900	656181.23	1747.79	t	11
118.09	5549900	656180.5	1746.57	b	
132.13	5549900	656173.3	1734.58	t	10u
133.81	5549900	656172.43	1733.15	b	
135.89	5549900	656171.36	1731.37	t	101
138.47	5549900	656170.04	1729.17	b	
170.63	5549900	656153.46	1701.74	t	9
175.28	5549900	656151.07	1697.77	b	
182.55	5549900	656147.32	1691.56	t	8
184.25	5549900	656146.45	1690.11	b	
194.3	5549900	656141.27	1681.55	t	7
196.94	5549900	656139.91	1679.29	b	
204.56	5549900	656135.97	1672.79	t	6u
214.17	5549900	656131.02	1664.59	b	
217.45	5549900	656129.34	1661.78	t	61
219.1	5549900	656128.5	1660.38	b	
281.83	5549900	656096.51	1606.64	t	5u
284.44	5549900	656095.18	1604.4	b	
286.57	5549900	656094.11	1602.58	t	51
289.82	5549900	656092.46	1599.79	b	
299.89	5549900	656087.38	1591.13	t	4u
303.14	5549900	656085.74	1588.33	b	
307.97	5549900	656083.3	1584.18	t	41
313.73	5549900	656080.4	1579.23	b	
323.25	5549900	656075.6	1571.05	TD	

DOWN HOLE DEVIATION

BURNT RIDGE EXT DRILL HOLE NO. BRE 81/1 3/12/86

COLLAR COORDINATES

angle grid north clockwise of deviation north= 1.7 degrees

NORTHING	EASTING	ELEVATION
5549206	656370	1835

BURNT RIDGE EXT BRE 81/1 3/12/86

DIRECTIONAL DATA

DEPTH	TILT	AZIMUTH
0	35.4	272.3
10	35.4	272.3
20	35.3	271.7
30	34.7	267.9
40	34.4	266.2
50	34.4	265.1
60	34.5	264.3
70	34.4	263.7
80	34.3	263.1
90	34.3	262.8
100	34.3	262.4
110	34.4	262.2
120	34.5	261.9
130	34.5	261.8
140	34.4	261.6
150	34.3	261.4
160	34.4	261.2
170	34.5	261.1
180	34.5	261.1
190	34.4	261
200	34.3	260.9
210	34.3	260.8
220	34.3	260.7
230	34.5	260.6
240	34.4	260.6
250	34.3	260.5
260	34.3	260.4
270	34.3	260.4

729

DOWN HOLE DEVIATION

BURNT RIDGE EXT DRILL HOLE NO. BRE 86/1 2/12/86

COLLAR COORDINATES

angle grid north clockwise of deviation north= 1.7 degrees

NORTHING	EASTING	ELEVATION
5549206	656370	1835

DOWN HOLE CALCULATED COORDINATES

GEOL. LENGTH	NORTHING	EASTING	ELEVATION	TOP/BOTTOM	CODE
0.00	5549206.00	656370.00	1835.00	top	
7.10	5549206.04	656365.89	1829.21	t	18
9.50	5549206.06	656364.50	1827.26	b	
23.90	5549206.09	656356.17	1815.51	t	17
26.15	5549206.05	656354.88	1813.67	b	
62.43	5549203.98	656334.44	1783.76	t	16
62.75	5549203.96	656334.26	1783.50	b	
72.80	5549203.18	656328.64	1775.21	t	15
73.70	5549203.11	656328.13	1774.47	b	
76.95	5549202.84	656326.32	1771.78	t	15
79.35	5549202.64	656324.98	1769.80	b	
86.30	5549202.05	656321.11	1764.06	t	14
88.10	5549201.89	656320.11	1762.57	b	
102.87	5549200.58	656311.89	1750.37	t	13
106.30	5549200.26	656309.98	1747.54	b	
113.95	5549199.55	656305.72	1741.23	t	12
116.78	5549199.28	656304.14	1738.89	b	
124.03	5549198.58	656300.09	1732.92	t	11
125.80	5549198.41	656299.10	1731.46	b	
165.06	5549194.48	656277.28	1699.07	t	10
165.66	5549194.41	656276.94	1698.57	b	
186.07	5549192.29	656265.58	1681.75	t	9
190.45	5549191.83	656263.15	1678.14	b	
205.47	5549190.24	656254.83	1665.73	t	7
211.73	5549189.58	656251.36	1660.56	b	
218.43	5549188.86	656247.66	1655.03	t	6u
220.96	5549188.59	656246.26	1652.94	b	
226.00	5549188.04	656243.47	1648.78	t	61
228.15	5549187.81	656242.27	1647.00	b	
228.35	5549187.79	656242.16	1646.84	t	61
229.30	5549187.68	656241.63	1646.06	b	
266.05	5549183.66	656221.29	1615.72	t	5
267.48	5549183.50	656220.50	1614.54	b	
273.40	5549182.85	656217.22	1609.65	TD	

