INVESTIGATOR COAL EXPLORATION PROPRIETARY LIMITED

Ref. No. 1032

Exploration Licence 16/77 Royal George Report For Six Months 23rd June, 1978 to 23rd December, 1978

Submitted by: J.W. Sangster

Date : March, 1979

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LIST OF FIGURES AND TABLES

Acknowledgement: The majority of this report has been prepared from a preliminary drilling report by R. Holland of Robertson Research who acted as site geologist during the drilling.

1. SUMMARY

Exploration licence 16/77 was granted an extention on the 23rd June, 1978 for a period of six months. During this period four exploratory diamond drill holes were drilled in three of the four potential coal areas recommended in the previous report. (Investigator Coal Exploration Report No. 985). Drilling proved impossible in area 2 due to access being denied by the landowner.

Mr. McShane, "Lochaber" property owner. JJC 4/6/79

who?

A total of 699 m were drilled in the 4 holes intersecting 29 coal seams which ranged in thickness from 0.3 m to 2.2 m. The seams are banded, lenticular and in several cases have been affected by igneous intrusions.

Analysis of the coal indicates possible potential as steam raising for power generation if sufficient reserves were available, but the nature of the intersections indicates that there are unlikely to be substantial areas with good to moderate mining conditions.

2. INTRODUCTION

Investigator coal Exploration Pty. Ltd. (I.C.E.) took up exploration licence No. E.L. 16/77 in eastern Tasmania for 6 months from December 1977. Following a six month field survey of the area by D.D. Waters, the drilling of four fully cored diamond bores was recommended (I.C.E. Report No. 985). The E.L. was then extended for a further 6 months, and the drilling programme undertaken during October-November 1978.

The four diamond holes numbered 78RG - 1 to 78RG -4 were drilled in Areas 1, 3 and 4 (ref. Plate 2 of I.C.E. Report 985). Area 2 was not followed up as access was denied by the landowner. Consequently two holes were drilled in Area 1 and one each in areas 3 and 4. A total of 699 m were drilled with 29 coal seams intersected, ranging in thickness from 0.3 m to 2.2 m. Twenty seams thicker than 0.5 m were sampled.

All drilling was carried out by Associated Diamond Drillers with core recovery averaging 91% over the entire holes and 98.5% in the coal seams. Core loss was generally at the top of the hole in dolerite scree, or in the case of Bore 78RG - 3 in a shear zone.

Table 1 presents summary details of the four holes drilled. Co-ordinates and reduced levels presented are approximate only as the bores were not surveyed. Depth of weathering was not tabulated being difficult to determine in the dolerite scree to which it was confined; it was generally less than 20 m.

Any coal intersected with a thickness of 0.3 m or greater was termed a coal seam for correlation purposes while only those seams greater than 0.5 m were sampled. In Sections 3-6, each hole is discussed separately whilst an overall discussion and conclusions are presented in section 7 and 8.

TABLE 1 : DIAMOND DRILL HOLE DETAILS

HOLE NO.	DRILLING DATES	CO-ORDINATES	RL (approx.)	TOTAL DEPTH	DOLERITE THICKNESS (Total)	NO. COAL SEAMS INTERSECTED	NO. COAL SEAMS SAMPLED	CORE RECOVER
78RG - 1	26.10.78 to 31.10.78	63,780 N 73,050 E	590 m.	199.5 m.	17.4 m.	9	3	91.5%
78RG - 2	3.11.78 to 9.11.78	65,880 N 78,700 E	510 m.	202.5 m.	12.5 m.	10	10	93.7%
78RG - 3	12.11.78 to 17.11.78	75,520 N 75,820 E	640 m.	184.5 m.	43.5 m.	4	4	90.1%
78RG - 4	20.11.78 to 21.11.78	75,460 N 79,800 E	580 m.	112.5 m.	23.7 m.	6	3	88 %

Within Sections 3-6, Tables 2-5 tabulate coal seam details. Roof and floor descriptions generally extend into next competent sediment, or describe overburden where the seam is close to the surface.

Each hole has its own set of seam numbers, given in descending order. The numbers do not represent any seam correlation between holes. The results of chemical analysis undertaken on the sampled unwashed coal seames is tabulated in Table 6. Analysis was performed by ACIRL in Sydney New South Wales. Appendix I presents the diamond drill logging sheets for Bores 78RG - 1, 78RG - 2, 78RG - 3 and 78RG - 4.

3. BORE 78RG - 1

3.1 LOCATION

The hole is located on dolerite scree in Area 4, which is south of Royal George and close to the western margin of the Exploration Licence.

3.2 COAL SEAM DETAILS

These are summarised in Table 2.

3.3 STRUCTURE AND SEDIMENTS

Coal seams show no dips greater than 3^{o} while sediment bedding appears predominantly horizontal. Sandstone is the most common sediment within the coal measures - it is massive, lithic in the top 150 m and massive quartzose in the basal 50 m. Mudstones are associated with coal seams and show signs of breaking up quickly on dehydration. Two small dolerite intrusions occur, one at 126 m with associated indurated coal and mudstone, the second at 139 m with little alteration of the surrounding sediments and no evidence of coal. In both cases the dolerite was off-white, coarsely crystalline and altered in composition, probably by absorption of coal and sediments.

3.4 CORRELATION TO OUTCROPS

All outcrop numbers refer to I.C.E. Report no. 985.

Seam 1 in Bore 78RG - 1 appears to be a thickened version of outcrop 22 ('Old Adit' 500 m east of drill site) with associated thicker mudstone roof and floor passing into laminites above and below.

TABLE 2 : COAL SEAM DETAILS - BORE 78RG - 1

SEAM NO.	COAL SEAM DEPTHS AND THICKNESS	COAL SEAM DESCRIPTION	ROOF DESCRIPTION	FLOOR DESCRIPTION
1 Sampled	22.515 - 23.3 m (.785 m)	No bands, predominantly dull	1 m mudstone, then sandstone, siltstone, mudstone till dolerite @ 17.3 m	2 m mudstone, then 1.- m sandstone/siltstone then 2.5 m mudstone till seam 2
2 Sampled	29.185 - 31.2 m (2.015 m)	3 mudstone bands largest being 0.05 m, dull top slightly brighter to base	2.5 m of mudstone then 1.4 m sandstone/siltstone	0.3 m siltstone then 1.62 m sandstone
3 Not Sampled	43.86 - 44.295 m (.435 m)	Dull, no bands	5 m sandstone/siltstone	1.3 m mudstone then sandstone
4 Not Sampled	69.14 - 69.475 m (.335 m)	Medium dull with shaley coal base	1.3 m sandstone/siltstone	sandstone
5 Not Sampled	74.27 - 74.765 m (.495 m)	2 mudstone bands dull to shaley coal	.8 m sandstone/siltstone then 1.4 m mudstone	.5 m mudstone then 2. m sandstone/siltstone
6 Not Sampled	88.015 - 88.535 m (.52 m)	Large mudstone band over top, only 0.2 m of coal - medium dull	3 m sandstone	1.3 m sandstone/siltstone
7 Not Sampled	94.83 - 95.18 m (.35 m)	3 siltstone bands dull - shaley coal	Mudstone then sandstone	.6 m siltstone/sandstone till seam 8
8 Sampled	95.78 - 96.485 m (.705 m)	1 mudstone band (.025m) Dull to shaley coal top brighter to base	0.6 m sandstone/siltstone till seam 7	2.03 m mudstone then sandstone/siltstone
9 Not Sampled	155.42 - 155.915 m (.495 m)	6 mudstone bands - Dull to shaley coal	6 m sandstone	0.8 m mudstone then 5 m sandstone

Outcrop 21 in the east branch of Stable Creek (approximately 1.5 km north-east of drill site) is probably seam 9 (at 155 m in Bore 78RG - 1) which is dull and lensoid with a white quartz sandstone roof. Outcrops 23 and 24 do not seem to be have been intersected.

4. BORE 78RG - 2

4.1 LOCATION

The hole was sited on dolerite scree close to the sediment boundary in Area 3 which is south-east of Royal George on the northern slopes of Lewis Hill.

4.2 COAL SEAM DETAILS

See Table 3.

4.3 STRUCTURE AND SEDIMENTS

not possible

Six of the seams drilled in this hole are intruded by dolerite which has been altered in composition to dickite, quartz, montmorillonite and calcite. The alteration is probably due to contact with coal and sediments.

mudstone bands.

Sandstone makes up the great part of the sediments intersected. The sandstone is massive, lithic and in some places appears to have partially washed out coal seams. The massive quartz sandstone was not intersected in this bore.

4.4 CORRELATION TO OUTCROPS

The igneous intrusion in this hole makes correlation to outcrops difficult. Consequently the correlation is only very tentative.

(a) Seams 2 and 3 may correlate to outcrop 20 (Old Prospect Tunnel - Lewis Hill, approximately 1.5 km west of drill site).

(b) Seam 8 may correlate to outcrop 19 (300 m north of outcrop 20).

(c) Seam 10 may correlate to outcrop 18 (300 m north-east of outcrop 19).

TABLE 3 : COAL SEAM DETAILS - BORE 78RG - 2

SEAM NO.	COAL SEAM DEPTHS AND THICKNESS	COAL SEAM DESCRIPTION	ROOF DESCRIPTION	FLOOR DESCRIPTION
1 Sampled	12.58 - 13.69 m (1.11 m)	Seam slightly oxidised, relatively bright with shaley coal base	0.5 m dolerite then 12 m of soil and clay	Laminite for 3 m.
2 Sampled	57.99 - 59.165 m (1.175 m)	3 small mudstone bands over top then very banded for basal 0.35 m, coal is medium dull	5.5 m of mudstone	0.5 m interbedded mudstone and shaley coal then seam 3
3 Sampled	59.7 - 61.745 m (2.045 m)	Seam is intruded & indurated by dolerite, a mudstone band over middle (0.15 m thick) with siltstone and dolerite over base, coal is quite bright but very hard - 66% coal, 18% dolerite, 15% mudstone	0.5 m interbedded mudstone and shaley coal then seam 2	Interbedded mudstone and sandstone for 8 m till seam 4
4 Sampled	70.125 - 71.255 m (1.13 m)	Seam is intruded greatly, 49% coal, 39% dolerite, 12% mudstone with 3 mudstone bands - coal is hard and medium bright	8 m of interbedded mudstone and sandstone	0.6 m dolerite and mudstone to seam 5
5 Sampled	71.86 - 73.58 m (1.72 m)	Intruded 54% coal, 21% dolerite, 25% mudstone. 6 mudstone bands, dolerite is altered, coal is medium bright and very hard	0.6 m dolerite and mudstone to seam 4 (mudstone indurated)	0.6 m mudstone and dolerite to seam 6 (mudstone indurated)
6 Sampled	74.185 - 76.00 (1.875 m)	Intruded 61% coal, 33% dolerite, 6% mudstone. 6 mudstone bands, dolerite is altered, coal is medium bright and very hard	0.6 m mudstone and dolerite to seam 5 (mudstone is indurated)	0.6 m mudstone then 4 m of interbedded mudstone and sandstone

TABLE 3 : COAL SEAM DETAILS - BORE 78RG - 2 (Continued)

SEAM NO.	COAL SEAM DEPTHS AND THICKNESS	COAL SEAM DESCRIPTION	ROOF DESCRIPTION	FLOOR DESCRIPTION
7 Sampled	100.62 - 101.95 m (1.33 m)	Frequent talc (probably calcite altered dolerite) bands: 74% coal, 16% talc, 10% mudstone. Medium to dull coal, quite hard. 5 mudstone bands with carbonaceous mudstone base.	3.7 m sandstone	4.5 m mudstone
8 Sampled	122.96 - 124.51 m (1.55 m)	Top 1 m is medium bright, with 3 small mudstone bands, basal 0.5 m is very banded	5 m sandstone	1 m mudstone, which broke up on dehydration then 12 m sandstone
9 Sampled	137.89 - 138.97 m (1.08 m)	6 mudstone bands, medium dull	12 m sandstone	2.3 m mudstone then sandstone/siltstone for 2 m
10 Sampled	160.13 - 161.4 m (1.27 m)	5 mudstone bands - dull - shaley coal	1.4 m claystone then 3 m sandstone	0.7 m siltstone, 12 m sandstone

5. BORE 78RG - 3

5.1 LOCATION

The bore is situated in Area 1 about 3.5 km west of the old Merrywood Mine, on dolerite scree close to the dolerite boundary.

5.2 COAL SEAM DETAILS

See Table 4.

5.3 STRUCTURE AND SEDIMENTS

A major shear zone occurs from 37.5 m to 61.5 m, the strata being weathered and very broken making drilling difficult and core recovery low. Dips within the shear zone are 50° - 70°. Dolerite intrusions occur within the shear zone, at 120 m ?? and at 183 m. There is chloritic enrichment of the surrounding sediments associated with the intrusions.

Only the lithic-type sandstone was encountered in this hole.

5.4 CORRELATION TO OUTCROPS

The drill site location is west of the easterly dipping outcrops of this area and consequently if any seam equivalence occurs it would necessitate the existence of faulting or folding. Faulting within the drill hole further reduces the possibility at this time of establishing the relationship between the outcrops and the coal seams intersected.

TABLE 4 : COAL SEAM DETAILS - BORE 78RG - 3

SEAM NO.	COAL SEAM DEPTHS & THICKNESS	COAL SEAM DESCRIPTION	ROOF DESCRIPTION	FLOOR DESCRIPTION
1 Sampled	66.78 - 67.86 m (1.015 m)	1 mudstone band and 1 sandstone band. Base is dull and coaly shale, top also dull	1 m sandstone, then 0.6 m mudstone then 2.8 m sandstone	1.9 m mudstone, 11.8 m sandstone
2 Sampled	102.93 - 103.535 m (.605 m)	1 mudstone band, very dull	2.4 m mudstone then 3 m sandstone	0.5 m mudstone then 5 m sandstone/mudstone
3 Sampled	112.62 - 113.86 m (1.24 m)	1 band, dull coal	0.3 m mudstone then 2.8 m sandstone	2.4 m mudstone/ sandstone
4 Sampled	118.04 - 118.61 m (0.57 m)	No bands, top is coaly shale, medium dull	1.6 m sandstone/mudstone	0.9 m sandstone then 0.6 m dolerite and sandstone

6. BORE 78RG - 4

6.1 LOCATION

This hole is situated in Area 1 just north of the old Merrywood mine on dolerite scree close to the boundary of the sediments.

6.2 COAL SEAM DETAILS

See Table 5.

6.3 STRUCTURE AND SEDIMENTS

There is microfaulting at 94 m and 107 m with high fractures in the lower part of the hole.

Sandstone predominates and is lithic. Mudstones are associated with coal seams and break up on dehydration 5 - 10 hours after drilling.

6.4 CORRELATION TO OUTCROPS

In this bore Seams 2 and 3 correlate with the Merrywood seam mined nearby.

TABLE 5 : COAL SEAM DETAILS - BORE 78RG - 4

SEAM NO.	COAL SEAM DEPTHS AND THICKNESS	COAL SEAM DESCRIPTION	ROOF DESCRIPTION	FLOOR DESCRIPTION
1 Not Sampled	23.8 - 24.15 m (0.35 m)	Weathered, dull, seam was probably larger but dolerite had removed it	Dolerite to surface	6 m mudstone with coaly stringers, breaks up on dehydration
2 Sampled	34.98 - 35.9 m (0.92 m)	3 small mudstone bands, medium bright, mudstone base	4.8 m sandstone and siltstone	1 m mudstone which breaks up 10 hrs. after drilling then seam 3
3 Sampled Merrywood	36.91 - 39.145 m (2.235 m)	5 minor mudstone bands, uniform brightness (medium dull)	1 m mudstone then seam 2	0.7 m mudstone which breaks up 10 hrs. after drilling, then 8 m sandstone
4 Not Sampled	94.48 - 94.925 m (.445 m)	2 mudstone bands, dull to shaley coal	2.8 m mudstone, which is broken and slicken sided	2.4 m sandstone and mudstone
5 Not Sampled	100.08 - 100.545 m (.465 m)	2 mudstone bands, medium bright	2.6 m sandstone/ siltstone	2.5 m sandstone/ siltstone
6 Sampled	107.39 - 108.16 m (0.77 m)	Top is coaly shale, one band in middle, rest is uniform medium dull	4.2 m mudstone/sandstone	1.55 m mudstone/sandsto then 1.6 m sandstone/ siltstone

7. DISCUSSION

As can be seen from Detail Tables Nos. 2, 3, 4, 5, there is large variation in the nature of the roof of the seams, over a fairly small part of the coal field. This is particularly confirmed at the old Merrywood open cut, where the seams thin, split and rejoin over a very short distance; there is also frequent small scale faulting with throws of 3 - 6 m. It should be noted that the Merrywood seam as mined had a thick mudstone roof and floor yet in Bore 78RG -4 less than 1 km away it has an immediate sandstone roof and a thinned mudstone floor. Such rapid variations in roof and floor could prove problematic if mechanised mining were practised.

↳ e.g Duncan Mine in vicinity of DOM BH 6 RLC 3/10/79

The drilling results indicate that the coal measures of interest are in a lithic sandstone sequence comprising the upper 200 m of the Triassic U. Parmeneer group (I.C.E. Report No. 985). Lithic sandstone is generally deposited in a relatively unstable, high energy environment, which corresponds to the marked lateral variation in the sediments, which in turn results in the coal seams themselves being lenticular. This latter feature is also a characteristic of the Triassic (but thicker) coals in the Ipswich coalfield.

Tentative correlation of sequence is possible over the area, based on the fact that all the four holes drilled intersected the upper lithic sandstone whilst only Bore 78RG - 1 intersected the lower quartz sandstone. Figure 1 presents this correlation.

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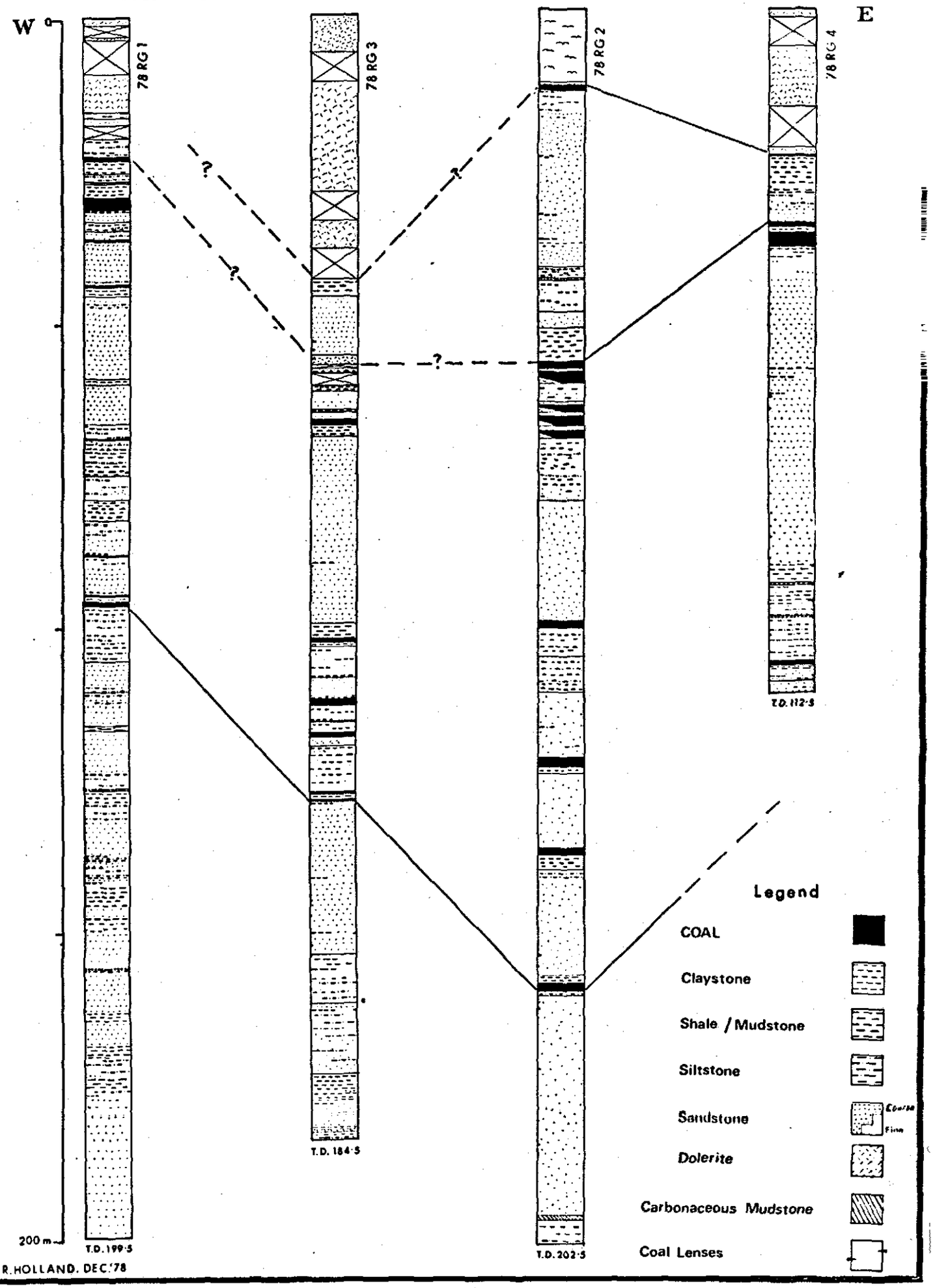
FIG. 1 TENTATIVE CORRELATION FOR BORES 78 RG 1 TO 78 RG 4



Sequences in Bores 78RG - 1 and 78RG - 4 correlate reasonably, with a one metre seam and a two metre at the top, underlain by 60 - 70 m of sandstone and minor fine sediments containing six thin seams. Hole 78RG - 3 is faulted so correlation is more difficult, yet within the shear zone, although 2 m of core was lost, chips of coal and mudstone from this horizon were associated with sulphur dioxide suggesting the existence of a seam. The remainder of the hole correlates reasonably. As this hole was sited west of the easterly dipping seam outcrops, only the basal sequence of quartz sandstone was expected to be intersected, however the upper lithic sequence was recovered suggesting structural control between the drill site and the Merrywood Mine. Consequently the Merrywood Seam could extend over a larger area than was previously thought, but it would be advisable to try and delineate the fault position through photo interpretation and field work, i.e. east or west of the drill hole, before investigating this possibility by further drilling.

In Bore 78RG - 2 a thickened lithic sandstone sequence was drilled, related possibly to greater basinal subsidence than in the surrounding areas. Outcrop correlation places the upper thickened intruded seams equivalent to that mined in the 'Old Tunnel-Lewis Hill' which further correlates to the Merrywood seam mined on the other side of the valley.

Igneous intrusions over the E.L. are one of the main geological constraints to further investigation. Three out of four holes were intruded, hole 78RG - 4 just north of the old Merrywood Mine being the

only hole not so affected. There seems to be greater igneous intrusion on the southern side of the Royal George Valley than on the northern side. Also proximity to White Rock Bluff (S.W. of Bore 78RG - 3) appears to be related to larger scale igneous intrusions, suggesting that it could be a dolerite plug. This corresponds with the hypothesis of this being an area of greater subsidence near some structural weakness which was later intruded by dolerite.

Examination of the coal analysis results indicates that the coal shows some potential for on site steam generation. The effect of dolerite intrusion on the coal seams is highlighted in sample 78RG - 2:1 with a fixed carbon/volatile ratio of 7.

TABLE 6 : COAL SEAM ANALYSIS

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Hole 78RG 1

Sample No.	Ply	Depth from (m)	Depth to (m)	Thickness (m)	As Received Moisture %	Ash % (d.b)	Volatile Matter % (d.b.)	Fixed Carbon % (d.b.)	S % (d.b.)	S.E. MJ/kg (d.b.)	Relative Density	F.C./ Vol.	Seam	Core Loss	Description
78RG-1:1		22.515	23.3	0.785	4.0	28.5	21.1	50.4	0.36	24.73	1.47	2.39	1	0.035	Coal
78RG-1:2	A	29.185	30.12	0.935	8.0	23.2	23.5	53.2	0.47	26.26	1.45	2.26	2	-	Coal
	B	30.12	30.63	0.51	6.4	37.4							2	-	Coal & Stone
	C	30.63	31.2	0.57	5.6	33.4							2	0.005	Coal & Stone
78RG-1:3		95.78	96.485	0.705	5.4	39.7							8	-	Coal & Stone

Hole 78RG 2

78RG-2:1		12.58	13.5	0.92	12.2	58.7	5.0	36.4	0.81	12.50	1.85	7.28	1		Coal
78RG-2:2	A	57.99	58.51	0.52	3.8	36.6							2		Coal & Stone
	B	58.51	59.165	0.655	5.5	40.9							2		Coal & Stone
78RG-2:3	A	60.205	60.585	0.38	3.4	38.4	18.3	43.2	0.41	21.98	1.55	2.36	3		Coal
	B	60.825	61.71	0.885	13.2	82.6					2.23		3		Coal & Stone
78RG-2:8		70.125	71.255	1.13	6.6	75.5					2.02		4		Intruded Coal & Stone
78RG-2:9		71.86	73.58	1.72	4.9	79.4					2.12		5		" "
78RG-2:10		74.185	76.06	1.875	4.4	73.8					2.08		6		
											~~1.70~~				" "
78RG-2:4		100.62	101.935	1.315	4.6	51.9					1.70		7		Coal & Stone
78RG-2:5		122.96	124.185	1.225	5.5	24.9					1.48		8		Coal & Stone
78RG-2:6		137.89	138.97	1.08	4.0	66.6					1.93		9		Coal & Stone
78RG-2:7		160.325	161.295	0.97	4.2	63.8					1.90		10		Coal & Stone

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Hole 78RG 3

Sample No.	Ply	Depth from (m)	Depth to (m)	Thickness (m)	As Received Moisture %	Ash % (d.b)	Volatile Matter % (d.b.)	Fixed Carbon % (d.b.)	S % (d.b)	S.E. MJ/kg (d.b.)	Relative Density	FC/ Vol.	Seam	Description
78RG-3:1		66.78	67.795	1.015	5.3	27.2					1.50		1	Coal & Stone
78RG-3:2		102.43	103.535	0.605	5.2	65.9					1.88		2	Coal & Stone
78RG-3:3		112.62	113.86	1.24	3.9	80.7					2.26		3	Coal & Stone
78RG-3:4		118.04	118.61	0.57	4.3	48.9					1.71		4	Coal & Stone
						Hole 78RG 4								
78RG4-1		34.98	35.885	0.905	7.4	36.3					1.56		2	Coal & Stone
78RG4-2	A	36.945	37.575	0.63	7.1	31.6					1.52		3	Coal & Stone
	B	37.575	38.105	0.53	6.4	23.4	23.6	53.0	0.44	25.86	1.45	2.25	3	Coal
	C	38.105	39.145	1.04	7.1	28.8					1.49		3	Coal & Stone
78RG4-3		107.39	108.16	0.77	8.3	35.6					1.55		6	Coal & Stone

8. CONCLUSIONS

1. Seams are banded, prove to be lenticular and show variation, in dip over E.L. 16/77. Seams range in thickness from 0.3 m to 2.2 m.

2. Apart from the susceptibility of seams to be lensoid, igneous intrusions are the main geological constraint, and are more prevalent on the southern side of the Royal George Valley.

3. Widespread lateral variation of interseam sediments makes the prediction of mining conditions, and correlation of seams difficult.

4. It has been possible to tentatively correlate seams over the area drilled, and from I.C.E Report No. 985 (p. 15) the basement topography is reasonably flat suggesting deposition to have occurred in one major basin rather than within separate sub-basins.

5. Areas that may warrant further investigation are those around Bore 78RG - 1, and Bore 78RG - 3 subject to fault delineation. If access was arranged Area 2 (ref. I.C.E. Report 985) close to the eastern margin merits further investigation as there appears to be seam thickening in an easterly direction.

6. More detailed physical and chemical analysis of the coal from larger samples would be required to indicate its suitability to steam raising for power generation.

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DRILL LOGGING SHEETS

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5 cm

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DIAMOND DRILL LOG

PROJECT: Royal George
AREA: ROYAL GEORGE
CO-ORDINATES 53 63,780N Approx. 573,050E
R.L. COLLAR 590
ANGLE OF HOLE 90°
AZIMUTH
DRILLERS A.D.D.
DRILL TYPE Mindrill 101
COMMENCED 26/10/78
COMPLETED 31/10/78
DEPTH 199.5
CASING LEFT nil
HOLE No. 78RG-1
SHEET No. 1

RUN (m)	CORE SIZE	RECOVERY (m)	CORE RECOVERY % (60 80)	DEPTH TO BASE OF STRATUM	THICKNESS OF STRATUM	DESCRIPTION OF STRATA	GEOLOGY LOG	SEAM NAME / R.L. ROOF & FLOOR	SAMPLE No.	DIAMETER OF PLY FROM	DIAMETER OF PLY TO	WEIGHT OF PLY (lbs)	CALCULATED S.G.	PROXIMATE ANALYSIS AIR DRIED BASIS: FLOATS S.G. Moist %	Ash %	V. HC %	S %	Col. Value B.T.U / lb.	B.S.I. No.	Yield (wt. %)	SINKS S.G. Ash %	Yield (wt. %)	RAW COAL Ash %
3.0	HW	1.08		.52	.52	red brown clay (puggy) and dolerite pebbles,																	
						medium grey with weathered edges																	
				1.17	.65	Dolerite scree, very broken																	
				3.0	1.83	lost core																	
0.5	HW	0.5	→	3.16	.16	Dolerite scree, broken & jointed (vertical)																	
	HQ			3.5	.34	Weathered Dolerite, yellow brown sandy																	
0.3	"	0.1				and dayey.																	
0.7	"	0.6	→	15.02	5.51	lost core																	
2.5	"	0.7		15.02	6.01	Dolerite scree and red brown clay-dolerite																	
0.8	"	0.15				is broken & jointed (60°) and weathered																	
0.2	"	0.2	→			along joint faces.																	
1.0	"	0.3½		15.13	.11	clay ironstone, green grey & very hard (probably																	
0.2	"	0.15	→			weathered dolerite)																	
1.3	"	1.3	→	15.19	.06	yellow brown sandy clay (puggy) with small																	
0.6	"	0.3	→			(.005 to .01) fragments of dolerite																	
1.9	"	1.3	→	15.36	.17	weathered coal with grey carbonaceous sandy																	
1.5	"	0.35				clay, very puggy																	
				15.385	.025	Dolerite scree																	
1.6	"	0.885	→	16.1	.715	lost core																	
0.41	"	0.41	→	17.36	1.26	Dolerite, green grey and very weathered (soft)																	
				17.38	.02	grey clay (puggy)																	
				17.42	.04	weathered coal - clayey																	
2.99	"	0.91		19.5	2.08	lost core																	
				19.56	.06	Dmb																	
				19.57	.01	Cr																	
				19.585	.015	Dmb																	
				19.65	.065	carbonaceous mudstone (puggy) grey brown																	
				19.71	.06	siltstone, mid grey with carbonaceous partings																	
				19.755	.045	mudstone: carbonaceous																	
				19.845	.09	mudstone; mid grey, irregular bedding, gradational																	
						lower contact.																	
				20.11	.265	siltstone and sandstone (Fine-med.) interbedded with																	
						carbonaceous lenses, sandy over base																	
				20.9	.79	mid grey mudstone, irregularly bedded																	
1.5	"	1.4	→	21	.1	lost core																	

SUMMARY, SPECIAL COMMENTS:

LOGGED BY: R.A. Holland
DATE: 26/10/78

026

5 cm

DIAMOND DRILL LOG

202027

PROJECT: Royal George | CO-ORDINATES 63,760N Approx. 73,050E | ANGLE OF HOLE 90° | DRILLERS A.D.D. | COMMENCED 26/10/78 | DEPTH 199.5 | HOLE No 78RG-1

AREA: Royal George | R.L. COLLAR 590 | AZIMUTH | DRILL TYPE Mindrill 10A | COMPLETED 31/10/78 | CASING LEFT nil | SHEET No 2

RUN (m)	CORE SIZE	RECOVERY (m)	CORE RECOVERY % (60 80)	DEPTH TO BASE OF STRATUM	THICKNESS OF STRATUM	DESCRIPTION OF STRATA	GEOLOGY LOG	SEAM NAME / RL ROOF & FLOOR	SAMPLE No.	DIAMETER OF PLY FROM	DIAMETER OF PLY TO	WEIGHT OF PLY (lbs)	CALCULATED S.G	PROXIMATE ANALYSIS AIR DRIED BASIS: FLOATS S.G. Moist %	Ash %	V.HC %	S %	Cal. Value B.T.U / lb.	B.S.I No.	Yield (wt.%)	SINKS S.G. Ash %	Yield (wt.%)	RAW COAL Ash %
				21.065	.065	mid gray mudstone, laminated																	
				21.07	.005	D																	
				21.075	.005	Rc																	
				21.145	.07	mid gray siltstone																	
				21.16	.015	dark gray slightly carbonaceous mudstone																	
				21.43	.27	interbedded sandstone (fine a light grey lithic) and siltstone (mid gray) 7:3 (interbedding) sub horizontally bedded with carbonaceous partings.																	
				21.635	.205	slightly carbonaceous MUDSTONE dark grey																	
				21.665	.03	mudstone carbonceous: grey brown																	
				21.945	.28	mudstone: mid grey, carbonaceous towards base																	
				21.955	.01	Cr																	
				21.97	.015	carbonaceous mudstone: grey brown																	
				21.985	.015	mudstone: mid grey																	
				22.005	.02	Cr																	
				22.3	.295	mudstone: grey brown, fossiliferous (root structures)																	
1.5	NQ	1.3	→	22.5	.2	Lost core																	
				22.515	.015	mudstone: mid grey, fossiliferous																	
				22.7	.185	D-Cr: pyrite disseminated throughout		seam 1	1	22.515	23.3												28.5
				22.725	.025	Dmb: root structures present																	
				22.915	.19	D																	
				22.915	.000	Bd: penny band: carbonate on cleats.																	
				22.94	.025	D																	
				22.96	.02	Dmb																	
				23.005	.045	D																	
				23.005	.000	Bd: penny band: carbonate on cleats																	
				23.05	.045	Dmb																	
				23.105	.055	D																	
				23.135	.03	Dmb		T.D. 199.5															
				23.14	.005	B: carbonate on cleats																	
				23.18	.04	D																	
				23.18	.000	Bd penny band																	
				23.25	.07	D																	
				23.26	.01	Dmb																	
				23.265	.005	Bd: carbonate on cleats		seam 1	1														

SUMMARY, SPECIAL COMMENTS:

LOGGED BY: R.A. Holland

DATE: 26/10/78

027

5 cm

DIAMOND DRILL LOG

202028

PROJECT: Royal George | CO-ORDINATES 65,780N Approx. 73,060E | ANGLE OF HOLE 90° | DRILLERS A.D.D. | COMMENCED 26/10/78 | DEPTH 199.5 | HOLE No 78RG-1

AREA: ROYAL George | R.L. COLLAR 590 | AZIMUTH | DRILL TYPE Mindrill 10L | COMPLETED 31/10/78. | CASING LEFT nil | SHEET No 3

RUN (m)	CORE SIZE	RECOVERY (m)	CORE RECOVERY % (60 80)	DEPTH TO BASE OF STRATUM	THICKNESS OF STRATUM	DESCRIPTION OF STRATA	GEOLOGY LOG	SEAM NAME / RL. ROOF & FLOOR	SAMPLE No.	DIAMETER OF PLY FROM	DIAMETER OF PLY TO	WEIGHT OF PLY (lbs)	CALCULATED S.G.	PROXIMATE ANALYSIS AIR DRIED BASIS: FLOATS S.G. Moist %	Ash %	V. HC %	S %	Cal. Value B.T.U / lb.	B.S.I. No.	Yield (wt. %)	SINKS S.G. Ash %	Yield (wt. %)	RAW COAL Ash %
				23·3	·035	core loss		seam1	1														
2·8	NQ	2·76		25·3	2·0	mudstone: mid grey with 60° joints showing slickensiding and carbonate crystallization																	
				26·71	1·41	laminite: sandstone & siltstone in ratio 3:7 sandstone is fine grained and light gray, bedding is horizontal, some high angle jointing, lower contact abrupt																
				26·8	·09	mudstone: carbonaceous, grey brown																	
2·1	NQ	1·5		27·4	·6	Lost core																	
1·1	NQ	1·1		28·5	1·1	mudstone: mid gray, irregular bedding, some slickensiding on high angle faces, fossiliferous.																	
				29·185	·685	mudstone: mid grey, slightly carbonaceous towards base, abrupt basal contact: horizontal fractures appear on drying.																	
				29·315	·13	Dmb–D		seam2	2(A)	29·185	30·12												23·2
				29·715	·4	D : with pyrite on vertical joints																	
				29·73	·015	DB : carbonate on cleats																	
				29·755	·025	D																	
				29·8	·045	Dmb																	
				29·83	·03	D																	
				30·055	·225	Dmb–Db : pyrite on vertical joints																	
				30·115	·06	D																	
				30·12	·005	B : carbonate & pyrite on cleats			2(A)														
				30·14	·02	sideritic band mixed with carbonaceous matter & talc			2(B)	30·12	30·63												37·4
				30·14	·000	Bd: penny band																	
				30·16	·02	Db : bright bands are lensoidal.																	
				30·22	·06	D																	
				30·23	·01	carbonaceous clay: grey brown & puggy																	
				30·24	·01	Cr : puggy																	
				30·245	·005	D																	
				30·245	·000	mudstone: mid-gray, penny band																	
				30·38	·135	D : pyrite on vertical joints, root structures																	
				30·395	·015	Dmb																	
				30·42	·025	D																	
				30·45	·03	Dmb		seam2	2(B)														

SUMMARY, SPECIAL COMMENTS:

LOGGED BY R.A. Holland

DATE: 27/10/78

028

5 cm

DIAMOND DRILL LOG

202029

PROJECT: Royal George
AREA: Royal George
CO-ORDINATES 63,780N Approx. 73,080E
R.L. COLLAR 590
ANGLE OF HOLE 90°
AZIMUTH
DRILLERS A.D.D.
DRILL TYPE Mindrill 10L
COMMENCED 26/10/78
COMPLETED 31/10/78
DEPTH 199.5
CASING LEFT nil
HOLE No 78RG-1
SHEET No 4

RUN (m)	CORE SIZE	RECOVERY (m)	CORE RECOVERY % (60 80)	DEPTH TO BASE OF STRATUM	THICKNESS OF STRATUM	DESCRIPTION OF STRATA	GEOLOGY LOG	SEAM NAME / R.L. ROOF & FLOOR	SAMPLE No.	DIAMETER OF PLY FROM	DIAMETER OF PLY TO	WEIGHT OF PLY (lbs)	CALCULATED S.G.	PROXIMATE ANALYSIS AIR DRIED BASIS: FLOATS S.G. Moist %	Ash %	V.HC %	S %	Cal. Value B.T.U / lb.	B.S.I. No.	Yield (wt.%)	SINKS S.G. Ash %	Yield (wt.%)	RAW COAL Ash %
				30.475	.025	D		seam2	2(B)														
				30.55	.075	Dmb - D																	
				30.555	.005	Bd : carbonate on cleats																	
				30.58	.025	D																	
				30.595	.015	carbonaceous mudstone: grey brown with pyrite on fractures																	
				30.63	.035	mudstone: mid gray, carbonaceous over top			2(B)														
				30.78	.15	D			2(C)	30.63	31.2												33.4
				30.8	.02	Db - Dmb																	
				30.805	.005	B : carbonate on cleat																	
				30.83	.025	Db																	
				30.86	.03	Dmb - Db																	
				30.865	.005	Bd : carbonate on cleats																	
				30.875	.01	Dmb																	
				30.89	.015	DB : carbonate on cleats																	
				30.905	.015	Dmb																	
				30.93	.025	Db																	
				30.955	.025	Dmb																	
				30.96	.005	Bd : carbonate on cleats																	
				30.975	.015	carbonaceous mudstone with talc																	
				30.98	.005	carbaceous mudstone																	
				30.995	.015	Cr																	
				31.01	.015	D																	
				31.02	.01	Dmb																	
				31.035	.015	D																	
				31.045	.01	Dmb																	
				31.05	.005	carbonaceous mudstone																	
				31.05	.000	B : penny band with carbonate on cleats																	
				31.055	.005	Dmb																	
				31.06	.005	carbonaceous mudstone																	
				31.07	.01	mudstone																	
				31.08	.01	carbonaceous mudstone																	
				31.105	.025	DB : carbonate on cleats																	
				31.115	.01	Db " "																	
				31.12	.005	B " "		seam2	2(C)														

SUMMARY, SPECIAL COMMENTS:

LOGGED BY: R.A. Halland
DATE: 29/10/78

029

5 cm

DIAMOND DRILL LOG

202030

PROJECT: Royal George
AREA: Royal George
CO-ORDINATES 63,780N ..... Approx. 73,050E .....
R.L. COLLAR ...590.....
ANGLE OF HOLE ...90°.....
AZIMUTH .....
DRILLERS A.D.D.
DRILL TYPE Mindrill 10L
COMMENCED 26/10/78
COMPLETED 31/10/78
DEPTH 199.5
CASING LEFT nil
HOLE No 78RG-1
SHEET No 5

RUN (m)	CORE SIZE	RECOVERY (m)	CORE RECOVERY % (60 80)	DEPTH TO BASE OF STRATUM	THICKNESS OF STRATUM	DESCRIPTION OF STRATA	GEOLOGY LOG	SEAM NAME / R.L. ROOF & FLOOR	SAMPLE No.	DIAMETER OF PLY FROM	DIAMETER OF PLY TO	WEIGHT OF PLY (lbs)	CALCULATED S.G.	PROXIMATE ANALYSIS AIR DRIED BASIS: FLOATS S.G. Moist %	Ash %	V.HC %	S %	Col. Value B.T.U / lb.	B.S.I. No.	Yield (wt. %)	SINKS S.G. Ash %	Yield (wt. %)	RAW COAL Ash %
2.7	NQ	2.7	→	31.2	.08	DB – Db		seam 2	2(C)														
				31.24	.04	mudstone: slightly carbonaceous overtop																	
				31.265	.025	clay: light gray & puggy																	
				31.3	.035	siltstone: light gray																	
				31.31	.01	clay: light gray & puggy																	
				31.46	.15	interbedded sandstone & siltstone: sandstone fine & light gray, horizontally bedded.																	
0.5	NQ	.46	→	31.5	.04	lost core																	
0.4	NQ	.4	→	33.12	1.62	sandstone: light gray med-coarse, siltstone lenses over top, coarsening towards base, occasional coaly stringers (Bd)																	
				33.13	.01	Rc																	
				33.14	.01	D																	
				33.145	.005	mudstone: mid gray																	
				33.155	.01	D – Cr																	
				33.165	.01	Dmb																	
				33.19	.025	Rc																	
				33.76	.57	mudstone: mid gray, horizontally bedded overtop, irregular bedding towards base, abrupt basal contact.																	
				33.96	.2	interbedded sandstone & siltstone: ratio 4:6 gradational lower contact.																	
				34.145	.185	mudstone: mid gray, irregular bedding, high angle jointing, abrupt basal contact																	
				34.15	.005	Bd																	
2.6	NQ	2.6	→	34.5	.35	mudstone: mid gray, horizontally bedded, fossiliferous																	
				35.015	.515	mudstone: gray brown & carbonaceous for top 0.125, mid gray over base, slickensiding on high angle joints, abrupt basal contact.																	
				35.715	.7	sandstone: fine to med lithic & massive, abrupt basal contact																	
				35.945	.23	interbedded sandstone & siltstone: ratio 3:7 horizontal bedding, abrupt basal contact.																	
				36.38	.435	sandstone: fine – med. lithic with occasional siltstone lenses abrupt basal contact.																	