DOWN HOLE DEVIATION

BURNT RIDGE EXT DRILL HOLE NO. BRE 86/1 2/12/86

COLLAR COORDINATES

angle grid north clockwise of deviation north= 1.7 degrees

NORTHING	EASTING	ELEVATION
5549206	656370	1835

DOWN HOLE CALCULATED COORDINATES

PROJECTION TO SECTION 5549200N

PROJECTION ALONG AZIMUTH OF 358 (from Grid North) PLUNGE= 0
horizontal projection distance from collar to section = 6

SECTION POINT 1
5549200 NORTH, 656000 EAST

SECTION POINT 2
5549200 NORTH, 656500 EAST

GEOL. LENGTH	NORTHING	EASTING	ELEVATION	TOP/BOTTOM	CODE
0	5549200	656370.2	1835	top	
7.09	5549200	656366.09	1829.21	t	18
9.5	5549200	656364.7	1827.25	b	
23.89	5549200	656356.38	1815.5	t	17
26.14	5549200	656355.09	1813.66	b	
62.43	5549200	656334.58	1783.76	t	16
62.75	5549200	656334.4	1783.5	b	
72.8	5549200	656328.74	1775.21	t	15
73.69	5549200	656328.24	1774.46	b	
76.94	5549200	656326.41	1771.78	t	15
79.34	5549200	656325.07	1769.8	b	
86.3	5549200	656321.18	1764.06	t	14
88.09	5549200	656320.17	1762.57	b	
102.87	5549200	656311.9	1750.37	t	13
106.3	5549200	656309.98	1747.54	b	
113.94	5549200	656305.7	1741.22	t	12
116.77	5549200	656304.11	1738.89	b	
124.02	5549200	656300.04	1732.91	t	11
125.8	5549200	656299.04	1731.46	b	
165.05	5549200	656277.08	1699.06	t	10
165.66	5549200	656276.74	1698.57	b	
186.07	5549200	656265.31	1681.75	t	9
190.44	5549200	656262.86	1678.13	b	
205.47	5549200	656254.48	1665.73	t	7
211.72	5549200	656250.99	1660.56	b	
218.42	5549200	656247.26	1655.02	t	6u
220.96	5549200	656245.85	1652.93	b	
226	5549200	656243.04	1648.77	t	61
228.14	5549200	656241.84	1647	b	
228.35	5549200	656241.73	1646.83	t	61
229.3	5549200	656241.2	1646.05	b	
266.04	5549200	656220.71	1615.71	t	5
267.48	5549200	656219.91	1614.53	b	
273.39	5549200	656216.62	1609.64	TD	

DOWN HOLE DEVIATION

BURNT RIDGE EXT DRILL HOLE NO. BRE 86/2 3/12/86

COLLAR COORDINATES
angle grid north clockwise of deviation north= 1.7 degrees

NORTHING	EASTING	ELEVATION
5550672.7	656171.9	1777.6

BURNT RIDGE EXT BRE 86/2 3/12/86
DIRECTIONAL DATA

DEPTH	TILT	AZIMUTH
0	35.3	270
10	35.3	270
20	35.3	270
30	35.2	268.8
40	35.1	267.9
50	35.1	267.2
60	35.2	266.7
70	35.3	266.3
80	35.3	265.9
90	35.3	265.4
100	35.3	265.2
110	35.3	265
120	35.4	265
130	35.3	264.8
140	35.3	264.6
150	35.2	264.5
160	35.3	264.3
170	35.3	264.3
180	35.2	264.1
190	35.2	264.1
200	35.1	264
210	35	263.9
220	35.2	263.8
227.3	35.2	263.7

729

DOWN HOLE DEVIATION

BURNT RIDGE EXT DRILL HOLE NO. BRE 86/2 31/10/86

COLLAR COORDINATES
angle grid north clockwise of deviation north= 1.7 degrees

NORTHING	EASTING	ELEVATION
5550672.7	656171.9	1777.6

PROJECTION TO SECTION 5550700N

PROJECTION ALONG AZIMUTH OF 348 PLUNGE OF 0 note ref to grid north
horizontal distance of projection from collar to section = 27.9

SECTION POINT 1
5550700 NORTH, 656000 EAST

SECTION POINT 2
5550700 NORTH, 656500 EAST

GEOL. LENGTH	NORTHING	EASTING	ELEVATION	TOP/BOTTOM	CODE
0	5550700	656166.09	1777.6	top	
6.75	5550700	656162.17	1772.09	t	17
8.6	5550700	656161.09	1770.58	b	
10.55	5550700	656159.95	1768.98	t	17
12.6	5550700	656158.77	1767.31	b	
27	5550700	656150.4	1755.56	t	15
27.6	5550700	656150.05	1755.07	b	
69.94	5550700	656125.34	1720.45	t	13
74.52	5550700	656122.65	1716.71	b	
83.94	5550700	656117.12	1709.02	t	12
86.04	5550700	656115.89	1707.31	b	
94.12	5550700	656111.14	1700.71	t	11
95.3	5550700	656110.45	1699.76	b	
97.14	5550700	656109.36	1698.25	t	11
99.51	5550700	656107.97	1696.31	b	
103.5	5550700	656105.63	1693.06	t	11
105.15	5550700	656104.65	1691.71	b	
105.86	5550700	656104.24	1691.14	t	11
107.61	5550700	656103.2	1689.7	b	
132.8	5550700	656088.38	1669.16	t	10
137.6	5550700	656085.55	1665.24	b	
158.39	5550700	656073.32	1648.26	t	9
161.1	5550700	656071.73	1646.05	b	
204.52	5550700	656046.21	1610.57	t	6
207.19	5550700	656044.65	1608.38	b	
228	5550700	656032.44	1591.37	TD	