SUMMARY, SPECIAL COMMENTS:

LOGGED BY: R. A. Holland
DATE: 29/10/78

030

5 cm

DIAMOND DRILL LOG

202031

PROJECT: Royal George
AREA: Royal George
CO-ORDINATES: 63,780 N (Approx.) 73,050 E
R.L. COLLAR: 590
ANGLE OF HOLE: 90°
AZIMUTH:
DRILLERS: A.D.D.
DRILL TYPE: Mindrill 10L
COMMENCED: 26/10/78
COMPLETED: 31/10/78
DEPTH: 199.5
CASING LEFT: nil
HOLE No: 78RG-1
SHEET No: 6

RUN (m)	CORE SIZE	RECOVERY (m)	CORE RECOVERY % (60 80)	DEPTH TO BASE OF STRATUM	THICKNESS OF STRATUM	DESCRIPTION OF STRATA	GEOLOGY LOG	SEAM NAME / RL ROOF & FLOOR	SAMPLE No.	DIAMETER OF PLY FROM	DIAMETER OF PLY TO	WEIGHT OF PLY (lbs)	CALCULATED S.G	PROXIMATE ANALYSIS AIR DRIED BASIS: FLOATS S.G. Moist %	Ash %	V. HC %	S %	Cal. Value B.T.U / lb.	B.S.I. No.	Yield (wt. %)	SINKS S.G. Ash %	Yield (wt. %)	RAW COAL Ash %
				36.5	.12	mudstone: mid-gray, slickensided along high angle jointing,																	
				36.525	.025	D																	
				36.54	.015	Cr : puggy																	
				36.55	.01	Dmb																	
				36.57	.02	D																	
				36.575	.005	Cr : puggy																	
				36.6	.025	Rc "																	
				36.64	.04	D : vertical joints with carbonate infilling																	
				36.655	.015	Db : carbonate on cleats																	
				36.71	.055	D																	
				36.72	.01	DB " " "																	
				36.74	.02	mudstone : top slightly carbonaceous																	
2.3	NQ	2.24		36.8	.06	Lost core																	
0.7	NQ	0.7		38.265	1.465	interbedded sandstone & siltstone: ration 4:6 sandstone is light gray & fine-med lithic, siltstone is mid gray, bedding is irregular overstep slumped @ 37.3 and horizontal towards base, abrupt basal contact.																	
				38.45	.185	sandstone: light gray, medium lithic, massive.																	
1.1	NQ	.95		38.6	.15	Lost core																	
1.9	NQ	1.9		42.685	4.085	sandstone: light gray, med-coarse, lithic, massive occasional carbonaceous lenses, abrupt basal contact																	
2.235	NQ	2.185		42.735	.05	Lost core																	
1.065	NQ	1.065		43.8	1.065	~~interbedded~~: sandstone light gray & siltstone mid gray, micro cross bedding over-middle, abrupt basal contact																	
				43.86	.06	interbedded mudstone & D : ratio 7:2, horizontally bedded																	
				43.915	.055	Rc		Seam 3															
				43.945	.03	Cr																	
				44.085	.14	D : vertical jointing																	
				44.085	.000	Bd : penny band																	
				44.165	.08	D-Dmb																	
				44.165	.000	Bd : penny band		Seam 3															

SUMMARY, SPECIAL COMMENTS:

LOGGED BY: R.A. Holland
DATE: 29/10/78

031

5 cm

DIAMOND DRILL LOG

202032

PROJECT: Royal George | CO-ORDINATES 63,780 N Approx. 73,050 E | ANGLE OF HOLE 90° | DRILLERS A.D.O. | COMMENCED 26/10/78 | DEPTH 199.5 | HOLE No 78 RG-1

AREA: Royal George | R.L. COLLAR 590 | AZIMUTH | DRILL TYPE Mindrill 10L | COMPLETED 31/10/78 | CASING LEFT nil | SHEET No 7

RUN (m)	CORE SIZE	RECOVERY (m)	CORE RECOVERY % (60 80)	DEPTH TO BASE OF STRATUM	THICKNESS OF STRATUM	DESCRIPTION OF STRATA	GEOLOGY LOG	SEAM NAME / RL ROOF & FLOOR	SAMPLE No.	DIAMETER OF PLY FROM	DIAMETER OF PLY TO	WEIGHT OF PLY (lbs)	CALCULATED S.G.	PROXIMATE ANALYSIS AIR DRIED BASIS: FLOATS S.G. Moist %	Ash %	V. HC %	S %	Cal. Value B.T.U / lb.	B.S.I. No.	Yield (wt. %)	SINKS S.G. Ash %	Yield (wt. %)	RAW COAL Ash %
				44.215	.05	Dmb		Seam 3															
				44.265	.05	Dmb - Db : carbonate on cleats																	
				44.285	.02	D																	
				44.295	.01	Cr		Seam 3															
.6	NQ	.6		44.995	.7	mudstone: grey brown & carbonaceous for top 0.065, mid grey & irregular bedding with carbon- -aceous lenses showing slickensiding (low angle)																	
				45.095	.1	Lost core																	
				45.715	.62	mudstone: mid grey, subhorizontal to horizontal bedding, abrupt basal contact.																	
				46.355	.64	sandstone: light gray, lithic, medium grained & massive																	
2.1	NQ	2.1				abrupt basal contact.																	
1.5	NQ	1.5		47.65	1.295	laminite: sandstone & siltstone in ratio 4:6,																	
						sandstone light gray & fine grained, siltstone med. grey.																	
				49.4	1.75	sandstone: med to coarse, light grey lithic, massive,																	
						vertical jointing, occasional carbonaceous																	
						stringers																	
1.5	NQ	1.4		49.5	.1	Lost core																	
3.0	NQ	3.0		59.415	9.915	sandstone: med - coarse, light grey lithic, massive,																	
3.0	NQ	3.0				vertical jointing, Bd fragments @ 53.3, erosive																	
3.0	NQ	3.0				lower contact																	
2.7	NQ	2.7		60.325	.91	mudstone: mid-grey, slumped over top, low angle																	
3.0	NQ	3.0				jointing, massive towards base, abrupt basal																	
1.6	NQ	1.6				contact																	
				66.9	6.575	sandstone: medium to coarse lithic, massive, Bd																	
						stringers at 61m and 65.31m, fine grained																	
						band (.29) at 61.175, high angle jointing with quartz																	
						infilling in lower 1.59m, abrupt basal contact.																	
				66.925	.025	Cr																	
1.3	NQ	1.3		67.17	.245	Bc : high angle jointing																	
				67.82	.65	mudstone: carbonaceous, horizontally bedded, grad- -ational lower contact																	
				67.84	.02	Cr																	
				69.14	1.3	sandstone & siltstone interbedded: ratio 4:6, sub-hor- -izontal bedding, siltstone carbonaceous, sandstone →																	

SUMMARY, SPECIAL COMMENTS:

D.P.O. No

LOGGED BY: R.A. Holland

DATE: 29/10/78

032

5 cm

DIAMOND DRILL LOG

202033

PROJECT: Royal George
AREA: Royal George
CO-ORDINATES 63,780N ..... Approx. 72,060E .....
R.L. COLLAR .....690.....
ANGLE OF HOLE 90° ..... AZIMUTH .....
DRILLERS ..A.D.D..... DRILL TYPE Mindrill10L
COMMENCED 26/10/78 COMPLETED 31/10/78
DEPTH ...199.5.... CASING LEFT nil....
HOLE No 78RG-1
SHEET No ....8.....

RUN (m)	CORE SIZE	RECOVERY (m)	CORE RECOVERY % (60 80)	DEPTH TO BASE OF STRATUM	THICKNESS OF STRATUM	DESCRIPTION OF STRATA	GEOLOGY LOG	SEAM NAME / R.L. ROOF & FLOOR	SAMPLE No.	DIAMETER OF PLY FROM	DIAMETER OF PLY TO	WEIGHT OF PLY (lbs)	CALCULATED S.G.	PROXIMATE ANALYSIS AIR DRIED BASIS: FLOATS S.G. Moist %	Ash %	V.HC %	S %	Col. Value B.T.U / lb.	B.S.I. No.	Yield (wt.%)	SINKS S.G. Ash %	Yield (wt.%)	RAW COAL Ash %
				69.14	1.3	← is fine getting medium grained downards base, abrupt basal contact																	
				69.145	.005	D		seam 4															
				69.15	.005	B : carbonate on cleats																	
				69.175	.025	Dmb – Db																	
				69.195	.02	Dmb																	
				69.22	.025	D																	
				69.235	.015	Db – DB																	
				69.255	.02	Dmb																	
				69.265	.01	DB : carbonate on cleats																	
				69.275	.01	D																	
				69.275	.000	Bd : penny band, carbonate on cleats																	
				69.28	.005	talc band																	
				69.315	.035	Dmb – Db																	
				69.32	.005	Bd : carbonate on cleats																	
				69.33	.01	DB																	
				69.38	.05	D : pyrite on vertical fractures																	
				69.42	.04	Db – DB : carbonate on cleats & fractures																	
				69.435	.015	Cr																	
				69.44	.005	mudstone : slightly carbonaceous																	
				69.475	.035	Cr		seam 4 ↓															
				69.675	.2	sandstone : fine to medium, light grey lithic, irregular carbonaceous stringers, abrupt basal contact																	
3	NQ	3	→	70.1	.425	sandstone & siltstone interbedded : ratio 6:4, sandstone light grey, fine to med. lithic, siltstone carbonaceous, gradational lower contact.																	
				70.19	.09	Rc																	
				70.21	.02	Cr																	
				70.245	.035	Rc																	
				70.585	.34	sandstone : fine, light grey, frequent carbonaceous stringers.																	
				70.875	.29	carbonaceous mudstone																	
				70.945	.07	sandstone : light grey, fine, lithic, Bb stringers																	
				71.035	.09	carbonaceous mudstone																	
				71.195	.16	interbedded sandstone & carbonaceous mudstone →																	

SUMMARY, SPECIAL COMMENTS :

LOGGED BY : R.A. Holland.....
DATE : 29/10/78.....

033 5 cm

DIAMOND DRILL LOG

202034

PROJECT: Royal George | CO-ORDINATES 63,780N (Approx.) 73,000E | R.L. COLLAR 890 | ANGLE OF HOLE 90° | AZIMUTH | DRILLERS A.D.D. | DRILL TYPE Mindrill 101 | COMMENCED 26/10/78 | COMPLETED 31/10/78 | DEPTH 199.5 | CASING LEFT nil | HOLE No 7886-1 | SHEET No 9

AREA: Royal George

RUN (m)	CORE SIZE	RECOVERY (m)	CORE RECOVERY % (60 80)	DEPTH TO BASE OF STRATUM	THICKNESS OF STRATUM	DESCRIPTION OF STRATA	GEOLOGY LOG	SEAM NAME / RL. ROOF & FLOOR	SAMPLE No.	DIAMETER OF PLY FROM	DIAMETER OF PLY TO	WEIGHT OF PLY (lbs)	CALCULATED S.G.	PROXIMATE ANALYSIS AIR DRIED BASIS: FLOATS S.G. Moist %	Ash %	V.HC %	S %	Cal. Value B.T.U / lb.	B.S.I. No.	Yield (wt.%)	SINKS S.G. Ash %	Yield (wt.%)	RAW COAL Ash %
				71.195	.16	← ratio 3:7, sandstone is light grey, fine, lithic.																	
				71.355	.16	Rc - grading to carbonaceous mudstone																	
				72.32	.965	mudstone: carbonaceous over middle, horizontally bedded, vertical jointing over top 0.59																	
				72.35	.03	Cr																	
				72.93	.58	mudstone: grey brown, carbonaceous, irregular																	
3.12	NQ	3.12	→			bedding, slumped over basal 0.08.																	
				73.77	.84	interbedded sandstone & siltstone: ratio 3:7, horizontal bedding, 60° jointing with slickensiding.																	
				74.27	.5	mudstone and Cr interbedded: ratio 7:3																	
				74.32	.05	Cr-D		Seam 5															
				74.365	.045	mudstone: carbonaceous over top																	
				74.385	.02	Cr-D																	
				74.41	.025	mudstone: mid grey																	
				74.62	.21	Cr-D																	
				74.765	.145	Rc		↓ Seam 5															
				75.305	.54	mudstone: carbonaceous, becoming more silty towards base																	
3.18	NQ	3.18	→																				
				77.95	2.645	interbedded sandstone & siltstone: ratio 4:6, sandstone, light grey, fine, lithic; siltstone, med grey, irregular bedding over top 0.645m where there is an erosive contact, basal two metres is more laminated with bioturbations, 60° jointing with slickensiding is present thruout; erosive lower contact.																
				78.55	.6	sandstone: light grey, fine-med. massive, lithic,																	
2.95	NQ	2.95	→			few carbonaceous lenses, gradational lower contact.																	
				79.48	.93	interbedded sandstone & siltstone: ratio 4:6, micro-cross bedding & horizontal bedding.																	
				80.71	1.23	mudstone: mid-grey, becoming carbonaceous towards base																	
				80.735	.025	D																	
				80.845	.11	Rc																	
				80.87	.025	Cr																	
				81.195	.325	mudstone: grey brown, carbonaceous																	

SUMMARY, SPECIAL COMMENTS:

LOGGED BY: R.A. Holland

DATE: 30/10/78

034 5 cm

DIAMOND DRILL LOG

202035

PROJECT: Royal George | CO-ORDINATES 63,780N Approx. 73,050E | ANGLE OF HOLE 90° | DRILLERS A.D.D. | COMMENCED 26/10/78 | DEPTH 199.5 | HOLE No 78RG-1

AREA: Royal George | R.L. COLLAR 590 | AZIMUTH | DRILL TYPE Mindrill 10L | COMPLETED 31/10/78 | CASING LEFT nil | SHEET No 10

RUN (m)	CORE SIZE	RECOVERY (m)	CORE RECOVERY % (60 80)	DEPTH TO BASE OF STRATUM	THICKNESS OF STRATUM	DESCRIPTION OF STRATA	GEOLOGY LOG	SEAM NAME / RL ROOF & FLOOR	SAMPLE No.	DIAMETER OF PLY FROM	DIAMETER OF PLY TO	WEIGHT OF PLY (lbs)	CALCULATED S.G.	PROXIMATE ANALYSIS AIR DRIED BASIS: FLOATS S.G. Moist %	Ash %	V.HC %	S %	Cal. Value B.T.U / lb.	B.S.I. No.	Yield (wt. %)	SINKS S.G. Ash %	Yield (wt. %)	RAW COAL Ash %
				81.25	.055	Rc																	
				81.88	.63	mudstone: mid grey, carbonaceous overtop & base, high angle jointing with slickensiding.																	
				81.93	.05	Rc																	
				81.955	.025	talc band																	
				81.97	.015	Cr																	
				81.985	.015	D																	
				82.13	.145	mudstone: carbonaceous, grey brown.																	
2.85	NQ	2.86		82.24	.11	claystone with siderite, light brown																	
				82.67	.43	mudstone: med. gray, high angle jointing with slickensiding, gradational lower contact.																	
2.7	NQ	2.7		84.965	2.295	laminite: sandstone & siltstone: ratio 5:5																	
3.15	NQ	3.15		88.015	3.05	sandstone: light gray, mod. grained, lithic & massive, occasional carbonaceous lenses along which there is fracturing.																	
				88.05	.035	D		seam 6															
				88.155	.105	mudstone: carbonaceous, grey brown.																	
				88.33	.175	D																	
				88.33	.000	mudstone: penny band																	
				88.355	.025	D																	
				88.375	.02	Db																	
				88.44	.065	Db - Dmb																	
				88.475	.035	Db																	
				88.5	.025	Dmb																	
.45	NQ	.45		88.5	.000	Bd : carbonate on cleat																	
				88.52	.02	Dmb																	
				88.525	.005	Bd : " " "																	
				88.53	.005	Dmb																	
				88.535	.005	Bd		seam 6															
				88.56	.025	mudstone: carbonaceous																	
				89.89	1.33	interbedded sandstone & siltstone: ratio 7:3																	
3	NQ	3				sandstone, light gray lithic, fine, containing occasional carbonaceous lenses; siltstone, med gray, horizontally bedded, gradational lower contact.																	
				94.27	4.38	sandstone: light grey, med-coarse, massive, lithic →																	

SUMMARY, SPECIAL COMMENTS:

LOGGED BY: R.A. Holland

DATE: 30/10/78

035

5 cm

DIAMOND DRILL LOG

202036

PROJECT: Royal George | CO-ORDINATES 63,780 N Approx. 73,050 E | ANGLE OF HOLE 90° | DRILLERS A.D.D. | COMMENCED 26/10/78 | DEPTH 199.5 | HOLE No 78R6-1

AREA: Royal George | R.L. COLLAR 690 | AZIMUTH | DRILL TYPE Mindrill 10h | COMPLETED 31/10/78 | CASING LEFT nil | SHEET No 11

RUN (m)	CORE SIZE	RECOVERY (m)	CORE RECOVERY % (60 80)	DEPTH TO BASE OF STRATUM	THICKNESS OF STRATUM	DESCRIPTION OF STRATA	GEOLOGY LOG	SEAM NAME / RL ROOF & FLOOR	SAMPLE No.	DIAMETER OF PLY FROM	DIAMETER OF PLY TO	WEIGHT OF PLY (lbs)	CALCULATED S.G.	PROXIMATE ANALYSIS AIR DRIED BASIS: FLOATS S.G. Moist %	Ash %	V.HC %	S %	Cal. Value B.T.U / lb.	B.S.I. No.	Yield (wt.%)	SINKS S.G Ash %	Yield (wt.%)	RAW COAL Ash %
				94.27	4.38	← occasional carbonaceous lenses, Bd frags at base, erosive lower contact.																	
				94.355	.085	interbedded sandstone & siltstone: ration 6:4, horizontal bedding, D lenses at base																	
				94.36	.005	D																	
				94.385	.025	mudstone: carbonaceous over base																	
				94.415	.03	D																	
3	NQ	3		94.445	.03	mudstone: mid grey, puggy																	
				94.79	.345	sandstone: light grey, lithic, fine-med. with frequent carbonaceous lenses																	
				94.83	.04	mudstone: carbonaceous																	
				94.98	.15	D : vertical jointing		seam 7															
				94.98	.000	Bd: penny band																	
				95.0	.02	D : vertical jointing																	
				95.0	.000	Bd: penny band																	
				95.015	.015	D																	
				95.015	.000	siltstone: penny band																	
				95.04	.025	D																	
				95.09	.05	Cr-D																	
				95.13	.04	siltstone: carbonaceous																	
				95.155	.025	Cr - D																	
				95.165	.01	siltstone:																	
				95.18	.015	Cr - D		seam 7															
				95.24	.06	siltstone																	
				95.78	.54	interbedded sandstone & siltstone: ratio 4:6																	
				95.845	.065	Dmb		seam 8	3	95.78	96.485											39.7	
				96.1	.255	D																	
				96.125	.025	Dmb																	
				96.15	.025	Db : carbonate on cleats																	
				96.195	.045	D																	
				96.2	.005	Cr : very puggy																	
				96.245	.045	D																	
				96.25	.005	Cr																	
				96.275	.025	D																	
1.8	NQ	1.8		96.295	.02	Mudstone : mid grey		seam 8	3														

SUMMARY, SPECIAL COMMENTS:

D.P.O No.

LOGGED BY: R.A. Holland

DATE: 30/10/78

036

5 cm

DIAMOND DRILL LOG

202037

PROJECT: Royal George | CO-ORDINATES (Approx.) 63780N, 73050E | ANGLE OF HOLE 90° | DRILLERS A.D.D. | COMMENCED 26/10/78 | DEPTH 199.5 | HOLE No 78RG-1

AREA: ROYAL GEORGE | R.L. COLLAR 690 | AZIMUTH | DRILL TYPE Mindrill 10L | COMPLETED 31/10/78 | CASING LEFT nil | SHEET No 12

RUN (m)	CORE SIZE	RECOVERY (m)	CORE RECOVERY % (60 80)	DEPTH TO BASE OF STRATUM	THICKNESS OF STRATUM	DESCRIPTION OF STRATA	GEOLOGY LOG	SEAM NAME / R.L. ROOF & FLOOR	SAMPLE No.	DIAMETER OF PLY FROM	DIAMETER OF PLY TO	WEIGHT OF PLY (lbs)	CALCULATED S.G.	PROXIMATE ANALYSIS AIR DRIED BASIS: FLOATS S.G. Moist %	Ash %	V.HC %	S %	Cal. Value B.T.U / lb.	B.S.I. No.	Yield (wt. %)	SINKS S.G. Ash %	Yield (wt. %)	RAW COAL Ash %
1·8	NQ	1·8		96·3	·005	carbonaceous mudstone		seam 8	3														
				96·41	·11	D																	
				96·47	·06	Dmb																	
				96·485	·015	Bd : carbonate on cleats		seam 8	3														
				96·925	·44	mudstone : med. grey, vertical jointing with slickensiding, gradational lower contact.																	
1·2	NQ	1·2																					
				98·22	1·295	interbedded mudstone & sandstone : ratio 7:3, sandstone; fine grained, jointing & slickensiding on mudstone, abrupt basal contact.																	
				98·515	·295	mudstone : carbonaceous for basal 0·24m containing coaly stringers, broken & slickensided thru out, abrupt basal contact.																	
1·3	NQ	1·3		98·855	·34	interbedded sandstone & siltstone : ratio 6:4 fine grained sandstone, lithic, irregular bedding, abrupt basal contact.																	
1·7	NQ	1·7		101·13	2·275	laminite : siltstone & claystone : ratio 4:6 siltstone; light gray, claystone; med gray, regular horizontal bedding, jointed & slickensided, abrupt basal contact																	
				101·14	·01	Rc																	
				101·99	·85	mudstone: carbonaceous, gray brown, top ·02m is slumped.																	
3	NQ	3		103·735	1·745	siltstone : mid gray, horizontally bedded.																	
				104·355	·62	mudstone : slightly carbonaceous.																	
				105·785	1·43	siltstone: mid gray, vertical jointed, sideritic, gradational lower contact.																	
3	NQ	3																					
3	NQ	3		110·15	4·365	sandstone: lithic, massive, med-coarse grained.																	
3	NQ	3		112·83	2·68	interbedded sandstone & siltstone: ratio 7:3 sandstone; light grey, med-coarse, lithic, massive, siltstone; med grey & lensoidal, siltstone fragments																	
1·5	NQ	1·5				at 112.71', abrupt basal contact.																	
				115·8	2·97	sandstone: light gray & lithic, massive, med-coarse containing biotite fragments																	
2·6	NQ	1·8		116·6	·8	Lost core																	
1·9	NQ	1·9		118·955	2·355	sand stone: light grey, lithic, massive, med-coarse, biotite frags →																	

SUMMARY, SPECIAL COMMENTS :

LOGGED BY : R.A. Holland

DATE : 30/10/78

037

DIAMOND DRILL LOG

202038

PROJECT: Royal George | CO-ORDINATES 63,780N (Approx.) 73,050E | ANGLE OF HOLE ..... | DRILLERS A.D.D. | COMMENCED 26/10/78 | DEPTH 199.5 | HOLE No 78RG-1

AREA: Royal George | R.L. COLLAR 590 | AZIMUTH ..... | DRILL TYPE Mindrill 101 | COMPLETED 31/10/78 | CASING LEFT Nil | SHEET No 13

RUN (m)	CORE SIZE	RECOVERY (m)	CORE RECOVERY % (60 80)	DEPTH TO BASE OF STRATUM	THICKNESS OF STRATUM	DESCRIPTION OF STRATA	GEOLOGY LOG	SEAM NAME / RL ROOF & FLOOR	SAMPLE No.	DIAMETER OF PLY FROM	DIAMETER OF PLY TO	WEIGHT OF PLY (lbs)	CALCULATED S.G.	PROXIMATE ANALYSIS AIR DRIED BASIS: FLOATS S.G. Moist %	Ash %	V.HC %	S %	Cal. Value B.T.U / lb.	B.S.I. No.	Yield (wt.%)	SINKS S.G. Ash %	Yield (wt.%)	RAW COAL Ash %
				118.955	2.355	← coaly fragments at base, erosive contact.																	
				118.97	.015	Cr																	
3	NQ	3		123.545	4.575	sandstone: light grey, med-coarse, lithic, containing occasional siltstone lenses, siltstone fragments (angular) at 119.2, angular mudstone fragments at 120.17, top 1m shows graded bedding, basal 3.5m is massive.																	
				123.565	.02	Cr																	
				124.23	.665	mudstone: mid grey, carbonaceous over top, basal .21m is jointed & slickensided.																	
				124.3	.07	siltstone: light grey.																	
3	NQ	2.8		124.5	.2	Lost core																	
				126.3	1.8	interbedded sandstone & siltstone: ratio 5:5 sandstone; light grey, lithic, fine, siltstone: med grey & bioturbated in parts.																	
				126.315	.015	D: indurated.																	
				126.375	.06	Dolerite: off-white, coarsly crystalline.																	
				126.38	.005	D fragments & clay: puggy																	
				126.46	.08	Dolerite & mudstone: mudstone; mid grey & indurated, basal contact shows low angle jointing & slickensiding.																	
3	NQ	3		128.48	2.02	mudstone: mid grey, laminated, jointed & slickensided, basal 0.2 is carbonaceous.																	
3	NQ	3		131.49	3.01	interbedded sandstone & siltstone: ratio 4:6, horizontal to sub-horizontal bedding, sandstone; fine grained.																	
				131.89	.4	sandstone: light gray, fine-med, carbonaceous stringers, gradational lower contact.																	
3	NQ	3																					
2.7	NQ	2.7		136.8	4.91	sandstone: light grey, fine-medium, 60% carbonaceous mudstone over top 0.335m, basal section has occasional carbonaceous stringers & siltstone lenses, abrupt basal contact.																	
				137.025	.225	mudstone: mid grey, irregular bedding, abrupt basal contact.																	
				137.255	.23	sandstone & siltstone interbedded: ratio 5:5, sandstone; light grey, bioturbations, micro cross bedding, abrupt basal contact, carbonaceous stringers.																	