DOWN HOLE DEVIATION

BURNT RIDGE EXT DRILL HOLE NO. BRE 86/2 31/10/86

COLLAR COORDINATES

angle grid north clockwise of deviation north= 1.7 degrees

NORTHING	EASTING	ELEVATION
5550672.7	656171.9	1777.6

DOWN HOLE CALCULATED COORDINATES

GEOL. LENGTH	NORTHING	EASTING	ELEVATION	TOP/BOTTOM	CODE
0.00	5550672.70	656171.90	1777.60	top	
6.75	5550672.58	656168.00	1772.09	t	17
8.60	5550672.55	656166.93	1770.58	b	
10.56	5550672.52	656165.80	1768.98	t	17
12.60	5550672.48	656164.62	1767.32	b	
27.00	5550672.21	656156.31	1755.56	t	15
27.60	5550672.20	656155.96	1755.07	b	
69.95	5550670.38	656131.64	1720.45	t	13
74.53	5550670.13	656129.01	1716.71	b	
83.95	5550669.58	656123.59	1709.02	t	12
86.05	5550669.45	656122.39	1707.31	b	
94.13	5550668.94	656117.74	1700.72	t	11
95.30	5550668.86	656117.07	1699.76	b	
97.15	5550668.74	656116.01	1698.25	t	11
99.52	5550668.59	656114.65	1696.32	b	
103.50	5550668.33	656112.37	1693.07	t	11
105.16	5550668.22	656111.41	1691.71	b	
105.86	5550668.17	656111.01	1691.14	t	11
107.62	5550668.05	656110.00	1689.71	b	
132.80	5550666.34	656095.54	1669.17	t	10
137.60	5550666.00	656092.78	1665.25	b	
158.40	5550664.50	656080.87	1648.26	t	9
161.10	5550664.29	656079.33	1646.06	b	
204.53	5550661.00	656054.50	1610.58	t	6
207.20	5550660.79	656052.98	1608.39	b	
228.00	5550659.15	656041.13	1591.38	TD	

BURNT RIDGE EXT file is cthold 2/12/86

hole	sm	from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals	S%	R/yld
101	5	7.0	9.71	R	.85	19.9	00	00	00	00	0	79
102	5U	71.8	74.6	R	.64	40.13	0	0	0	0	0	66.2
102	5	82.6	84.4	R	.55	10.3	0	0	0	0	0	41.7
103	5	121.75	122.32	R	.53	21.34	0	0	0	0	0	43
103	5	150.5	151.9	R	.66	19.98	0	0	0	0	0	82.7
501	5U	281.8	284.7	R	.71	28.91	0	0	4.0		0	85.7
501	5L	286.2	289.6	R	.65	20.89	0	0	6.5	0	0	70
601	5	266.05	267.48	R	.53	42.77	0	0	0	0	0	60
601	5	242.4	242.6	R	.88	22.05	0	0	0	0	0	85

BURNT RIDGE EXT file is c:hold 2/12/86

hole	sm	from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals		S%	R/yld
102	6L	12.23	13.51	R	.71	25.7	0	0	0	0	0		45.3
103	6	52.0	55.3	R	.75	11.98	0	0	0	0	0		95.6
103	6	57.0	58.0	R	.59	20.67	0	0	0	0	0		83.3
103	6	68.5	70.1	R	.59	29.25	0	0	0	0	0		97.1
104	6	53.9	55.2	R	.57	9.3	0	0	0	0	0		00
501	6U	204.8	222.1	R	.78	19.13	0	0	8.0	0	0		77.5
501	6U	212.03	214.45	R	.81	18.04	0	0	6.0	0	0		77.5
501	6L	217.7	219.35	R	.9	37.68	0	0	7.0	0	0		94.4
601	6U	218.43	220.96	R	.66	14.73	0	0	0	0	0		35
601	6L	226	228.15	R	.67	30.52	0	0	0	0	0		28
601	6L	228.35	229.3	R	1.04	66.7	0	0	0	0	0		63

hole	sm	from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals		Sx	R/yld
601	6L	239.25	241.15	R	.71	46.93	0	0	0	0	0		95
[redacted]													
602	6	200.53	207.2	R	.73	30.29	0	0	0	0	0		63
[redacted]													

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hole	sm	from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals		S%	R/yld
501	7	194.8	197.3	R	.96	42.74	0	0	5.5	0	0		91.1
601	7	205.47	211.73	R	.67	37.37	0	0	0	0	0		35

burnt ridge ext file is c:hold 2/12/86

hole	sm	from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals		S%	R/yld
103	8	35.0	35.73	R	1.0	21.1	0	0	0	0	0		44.8
104	8	35.7	36.24	R	.82	4.8	0	0	0	0	0		0
104	8	38.64	39.6	R	.72	6.9	0	0	0	0	0		00
501	8	182.3	184.4	R	1.09	7.16	0	0	8.5	0	0		86.8