SUMMARY, SPECIAL COMMENTS:

5 cm

LOGGED BY: R. Holland

DATE: 30/10/78

038

DIAMOND DRILL LOG

202039

PROJECT: Royal George | CO-ORDINATES 63,780 N (Approx) 73,050 E | ANGLE OF HOLE 90° | DRILLERS A.D.D. | COMMENCED 26/10/78 | DEPTH 199.5 | HOLE No 78RG-1

AREA: Royal George | R.L. COLLAR 590 | AZIMUTH | DRILL TYPE Mindrill 10L | COMPLETED 31/10/78 | CASING LEFT nil | SHEET No 14

RUN (m)	CORE SIZE	RECOVERY (m)	CORE RECOVERY % (60 80)	DEPTH TO BASE OF STRATUM	THICKNESS OF STRATUM	DESCRIPTION OF STRATA	GEOLOGY LOG	SEAM NAME / RL ROOF & FLOOR	SAMPLE No.	DIAMETER OF PLY FROM	DIAMETER OF PLY TO	WEIGHT OF PLY (lbs)	CALCULATED S.G.	PROXIMATE ANALYSIS AIR DRIED BASIS: FLOATS S.G. Moist %	Ash %	V.HC %	S %	Cal. Value B.T.U / lb.	B.S.I. No.	Yield (wt.%)	SINKS S.G. Ash %	Yield (wt.%)	RAW COAL Ash %
				137.875	.62	mudstone: dark grey & carbonaceous over top 4m do mid grey with carbonaceous lenses towards base, becoming more silty towards base grading into sandstone.																	
				139.058	1.18	sandstone: light grey, fine-med graded bedding, lithic, carbonaceous lenses, abrupt basal contact.																	
				139.145	.09	mudstone: dark grey, slickensided on high angle joints, sandstone; dark grey towards base.																	
				139.245	.1	clay with coaly fragments: puggy (altered coal)																	
				139.33	.085	mudstone: carbonaceous, jointed & slickensided, more carbonaceous towards base.																	
3.3	NQ	3.3		139.58	.25	Dolerite: off white, coarsly crystalline.																	
				140.7	1.12	interbedded sandstone & siltstone ratio 4:6, sandstone; fine grained lithic, bioturbations, horizontal bedding, carbonaceous lenses, gradational lower contact.																	
				141.08	.38	mudstone: mid-grey																	
				141.945	.865	sandstone: light grey, fine-medium, lithic, containing siltstone lenses & carbonaceous lenses.																	
3	NQ	3		142.01	.065	mudstone: dark grey, slightly carbonaceous.																	
				143.235	1.225	interbedded mudstone & sandstone: ratio 6:4, sandstone; light grey & fine grained, vertical jointing, abrupt basal contact.																	
				143.235	.000	Bd: penny band, carbonate on cleats.																	
				143.245	.01	Sandstone: light grey, fine-med.																	
				143.385	.14	mudstone: mid gray, jointed & slickensided with carbonate on joints, micro faulting evident.																	
				143.395	.01	Bc: broken, jointed & slickensided.																	
				143.43	.035	mudstone: carbonaceous																	
				143.495	.065	Cr																	
				145.255	1.76	mudstone: slightly carbonaceous (esp. top & base) silty towards base, shows signs of breaking up 10hrs after drilling.																	
3	NQ	3		147.425	2.17	sandstone: light grey, fine-med, massive, lithic, frequent siltstone lenses and carbonaceous lenses.																	

SUMMARY, SPECIAL COMMENTS:

D.P.O No.

5 cm

LOGGED BY: R. Holland

DATE: 31/10/78

039

DIAMOND DRILL LOG

202040

PROJECT: Royal George
AREA: Royal George
CO-ORDINATES: 63,780 N (Approx.) 73,050 E
R.L. COLLAR: 590
ANGLE OF HOLE: 90°
AZIMUTH:
DRILLERS: A.D.D.
DRILL TYPE: Mindrill 10L
COMMENCED: 26/10/78
COMPLETED: 31/10/78
DEPTH: 199.5
CASING LEFT: nil
HOLE No: 78RG-1
SHEET No: 15

RUN (m)	CORE SIZE	RECOVERY (m)	CORE RECOVERY % (60 80)	DEPTH TO BASE OF STRATUM	THICKNESS OF STRATUM	DESCRIPTION OF STRATA	GEOLOGY LOG	SEAM NAME / RL ROOF & FLOOR	SAMPLE No.	DIAMETER OF PLY FROM	DIAMETER OF PLY TO	WEIGHT OF PLY (lbs)	CALCULATED S.G.	PROXIMATE ANALYSIS AIR DRIED BASIS: FLOATS S.G. Moist %	Ash %	V. HC %	S %	Cal. Value B.T.U / lb.	B.S.I. No.	Yield (wt. %)	SINKS S.G. Ash %	Yield (wt. %)	RAW COAL Ash %
				148.19	.765	mudstone: mid-grey, carbonaceous stringers, massive, vertical jointing																	
				148.355	.165	interbedded sandstone & siltstone: ratio 8:2, sandstone fine grained, lithic.																	
				148.365	.01	Cr																	
3	NQ	3		148.4	.035	siltstone: med-grey, grading to sandstone over base (fine grained), vertical jointing.																	
				148.98	.58	sandstone: fine-med, lithic, massive, carbonaceous stringers																	
				149.24	.26	interbedded sandstone & mudstone: ratio 6:4 sandstone, fine grained, light grey & lithic, mudstone; med grey, becoming carbonaceous over base, regular horizontal bedding, mudstone breaking up quickly after drilling, gradational lower contact.																	
				149.355	.115	interbedded carbonaceous siltstone & Cr : ratio 6:4																	
				149.58	.225	siltstone: grey/brown containing frequent carbonaceous lenses.																	
				149.585	.005	Cr : very hard.																	
3	NQ	3		155.42	5.835	sandstone: white, med-coarse, quartzose with																	
3	NQ	3				pyritic lenses (greenish)																	
				155.44	.02	D: very hard.		seam 9															
				155.445	.005	carbonaceous mudstone																	
				155.455	.01	Bd																	
				155.47	.015	carbonaceous mudstone																	
				155.48	.01	Rc																	
				155.73	.25	mudstone: carbonaceous.																	
				155.76	.03	Cr																	
				155.765	.005	mudstone: carbonaceous																	
				155.775	.01	Cr																	
				155.78	.005	carbonaceous mudstone.																	
				155.825	.045	D-Cr																	
				155.84	.015	mudstone carbonaceous																	
				155.845	.005	Cr																	
				155.86	.015	Db																	
				155.915	.055	D : broken over base		seam 9															

SUMMARY, SPECIAL COMMENTS:

5 cm

LOGGED BY: R. Holland
DATE: 31/10/78

040

DIAMOND DRILL LOG

202041

PROJECT: Royal George
AREA: Royal George
CO-ORDINATES 63,780 N (Approx.) 730.50 E
R.L. COLLAR 590
ANGLE OF HOLE 90°
AZIMUTH
DRILLERS A.D.D.
DRILL TYPE Mindrill 10L
COMMENCED 26/10/78
COMPLETED 31/10/78.
DEPTH 199.5
CASING LEFT nil
HOLE No. 78RG-1
SHEET No. 16

RUN (m)	CORE SIZE	RECOVERY (m)	CORE RECOVERY % (60 80)	DEPTH TO BASE OF STRATUM	THICKNESS OF STRATUM	DESCRIPTION OF STRATA	GEOLOGY LOG	SEAM NAME / RL. ROOF & FLOOR	SAMPLE No.	DIAMETER OF PLY FROM	DIAMETER OF PLY TO	WEIGHT OF PLY (lbs)	CALCULATED S.G.
				155.94	.025	mudstone: carbonaceous							
				156.71	.77	mudstone: dark grey grading to med. grey with carbonaceous lenses, top 0.33 broken, jointed & slickensided thru-out.							
3	NQ	3											
3	NQ	3											
				162.58	5.87	sandstone: white, med, quartzoze, massive,							
3	NQ	3				containing occassional mudstone lenses and frequent pyritic lenses (greenish)							
				164.12	1.54	claystone (grey-green) & sandstone/siltstone interbedded ratio 4:6, sandstone; fine, green-grey & quartzoze;							
3	NQ	3				claystone fragments (sub-angular) inducling, increasing towards base.							
				168.225	4.105	sandstone: light grey, med-coarse, massive, lithic,							
3	NQ	3				contains carbonate veins and mudstone fragments,							
						errosive lower contact.							
				170.165	1.94	claystone: grey-green, massive, jointed & slickensided with siltstone over base, gradational lower boundary.							
				170.94	.775	claystone & sandstone/siltstone, interbedded: ratio 6:4 sediments green-grey, sandstone fine grained, slickensides on claystone, abrupt basal contact.							
				171.15	.21	mudstone: purple grey							
				172.17	1.02	interbedded siltstone & sandstone: 4:6 ratio,							
2.9	NQ	2.9				sandstone, green grey, quartzoze, fine grained.							
3.05	NQ	3.05		175.94	3.77	mudstone: purple-green, containing carbonaceous lenses, vertical jointing & slickensiding.							
				177.6	1.66	laminite: sandstone & siltstone: ratio 6:4, sandstone fine grained quartzoze, carbonate stringers thru-out.							
3.05	NQ	3.05		178.07	.47	mudstone: dark grey, massive							
3	NQ	3		199.5	21.43	sandstone: white green, medium grained, quartzoze,							
3	NQ	3				massive, some cross bedding @ 30°-40°,							
3		3				pyrite stringers thru-out.							
3		3											
3		3											
3		3				END of Hole							

PROXIMATE ANALYSIS AIR DRIED BASIS										
FLOATS S.G.							SINKS S.G.		RAW COAL
Moist %	Ash %	V. HC %	S %	Cal. Value B.T.U / lb.	B.S.I. No.	Yield (wt. %)	Ash %	Yield (wt. %)	Ash %

SUMMARY, SPECIAL COMMENTS:

5 cm

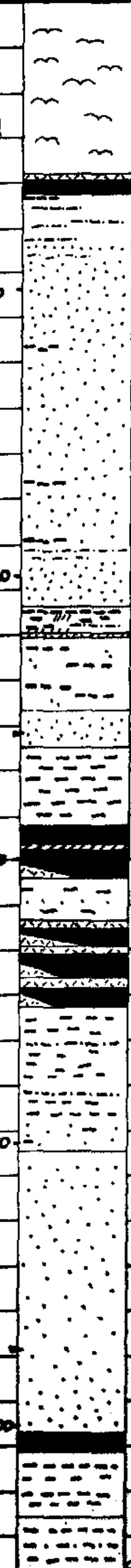
LOGGED BY: R. Holland
DATE: 31/10/78

041

DIAMOND DRILL LOG

202042

PROJECT: ROYAL GEORGE
AREA: Royal George
CO-ORDINATES 65,880N (53)
Approx. 578,700E
R.L. COLLAR 510
ANGLE OF HOLE 90°
AZIMUTH ....
DRILLERS A.D.D.
DRILL TYPE Mindrill 10L
COMMENCED 3/11/78
COMPLETED 9/11/78
DEPTH 202.5
CASING LEFT nil
HOLE No 78RG-2
SHEET No 1



RUN (m)	CORE SIZE	RECOVERY (m)	CORE RECOVERY % 60 80	DEPTH TO BASE OF STRATUM	THICKNESS OF STRATUM	DESCRIPTION OF STRATA	GEOLOGY LOG 1:500	SEAM NAME / RL ROOF & FLOOR	SAMPLE No.	DIAMETER OF PLY FROM	DIAMETER OF PLY TO	WEIGHT OF PLY (lbs)	CALCULATED S.G.	FLOATS S.G. Moist %	Ash %	V.HC %	S %	Cal. Value B.T.U/lb.	B.S.I. No.	Yield (wt.%)	SINKS S.G. Ash %	Yield (wt.%)	RAW COAL Ash %
12	HW	0		12·0	12·0	soil and clay : red brown (core not recoverable)																	
·5	HQ	·5		12·5	·5	Dolerite : weathered, green, very broken. (scree)																	
				12·58	·08	mudstone : weathered, Dolerite pebbles and weathered coal fragments																	
				12·61	·03	D : very hard		Seam1	1	12·58	13·5												58·7
				12·625	·015	Dmb : " "																	
				12·65	·025	D : " "																	
				12·73	·08	weathered coal - puggy																	
				12·76	·03	D : vertical jointing with carbonate on joint faces																	
				12·785	·025	Dmb: " " " " "																	
				12·8	·015	D																	
				12·86	·06	Dmb - Db																	
				12·865	·005	B carbonate on cleats																	
				12·915	·05	D : vertical joints with carbonate																	
				12·955	·04	weathered coal - puggy																	
				13·005	·05	D – weathered coal, jointed & broken.																	
				13·025	·02	weathered coal - puggy																	
				13·055	·03	Dmb – Db : vertical jointing with carbonate																	
				13·07	·015	Bd																	
				13·09	·02	Db																	
				13·105	·015	DB																	
				13·125	·02	D																	
				13·17	·045	weathered coal - very puggy																	
				13·215	·045	D : vertical jointing with carbonate																	
				13·225	·01	Db																	
				13·245	·02	DB : carb. on cleats																	
·8	HQ	·8		13·3	·055	Db : vertical jointing with carbonate																	
				13·3	·000	B : penny band																	
				13·32	·02	Dmb : broken																	
				13·34	·02	Db : " carb. on cleats																	
				13·34	·000	B : penny band.																	
				13·355	·015	Db : carb. on cleat																	
				13·375	·02	D																	
				13·38	·005	Bd																	
				13·47	·09	D		Seam1	1														

SUMMARY, SPECIAL COMMENTS:

5 cm

LOGGED BY: R.Holland
DATE: 8/11/78

043

DIAMOND DRILL LOG

202043

PROJECT: ROYAL GEORGE CO-ORDINATES 65,880 N (Approx. 78,700 E) ANGLE OF HOLE 90° DRILLERS A.D.D. COMMENCED 3/11/78 DEPTH 202.5 HOLE No. 78RG-2

AREA: Royal George R.L. COLLAR 510 AZIMUTH DRILL TYPE Mindrill 10L COMPLETED 9/11/78 CASING LEFT Nil. SHEET No. 2

RUN (m)	CORE SIZE	RECOVERY (m)	CORE RECOVERY % (60 80)	DEPTH TO BASE OF STRATUM	THICKNESS OF STRATUM	DESCRIPTION OF STRATA	GEOLOGY LOG 1:500	SEAM NAME / R.L. ROOF & FLOOR	SAMPLE No.	DIAMETER OF PLY FROM	DIAMETER OF PLY TO	WEIGHT OF PLY (lbs)	CALCULATED S.G.	PROXIMATE ANALYSIS AIR DRIED BASIS: FLOATS S.G. Moist %	Ash %	V.HC %	S %	Cal. Value B.T.U / lb.	B.S.I. No.	Yield (wt. %)	SINKS S.G Ash %	Yield (wt. %)	RAW COAL Ash %
				13.5	.03	weathered coal – D : broken & puggy		seam1	1														
				13.53	.03	Cr		↓															
				13.69	.16	carbonaceous mudstone: vertical jointing		seam1															
1.4	HQ	1.4		14.62	.93	interbedded sandstone & siltstone: ratio 5:5,																	
.5	HQ	.5				sandstone is med grey & fine grained, siltstone is dark																	
						grey & horizontally bedded, gradational lower contact.																	
1.5	HQ	1.5		16.965	2.345	interbedded sandstone & siltstone: ratio 6:4, sandstone																	
						light grey & fine grained showing micro cross bedding,																	
						siltstone is med-grey and horizontally bedded,																	
						high angle jointing thru-out, abrupt lower contact.																	
				17.15	.185	sandstone: light grey, med grained and massive, lithic,																	
						abrupt basal contact.																	
				17.7	.55	interbedded sandstone & siltstone: ratio 6:4																	
						sandstone; light grey fine-med, lithic, siltstone;																	
						med grey, horizontally bedded some minor																	
						slumping, high angle jointing with carbonate on																	
						joints, abrupt basal contact																	
1.31	HQ	1.01		18.0	.3	Lost core																	
				18.08	.08	interbedded sandstone & siltstone: ratio 6:4, sandstone																	
						light grey, fine-med lithic; siltstone, light grey, horizon-																	
						-tally bedded. High angle jointing thru-out, abrupt																	
						basal contact.																	
				19.3	1.22	sandstone: mid gray, med grained, massive, lithic																	
						with biotite grains, micro-crossbedding																	
1.49	NQ	1.29		19.5	.2	Lost core																	
3	NQ	3		24.23	4.73	sandstone: light grey, med, massive, lithic																	
				24.235	.005	D: carbonate on cleats																	
				24.615	.38	sandstone: light grey, med. grained, massive, lithic,																	
						containing coaly fragments (Bd.)																	
				24.62	.005	Cr																	
				24.64	.02	mudstone: slightly carbonaceous																	
3	NQ	3		24.665	.025	D – Cr : occassional Bd lenses.																	
1.9	NQ	3		24.675	.01	mudstone: carbonaceous.																	
.5	NQ	5		28.41	7.735	sandstone: light grey, med, massive, lithic with biotite																	
3.1	NQ	3.1				grains. Bd fragments @ 24.84, 25.6, carbonaceous																	
						lenses.																	

T.D. 202.5

SUMMARY, SPECIAL COMMENTS :

5 cm

LOGGED BY : R.A. Holland

DATE : 8/11/78

044

DIAMOND DRILL LOG

202044

PROJECT: ROYAL GEORGE | CO-ORDINATES 65,380N Approx. 78,700E | ANGLE OF HOLE 90° | DRILLERS A.D.D. | COMMENCED 3/11/78 | DEPTH 202.5 | HOLE No. 78RG-2

AREA: Royal George | R.L. COLLAR 510 | AZIMUTH | DRILL TYPE Mindrill 10L | COMPLETED 9/11/78 | CASING LEFT nil | SHEET No. 3

RUN (m)	CORE SIZE	RECOVERY (m)	CORE RECOVERY % (60 80)	DEPTH TO BASE OF STRATUM	THICKNESS OF STRATUM	DESCRIPTION OF STRATA	GEOLOGY LOG	SEAM NAME / RL. ROOF & FLOOR	SAMPLE No.	DIAMETER OF PLY FROM	DIAMETER OF PLY TO	WEIGHT OF PLY (lbs)	CALCULATED S.G.	PROXIMATE ANALYSIS AIR DRIED BASIS: FLOATS S.G. Moist %	Ash %	V.HC %	S %	Col. Value B.T.U / lb.	B.S.I. No.	Yield (wt. %)	SINKS S.G. Ash %	Yield (wt. %)	RAW COAL Ash %
5	NQ	5		32.415	.005	D																	
				33.485	1.07	sandstone: mid-grey, med, massive, lithic, containing carbonaceous lenses and mudstone fragments, errosive lower contact.																	
				33.685	.2	mudstone: mid gray, broken & slickensided, errosive lower contact.																	
3	NQ	3																					
3	NQ	3		37.55	3.865	sandstone: med. grained, massive, lithic, becoming lighter in colour towards base, errosive basal contact.																	
				37.83	.28	mudstone: med. grey, slumped irregular bedding (could be replaced dolerite) contains Bd fragments																	
				37.84	.01	B-Bd, carbonate on cleats																	
				37.86	.02	Cr - very hard																	
				37.93	.07	interbedded mudstone & sandstone: ratio 8:2, sandstone, light grey, lithic, fine grained, mudstone; med gray, vertical jointing with carbonate on joint faces - very hard, iron enriched, errossive lower contact.																	
				37.96	.03	sandstone: med. gray containing Bd fragments.																	
				37.965	.005	B																	
				38.855	.89	sandstone: light grey, med., massive, lithic, Bd fragments and mudstone fragments over top 0.245m.																	
				39.93	1.075	interbedded sandstone & siltstone: ratio 7:3, sandstone; light grey, fine-med, lithic; siltstone; light gray, irregular bedding, vertical jointing, frequent Bd fragments.																	
3	NQ	3																					
				42.405	2.475	sandstone: light grey, fine-med, lithic, grading to coarse over basal 0.825m, Bd fragments and carbonaceous lenses, mudstone pellets over base, abrupt basal contact.																	
				42.455	.05	interbedded sandstone & Bd: ratio 7:3, sandstone; light gray, med., abrupt basal contact.																	
				42.71	.255	mudstone: mid gray, carbonaceous over top & base, Bd fragments over middle, irregular bedding, jointing & slickensiding, very hard.																	
				42.745	.035	Bd: very hard																	

SUMMARY, SPECIAL COMMENTS:

D.P.O. No.

5 cm

LOGGED BY: R.A. Holland

DATE: 8/11/78

045

202045

DIAMOND DRILL LOG

PROJECT: ROYAL GEORGE
AREA: Royal George
CO-ORDINATES 53 65,880N Approx. 578,700E
R.L. COLLAR 510
ANGLE OF HOLE 90°
AZIMUTH
DRILLERS A.D.D.
DRILL TYPE Mindrill 10L
COMMENCED 3/11/78
COMPLETED 9/11/78
DEPTH 202.5
CASING LEFT nil
HOLE No 78RG-2
SHEET No 4

RUN (m)	CORE SIZE	RECOVERY (m)	CORE RECOVERY % (60 80)	DEPTH TO BASE OF STRATUM	THICKNESS OF STRATUM	DESCRIPTION OF STRATA	GEOLOGY LOG	SEAM NAME / R.L. ROOF & FLOOR	SAMPLE No.	DIAMETER OF PLY FROM	DIAMETER OF PLY TO	WEIGHT OF PLY (lbs)	CALCULATED S.G.	PROXIMATE ANALYSIS AIR DRIED BASIS: FLOATS S.G. Moist %	Ash %	V.HC %	S %	Cal. Value B.T.U / lb.	B.S.I. No.	Yield (wt. %)	SINKS S.G. Ash %	Yield (wt. %)	RAW COAL Ash %
				42.89	.145	mudstone: carbonaceous over top, vertical jointing, abrupt basal contact.																	
3	NQ	3		42.98	.09	siltstone: light grey.																	
.5	NQ	.5		44.00	1.02	mudstone: green grey, chloritic & indurated, jointed.																	
				44.15	.15	Dolerite: light green, altered.																	
				44.245	.095	carbonaceous mudstone: high angle jointing, broken.																	
.3	NQ	.3		44.335	.09	siltstone: green, altered (heat)																	
				44.66	.325	dolerite: green white, altered.																	
2.2	NQ	2.2		48.48	3.82	interbedded mudstone & sandstone: ratio 8:2, sandstone, light grey, fine-med, lithic, mudstone; med grey, irregular to sub-horizontal bedding.																	
				48.78	.3	Lost core																	
3	NQ	2.7		49.86	1.08	interbedded mudstone & sandstone: ratio 7:3 sandstone, light grey & fine grained, lithic, bedding is horizontal (varvoid appearance), gradational lower contact.																	
				51.3	1.44	sandstone: light grey, fine-med. massive, lithic, occasional siltstone lenses & carbonaceous lenses.																	
				51.32	.02	Bd: carbonate on cleats																	
				52.03	.71	sandstone: light grey, fine-med. massive, lithic, containing siltstone & carbonaceous lenses.																	
				52.065	.035	mudstone: carbonaceous, very hard.																	
3	NQ	3		52.425	.36	sandstone: light grey, med, containing Bd fragments, carbonaceous lenses and mudstone pellets, vertical jointing thru-out, errosive lower contact, carbonate on joint faces.																	
3	NQ	3																					
				57.97	5.545	mudstone: med. grey, bioturbated, vertical jointing with carbonate on joint faces, basal 0.08m is carbonaceous.																	
				57.975	.005	Cr																	
				57.99	.015	mudstone: mid grey.																	
				58.01	.02	DB: mudstone penny band at base		seam2		2(A)	57.99	58.51											36.6
				58.035	.025	DB: " " " (lensoidal)																	
				58.05	.015	DB																	
				58.055	.005	Bd																	
				58.06	.005	Dd		seam2		2(A)													

SUMMARY, SPECIAL COMMENTS:

D.P.O. No

5 cm

LOGGED BY: R.A.Holland
DATE: 9/11/78

046

DIAMOND DRILL LOG

202046

PROJECT: Royal George CO-ORDINATES 53 65,980 N Approx. 578,700 E ANGLE OF HOLE 90° DRILLERS A.D.D. COMMENCED 3/11/78 DEPTH 202.5 HOLE No 78RG-2