burnt ridge ext file is c:hold 2/12/86

hole	sm	from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals		S%	R/yld
103	9	20.0	21.9	R	1.0	6.2	0	0	0	0	0		64.1
104	9	19.32	22.4	R	.8	13.6	0	0	0	0	0		00
501	9	171.05	175.6	R	.9	16.66	0	0	7.5	0	0		92.5
601	9	186.07	190.45	R	.72	6.37	0	0	0	0	0		17
602	9	158.40	161.1	R	.94	32.59	0	0	0	0	0		69

burnt ridge ext file is c:hold 2/12/86

hole	sm	from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals		S%	R/yld
501	10U	132.5	134.1	R	.97	35.38	0	0	6	0	0		70.3
501	10L	136.15	139.0	R	.9	9.35	0	0	7.5	0	0		100
601	10	165.06	165.66	R	.66	79.68	0	0	0	0	0		0
602	10	132.8	137.6	R	.88	40.48	0	0	0	0	0		63

burnt ridge ext file is c:hold 2/12/86

hole	sm	from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals		Sx R/yld
501	11U	109.05	111.80	R	1.0	13.73	0	0	8	0	0	100
501	11U	113.05	114.4	R	.83	32.4	0	0	7	0	0	100
501	11L	117.05	118.3	R	.94	34.39	0	0	5	0	0	81.5
601	11	124.03	125.8	R	.89	21.97	0	0	0	0	0	90
602	11	94.1	95.3	R	.8	12.19	0	0	0	0	0	75
602	11	97.15	99.52	R	.82	46.45	0	0	0	0	0	0
602	11	103.5	105.16	R	1.1	45.45	0	0	0	0	0	84
602	11	105.86	107.62	R	.95	25.56	0	0	0	0	0	62

burnt ridge ext file is c:hold 2/12/86

hole	sm	from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals		S%	R/yld
501	12	90.07	91.02	R	.77	17.65	0	0	8	0	0		95.4
501	12	91.42	93.3	R	.91	23.7	0	0	6	0	0		95.4
601	12	113.95	116.78	R	.73	17.23	0	0	0	0	0		53
602	12	83.95	86.05	R	.96	36.66	0	0	0	0	0		0

burnt ridge ext file is c:hold 2/12/86

hole	sm	from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals		S%	R/yld
501	13	79.7	82.65	R	.91	11.32	0	0	8	0	0		100
601	13	102.87	103.15	R	1.09	10.31	0	0	0	0	0		100
601	13	105.64	106.3	R	.73	13.89	0	0	0	0	0		85
602	13	69.96	74.53	R	.96	25.85	0	0	0	0	0		71

burnt ridge ext file is c:hold 2/12/86

hole	sm	from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals		S%	R/yld
601	14	85.3	85.95	R	.94	30.9	0	0	0	0		0	0
601	14	86.65	88.1	R	.97	53.78	0	0	0	0		0	0

burnt ridge ext file is c:hold 2/12/86

hole	sm	from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals		S%	R/yld
601	15	72.8	73.7	R	1.03	14.42	0	0	0	0		0	100
601	15	76.95	79.35	R	.94	12.96	0	0	0	0		0	71
602	15	27	27.6	R	.72	34.07	0	0	0	0		0	90

BURNT RIDGE EXT file is c:hold 2/12/86

hole	sm	from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals	S%	R/yld
601	16	62.43	62.75	R	1.04	31.55	0	0	0	0	0	0

burnt ridge ext file is c:hold 2/12/86

hole	sm	from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals	S%	R/yld
601	17	23.9	26.15	R	1.71	8.7	0	0	0	0		
602	17	6.75	8.6	R	2.0	42.86	0	0	0	0	0	79
602	17	10.57	12.35	R	1.54	27.12	0	0	0	0	0	78

BURNT RIDGE EXT file is c:hold 2/12/86

hole	sm	from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals	S%	R/yld
601	18	7.1	9.5	R	4.81	6.54	0	0	0	0	0	53