AREA: Royal George R.L. COLLAR 510 AZIMUTH DRILL TYPE Mindrill 10L COMPLETED 9/11/78 CASING LEFT nil SHEET No 5

RUN (m)	CORE SIZE	RECOVERY (m)	CORE RECOVERY % (60 80)	DEPTH TO BASE OF STRATUM	THICKNESS OF STRATUM	DESCRIPTION OF STRATA	GEOLOGY LOG	SEAM NAME / RL ROOF & FLOOR	SAMPLE No.	DIAMETER OF PLY FROM	DIAMETER OF PLY TO	WEIGHT OF PLY (lbs)	CALCULATED S.G.	PROXIMATE ANALYSIS AIR DRIED BASIS: FLOATS S.G. Moist %	Ash %	V.HC %	S %	Col. Value B.T.U / lb.	B.S.I. No.	Yield (wt.%)	SINKS S.G. Ash %	Yield (wt.%)	RAW COAL Ash %
				58·075	·015	Dmb		Seam 2	2(A)														
				58·09	·015	Db																	
				58·1	·01	Dmb: mudstone penny band @ base (lensoidal)																	
				58·145	·045	D																	
				58·175	·03	DB																	
				58·21	·035	Db : vertical jointing with carbonate																	
				58·22	·01	Dmb																	
				58·23	·01	Db																	
				58·255	·025	DB : carbonate on cleats.																	
				58·28	·025	D																	
				58·315	·035	D – Cr																	
				58·33	·015	mudstone : carbonaceous																	
				58·36	·03	D – Cr																	
				58·36	·005	D																	
				58·39	·025	Bd : carbonate on cleats																	
				58·415	·025	D																	
				58·44	·025	Bd – DB																	
				58·47	·03	D																	
3	NQ	3		58·5	·03	DB																	
				58·51	·01	Bd: carbonate on cleats.			2(A)														
				58·54	·03	mudstone: mid gray, carbonaceous towards base, vertical jointing.			2(B)	58·51	59·165												40·9
				58·545	·005	Cr																	
				58·555	·01	DB : carbonate on cleats.																	
				58·565	·01	Dmb																	
				58·585	·02	Db																	
				58·595	·01	Dmb																	
				58·615	·02	Db																	
				58·625	·01	Dmb																	
				58·645	·02	D																	
				58·65	·005	carbonaceous mudstone																	
				58·655	·005	Cr – D																	
				58·66	·005	B: carbonate on cleats																	
				58·67	·01	D																	
				58·68	·01	Dmb		Seam 2	2(B)														

SUMMARY, SPECIAL COMMENTS :

DPO No

5 cm

LOGGED BY : R.A. Holland

DATE : 9/11/78

047

DIAMOND DRILL LOG

202047

PROJECT: Royal George CO-ORDINATES 65,880N (Approx 78,700E) ANGLE OF HOLE 90° DRILLERS A.D.D. COMMENCED 3/11/78 DEPTH 202.5 HOLE No 78RG-2

AREA: Royal George R.L. COLLAR 510 AZIMUTH DRILL TYPE Mindrill 10L COMPLETED 9/11/78 CASING LEFT nil SHEET No 6

RUN (m)	CORE SIZE	RECOVERY (m)	CORE RECOVERY % (60 80)	DEPTH TO BASE OF STRATUM	THICKNESS OF STRATUM	DESCRIPTION OF STRATA	GEOLOGY LOG	SEAM NAME / RL ROOF & FLOOR	SAMPLE No.	DIAMETER OF PLY FROM	DIAMETER OF PLY TO	WEIGHT OF PLY (lbs)	CALCULATED S.G.	PROXIMATE ANALYSIS AIR DRIED BASIS: FLOATS S.G. Moist %	Ash %	V.HC %	S %	Cal. Value B.T.U / lb.	B.S.I. No.	Yield (wt. %)	SINKS S.G. Ash %	Yield (wt. %)	RAW COAL Ash %
				58.71	.03	Db-DB : carbonate on cleats		seam2	8(B)														
				58.72	.01	Db																	
				58.725	.005	DB																	
				58.75	.025	Dmb																	
				58.77	.02	DB																	
				58.78	.01	Dmb																	
				58.785	.005	Bd: carbonate on cleats																	
				58.81	.025	Db : vertical jointing with carbonate																	
				58.82	.01	carbonaceous mudstone																	
				58.885	.005	B : carbonate on cleats																	
				58.87	.045	carbonaceous mudstone																	
				58.97	.1	D-Cc																	
				58.985	.015	mudstone : grey brown (slightly carbonaceous)																	
				59.005	.02	D																	
				59.01	.005	mudstone : mid grey																	
				59.03	.02	D																	
				59.035	.005	mudstone																	
				59.055	.02	D																	
				59.105	.05	Dmb																	
				59.145	.04	DB-Db																	
				59.165	.02	Dmb		seam2	2(B)														
				59.2	.035	mudstone: carbonaceous																	
				59.205	.005	Cr																	
				59.235	.03	mudstone: carbonaceous																	
				59.245	.01	Cr																	
				59.285	.05	D																	
				59.305	.01	siltstone: carbonaceous																	
				59.325	.02	Cr																	
				59.335	.01	mudstone: carbonaceous slightly																	
				59.34	.005	Cr																	
				59.355	.015	siltstone																	
				59.415	.06	D-Cr																	
				59.44	.025	Cr																	
1.2	NQ	1.2		59.7	.26	mudstone: carbonaceous																	
				59.795	.095	Cr-D: very hard, indurated		seam3															

SUMMARY, SPECIAL COMMENTS:

5 cm

LOGGED BY: R.A. Holland

DATE: 9/11/78

048

DIAMOND DRILL LOG

202048

PROJECT: RoyalGeorge
AREA: Royal George
CO-ORDINATES 65,880N (Approx. 78,700E)
R.L. COLLAR 510
ANGLE OF HOLE 90°
AZIMUTH
DRILLERS A.D.D
DRILL TYPE Mindrill 101
COMMENCED 3/11/78
COMPLETED 9/11/78
DEPTH 202.5
CASING LEFT nil
HOLE No 78RG-2
SHEET No 7

RUN (m)	CORE SIZE	RECOVERY (m)	CORE RECOVERY % (60 80)	DEPTH TO BASE OF STRATUM	THICKNESS OF STRATUM	DESCRIPTION OF STRATA	GEOLOGY LOG	SEAM NAME / R.L. ROOF & FLOOR	SAMPLE No.	DIAMETER OF PLY FROM	DIAMETER OF PLY TO	WEIGHT OF PLY (lbs)	CALCULATED S.G.	PROXIMATE ANALYSIS AIR DRIED BASIS: FLOATS S.G. Moist %	Ash %	V.HC %	S %	Cal. Value B.T.U / lb.	B.S.I. No.	Yield (wt.%)	SINKS S.G. Ash %	Yield (wt.%)	RAW COAL Ash %
				59.81	.015	D		seam3															
				59.815	.005	Bd: carbonate on cleats																	
				59.85	.035	DB-Db : indurated, very hard																	
				59.935	.085	Db " "																	
				60.205	.27	Dolerite: light green, altered																	
				60.475	.27	Dmb : indurated, very hard.			3(A)	60.205	60.585												38.4
				60.485	.01	DB																	
				60.495	.01	Db																	
				60.53	.035	DB																	
				60.585	.055	Db : " "			3(A)														
				60.67	.085	Cr			3(B)	60.585	60.825												
				60.825	.165	mudstone: slightly carbonaceous			3(B)	stone													
				60.84	.015	Db : v hard			3(C)	60.825	61.71												82.6
				60.855	.015	Dolerite: light green, altered.																	
				60.89	.035	Db: indurated, v. hard.																	
				60.905	.015	Rc																	
				60.94	.035	DB-Bd : carbonate, talc on cleats. heat altered																	
				60.975	.035	Dmb "																	
				60.985	.01	Db "																	
				61.005	.02	Dmb "																	
				61.04	.035	DB "																	
				61.075	.035	Rc "																	
				61.15	.075	Dmb "																	
				61.17	.02	DB-Bd : carbonate on cleats.																	
				61.195	.025	Rc																	
				61.28	.085	Dolerite: altered																	
				61.335	.055	D "																	
				61.36	.025	siltstone "																	
				61.385	.025	Rc "																	
1.8	NQ	1.8		61.5	.115	Cr-D "																	
				61.71	.21	Dmb-Db "			3(C)														
				61.71	.03	carbonaceous mudstone																	
				61.745	.005	B: carbonate on cleats.		seam3															
				62.185	.44	mudstone: mid-grey, vertical jointing. (chloritic)																	
				62.355	.17	sandstone: light grey fine, massive.																	

SUMMARY, SPECIAL COMMENTS :

5 cm

LOGGED BY : R.A. Holland
DATE : 9/11/78

049

DIAMOND DRILL LOG

202049

PROJECT: Royal George CO-ORDINATES 65,880N (Approx. 78,700E) ANGLE OF HOLE 90° DRILLERS A.D.D. COMMENCED 3/11/78 DEPTH 202.5 HOLE No. 78RG-2

AREA Royal George R.L. COLLAR .... AZIMUTH .... DRILL TYPE Mindrill 10L COMPLETED 9/11/78 CASING LEFT nil SHEET No. 8

RUN (m)	CORE SIZE	RECOVERY (m)	CORE RECOVERY % (60 80)	DEPTH TO BASE OF STRATUM	THICKNESS OF STRATUM	DESCRIPTION OF STRATA	GEOLOGY LOG	SEAM NAME / RL ROOF & FLOOR	SAMPLE No.	DIAMETER OF PLY FROM	DIAMETER OF PLY TO	WEIGHT OF PLY (lbs)	CALCULATED S.G.	PROXIMATE ANALYSIS AIR DRIED BASIS: FLOATS S.G. Moist %	Ash %	V.HC %	S %	Col. Value B.T.U / lb.	B.S.I. No.	Yield (wt.%)	SINKS S.G. Ash %	Yield (wt.%)	RAW COAL Ash %
				62.445	.09	mudstone: mid grey, vertical jointing. (chloritic)																	
				63.035	.58	sandstone: light grey, fine																	
3	NQ	3		64.79	1.765	mudstone: mid-gray, containing B fragments, vertical jointed, (chloritic)																	
3	NQ	3		65.03	.24	Dolerite: altered																	
				68.115	3.085	mudstone: mid gray, vertical jointed, gradational lower contact.																	
				69.89	1.775	Sandstone & siltstone interbedded: ratio 5:5, wavoid bedding, mudstone fragments over middle.																	
				69.915	.025	Cr																	
				70.125	.21	mudstone: carbonaceous over top																	
				70.2	.075	Db: heat altered.		seam 4	8	70.125	71.255												75.5
				70.285	.085	mudstone: carbonaceous: heat altered																	
				70.36	.075	Dolerite: greeny brown.																	
				70.395	.035	mudstone: carbonaceous " "																	
				70.46	.065	Dmb																	
3	NQ	3		70.52	.06	dolerite: light green brown.																	
				70.54	.02	D																	
				70.655	.115	dolerite: with Db fragments																	
				70.695	.04	Db																	
				70.705	.01	mudstone: med. gray: " "																	
				70.735	.03	Dmb																	
				70.75	.015	mudstone: med. gray " "																	
				70.78	.03	dolerite: light green grey																	
				70.8	.02	DB																	
				70.885	.025	dolerite: " " "																	
				70.83	.005	Db																	
				70.88	.05	dolerite: " " with Db fragments																	
				70.945	.065	DB																	
				70.99	.045	dolerite " " " "																	
				71.015	.025	dolerite: green grey																	
				71.255	.24	Dmb - Db		seam 4	8														
				71.405	.15	dolerite " "																	
				71.515	.11	carbonaceous mudstone																	
				71.86	.345	dolerite																	

SUMMARY, SPECIAL COMMENTS:

D.P.O. No. .....

5 cm

LOGGED BY: R.A. Holland

DATE: 9/11/78

050

DIAMOND DRILL LOG

202050

PROJECT: Royal George CO-ORDINATES 65,880 N Approx. 78,700 E ANGLE OF HOLE 90° DRILLERS A.D.D. COMMENCED 3/11/78 DEPTH 202.5 HOLE No 78RG-2

AREA: Royal George R.L. COLLAR 510 AZIMUTH DRILL TYPE Mindrill 10h COMPLETED 9/11/78 CASING LEFT nil SHEET No 9

RUN (m)	CORE SIZE	RECOVERY (m)	CORE RECOVERY % (60 80)	DEPTH TO BASE OF STRATUM	THICKNESS OF STRATUM	DESCRIPTION OF STRATA	GEOLOGY LOG	SEAM NAME / RL ROOF & FLOOR	SAMPLE No.	DIAMETER OF PLY FROM	DIAMETER OF PLY TO	WEIGHT OF PLY (lbs)	CALCULATED S.G.	PROXIMATE ANALYSIS AIR DRIED BASIS: FLOATS S.G. Moist %	Ash %	V.HC %	S %	Col. Value B.T.U / lb	B.S.I. No.	Yield (wt.%)	SINKS S.G. Ash %	Yield (wt.%)	RAW COAL Ash %
				71.985	.125	Db		seam 5	9	71.86	73.58												79.4
				72.0	.015	carbonaceous mudstone : heat altered																	
				72.16	.16	Db																	
				72.225	.065	mudstone "																	
				72.24	.015	dolerite : light green																	
				72.265	.025	carbonaceous mudstone "																	
				72.44	.175	dolerite: light green																	
				72.465	.025	DB																	
				72.51	.045	dolerite: off white																	
				72.535	.025	mudstone : carbonaceous																	
				72.63	.095	dolerite : Db fragments																	
				72.9	.27	DB-Db																	
				72.94	.04	dolerite : light green																	
				73.05	.11	Db																	
				73.07	.02	mudstone: carbonaceous "																	
				73.11	.04	Dmb																	
				73.155	.045	dolerite: light green																	
				73.165	.01	carbonaceous mudstone "																	
				73.25	.085	dolerite: green brown																	
3	NQ	3		73.58	.33	Db		seam 5	9														
				73.605	.025	dolerite: off white																	
				74.185	.58	interbedded mudstone (heat altered) & dolerite: ratio 4:6																	
				74.215	.03	Db		seam 6	10	74.185	76.06												73.8
				74.225	.01	dolerite : light brown, containing stringers																	
				74.24	.015	DB																	
				74.255	.015	dolerite: " " " " "																	
				74.35	.095	DB																	
				74.36	.01	carbonaceous mudstone heat altered																	
				74.42	.06	Bd																	
				74.54	.12	carbonaceous mudstone "																	
				74.565	.025	dolerite: light brown																	
				74.635	.07	DB: containing dolerite fragments																	
				74.745	.11	dolerite & Db interbedded: ratio 6:4																	
				74.845	.1	Bd																	
				74.91	.065	Db: containing dolerite fragments		seam 6	10														

SUMMARY, SPECIAL COMMENTS:

D.P.O. No

5 cm

LOGGED BY: R.A. Holland

DATE: 9/11/78

051

DIAMOND DRILL LOG

202051

PROJECT: Royal George
AREA: Royal George
CO-ORDINATES 65,880N Approx. 78,700E
R.L. COLLAR 510
ANGLE OF HOLE 90°
AZIMUTH
DRILLERS A.D.D.
DRILL TYPE Mindrill 10L
COMMENCED 3/11/78
COMPLETED 9/11/78
DEPTH 202-5
CASING LEFT nil
HOLE No 78RG-2
SHEET No 10

RUN (m)	CORE SIZE	RECOVERY (m)	CORE RECOVERY % (60 80)	DEPTH TO BASE OF STRATUM	THICKNESS OF STRATUM	DESCRIPTION OF STRATA	GEOLOGY LOG	SEAM NAME / RL ROOF & FLOOR	SAMPLE No.	DIAMETER OF PLY FROM	DIAMETER OF PLY TO	WEIGHT OF PLY (lbs)	CALCULATED S.G	PROXIMATE ANALYSIS AIR DRIED BASIS: FLOATS S.G. Moist %	Ash %	V.HC %	S %	Col. Value B.T.U / lb.	B.S.I. No.	Yield (wt. %)	SINKS S.G. Ash %	Yield (wt. %)	RAW COAL Ash %
				74.92	.01	mudstone: carbonaceous heat altered		seam 6	10														
				74.98	.06	DB																	
				75.015	.035	interbedded mudstone (carbonaceous) & dolerite (grey brown)																	
						ratio 4:6																	
				75.13	.115	Bd-DB																	
				75.15	.02	mudstone: carbonaceous heat altered																	
				75.19	.04	Db																	
				75.235	.045	dolerite																	
				75.255	.02	Db																	
				75.35	.095	interbedded mudstone (carbonaceous) & dolerite: ratio 3:7																	
				75.415	.065	DB																	
				75.505	.09	interbedded dolerite & Db: ratio 7:3																	
				75.535	.03	dolerite: light brown																	
				76.06	.525	interbedded dolerite & Cr: ratio 6:4 (Cr: heat altered)		seam 6	10														
3	NQ	3		76.69	.63	mudstone: mid gray, laminated, gradational lower contact																	
3	NQ	3		80.78	4.09	interbedded mudstone & sandstone: ratio 7:3, sandstone; light gray, fine-med, horizontal regular bedding, abrupt basal contact																	
3	NQ	3		82.6	1.82	sandstone: light grey, fine-med, lithic, graded bedding, carbonaceous stringers, gradational lower contact																	
3	NQ	3		89.62	7.02	sandstone: light grey, lithic & massive, med-coarse, mudstone pellets @ 83.32, 84.7, abrupt basal contact.																	
				89.665	.045	mudstone and coal fragments with siliceous cement.																	
				90.75	1.085	sandstone: light gray, med-coarse, lithic, massive, errosive contact @ 90.565 and frequent Bd fragments to base, errosive basal contact.																	
				90.78	.03	D : dipping @ 20°																	
3	NQ	3		91.835	1.055	sandstone: light gray, med-coarse, massive, lithic frequent Bd stringers from 90.905–91.445																	
				91.865	.03	Dmb : dipping @ 20°																	
				91.88	.015	D																	
				91.885	.005	Bd																	

SUMMARY, SPECIAL COMMENTS:

5 cm

LOGGED BY: R.A. Holland
DATE: 10/11/78

DIAMOND DRILL LOG

202052

0.52

PROJECT: Royal George | CO-ORDINATES 65,880 N Approx. 78,700E | ANGLE OF HOLE 90° | DRILLERS A.D.D. | COMMENCED 3/11/78 | DEPTH 202.5 | HOLE No 78RG-2

AREA: Royal George | R.L. COLLAR 510 | AZIMUTH | DRILL TYPE Mindrill 10L | COMPLETED 9/11/78 | CASING LEFT nil | SHEET No 11

RUN (m)	CORE SIZE	RECOVERY (m)	CORE RECOVERY % (60 80)	DEPTH TO BASE OF STRATUM	THICKNESS OF STRATUM	DESCRIPTION OF STRATA	GEOLOGY LOG	SEAM NAME / RL ROOF & FLOOR	SAMPLE No.	DIAMETER OF PLY FROM	DIAMETER OF PLY TO	WEIGHT OF PLY (lbs)	CALCULATED S.G.	PROXIMATE ANALYSIS AIR DRIED BASIS: FLOATS S.G. Moist %	Ash %	V.HC %	S %	Cal. Value B.T.U / lb.	B.S.I. No.	Yield (wt.%)	SINKS S.G Ash %	Yield (wt.%)	RAW COAL Ash %
3	NQ	3		95.31	3.425	sandstone: light grey, med-coarse, lithic, massive occasional Bd stringers, errosive lower contact.																	
				95.32	.01	Bd																	
				95.39	.07	sandstone: light grey, med-coarse, lithic, massive, errosive lower contact.																	
				95.42	.03	Bd : carbonate on cleats																	
				95.445	.025	DB : " "																	
				95.465	.02	Bd – B : " "																	
				95.785	.32	sandstone: light grey, fine-med, lithic, graded bedding, frequent Bd fragments & stringers, errosive lower contact.																	
				95.805	.02	Bd – B : carbonate on cleats.																	
				96.065	.26	sandstone: light grey, fine-med, lithic, becoming silty towards base, Bd stringers.																	
				96.095	.03	siltstone: med-grey, slumped.																	
				96.205	.11	sandstone: light grey, med-coarse, massive & lithic, Bd fragments, errosive lower contact.																	
				96.235	.03	Bd : carbonate on cleats																	
				96.905	.67	sandstone: fine-coarse, lithic, graded bedding, carbonaceous stringers, errosive lower contact.																	
				96.94	.035	Bd – DB : carbonate on cleats																	
3	NQ	3		100.62	3.68	sandstone: light grey, fine-coarse, lithic, graded bedding, Bd stringers, siltstone lenses @ 97.65m, 97.85m, 98.25m.																	
3	NQ	3																					
				100.635	.015	Db : veryhard.		seam 7	4	100.62	101.935												51.9
				100.64	.005	talc (altered dolerite)																	
				100.66	.02	Db " "																	
				100.68	.02	talc & mudstone (altered dolerite)																	
				100.78	.1	Dmb hard																	
				100.795	.015	D "																	
				100.82	.025	Db "																	
				100.895	.075	Dmb "																	
				100.99	.095	talc & (light grey brown) & mudstone: (altered dolerite?)																	
				101.015	.025	Db. veryhard.																	
				101.03	.015	talc : light brown (altered dolerite)		seam 7	4														

SUMMARY, SPECIAL COMMENTS :

D.P.O. No.

5 cm

LOGGED BY : R.A. Holland

DATE : 10/11/78

DIAMOND DRILL LOG

053

202053

PROJECT: Royal George | CO-ORDINATES 65,880N Approx. 38,700E | ANGLE OF HOLE 90° | DRILLERS A.D.D. | COMMENCED 3/11/78 | DEPTH 202.5 | HOLE No 78RG-2

AREA: Royal George | R.L. COLLAR 510 | AZIMUTH | DRILL TYPE Mindrill 10L | COMPLETED 9/11/78 | CASING LEFT nil | SHEET No 12

RUN (m)	CORE SIZE	RECOVERY (m)	CORE RECOVERY % (60 80)	DEPTH TO BASE OF STRATUM	THICKNESS OF STRATUM	DESCRIPTION OF STRATA	GEOLOGY LOG	SEAM NAME / R.L. ROOF & FLOOR	SAMPLE No.	DIAMETER OF PLY FROM	DIAMETER OF PLY TO	WEIGHT OF PLY (lbs)	CALCULATED S.G.	PROXIMATE ANALYSIS AIR DRIED BASIS: FLOATS S.G. Moist %	Ash %	V. HC %	S %	Cal. Value B.T.U / lb.	B.S.I. No.	Yield (wt. %)	SINKS S.G. Ash %	Yield (wt. %)	RAW COAL Ash %
				101.05	.02	Dmb : very hard		seam 7	4														
				101.075	.025	talc & siltstone : light brown (altered dolerite)																	
				101.105	.03	Dmb																	
				101.2	.095	D																	
				101.205	.005	talc (altered dolerite)																	
				101.215	.01	D																	
				101.255	.04	Dmb																	
				101.27	.015	Db																	
				101.35	.08	Dmb																	
				101.36	.01	DB																	
				101.425	.065	Db																	
				101.436	.01	DB																	
				101.465	.03	D																	
				101.515	.05	talc & mudstone (altered dolerite)																	
				101.53	.015	D : mudstone penny band at base																	
				101.565	.035	Db																	
				101.59	.025	D																	
				101.61	.02	Db																	
				101.68	.07	D : mudstone penny band at base																	
				101.685	.005	D																	
				101.695	.01	Cr																	
				101.7	.005	talc : altered dolerite																	
				101.815	.115	mudstone: slightly carbonaceous																	
				101.83	.015	Rc																	
				101.91	.08	DB																	
				101.935	.025	Db																	
				101.95	.015	carbonaceous mudstone & talc (altered dolerite)		seam 7 ↓	4 ↓														
3	NQ	3		103.435	1.485	mudstone: mid gray, slickensided, horizontally bedded.																	
				103.5	.065	mudstone: carbonaceous																	
3	NQ	3		106.565	3.065	mudstone: mid gray, horizontal regular bedding.																	
3	NQ	3		106.715	.15	siltstone: slumped, horizontal towards base.																	
3	NQ	3		112.0	5.285	mudstone: mid gray laminated (uncvoid.) bioturbations @ 107m, abrupt basal contact.																	
3	NQ	3		115.985	3.985	sandstone: light grey, med, lithic massive, fine grained with carbonaceous lenses for 114.78m-115.39, mudstone →																	

SUMMARY, SPECIAL COMMENTS :

DPO No

5 cm

LOGGED BY : R.A. Holland

DATE : 10/11/78

054

DIAMOND DRILL LOG

202054

PROJECT: Royal George
AREA: Royal George
CO-ORDINATES 65,980N Approx. 78,700E
R.L. COLLAR 510
ANGLE OF HOLE 90°
AZIMUTH
DRILLERS A.D.D.
DRILL TYPE Mindrill 10h
COMMENCED 3/11/78
COMPLETED 9/11/78
DEPTH 209.5
CASING LEFT nil
HOLE No 78RG-2
SHEET No 13

RUN (m)	CORE SIZE	RECOVERY (m)	CORE RECOVERY % (60 80)	DEPTH TO BASE OF STRATUM	THICKNESS OF STRATUM	DESCRIPTION OF STRATA	GEOLOGY LOG	SEAM NAME / R.L. ROOF & FLOOR	SAMPLE No.	DIAMETER OF PLY FROM	DIAMETER OF PLY TO	WEIGHT OF PLY (lbs)	CALCULATED S.G.	PROXIMATE ANALYSIS AIR DRIED BASIS: FLOATS S.G. Moist %	Ash %	V.HC %	S %	Col. Value B.T.U / lb.	B.S.I. No.	Yield (wt.%)	SINKS S.G. Ash %	Yield (wt.%)	RAW COAL Ash %
				115.985	3.985	fragments & lenses over basal 0.595m																	
3	NQ	3		118.14	2.155	interbedded sandstone & siltstone: ratio 8:2, sandstone, light grey, med-coarse, lithic, carbonaceous lenses, mudstone pellets occasionally, abrupt basal contact.																	
3	NQ	3		122.96	4.82	sandstone: light grey, med-coarse, massive, lithic, basal contact @ 20°																	
				123.035	.075	Dmb : slickensided & vertical jointed.		seam 8	5	122.96	124.185												24.9
				123.055	.02	carbonaceous mudstone : talcy																	
				123.065	.01	Db : carbonaceous mudstone pennyband @ base																	
				123.08	.015	D																	
				123.085	.005	Cc																	
				123.12	.035	D																	
				123.125	.005	Bd : vertical jointing with carbonate																	
				123.145	.02	Dmb: F penny band @ base																	
				123.17	.025	Dmb																	
				123.19	.02	Db																	
				123.23	.04	Dmb																	
				123.24	.01	Bb : carbonate on cleats.																	
				123.26	.02	Db																	
				123.275	.015	Dmb																	
				123.34	.065	Db																	
				123.345	.005	B : carbonate on cleats.																	
				123.365	.02	Dmb																	
				123.37	.005	B : carbonate on cleats																	
				123.385	.015	Dmb																	
				123.39	.005	B : " " "																	
				123.41	.02	Db																	
				123.455	.045	DB																	
				123.485	.03	Dmb																	
				123.49	.005	Bd																	
				123.495	.005	Dmb																	
				123.54	.045	DB : carbonate on cleats																	
				123.595	.055	Dmb																	
				123.6	.005	Bd : carbonate on cleats		seam 8	5														

SUMMARY, SPECIAL COMMENTS :

D.P.O. No.

5 cm

LOGGED BY : R.A. Holland

DATE : 10/11/78

202055

DIAMOND DRILL LOG

056

PROJECT: Royal George CO-ORDINATES 65,880N Approx. 78,700E ANGLE OF HOLE 90° DRILLERS A.D.D. COMMENCED 3/11/78 DEPTH 202.5 HOLE No 78RG-2

AREA. R.L. COLLAR 510 AZIMUTH DRILL TYPE Mindrill 10L COMPLETED 9/11/78 CASING LEFT nil SHEET No 14

RUN (m)	CORE SIZE	RECOVERY (m)	CORE RECOVERY % (60 80)	DEPTH TO BASE OF STRATUM	THICKNESS OF STRATUM	DESCRIPTION OF STRATA	GEOLOGY LOG	SEAM NAME / R.L. ROOF & FLOOR	SAMPLE No.	DIAMETER OF PLY FROM	DIAMETER OF PLY TO	WEIGHT OF PLY (lbs)	CALCULATED S.G.	PROXIMATE ANALYSIS AIR DRIED BASIS: FLOATS S.G. Moist %	Ash %	V.HC %	S %	Cal. Value B.T.U / lb.	B.S.I. No.	Yield (wt. %)	SINKS S.G. Ash %	Yield (wt. %)	RAW COAL Ash %
				123·61	·01	carbonaceous mudstone: 8 penny band @ base		seam 8	5														
				123·635	·025	Dmb																	
				123·67	·035	Db																	
				123·695	·025	D																	
				123·756	·06	Db																	
				123·77	·015	Dmb																	
				123·78	·01	mudstone: lensoidal																	
				123·795	·015	Dmb																	
				123·81	·015	Db : mudstone penny band, lensoidal																	
				123·815	·005	mudstone: carbonaceous																	
				123·84	·025	Dmb: mudstone penny band over base																	
				123·856	·015	Db																	
				123·86	·005	mudstone: sideritic																	
				123·88	·02	DB																	
				123·885	·005	Dmb																	
				123·895	·01	DB																	
				123·91	·015	Db																	
				123·935	·025	Bd																	
				123·945	·01	DB																	
				124·01	·065	Dmb																	
				124·04	·03	Db																	
				124·07	·03	Dmb-Db																	
				124·08	·01	Db																	
				124·115	·035	Dmb : talc penny band @ base																	
				124·17	·055	Dmb																	
				124·175	·005	carbonaceous mudstone																	
				124·185	·01	D																	
				124·21	·025	carbonaceous mudstone																	
				124·215	·005	Bd : carbonate on cleats																	
				124·225	·01	carbonaceous mudstone																	
				124·235	·01	D																	
				124·285	·05	mudstone: slightly carbonaceous																	
				124·29	·005	Bd : carbonate on cleats																	
				124·355	·065	mudstone: carbonaceous																	
				124·36	·005	Bd : carbonate on cleats		seam 8															

5

SUMMARY, SPECIAL COMMENTS :

5 cm

LOGGED BY : B.P. HOLLAND

DATE : 10/11/78

057

DIAMOND DRILL LOG

PROJECT: Royal George | CO-ORDINATES 65,880N Approx. 78,700E | ANGLE OF HOLE 90° | DRILLERS A.D.D. | COMMENCED 3/11/78 | DEPTH 202.5 | HOLE No 78RG-2

AREA: | R.L. COLLAR 510 | AZIMUTH | DRILL TYPE Mindrill 10L | COMPLETED 9/11/78 | CASING LEFT nil | SHEET No 15

RUN (m)	CORE SIZE	RECOVERY (m)	CORE RECOVERY % (60 80)	DEPTH TO BASE OF STRATUM	THICKNESS OF STRATUM	DESCRIPTION OF STRATA	GEOLOGY LOG	SEAM NAME / RL ROOF & FLOOR	SAMPLE No.	DIAMETER OF PLY FROM	DIAMETER OF PLY TO	WEIGHT OF PLY (lbs)	CALCULATED S.G.	PROXIMATE ANALYSIS AIR DRIED BASIS: FLOATS S.G. Moist %	Ash %	V.HC %	S %	Cal. Value B.T.U / lb.	B.S.I. No.	Yield (wt.%)	SINKS S.G. Ash %	Yield (wt.%)	RAW COAL Ash %
				124.44	.08	carbonaceous mudstone		seam8															
				124.55	.015	B-Bd : carbonate on cleats																	
				124.465	.01	carbonaceous mudstone																	
3	NQ	3		124.51	.045	interbedded Bd + carbonaceous mudstone: ratio 3:7		seam8															
				125.08	.57	mudstone: carbonaceous over base, frequent Bd stringers																	
1	NQ	1		125.675	.595	mudstone: mid grey, slightly carbonaceous, breaking up quickly after drilling (within 24hrs)																	
2	"	2																					
3	"	3		137.89	12.215	sandstone: light grey, top 10m is fine-coarse with graded bedding, lithic, frequent mudstone fragments @ 135.72, massive + medium grained over basal 2m, abrupt basal contact.																	
3	"	3																					
3	"	3																					
				137.895	.005	Bd		seam9	6	137.89	138.97												66.6
				137.95	.055	mudstone: carbonaceous																	
				138.03	.08	Dmb																	
				138.035	.005	Bd																	
				138.04	.005	Db																	
				138.08	.04	D																	
				138.1	.02	mudstone: carbonaceous																	
				138.12	.02	DB																	
				138.47	.35	mudstone																	
				138.475	.005	Bd : carbonate on cleats																	
				138.49	.015	mudstone: mid-grey																	
				138.52	.03	Rc																	
				138.53	.01	Bd																	
				138.54	.01	D																	
				138.545	.005	B																	
				138.595	.05	mudstone: carbonaceous over top.																	
				138.66	.065	Rc																	
				138.7	.04	D : B penny band @ base																	
				138.765	.065	D : vertical jointing with carbonate on cleats																	
				138.808	.04	DB : carbonate + pyrite on cleats																	
				138.86	.055	mudstone: carbonaceous over top																	
				138.92	.06	Db																	
				138.97	.05	D		seam9 6															

SUMMARY, SPECIAL COMMENTS:

5 cm

LOGGED BY: R.A. HOLLAND

DATE: 10/11/78

058

DIAMOND DRILL LOG

202057

PROJECT: Royal George CO-ORDINATES 65,880 N. Approx. 78,700 E. ANGLE OF HOLE 90° DRILLERS A.D.D. COMMENCED 3/11/78. DEPTH 202.5 HOLE No. 78RG-2

AREA R.L. COLLAR 510 AZIMUTH DRILL TYPE MINDRILL 10L COMPLETED 9/11/78. CASING LEFT nil SHEET No. 16

RUN (m)	CORE SIZE	RECOVERY (m)	CORE RECOVERY % (60 80)	DEPTH TO BASE OF STRATUM	THICKNESS OF STRATUM	DESCRIPTION OF STRATA	GEOLOGY LOG	SEAM NAME / R.L. ROOF & FLOOR	SAMPLE No.	DIAMETER OF PLY FROM	DIAMETER OF PLY TO	WEIGHT OF PLY (lbs)	CALCULATED S.G.	PROXIMATE ANALYSIS AIR DRIED BASIS: FLOATS S.G. Moist %	Ash %	V. HC %	S %	Cal. Value B.T.U / lb.	B.S.I. No.	Yield (wt. %)	SINKS S.G. Ash %	Yield (wt. %)	RAW COAL Ash %
3	NQ	3		141.26	2.29	mudstone: mid grey, high angle jointing & slickensiding, carbonaceous over top, siltstone lense over base																	
3	NQ	3																					
				143.36	2.1	interbedded sandstone & siltstone: ratio 6:4, sandstone																	
3	NQ	3				is light grey, lithic, fine-med; carbonaceous lenses,																	
3	"	3				horizontal regular bedding, gradational lower contact.																	
3	"	3		155.3	11.94	sandstone: light grey, med-coarse, lithic & massive,																	
3	"	3				containing biotite grains & occasional carbonaceous																	
						lenses, coaly fragments over base, erosive lower contact																	
				155.395	.095	talc : grey brown																	
				155.4	.075	carbonate & talc																	
				155.405	.005	sandstone: light grey, coarse lithic, massive																	
				155.445	.04	D: very hard																	
				155.59	.145	sandstone: light grey, med-coarse, lithic, ironstone fragments																	
						and mudstone pellets																	
				155.675	.085	ironstone : abrupt lower contact																	
3	NQ	3		158.75	3.075	sandstone: light grey, med-coarse, massive, lithic,																	
						mudstone fragments over top 0.2m, Bd fragments																	
						@ 157.5m																	
				160.13	1.38	claystone: med-grey, bioturbated, slickensided, dark																	
						grey over base																	
				160.15	.02	carbonaceous mudstone		seam 10															
				160.245	.095	D-Cr																	
				160.325	.08	mudstone: carbonaceous lenses																	
				160.34	.015	D				7	160.325	161.295											63.8
				160.35	.01	Cr																	
				160.445	.095	D																	
				160.465	.02	Cr																	
				160.475	.01	D																	
				160.485	.01	mudstone: carbonaceous																	
3	NQ	3		160.5	.015	D : talc penny band @ base																	
				160.67	.17	D																	
				160.695	.025	Cr																	
				161.035	.34	D																	
				161.295	.26	Cr																	
				161.31	.015	mudstone: carbonaceous (talcy?)		seam 10															

SUMMARY, SPECIAL COMMENTS :

DPD No

5 cm

LOGGED BY : R.A. HOLLAND

DATE : 10/11/78

059

DIAMOND DRILL LOG

202058

PROJECT: Royal George | CO-ORDINATES 65,880 N Approx. 78,700 E | ANGLE OF HOLE 90° | DRILLERS A.P.D. | COMMENCED 3/11/78 | DEPTH 202.5 m | HOLE No. 78RG-2

AREA: | R.L. COLLAR 510 | AZIMUTH | DRILL TYPE MINDRILL 10L | COMPLETED 9/11/78 | CASING LEFT nil | SHEET No. 17

RUN (m)	CORE SIZE	RECOVERY (m)	CORE RECOVERY % (60 80)	DEPTH TO BASE OF STRATUM	THICKNESS OF STRATUM	DESCRIPTION OF STRATA	GEOLOGY LOG	SEAM NAME / R.L. ROOF & FLOOR	SAMPLE No.	DIAMETER OF PLY FROM	DIAMETER OF PLY TO	WEIGHT OF PLY (lbs)	CALCULATED S.G.	PROXIMATE ANALYSIS AIR DRIED BASIS: FLOATS S.G. Moist %	Ash %	V.HC %	S %	Col. Value B.T.U / lb.	B.S.I. No.	Yield (wt.%)	SINKS S.G. Ash %	Yield (wt.%)	RAW COAL Ash %
				161.355	.045	Cr		seam10															
				161.4	.045	carbonaceous mudstone		seam10															
				162.08	.68	siltstone: light grey, med. sandstone over base,																	
3	NQ	3				gradational lower boundary																	
3	"	3		174.86	12.78	sandstone: light grey, med-coarse, massive, lithic, B																	
3	"	3				fragments @ 163.7, 165.62																	
3	"	3		174.87	.01	Db																	
3	"	3		197.9	23.03	sandstone: light grey, med-coarse, massive, lithic																	
3	"	3				Bd fragments @ 182.4m, mudstone pellets @ 186.3m,																	
3	"	3				coaly stringers @ 187.8 m, high angle jointing around																	
3	"	3				194m																	
3	"	3		198.23	.33	clay ironstone: grey brown, sideritic, very hard, jointed.																	
3	"	3		198.235	.005	D																	
3	"	3		198.245	.01	carbonaceous mudstone																	
3	"	3		198.445	.2	mudstone: med. grey, slickensided & med. angle jointing																	
				198.765	.32	interbedded sandstone & siltstone: ratio 8:2, sandstone;																	
						light grey, med, lithic; siltstone; med grey, carbonaceous																	
						lenses, abrupt basal contact, vertical jointing.																	
				198.78	.015	mudstone: med. grey, carbonaceous over top.																	
				198.79	.01	Bd																	
				198.81	.02	Cr																	
				198.825	.015	mudstone: carbonaceous																	
3	NQ	3		202.5	3.675	interbedded mudstone & sandstone: ratio 8:2,																	
3	"	3				sandstone; light-grey, fine-med, lithic, mudstone; med-grey																	
						carbonaceous lenses, horizontal-subhorizontal																	
						bedding, high angle jointing & slickensiding.																	
						END of HOLE																	

SUMMARY, SPECIAL COMMENTS:

DPO No

5 cm

LOGGED BY: R.A. HOLLAND

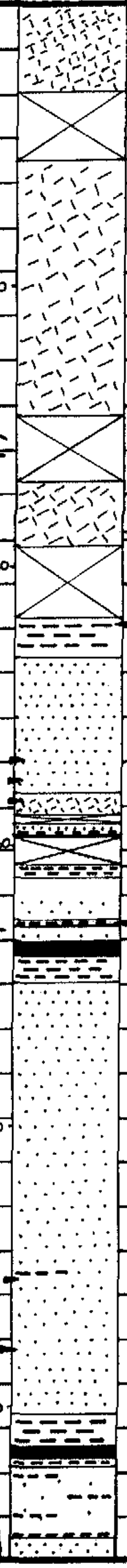
DATE: 10/11/78

202059

DIAMOND DRILL LOG

PROJECT: Royal George
AREA:
CO-ORDINATES: Approx. 53 75,520N / 5 75,820E
RL COLLAR: 640
ANGLE OF HOLE: 90°
AZIMUTH:
DRILLERS: A.D.D.
DRILL TYPE: Mindrill 10L
COMMENCED: 12/11/78
COMPLETED: 17/11/78
DEPTH: 184.5
CASING LEFT: 1.5m
HOLE No: 78RG-3
SHEET No: 1

RUN (m)	CORE SIZE	RECOVERY (m)	CORE RECOVERY %	DEPTH TO BASE OF STRATUM	THICKNESS OF STRATUM	DESCRIPTION OF STRATA	SEAM NAME / RL ROOF & FLOOR	SAMPLE No.
1·3	HQ	·6		11·17	6·27	Dolerite scree & clay: mid brown to red brown		
1·8	"	1·7				clay; dolerite, light grey & weathered along joint plains		
1·5	"	1·0				which are high angle, approx 20-30% clay.		
1·5	"	·5	33%	11·17	4·9	Lost core		
1·5	"	·6	40%	34·0	18·03	Dolerite: broken & jointed; weathered along joint		
1·5	"	·4	26%			faces which are vertical & high angle, dolerite		
1·5	"	·9				light grey to med. gray, med. crystalline		
1·5	"	·9		34·0	4·8	Lost core		
1·5	"	·8		43·5	4·4	Dolerite: broken & jointed, weathered along high angle joint		
1·5	"	1·4				faces, around 40m dolerite is very weathered; shear		
·7	"	·7				zone commencing @ 37·5m (drilling difficult due		
2·4	"	2				to broken ground & back pressure from water in		
1·5	"	1·5				fault.)		
·3	"	·3		43·5	5·1	Lost core		
1·2	"	·7		43·84	·34	mudstone: mid grey, broken & puggy, slickensided	SHEAR	ZONE
1·6	"	1·1				(shear zone)		
1·4	"	1·3		43·885	·045	weathered coal: puggy & broken		
1·7	"	1·6		44·4	·515	mudstone: mid grey, sheared, broken & puggy		
1·2	HQ	1·1		44·5	·1	Lost core		
1·5	NQ	1·5		46·08	1·58	mudstone: med. gray, getting more silty towards base,		
2·9	NQ	2·0				carbonaceous lenses, conjugate jointing, slickensid-		
·5	"	·5				ing, dip appears to be 60-70°		
·2	"	·1		46·6	·52	mudstone: carbonaceous, dark grey, slickensided,		
1·9	"	1·2				lower contact abrupt & dipping 55°		
·5	"	·5		51·72	5·12	sandstone: light grey, med-coarse, grading to		
2·6	"	1·6				pebbly sandstone @ base, 60° jointing thruout		
·4	"	·1	25%			with slickensiding, abrupt basal contact		
2·5	"	·9	36%	51·82	·1	Lost core		
·5	"	·4		53·1	1·28	sandstone: yellow, high angle jointing, slickensided on		
3	"	·9	30%			joint faces, very weathered, coarse, abrupt basal		
1	NQ	·9				contact. (could be weathered dolerite)		
·6	HQ	·6		53·8	·7	sandstone: light grey, green, coarse, weathered		
1·3	"	1·3				(may be dolerite)		
1·6	"	1·6		53·9	·1	weathered coal: broken up & mixed with grey clay		
1·6	"	1·6				(puggy) some chips of coal are very hard (indurated)		



GEOLOGY LOG 1:500

DIAMETER OF PLY (FROM / TO), WEIGHT OF PLY (lbs), CALCULATED S.G., PROXIMATE ANALYSIS AIR DRIED BASIS — FLOATS S.G (Moist %, Ash %, V.HC %, S %, Cal. Value B.T.U/lb, B.S.I. No., Yield (wt.%)), SINKS S.G (Ash %, Yield (wt.%)), RAW COAL (Ash %): no entries.

SUMMARY, SPECIAL COMMENTS:

5 cm

DPO No

LOGGED BY: R. HOLLAND

DATE: 13/11/78

061

DIAMOND DRILL LOG

202060

PROJECT: Royal George | CO-ORDINATES 75,520 N Approx. 75,820 E | ANGLE OF HOLE 90° | DRILLERS A.D.D. | COMMENCED 12/11/78 | DEPTH 184.5 | HOLE No. 78RG-3

AREA: | R.L. COLLAR 640 | AZIMUTH | DRILL TYPE MINDRILL 10L | COMPLETED 17/11/78 | CASING LEFT 1.5m | SHEET No. 2

RUN (m)	CORE SIZE	RECOVERY (m)	CORE RECOVERY % (60 80)	DEPTH TO BASE OF STRATUM	THICKNESS OF STRATUM	DESCRIPTION OF STRATA	GEOLOGY LOG 1:500	SEAM NAME / RL ROOF & FLOOR	SAMPLE No.	DIAMETER OF PLY FROM	DIAMETER OF PLY TO	WEIGHT OF PLY (lbs)	CALCULATED S.G.
1.5	HQ	1.5		54.08	.18	sandstone: light green grey, coarse, altered							
.7	HQ	.7		54.2	.12	Dmb and weathered coal mixed with puggy sandstone							
.8	HQ	.5				& clay							
.5	HQ	.5											
1	HQ	1		54.3	.1	Lost core (probably coal)							
1.2	HQ	1.1		55.7	1.4	sandstone: light grey green, coarse, altered							
.7	HQ	.4		56	.3	lost core							
				56.21	.21	sandstone: light grey, coarse, lithic, massive							
				56.88	.67	Dolerite: light grey. green, med. crystalline, high angle jointing with carbonate crystallization on joint faces.							
				56.89	.01	heat altered coal.							
				57	.11	Dolerite: green grey, broken & jointed.							
1.1	HQ	1		57.1	.1	Lost core							
				57.6	.5	Dolerite: green grey, high angle jointed, carbonate crystallization.							
				57.8	.2	crushed dolerite & clay (green grey) puggy, some indurated coal fragments, talc on slickensided faces							
1.4	NQ	.7		58.5	.7	Lost core							
				58.94	.44	sandstone: light grey, coarse, lithic, massive, 60° jointing, slickensiding.							
				59.19	.25	mudstone: med. grey, crushed & slickensided.							
				59.3	.11	D: very hard.							
				61.3	2	Lost core: probably coal & mudstone							
3	NQ	1	35%	61.5	.2	mudstone: mid grey, crushed, clayey, slickensided							
						Base of obvious shear zone : 61.5m.							
				62.29	.79	mudstone: mid grey, talc on slickensides @ 60° gradational lower contact							
3	NQ	3		65.17	2.88	sandstone: light grey, fine-med, Bd stringers over base, massive, lithic, abrupt basal contact							
				65.685	.515	mudstone: mid grey, silty over top, clayey towards base.							
				65.71	.025	Dmb: carbonate veins.							
				65.78	.07	mudstone: mid grey, slumped							
				66.745	.965	sandstone: light grey, fine-med, massive, carbonaceous lenses							
				66.78	.035	mudstone: med. grey.							