BURNT RIDGE EXT trench data file is cinold 2/12/88

hole	sm	from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals	S%	R/yld
9101	6U	0	4.68	R	3.98	16.41	0	0	0	0	0	100
9101	6L	0	7.87	R	0	0	0	0	0	0		100
9111	6L	0	3.08	R	3.73	16.39	0	0	0	0	0	100
9112	6L	0	1.31	R	4.22	17.18	0	0	0	0	0	100
9112	6L	1.31	2.62	R	4.22	11.45	0	0	0	0	0	100
9118	6L	0	10.77	R	4.26	12.16	0	0	0	0	0	100
9118	6U	0	5.0	R	3.89	14.92	0	0	0	0	0	100
9122	6L	0	3.82	R	2.36	31.24	0	0	0	0	0	100
9123	6L	3.82	8.75	R	2.41	35.00	0	0	0	0	0	100
9124	6U	0	1.65	R	5.74	23.41	0	0	0	0	0	100
9033	6	0	2.62	R	3.00	22.55	26.62	0	0	0	.56	100

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9034	6	0	3.08	R	2.97	25.76	26.43	44.84	0	0	.56	100	
[redacted]													
9035	6	0	10.77	R	3.16	22.4	26.4	48.04	0	0	.45	100	
9035	6	0	[redacted]		0	0	0	0	0	0	0	0	
9036	6	0	5	R	3.53	14.03	29.2	53.18	0	0	.58	100	
9036	6	0	[redacted]		0	0	0	0	0	0	0	0	
9630	6	15.6	18.02	R	2.37	65.21	0	0	0	0	0	100	
9630	6	[redacted]			0	0	0	0	0	0	0	0	
9630	6	13.27	15.6	R	2.41	59.51	0	0	0	0	0	100	
9630	6	[redacted]			0	0	0	0	0	0	0	0	
9630	6	9.88	13.27	R	4.63	29.45	0	0	0	0	0	100	
9630	6	[redacted]			0	0	0	0	0	0	0	0	
9630	6	8.01	9.88	R	2.09	67.81	0	0	0	0	0	100	
9630	6	[redacted]			0	0	0	0	0	0	0	0	
9630	6	5.16	8.01	R	5.38	32.63	0	0	0	0	0	100	
30	6	[redacted]			0	0	0	0	0	0	0	0	
9630	6	0	4.36	R	4.05	39.97	0	0	0	0	0	100	
9630	6	0	[redacted]		0	0	0	0	0	0	0	0	
9636	6	0	.46	R	4.73	47.26	0	0	0	0	0	100	
9636	6	0	[redacted]		0	0	0	0	0	0	0	0	
9636	6	1.85	3.31	R	4.48	53.74	0	0	0	0	0	100	
9636	6	[redacted]			0	0	0	0	0	0	0	0	
9636	6	3.91	6.76	R	7.45	32.47	0	0	0	0	0	100	
9636	6	[redacted]			0	0	0	0	0	0	0	0	
9636	6	7.49	10.28	R	6.55	23.65	0	0	0	0	0	100	
9636	6	[redacted]			0	0	0	0	0	0	0	0	

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BURNT RIDGE EXT trench data file is c:hold 2/12/86

hole	sm	from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals		Sx R/yld
.02	7	0	1.84	R	2.95	31.57	0	0	0	0	0	100
[redacted]												
9102	7	1.84	3.67	R	3.2	10.49	0	0	0	0	0	100
[redacted]												
9108	7	0	1.14	R	3.66	30.38	0	0	0	0	0	100
[redacted]												
9109	7	0	.01	R	5.23	14.13	0	0	0	0	0	100
[redacted]												
9125	7	0	1.73	R	3.58	35.04	0	0	0	0	0	100
[redacted]												
9623	7	0	3	R	7.14	27.98	0	0	0	0	0	100
9623	7	0	[redacted]		0	0	0	0	0	0	0	0
.26	7L	0	1.22	R	5.91	23.03	0	0	0	0	0	100
9626	7L	0	[redacted]		0	0	0	0	0	0	0	0
9626	7U	0	.6	R	5.44	12.78	0	0	0	0	0	100
9626	7U	0	[redacted]		0	0	0	0	0	0	0	0