T.D. 184.5

PROXIMATE ANALYSIS AIR DRIED BASIS											
FLOATS S.G.								SINKS S.G		RAW COAL
Moist %	Ash %	V. HC %	S %	Cal. Value B.T.U / lb.	B.S.I. No.	Yield (wt. %)		Ash %	Yield (wt. %)	Ash %

SUMMARY, SPECIAL COMMENTS :

D.P.O. No.

5 cm

LOGGED BY R.A. Holland

DATE : 16/11/78

062

DIAMOND DRILL LOG

202061

PROJECT: Royal George CO-ORDINATES 75,520N Approx. 76,820E ANGLE OF HOLE 90° DRILLERS A.D.D. COMMENCED 12/11/78 DEPTH 184.5 HOLE No 78RG-3

AREA: R.L COLLAR 640 AZIMUTH: DRILL TYPE Mindrill 101 COMPLETED 17/11/78 CASING LEFT 1.5m SHEET No 3

RUN (m)	CORE SIZE	RECOVERY (m)	CORE RECOVERY % (60 80)	DEPTH TO BASE OF STRATUM	THICKNESS OF STRATUM	DESCRIPTION OF STRATA	GEOLOGY LOG	SEAM NAME / R.L. ROOF & FLOOR	SAMPLE No.	DIAMETER OF PLY FROM	DIAMETER OF PLY TO	WEIGHT OF PLY (lbs)	CALCULATED S.G.	PROXIMATE ANALYSIS AIR DRIED BASIS: FLOATS S.G. Moist %	Ash %	V.HC %	S %	Cal. Value B.T.U / lb.	B.S.I. No.	Yield (wt.%)	SINKS S.G Ash %	Yield (wt.%)	RAW COAL Ash %
				66.785	.005	Rc		seam1	1	66.78	67.795												27.2
				66.81	.025	Cr : Bd penny band @ base																	
				66.82	.01	D: very hard																	
				66.825	.005	carbonaceous mudstone: grey brown puggy.																	
				67.025	.2	Dmb: very hard, high angle jointing with carbonate.																	
				67.12	.095	D: very hard, carbonate veins.																	
				67.135	.015	D-Cr: " "																	
				67.15	.015	D + carbonate interbedded: ratio 6:4																	
				67.41	.26	D: containing root structures, very hard.																	
				67.435	.025	sandstone: carbonaceous, med. grained.																	
3	NQ	3		67.5	.065	D: vertical jointing																	
				67.64	.14	D-Dmb: very hard, carbonate veins																	
				67.65	.01	Bd: carbonate veins																	
				67.715	.065	Db " "																	
				67.795	.08	D			1														
				67.86	.065	Rc : 80° joint @ base of seam		seam1															
				69.72	1.86	mudstone: mid grey, carbonaceous over top 0.1m																	
3	NQ	3				becoming more silty towards base, jointed +																	
3	NQ	3				slickensided, horizontal → subhorizontal bedding																	
3	NQ	3		81.475	11.755	sandstone: light grey, med-coarse, massive, lithic,																	
3	"	3				Bd stringers @ 72.42m, high angle jointing.																	
3	"	3		82.49	1.015	sandstone: light grey, med-coarse, lithic, 50% mudstone																	
3	"	3				fragments, Bd stringers @ top.																	
3	"	3		90.38	7.89	sandstone: light grey, med-coarse, lithic, massive,																	
						occasional carbonaceous stringers, 60° jointing with																	
						carbonate on joint faces, slickensided, basal contact																	
						looks as if coal seam has been faulted out																	
				90.425	.045	mudstone: carbonaceous, lower contact 60° +																	
						slickensided.																	
				90.535	.11	D: very hard																	
3	NQ	3		96.07	5.535	sandstone: light grey, med-coarse, massive, lithic, 80° joints.																	
3	NQ	3		96.095	.025	D																	
3	NQ	3		97.43	1.335	sandstone: light grey, med-coarse, massive, lithic with																	
						frequent D stringers, vertical jointing + fracturing																	
						along coal faces.																	

SUMMARY, SPECIAL COMMENTS:

5 cm

LOGGED BY: R.A. Holland

DATE: 16/11/78

DIAMOND DRILL LOG

202062

063

PROJECT: ROYAL GEORGE | CO-ORDINATES 75,590N Approx. 75,820E | ANGLE OF HOLE 90° | DRILLERS A.D.D. | COMMENCED 12/11/78 | DEPTH 184.5 | HOLE No 78RG-3

AREA: | R.L. COLLAR 640 | AZIMUTH | DRILL TYPE Mindrill 101 | COMPLETED 17/11/78 | CASING LEFT 1.5m | SHEET No 4

RUN (m)	CORE SIZE	RECOVERY (m)	CORE RECOVERY % (60 80)	DEPTH TO BASE OF STRATUM	THICKNESS OF STRATUM	DESCRIPTION OF STRATA	GEOLOGY LOG	SEAM NAME / R.L. ROOF & FLOOR	SAMPLE No.	DIAMETER OF PLY FROM	DIAMETER OF PLY TO	WEIGHT OF PLY (lbs)	CALCULATED S.G.	PROXIMATE ANALYSIS AIR DRIED BASIS: FLOATS S.G. Moist %	Ash %	V.HC %	S %	Cal. Value B.T.U / lb.	B.S.I. No.	Yield (wt.%)	SINKS S.G. Ash %	Yield (wt.%)	RAW COAL Ash %
3	NQ	3		100.56	3.13	sandstone: light grey, med-coarse, massive, lithic, carbonaceous stringers overtop, vertical & high angle jointing, abrupt basal contact																	
				102.93	2.37	mudstone: med. grey, 60° jointing & slickensiding, dip is 30°, carbonaceous lenses @ base.																	
				102.95	.02	D		seam2	2	102.93	103.535												65.9
				102.97	.02	Cr: puggy																	
				102.985	.015	mudstone: carbonaceous																	
				103.13	.145	D: slickensided with talc, 60° joints.																	
				103.195	.065	D: crushed.																	
				103.32	.125	D: 60° jointing & slickensiding.																	
3	NQ	3		103.416	.096	Dmb																	
				103.535	.12	D		seam2	2														
				103.605	.07	carbonaceous mudstone																	
				104.155	.55	mudstone: med. grey, breaks up quickly after drilling, two carbonate veins (2cm thick) near base, basal contact is slickensided & looks displaced.																	
3	NQ	3																					
3	NQ	3		109.21	5.055	sandstone & mudstone interbedded ratio 3:7, sandstone is light grey & fine-med, mudstone is mid-grey, sediments dipping @ 30°, regular bedding, 60° joints with talc & pyrite.																	
				109.47	.26	mudstone: crushed, med grey, slickensided, abrupt basal contact dipping @ 45°																	
				112.305	2.835	sandstone: light grey, medium, massive, lithic, abrupt basal contact.																	
3	NQ	3		112.62	.315	mudstone: carbonaceous																	
				112.755	.135	D: high angle jointing (80°) lower contact appears fault slipped.		seam3	3	112.62	113.86												80.7
				113.195	.44	D-Cr																	
				113.415	.22	Rc																	
				113.46	.035	D																	
				113.505	.055	carbonaceous mudstone																	
				113.57	.065	D: crushed & slickensided with talc																	
				113.86	.29	Dmb: jointed & slickensided with talc, lower contact is a 60° joint, appears displaced.		seam3	3														

SUMMARY, SPECIAL COMMENTS:

DPO No

5 cm

LOGGED BY: R. Holland

DATE: 16/11/78

064

DIAMOND DRILL LOG

202063

PROJECT: Royal George | CO-ORDINATES 75,620 N Approx. 79,820 E | ANGLE OF HOLE 90° | DRILLERS A.D.D. | COMMENCED 12/11/78 | DEPTH 184.5 | HOLE No 78RG-3

AREA: | RL COLLAR 640 | AZIMUTH | DRILL TYPE Mindrill 10A | COMPLETED 17/11/78 | CASING LEFT 1.5 | SHEET No 5

RUN (m)	CORE SIZE	RECOVERY (m)	CORE RECOVERY % (60 80)	DEPTH TO BASE OF STRATUM	THICKNESS OF STRATUM	DESCRIPTION OF STRATA	GEOLOGY LOG	SEAM NAME / RL ROOF & FLOOR	SAMPLE No.	DIAMETER OF PLY FROM	DIAMETER OF PLY TO	WEIGHT OF PLY (lbs)	CALCULATED S.G.	PROXIMATE ANALYSIS AIR DRIED BASIS: FLOATS S.G. Moist %	Ash %	V.HC %	S %	Cal. Value B.T.U / lb.	B.S.I. No.	Yield (wt.%)	SINKS S.G. Ash %	Yield (wt.%)	RAW COAL Ash %
3	NQ	3		114.1	.24	siltstone: carbonaceous, black grey																	
				114.76	.65	sandstone + D interbedded: ratio 6:4, sandstone; fine-medium, irregular bedding.																	
				114.84	.09	mudstone: mid grey, frequent D stringers, lower contact abrupt.																	
				116.28	1.44	mudstone + sandstone interbedded: ratio 8:2, sandstone; light grey, fine with carbonaceous stringers.																	
				116.285	.005	mudstone: carbonaceous																	
				116.345	.06	D : mudstone penny band @ base																	
				116.405	.06	D-Cr																	
				116.455	.05	Cr																	
				116.47	.015	D																	
				116.48	.01	Cr																	
				118.04	1.56	interbedded sandstone, mudstone + Cr: ratio 4:3:3, dipping @ 10°, high angle jointing.																	
				118.135	.095	Rc		seam 4 RL ROOF		4	118.04	118.61											48.9
				118.145	.01	D : very hard																	
				118.23	.085	Db : " "																	
				118.365	.135	Dmb : " " , 80° jointing with carbonate cryst'n.																	
3	NQ	3		118.5	.135	Db : " "																	
				118.51	.01	DB																	
				118.59	.08	D-Cr																	
				118.61	.02	Db		seam 4 FLOOR		4													
				118.63	.02	siltstone: light grey																	
				119.04	.41	sandstone: light grey, fine, siltstone lenses, D fragments, abrupt basal contact.																	
				119.56	.52	sandstone: light grey, fine-med, graded bedding, carbonaceous lenses (@15°) overtop, abrupt basal contact																	
				120.2	.64	Dolerite + sandstone interbedded: ratio 6:4, both light grey, sandstone is fine-med, abrupt basal contact.																	
				120.275	.075	sandstone: light grey, fine, carbonaceous lenses.																	
				120.685	.41	mudstone: crushed & jointed, med grey, slickensided.																	

SUMMARY, SPECIAL COMMENTS :

D.P.O. No. .....

5 cm

LOGGED BY : R. Holland

DATE : 16/11/78

065

DIAMOND DRILL LOG

202064

PROJECT: Royal George | CO-ORDINATES 75,620N Approx. 75,920E | ANGLE OF HOLE 90° | DRILLERS A.D.D. | COMMENCED 12/11/78 | DEPTH 184.5m | HOLE No. 78RG-3

AREA: | R.L. COLLAR 640 | AZIMUTH | DRILL TYPE Mindrill 101 | COMPLETED 17/11/78. | CASING LEFT 1.5m | SHEET No. 6

RUN (m)	CORE SIZE	RECOVERY (m)	CORE RECOVERY % (60 80)	DEPTH TO BASE OF STRATUM	THICKNESS OF STRATUM	DESCRIPTION OF STRATA	GEOLOGY LOG	SEAM NAME / RL ROOF & FLOOR	SAMPLE No.	DIAMETER OF PLY FROM	DIAMETER OF PLY TO	WEIGHT OF PLY (lbs)	CALCULATED S.G.	PROXIMATE ANALYSIS AIR DRIED BASIS: FLOATS S.G. Moist %	Ash %	V.HC %	S %	Cal. Value B.T.U / lb.	B.S.I. No.	Yield (wt.%)	SINKS S.G. Ash %	Yield (wt.%)	RAW COAL Ash %
				120.765	.08	Dolerite: light grey																	
3	NQ	3		127.725	6.96	mudstone: mid grey, faulted with sandstone: light grey,																	
3	NQ	3				fine-med., conjugate jointing & slickensiding, joints																	
3	"	3				infilled with $CaCO_3$ @ 124.9m, Bd fragments &																	
						stringers in the mudstone; mudstone: sandstone																	
						7:3, mudstone bedding is horizontal																	
				127.74	.015	Db																	
				127.75	.01	Rc																	
				127.77	.02	D : Bd penny band @ base : $CaCO_3$ on cleat																	
				127.82	.05	D : " " " " " " "																	
				128	.18	D-Cr																	
				128.02	.02	Rc																	
				128.04	.02	D-Cr																	
				129.2	1.16	mudstone: dark grey, carbonaceous, containing																	
						bands of clay pellets & Dmb fragments																	
				129.26	.06	Db: $CaCO_3$ on 60° joints																	
				129.3	.04	DB																	
				129.305	.005	Dmb																	
				129.355	.05	DB : fusain penny band on base																	
				129.38	.025	Db : talc on 60° joints																	
				129.39	.01	Dmb : " " " "																	
				129.405	.015	DB : " " " "																	
				129.435	.03	Bd : " " " " base of coal is erosive																	
						contact, 40° joint with slickensiding.																	
				129.48	.045	mudstone: med. grey, talc on slickensided faces.																	
				129.595	.115	mudstone & sandstone interbedded: ratio 6:4,																	
						sandstone; med. grey, med & slumped with mudstone																	
3	NQ	3				mid grey.																	
3	"	3		142.02	12.425	sandstone: light grey, high angle jointing with																	
3	"	3				slickensides, med-coarse, lithic, Bd stringers @ 132.46m																	
3	"	3		142.095	.075	mudstone: mid grey, dipping @ 40°																	
3	"	3		151.615	9.52	sandstone: light grey, med-coarse, massive, lithic, Bd																	
3	"	3				stringers @ 144.5-145, 146.3, 148.8, 151, high angle																	
3	"	3				jointing (80°), evidence of microfaulting shown by																	
3	"	3				Bd lenses.																	

SUMMARY, SPECIAL COMMENTS :

D.P.O. No. .....

5 cm

LOGGED BY : R. Holland

DATE : 17/11/78

066

202065

DIAMOND DRILL LOG

PROJECT: Royal George
AREA:
CO-ORDINATES 75,520N Approx. 75,820E
R.L. COLLAR 640
ANGLE OF HOLE 90°
AZIMUTH
DRILLERS A.D.D.
DRILL TYPE Mindrill 10L
COMMENCED 12/11/78
COMPLETED 17/11/78
DEPTH 184.5 m
CASING LEFT 1.5m
HOLE No 78RG-3
SHEET No 7

RUN (m)	CORE SIZE	RECOVERY (m)	CORE RECOVERY % 60 80	DEPTH TO BASE OF STRATUM	THICKNESS OF STRATUM	DESCRIPTION OF STRATA	GEOLOGY LOG	SEAM NAME / R.L. ROOF & FLOOR	SAMPLE No.	DIAMETER OF PLY FROM	DIAMETER OF PLY TO	WEIGHT OF PLY (lbs)	CALCULATED S.G.	PROXIMATE ANALYSIS AIR DRIED BASIS FLOATS S.G. Moist %	Ash %	V.HC %	S %	Cal. Value B.T.U / lb.	B.S.I. No.	Yield (wt.%)	SINKS S.G. Ash %	Yield (wt.%)	RAW COAL Ash %
				151.885	.27	sandstone: light grey, med lithic, with frequent																	
						mudstone fragments																	
				153.805	1.92	sandstone: light grey, med, massive, lithic																	
				153.85	.045	sandstone: " " " " " with 30%																	
						Dmb fragments.																	
				153.865	.015	D-Cr																	
3	NQ	3		154.76	.895	sandstone: light grey med lithic, erosive contact, 10%																	
						Bd fragments & 30% mudstone fragments, angular.																	
				154.86	.1	Rc: crushed & slickensided.																	
3	"	3		157.7	2.84	interbedded mudstone & sandstone: ratio 6:4, mudstone;																	
						med. grey, carbonaceous over top, sandstone is																	
						light grey & fine, irregular bedding at top &																	
						becoming more regular towards base.																	
				157.93	.23	mudstone: carbonaceous.																	
3	"	3		162.66	4.73	interbedded sandstone & siltstone: ratio 5:5,																	
						sandstone; light grey, fine, mudstone; med. grey,																	
						bioturbated, gradational lower boundary.																	
3	"	3		163.7	1.04	sandstone: light grey, med-coarse, occasional																	
						siltstone lenses, carbonaceous lenses, lithic, abrupt																	
						basal contact.																	
				163.745	.045	mudstone: med. grey, slightly carbonaceous, low angle																	
						jointing with slickensiding.																	
				163.775	.03	Dmb																	
				164.135	.36	mudstone: med. gray, jointed & slickensided, getting																	
3	"	3				more silty towards base.																	
3	"	3		171.71	7.575	interbedded sandstone & siltstone: ratio 4:6																	
						sandstone; light grey, fine, siltstone; med grey																	
						bioturbated, horizontal bedding, jointing @60°-80°																	
						with $CaCO_3$ infilling, sandstone becoming coarser																	
						& greenish (chloritic) towards base, gradational																	
3	"	3				lower boundary.																	
				174.085	2.375	sandstone: green grey, med-coarse, lithic, few siltstone																	
3	"	3				bands (horizontal), clay pellets over base (chloritic)																	
				177.11	3.025	mudstone: green grey, regular horizontal bedding,																	
						high angle jointing (60°-80°) with slickensiding, →																	

SUMMARY, SPECIAL COMMENTS:

D.P.O. No. ....

5 cm

LOGGED BY: R. Holland
DATE: 17/11/78

067

DIAMOND DRILL LOG

202066

PROJECT: Royal George | CO-ORDINATES 75,520N Approx. 75,820E | ANGLE OF HOLE 90° | DRILLERS A.D.D. | COMMENCED 12/11/78 | DEPTH 184.5m | HOLE No 78RG-3

AREA: | R.L. COLLAR 640m | AZIMUTH | DRILL TYPE Mindrill 30 | COMPLETED 17/11/78 | CASING LEFT 1.5m | SHEET No 8

RUN (m)	CORE SIZE	RECOVERY (m)	CORE RECOVERY % (60 80)	DEPTH TO BASE OF STRATUM	THICKNESS OF STRATUM	DESCRIPTION OF STRATA	GEOLOGY LOG	SEAM NAME / RL ROOF & FLOOR	SAMPLE No.	DIAMETER OF PLY FROM	DIAMETER OF PLY TO	WEIGHT OF PLY (lbs)	CALCULATED S.G.	PROXIMATE ANALYSIS AIR DRIED BASIS: FLOATS S.G. Moist %	Ash %	V.HC %	S %	Cal. Value B.T.U / lb.	B.S.I. No.	Yield (wt.%)	SINKS S.G. Ash %	Yield (wt.%)	RAW COAL Ash %
				177.11	3.025	minor sandstone (green grey, med.) containing clay pellets																	
				177.19	.08	mudstone: carbonaceous, black grey, slickensided & broken.																	
3	NQ	3		178.54	1.35	mudstone: green grey, chloritic, very clayey & massive, high angle jointing with slickensides, abrupt basal contact.																	
				180.69	2.15	interbedded sandstone & mudstone: ratio 7:3,																	
3	"	3				sandstone; green grey, med-coarse, contains clay pellets, mudstone; green grey: chloritic, regular horizontal bedding, gradational lower boundary.																	
				182.66	1.97	sandstone: grey green, coarse, massive, lithic & chloritic.																	
				183.41	.75	Dolerite: grey green.																	
3	"	3		184.5	1.09	siltstone: hardened & chloritic, green grey																	
						END of HOLE																	

SUMMARY, SPECIAL COMMENTS :

D.P.O. No. .....

5 cm

LOGGED BY : R. Holland

DATE : 17/4/78

068

DIAMOND DRILL LOG

202067

PROJECT: Royal George | CO-ORDINATES 75,460N (S3) Approx. 579,800E | ANGLE OF HOLE 90° | DRILLERS A.D.D. | COMMENCED 20/11/78 | DEPTH 112.5 | HOLE No. 78RG-4

AREA: | R.L. COLLAR 580 | AZIMUTH | DRILL TYPE Mindrill 101 | COMPLETED 21/11/78 | CASING LEFT 3.5m | SHEET No. 1

RUN (m)	CORE SIZE	RECOVERY (m)	CORE RECOVERY % (60 80)	DEPTH TO BASE OF STRATUM	THICKNESS OF STRATUM	DESCRIPTION OF STRATA	GEOLOGY LOG 1:500	SEAM NAME / RL ROOF & FLOOR	SAMPLE No.	DIAMETER OF PLY FROM	DIAMETER OF PLY TO	WEIGHT OF PLY (lbs)	CALCULATED S.G.	PROXIMATE ANALYSIS AIR DRIED BASIS: FLOATS S.G. Moist %	Ash %	V.HC %	S %	Cal. Value B.T.U / lb.	B.S.I. No.	Yield (wt.%)	SINKS S.G Ash %	Yield (wt.%)	RAW COAL Ash %
6.1	HQ	1.06	71%	6.1	1.06	Dolerite scree & clay (red brown) pebble-cobble sized																	
1.5	"	.8				dolerite: broken & weathered.																	
1.5	"	.7		6.1	5.04	Lost core (clay & soil not recoverable)																	
1.5	"	.56	37%	22.6	10.06	Dolerite scree & red brown clay																	
1.5	"	1.4		22.6	6.44	Lost core																	
1.5	"	1.1		23.7	1.1	Dolerite scree & clay (redbrown)																	
1.5	"	1.3		23.8	.1	Lost core	20																
1.5	"	.8		23.905	.105	weathered coal: puggy		seam 1															
1.5	"	.9		23.97	.065	weathered coal: broken, dull.																	
1.5	"	.7		23.99	.02	Dmb: pyritic																	
1.5	"	.6	40%	24.05	.06	D : "																	
1.5	"	1.2		24.1	.05	weathered coal: puggy																	
1.5	"	1.4		24.15	.05	D-Dmb: pyritic & broken	40	seam 1															
				25.5	1.35	mudstone: med grey, broken & slickensided, top 0.46m is barely consolidated, very clayey & puggy, breaking up 5hrs after drilling.																	
1.5	HQ	1.4		25.6	.1	Lost core																	
				25.64	.04	Broken mudstone & clay																	
				25.8	.16	mudstone: med grey, breaking up 5hrs after drilling.																	
1.4	HQ	.2	14%	27	1.2	Lost core: broken & weathered ground.																	
				27.41	.41	mudstone: med grey, breaking up 5hs after drilling.																	
				27.45	.04	carbonaceous mudstone: black.																	
				27.52	.07	mudstone: med. grey.																	
				27.92	.4	interbedded D & mudstone: ratio 4:6, horizontal regular bedding, breaking up quickly after drilling (within 5hrs.)	80																
				28.13	.21	mudstone: med. grey with occasional D stringers.																	
1.5	NQ	1.13		28.5	.37	Lost core																	
				29.01	.51	mudstone: med. grey, high angle jointing & slickensiding breaks up 5hrs after drilling.																	
				29.06	.05	Rc																	
				29.145	.085	D	100																
				29.195	.05	carbonaceous mudstone																	
				29.24	.045	D																	
				29.255	.015	carbonaceous mudstone																	

SUMMARY, SPECIAL COMMENTS:

DPO No.