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BURNT RIDGE EXT file is c:hold 3/12/86

hole	sm		from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals		S%	R/yld
9107	8	0		2.12	R	3.23	16.53	0	0	0	0	0		100
[redacted]														
9126	8	0		.78	R	3.99	14.87	0	0	0	0	0		100
[redacted]														
9601	8	0		1.45	R	9.47	18.18	0	0	0	0	0		100
9601	8	0	[redacted]		0	0	0	0	0	0	0	0		0
9622	8	0		1.83	R	7.82	28.71	0	0	0	0	0		100
9622	8	0	[redacted]		0	0	0	0	0	0	0	0		0

BURNT RIDGE EXT file is c:hold 3/12/86

hole	sm		from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals		S%	R/yld
9104	9	0		4.9	R	1.43	10.45	0	0	0	0	0		100
[redacted]														
9106	9	0		4.74	R	3.05	12.8	0	0	0	0	0		100
[redacted]														
9127	9	0		4.51	R	4.11	18.88	0	0	0	0	0		100
[redacted]														
9602	9	0		3.21	R	8.64	19.67	0	0	0	0	0		100
9602	9	0	[redacted]		0	0	0	0	0	0	0	0		0
9621	9	0		3.19	R	6.63	20.87	0	0	0	0	0		100
9621	9	0	[redacted]		0	0	0	0	0	0	0	0		0
9628	9	0		4.54	R	4.85	18.51	0	0	0	0	0		100
9628	9	0	[redacted]		0	0	0	0	0	0	0	0		0

BURNT RIDGE EXT file is c:hold 3/12/86

hole	sm		from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals		S%	R/yld
9105	10	0		1.65	R	2.45	22.37	0	0	0	0	0		100
[redacted]														
9110	10	0		.01	R	3.94	21.58	0	0	0	0	0		100
[redacted]														
9120	10L	0		2.10	R	2.84	14.38	0	0	0	0	0		100
[redacted]														
9120	10U	0		1.73	R	0	0	0	0	0	0	0		100
9120	10U	0	[redacted]			0	0	0	0	0	0	0		0
9619	10U	0		1.84	R	6.84	34.95	0	0	0	0	0		100
9619	10U	0	[redacted]			0	0	0	0	0	0	0		0
9619	10L	0		4.36	R	6.75	22.32	0	0	0	0	0		100
9619	10L	0	[redacted]			0	0	0	0	0	0	0		0
9629	10	0		1.22	R	6.9	21.03	0	0	0	0	0		100
9629	10	0	[redacted]			0	0	0	0	0	0	0		0

BURNT RIDGE EXT file is c:hold 3/12/86

hole	sm		from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals		S%	R/yld
9128	11	0		5.48	R	2.43	37.27	0	0	0	0	0		100
[redacted]														
9603	11L	0		2.6	R	7.81	22.61	0	0	0	0	0		100
9603	11L	0	[redacted]			0	0	0	0	0	0	0		0
9604	11U	0		1.17	R	5.37	34.38	0	0	0	0	0		100
9603	11U	0	[redacted]			0	0	0	0	0	0	0		0
9617	11U	0		2.51	R	6.66	28.39	0	0	0	0	0		100
9617	11U	0	[redacted]			0	0	0	0	0	0	0		0
9617	11L	0		1.4	R	3.3	28.93	0	0	0	0	0		100
9617	11L	0	[redacted]			0	0	0	0	0	0	0		0

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BURNT RIDGE EXT file is c:hold 3/12/86

hole	sm		from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals		S%	R/yld
9129	12	0		2.21	R	3.41	20.79	0	0	0	0	0		100
[redacted]														
9605	12L	0		1.01	R	11.54	21.73	0	0	0	0	0		100
9605	12L	0	[redacted]			0	0	0	0	0	0	0		0
9605	12U	0		1.7	R	11.55	14.08	0	0	0	0	0		100
9605	12U	0	[redacted]			0	0	0	0	0	0	0		0
9616	12	0		1.8	R	3.6	25.44	0	0	0	0	0		100
9616	12	0	[redacted]			0	0	0	0	0	0	0		0