5 cm

LOGGED BY: R.A. Holland

DATE: 21/11/78

DIAMOND DRILL LOG

202068

069

PROJECT: Royal George | CO-ORDINATES 75460N Approx. 79800E | ANGLE OF HOLE 90° | DRILLERS A.D.D. | COMMENCED 20/11/78 | DEPTH 112.5 | HOLE No 78RG-4

AREA: | R.L COLLAR 580 | AZIMUTH | DRILL TYPE mindrill 10 | COMPLETED 21/11/78 | CASING LEFT 3.5 | SHEET No 2

RUN (m)	CORE SIZE	RECOVERY (m)	CORE RECOVERY % (60 80)	DEPTH TO BASE OF STRATUM	THICKNESS OF STRATUM	DESCRIPTION OF STRATA	GEOLOGY LOG 1:500	SEAM NAME / RL ROOF & FLOOR	SAMPLE No.	DIAMETER OF PLY FROM	DIAMETER OF PLY TO	WEIGHT OF PLY (lbs)	CALCULATED S.G.	PROXIMATE ANALYSIS AIR DRIED BASIS: FLOATS S.G. Moist %	Ash %	V. HC %	S %	Cal. Value B.T.U / lb.	B.S.I. No.	Yield (wt. %)	SINKS S.G Ash %	Yield (wt. %)	RAW COAL Ash %
				29.28	.025	Cr	TD 112.5																
				29.395	.115	mudstone: med. grey: breaks up 5hrs after drilling																	
				29.425	.03	DB: $CaCO_3$ on cleats with vertical joints + $CaCO_3$ infilling																	
				30.015	.59	mudstone: med. grey, becoming more silty towards																	
3	NQ	3	→			base, gradational lower boundary																	
				32.84	2.825	interbedded sandstone & siltstone: ratio 6:4, sandstone																	
						light grey, fine-coarse, graded bedding, siltstone is																	
						med-grey & horizontally bedded, occasional carbonaceous																	
						stringers in the sandstone, siltstone fragment																	
3	"	3	→			@ base, gradational lower contact.																	
				34.98	2.14	sandstone: light grey, med-coarse, massive, lithic,																	
						occasional siltstone fragments, Bd stringers over base.																	
				34.99	.01	DB: $CaCO_3$ on cleats		seam 2	1	34.98	35.885												36.3
				35	.01	Db: " " " vertical joints																	
				35.03	.03	Dmb: " " "																	
				35.06	.03	D																	
				35.075	.015	Dmb																	
				35.135	.06	mudstone: carbonaceous																	
				35.15	.015	Dmb																	
				35.165	.015	carbonaceous mudstone																	
				35.21	.045	Dmb																	
				35.215	.005	B: $CaCO_3$ on cleats																	
				35.26	.045	Db																	
				35.295	.035	Dmb																	
				35.32	.025	Db																	
				35.335	.015	Dmb																	
				35.345	.01	Db																	
				35.38	.035	D-Db																	
				35.395	.015	DB																	
				35.415	.02	Bd: $CaCO_3$ on cleats																	
				35.48	.065	D: B penny band @ base																	
				35.545	.065	Rc: slickensided.																	
				35.56	.015	talc + mudstone																	
				35.595	.035	D																	
				35.605	.01	Db		seam 2															

SUMMARY, SPECIAL COMMENTS:

D.P.O. No.

5 cm

LOGGED BY: R. Holland

DATE: 21/11/78

DIAMOND DRILL LOG

202069

070

PROJECT: Royal George | CO-ORDINATES 75,460N (Approx.) 79,800E | ANGLE OF HOLE 90° | DRILLERS A.D.D. | COMMENCED 20/11/78 | DEPTH 112.5m | HOLE No. 78RG-4

AREA: | R.L. COLLAR 580 | AZIMUTH | DRILL TYPE Mindrill 10L | COMPLETED 21/11/78 | CASING LEFT 3.5m | SHEET No. 3

RUN (m)	CORE SIZE	RECOVERY (m)	CORE RECOVERY % (60 80)	DEPTH TO BASE OF STRATUM	THICKNESS OF STRATUM	DESCRIPTION OF STRATA	GEOLOGY LOG	SEAM NAME / RL ROOF & FLOOR	SAMPLE No.	DIAMETER OF PLY FROM	DIAMETER OF PLY TO	WEIGHT OF PLY (lbs)	CALCULATED S.G.	PROXIMATE ANALYSIS AIR DRIED BASIS: FLOATS S.G. Moist %	Ash %	V.HC %	S %	Col. Value B.T.U / lb.	B.S.I. No.	Yield (wt.%)	SINKS S.G. Ash %	Yield (wt.%)	RAW COAL Ash %
				35.61	.005	Cr		seam2	1														
				35.635	.025	D : Bd penny band on base																	
				35.645	.01	D																	
				35.65	.005	B : $CaCO_3$ on cleats																	
				35.705	.055	Dmb: B penny band on base, $CaCO_3$ on cleats.																	
				35.755	.05	Dmb – Db																	
				35.765	.01	Bd : $CaCO_3$ on cleats																	
				35.805	.04	Dmb : B penny band on base																	
				35.82	.015	Dmb																	
				35.83	.01	Db : $CaCO_3$ on vertical joints																	
				35.84	.01	DB : " " " "																	
				35.885	.045	Db : " " " "			1														
				35.9	.015	mudstone: carbonaceous.		seam2															
				36.91	1.01	mudstone: med. grey, vertical joints, breaks up 10hrs after drilling																	
				36.945	.035	Rc		seam3															
				36.985	.04	D			2(A)	36.945	37.575												31.6
				37.145	.16	Dmb																	
				37.2	.055	Db : Bd penny band @ base, $CaCO_3$ on vertical joints																	
				37.265	.065	D																	
				37.335	.07	Dmb: " " " " " " " " "																	
3	NQ	3		37.5	.165	Dmb: pyrite disseminated : " " " "																	
				37.52	.02	Dmb																	
				37.555	.035	Db : $CaCO_3$ & pyrite on cleats.																	
				37.575	.02	carbonaceous mudstone			2(A)														
				37.58	.005	Bd			2(B)	37.575	38.105												23.4
				37.595	.015	Dmb																	
				37.665	.07	D : $CaCO_3$ on vertical joints																	
				37.72	.055	Dmb: " " " "																	
				37.74	.02	D																	
				37.815	.075	Dmb: " " " "																	
				37.83	.015	B : calcite on cleats																	
				37.865	.035	Dmb																	
				37.88	.015	Db																	
				37.935	.055	D : $CaCO_3$ on vertical joints.		seam3	2(B)														

SUMMARY, SPECIAL COMMENTS :

DPO No

5 cm

LOGGED BY : R.A. Holland

DATE : 21/11/78

071

DIAMOND DRILL LOG

202070

PROJECT: Royal George | CO-ORDINATES 75,460N Approx. 79,800E | ANGLE OF HOLE 90° | DRILLERS A.D.D. | COMMENCED 20/11/78 | DEPTH 112.5m | HOLE No 78RG-4

AREA: | R.L. COLLAR 580 | AZIMUTH | DRILL TYPE Mindrill 10L | COMPLETED 21/11/78. | CASING LEFT 3.5m | SHEET No 4

RUN (m)	CORE SIZE	RECOVERY (m)	CORE RECOVERY % (60 80)	DEPTH TO BASE OF STRATUM	THICKNESS OF STRATUM	DESCRIPTION OF STRATA	GEOLOGY LOG	SEAM NAME / R.L. ROOF & FLOOR	SAMPLE No.	DIAMETER OF PLY FROM	DIAMETER OF PLY TO	WEIGHT OF PLY (lbs)	CALCULATED S.G.	PROXIMATE ANALYSIS AIR DRIED BASIS: FLOATS S.G. Moist %	Ash %	V.HC %	S %	Cal. Value B.T.U / lb.	B.S.I. No.	Yield (wt.%)	SINKS S.G Ash %	Yield (wt.%)	RAW COAL Ash %
				38.06	.125	Dmb: $CaCO_3$ on vertical joints.		seam 3	2B														
				38.075	.015	DB : " " cleats																	
				38.085	.01	D																	
				38.105	.02	Db : " " vertical joints, + pyrite			2B														
				38.115	.01	Cr			2(c)	38.105	39.145												28.8
				38.195	.08	mudstone: carbonaceous overtop, containing B stringers																	
				38.205	.01	Db																	
				38.225	.02	D : Bd pennyband on base, $CaCO_3$ on cleats																	
				38.235	.01	D : fusain pennyband on base																	
				38.295	.06	Dmb																	
				38.3	.005	carbonaceous mudstone																	
				38.32	.02	Dmb																	
				38.34	.02	Db																	
				38.35	.01	Dmb																	
				38.38	.03	DB																	
				38.42	.04	Db																	
				38.425	.005	Bd: $CaCO_3$ on cleat																	
				38.43	.005	D																	
				38.46	.03	Dmb																	
				38.53	.07	D																	
				38.56	.03	DB																	
				38.62	.06	Db																	
				38.69	.07	Dmb																	
				38.695	.005	mudstone: carbonaceous																	
				38.725	.03	Db - DB																	
				38.785	.06	Db : Bd penny band on base																	
				38.8	.015	carbonaceous mudstone																	
				38.88	.08	Dmb: with mudstone penny band on base																	
				38.92	.04	Dmb																	
				38.94	.02	DB																	
				38.99	.05	Db																	
				39.09	.1	Dmb																	
				39.1	.01	D-Cr																	
				39.145	.045	Dmb-Db : fusain penny band over middle: basal contact dipping @ 30°		seam 3	2(c)														

SUMMARY, SPECIAL COMMENTS :

D.P.O. No. .....

5 cm

LOGGED BY : R. Holland

DATE : 21/11/78

202071

DIAMOND DRILL LOG

072

PROJECT: Royal George | CO-ORDINATES 75,460N Approx. 79,800E | ANGLE OF HOLE 90° | DRILLERS A.D.D. | COMMENCED 20/11/78 | DEPTH 112.5m | HOLE No 78RG-4

AREA: | R.L. COLLAR 580 | AZIMUTH | DRILL TYPE Mindrill 10L | COMPLETED 21/11/78 | CASING LEFT 3.5m | SHEET No 5

RUN (m)	CORE SIZE	RECOVERY (m)	CORE RECOVERY % (60 80)	DEPTH TO BASE OF STRATUM	THICKNESS OF STRATUM	DESCRIPTION OF STRATA	GEOLOGY LOG	SEAM NAME / R.L. ROOF & FLOOR	SAMPLE No.	DIAMETER OF PLY FROM	DIAMETER OF PLY TO	WEIGHT OF PLY (lbs)	CALCULATED S.G.	PROXIMATE ANALYSIS AIR DRIED BASIS: FLOATS S.G. Moist %	Ash %	V. HC %	S %	Cal. Value B.T.U / lb.	B.S.I. No.	Yield (wt. %)	SINKS S.G. Ash %	Yield (wt. %)	RAW COAL Ash %
				39.435	.29	mudstone: carbonaceous																	
				39.825	.39	mudstone: vertical jointing with slickensiding breaking up quickly after drilling (10hrs)																	
3	NQ	3		39.835	.01	D																	
				41.25	1.415	interbedded mudstone & sandstone: ratio 6:4, sandstone; fine with carbonaceous lenses (horizontal), vertical																	
3	"	3																					
3	"	3				jointing in mudstone; basal contact abrupt.																	
3	"	3		48.62	7.37	sandstone: light grey, fine-coarse, graded bedding, lithic with occasional carbonaceous lenses, very coarse towards base																	
				48.65	.03	D																	
3	"	3		59.26	10.61	sandstone: light grey, coarse, lithic, massive, mudstone & Bd fragments @ 50.3m, abrupt basal contact dipping @10°																	
3	"	3																					
3	"	3																					
				59.435	.175	mudstone: mid grey, carbonaceous towards base.																	
				59.44	.005	Bd: basal contact dipping @45°																	
				60.51	1.07	sandstone: light grey, med-coarse, graded bedding, lithic, fragment of mudstone @ top, carbonaceous lenses, abrupt basal contact.																	
				60.56	.05	mudstone: med grey, [cobble within sandstone]																	
3	"	3		63.5	2.94	sandstone: light grey, med-coarse, lithic, frequent Bd stringers from top till 61.5, then slumped mudstone lense, Bd stringers till base, erosive basal contact.																	
3	"	3		63.575	.075	mudstone: med. grey, abrupt basal contact.																	
3	"	3		63.715	.14	carbonaceous mudstone																	
3	"	3		63.785	.07	Cr																	
3	"	3		91.48	27.695	sandstone: light grey, med-coarse, massive & lithic, frequent Bd stringers @ 66.07 till 66.4m (0.01m of Dmb @ 66.9m) and 87.3-87.7m, 0.01m of Bd @ 90.5, occasional mudstone pebbles, basal contact abrupt dipping @30°																	
3	"	3																					
3	"	3																					
3	"	3																					
3	"	3		91.49	.01	mudstone: grey brown.																	
3	"	3		91.505	.015	Bd																	
3	"	3		91.67	.165	mudstone: med grey slumped, 60° jointing & slickensiding.																	

SUMMARY, SPECIAL COMMENTS:

D.P.O. No.

5 cm

LOGGED BY: R. Holland

DATE: 21/1/78

DIAMOND DRILL LOG

202072

073

PROJECT: Royal George | CO-ORDINATES: 75,460N Approx. 79,800E | ANGLE OF HOLE: 90° | DRILLERS: A.D.D. | COMMENCED: 20/11/78 | DEPTH: 112.5m | HOLE No: 78RG-4

AREA: | R.L. COLLAR: 580 | AZIMUTH: | DRILL TYPE: mindrillion | COMPLETED: 21/11/78 | CASING LEFT: 3.5m | SHEET No: 6

RUN (m)	CORE SIZE	RECOVERY (m)	CORE RECOVERY % (60 80)	DEPTH TO BASE OF STRATUM	THICKNESS OF STRATUM	DESCRIPTION OF STRATA	GEOLOGY LOG	SEAM NAME / R.L. ROOF & FLOOR	SAMPLE No.	DIAMETER OF PLY FROM	DIAMETER OF PLY TO	WEIGHT OF PLY (lbs)	CALCULATED S.G.	PROXIMATE ANALYSIS AIR DRIED BASIS: FLOATS S.G. Moist %	Ash %	V.HC %	S %	Cal Value B.T.U / lb.	B.S.I. No.	Yield (wt.%)	SINKS S.G. Ash %	Yield (wt.%)	RAW COAL Ash %
				91.705	.035	DB: $CaCO_3$ on cleats																	
				94.48	2.775	mudstone: med. grey, broken & slickensided (faulted?)																	
						crushed @ 63.9m & 64.2m, carbonaceous over base.																	
				94.5	.02	Db		seam4															
				94.565	.065	Dmb: vertical jointing & slickensiding.																	
				94.595	.03	carbonaceous mudstone																	
				94.62	.025	Dmb: vertical jointing & slickensiding																	
				94.67	.05	Db																	
				94.88	.21	mudstone: med. grey, slumped, 60° jointing																	
				94.905	.025	D																	
				94.925	.02	Cr		seam4															
				97.32	2.395	sandstone & mudstone interbedded, ratio 3:7, no																	
						bedding @ top becoming horizontal towards																	
						base																	
				97.34	.02	Dmb																	
				97.35	.01	Cr																	
				97.38	.03	Db																	
3	NQ	3		97.385	.005	Bd: $CaCO_3$ on cleats } irregular carbonaceous mudstone lenses thru-out																	
				98.425	.04	Db }																	
				98.44	.015	Bd: $CaCO_3$ " " }																	
				98.45	.01	mudstone: med. grey.																	
				98.46	.01	Db																	
				98.47	.01	B: $CaCO_3$ on cleats																	
				98.49	.02	Db																	
				97.5	.01	DB: " " "																	
				97.505	.005	carbonaceous mudstone																	
				100.08	2.575	interbedded sandstone & siltstone; ratio 4:6, sandstone;																	
						light grey, fine-med; no bedding for top 0.4m then																	
						subhorizontal bedding, carbonaceous lenses in sandstone																	
				100.085	.005	Bd		seam5															
				100.13	.045	Rc																	
				100.225	.095	mudstone: med. grey																	
				100.245	.02	DB: $CaCO_3$ penny band @ base.																	
				100.28	.035	DB-Bd.: $CaCO_3$ veins.																	
				100.32	.04	Db		seam5															

SUMMARY, SPECIAL COMMENTS:

D.P.O. No.

5 cm

LOGGED BY: R. Holland

DATE: 21/11/78

074

DIAMOND DRILL LOG

202073

PROJECT: Royal George | CO-ORDINATES 75,460N Approx. 79,800E | ANGLE OF HOLE 90° | DRILLERS A.D.D. | COMMENCED 20/11/78 | DEPTH 112.5m | HOLE No 78RG-4

AREA | R.L. COLLAR 580 | AZIMUTH | DRILL TYPE Mindrill | COMPLETED 21/11/78 | CASING LEFT 3.8m | SHEET No 7

RUN (m)	CORE SIZE	RECOVERY (m)	CORE RECOVERY % (60 80)	DEPTH TO BASE OF STRATUM	THICKNESS OF STRATUM	DESCRIPTION OF STRATA	GEOLOGY LOG	SEAM NAME / R.L. ROOF & FLOOR	SAMPLE No.	DIAMETER OF PLY FROM	DIAMETER OF PLY TO	WEIGHT OF PLY (lbs)	CALCULATED S.G.	PROXIMATE ANALYSIS AIR DRIED BASIS: FLOATS S.G. Moist %	Ash %	V. HC %	S %	Cal. Value B.T.U / lb.	B.S.I. No	Yield (wt.%)	SINKS S.G. Ash %	Yield (wt.%)	RAW COAL Ash %
				100.33	.01	siderite & talc		seam5															
				100.405	.075	Rc with siderite penny band, & $CaCO_3$ pennyband.																	
				100.415	.01	mudstone: carbonaceous, $CaCO_3$ penny band @ base.																	
3	NQ	3		100.515	.1	Db																	
				100.535	.02	Dmb with Bd pennyband @ base & $CaCO_3$ on cleats.																	
				100.546	.01	Db: $CaCO_3$ penny band @ middle		seam5															
				100.586	.04	carbonaceous mudstone																	
				103.02	2.435	interbedded sandstone & siltstone: ratio 3:7, sandstone; fine, bedding irregular @ top becoming more regular & horizontal towards base, 60° joints with slickensides.																	
3	NQ	3		103.09	.07	Rc																	
3	"	3		107.32	4.23	interbedded mudstone & sandstone: ratio 7:3, sandstone; fine & light grey; sandy with no bedding over top becoming varvoid towards base, 60° jointing with slickensiding, 0.02m of carbonaceous mudstone faulted @ 105.4m.																	
				107.39	.07	mudstone: frequent carbonaceous lenses.																	
				107.42	.03	Rc		seam6	3	107.39	108.16												35.6
				107.61	.19	Db: $CaCO_3$ veins																	
				107.72	.11	Dmb																	
				107.76	.04	D																	
				107.77	.01	mudstone: carbonaceous																	
				107.97	.2	Dmb																	
				108.06	.09	Db																	
				108.16	.1	Dmb		seam6	3														
				108.32	.16	mudstone: med. grey, very talcy.																	
				108.63	.31	talc																	
				108.68	.05	carbonaceous talc & mudstone																	
3	"	3		109.62	.94	sandstone: fine, grading to siltstone over base																	
				109.65	.03	carbonaceous mudstone																	
				109.66	.01	B																	
				109.71	.05	carbonaceous mudstone with Bd stringers																	
				111.32	1.61	sandstone & siltstone interbedded: ratio 8:2 →																	

SUMMARY, SPECIAL COMMENTS

D.P.O. No .....

5 cm

LOGGED BY: R. Holland

DATE: 24/11/78

075

DIAMOND DRILL LOG

202074

PROJECT: Royal George CO-ORDINATES 75,460 N. Approx. 79,800 E. ANGLE OF HOLE 90° DRILLERS A.D.D. COMMENCED 20/11/78 DEPTH 112.5 HOLE No 78RG4

AREA RL COLLAR 580 AZIMUTH DRILL TYPE mindrill 10A COMPLETED 21/11/78 CASING LEFT 5.5m SHEET No 8

RUN (m)	CORE SIZE	RECOVERY (m)	CORE RECOVERY % (60 80)	DEPTH TO BASE OF STRATUM	THICKNESS OF STRATUM	DESCRIPTION OF STRATA	GEOLOGY LOG	SEAM NAME / RL ROOF & FLOOR	SAMPLE No.	DIAMETER OF PLY FROM	DIAMETER OF PLY TO	WEIGHT OF PLY (lbs)	CALCULATED S.G.	PROXIMATE ANALYSIS AIR DRIED BASIS: FLOATS S.G. Moist %	Ash %	V.HC %	S %	Cal. Value B.T.U / lb.	B.S.I. No	Yield (wt.%)	SINKS S.G Ash %	Yield (wt.%)	RAW COAL Ash %
				111.32	1.61	sandstone: light grey, fine-med; bioturbations in siltstone, bedding irregular @ top & more regular towards base, carbonaceous lenses in sandstone, 80° jointing with slickensiding 0.22m from top.																	
3	NQ	3		112.5	1.18	sandstone: light grey, coarse, lithic, massive.																	
						End of Hole.																	

SUMMARY, SPECIAL COMMENTS :

D.P.O. No

5 cm

LOGGED BY : R. Holland

DATE : 21/11/78

202075 79-1324.

1049.

5 cm

INVESTIGATOR COAL EXPLORATION PTY., LIMITED.

PLATE 1.

GEOLOGICAL MAP EL16/77.

GEOLOGIST: D. D. WATERS
DRAWN: M.P.D.
DATE: JULY 1978.

SCALE 1:30,000.
REPORT No: 985.
PLAN No: TCG-11

SEDIMENTARY DEPOSITS

QUATERNARY.

Qa. Alluvium.

Qds. Dolerite Scree.

TRIASSIC.

Rp. Upper Parmeener Super Group Coal Measures.

PERMIAN

Pp. Marine
Plp. Mersey Coal Measures. } Lower Parmeener Super Group.

EARLY ORDOVICIAN — LOWER DEVONIAN.

O-Dm. Mathinna Beds.

IGNEOUS ROCKS.

JURASSIC.

Jd. Dolerite.

DEVONIAN.

Dg. Granite.

Dip & Strike.

?—— ——? Fault Inferred.

D.M.D.D.H.22. Department of Mines Diamond Drill Hole No. D.M.D.D.H.22.

Coal Outcrop Location No.1. (See Appendix I For Graphic Logs.)

Sn Tin Mine.

Xc. Coal Mine

Trend Line (Air Photo Lineation)

Potential Coal Area No.1.

Investigator Coal Exploration Pty. Limited Diamond Drill Hole. 78 RG 2

SCALE 1:30,000.

Metres 1000 500 0 1000 2000

Base taken from Survey Branch, Lands Dept. Hobart 1975, 1:100,000 Sheets St. Pauls 8414 & Break O'Day 8514.

CORNWALL COAL CO. N/L.

DEPARTMENT OF MINES TASMANIA FINGAL VALLEY EXEMPT AREA.

78 RG 3

78 RG-4

78 RG-2

78 RG-1

POTENTIAL COAL AREA No.1

POTENTIAL COAL AREA No.2

POTENTIAL COAL AREA No.3.

POTENTIAL COAL AREA No.4.