BURNT RIDGE EXT file is c:hold 3/12/86

hole	sm		from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals		S%	R/yld
9130	13	0		4.96	R	3.84	14.15	0	0	0	0	0		100
[redacted]														
9607	13	0		2.64	R	4.19	17.58	0	0	0	0	0		100
9607	13	0	[redacted]			0	0	0	0	0	0	0		0
9614	13U	0		.65	R	6.05	22.08	0	0	0	0	0		100
9614	13U	0	[redacted]			0	0	0	0	0	0	0		0
9614	13L	0		1.5	R	4.32	40.44	0	0	0	0	0		100
9614	13L	0	[redacted]			0	0	0	0	0	0	0		0

MASTER FILE SORT PROGRAM 3/12/86

BURNT RIDGE EXT file is c:hold 3/12/86

hole	sm		from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals		Sx	R/yld
9608	14	0		.43	R	2.56	30.23	0	0	0	0	0		100
9608	14	0		[redacted]		0	0	0	0	0	0	0		0
9608	14U	0		1.83	R	4.16	26.63	0	0	0	0	0		100
9608	14U	0		[redacted]		0	0	0	0	0	0	0		0

BURNT RIDGE EXT file is c:hold 3/12/86

hole	sm		from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals		Sx	R/yld
9610	16	0		.93	R	4.21	21.26	0	0	0	0	0		100
9610	16	0		[redacted]		0	0	0	0	0	0	0		0

BURNT RIDGE EXT file is c:hold 3/12/86

hole	sm	from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals		S%	R/yld
9640	17	3.25	5.34	R	3.73	16	0	0	0	0	0		100
9640	17	[redacted]			0	0	0	0	0	0	0		0
9640	17	1.38	3.25	R	2.48	39.12	0	0	0	0	0		100
9640	17	[redacted]			0	0	0	0	0	0	0		0
9640	17	0	1.38	R	3.89	33.64	0	0	0	0	0		100
9640	17	[redacted]			0	0	0	0	0	0	0		0

BURNT RIDGE EXT file is c:hold 3/12/86

hole	sm	from	to	Rw/Wsh	moist	ash	vols	FC	FSI	cals		S%	R/yld
9611	18	0	2.94	R	3.84	42.45	0	0	0	0	0		100
9611	18	[redacted]			0	0	0	0	0	0	0		0

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ENCLOSURE 17

Category of Work	Dimensions (where applicable)	Unit Cost (where applicable)	Cost
Geological Mapping			
Reconnaissance			
Detail -			
Surface			31,582.30
Underground			
Other (specify)*			
Geophysical/Geochemical Surveys			
Method			
Grid			
Topographic			
Other (specify)*			
Road Construction			
On licences Nos. 273	1730 M	20.68$/M	35,770.02
Access to			
Surface Work			
Trenching			
Seam tracing			
Crosscutting			
Other (specify)*	Trenching & Reclamation		4,495.00
Underground Work			
Test adits			
Other workings*			
Drilling			
Core -			
Diamond	N Q (501.4M)	91.87$/M	46,063.65
Wireline			
Rotary -			
Conventional			
Reverse circulation			
Other (specify)*			
Contractor	Coates Burnaby		
Where core stored	Line Creek		
Logging		7.72$/M	3,872.88
Sampling			
Testing			4,509.01
Other work: (specify details)*	Truck & expenses		11,857.04
Reclamation work (Permit No.)	C54		

ON-PROPERTY COSTS $ 138,149.90

OFF-PROPERTY COSTS $ 15,791.20

TOTAL EXPENDITURES $ 153,941.10

6/1/87
(Date)

(Signature and position)
Manager Geology

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