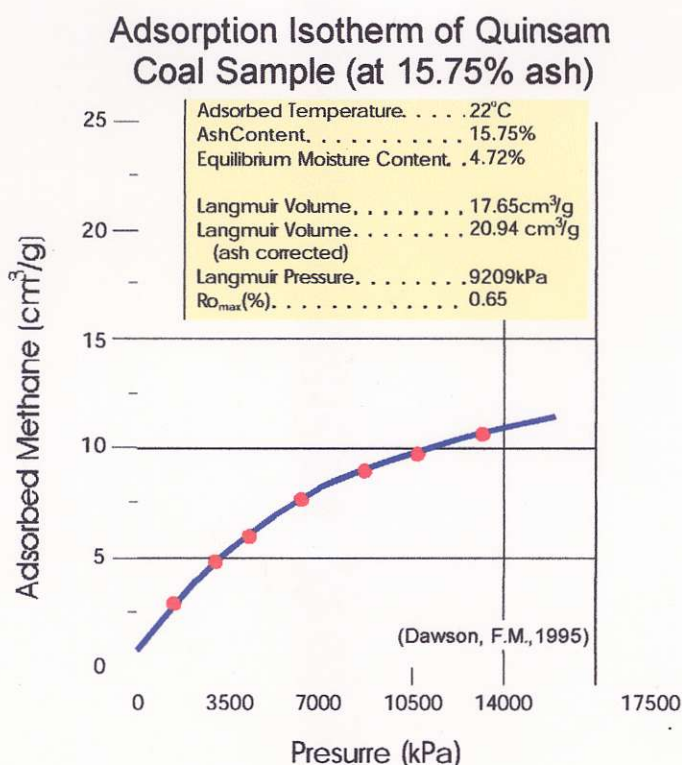


Vancouver Island Coalfields

Methane Potential

- Coal seams in the Nanaimo basin had the reputation of being very gassy below 200 metres
- Desorption tests on the Douglas seam in the Nanaimo basin indicated gas contents in the range of 173 to 259 scf/ton (6 to 12.5 x 10⁶ m³/tonne)
- In the Nanaimo coalfield, most of the methane potential will occur outboard of Vancouver Island as the major coal seams dip eastward into Georgia strait
- Total resource estimates for Vancouver Island range from 1.6 Tcf (45 billion cubic metres) to 0.5 Tcf (14 billion cubic metres)
- Average methane resource estimates for the three coalfields are: Comox, 800 Bcf; Nanaimo, 300 Bcf; and Suquash, 60 Bcf
- Gas pipeline passes through Comox and Nanaimo coalfields



Significant Coal Resources on Vancouver Island of Immediate interest

Coalfield	Predominant Rank	Measured	Indicated	Inferred
		(millions of tonnes)		
Nanaimo	hvb	-	-	10
Comox	hvb	10	50	100
Quinsam**	hvb	25	30	50
Suquash	hvb	-		40
Totals	h-mvb	35	80	200

**considered part of the Comox coalfield

(Smith, G.G., 1989)

General Coal Quality Characteristics of Vancouver Island

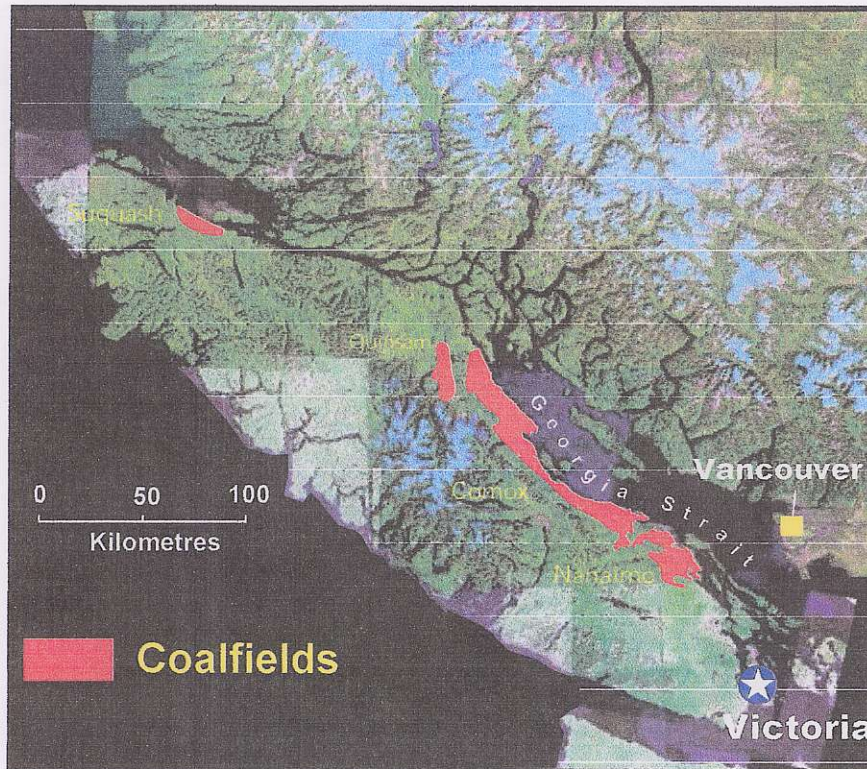
	Nanaimo	Comox	Quinsam**
Proximate analysis (per cent by weight)			
moisture (as received)	5	4	6
ash (dry)	14	14	17
volatile matter (d.a.f.)*	41	38	42
fixed carbon (d.a.f.)	59	62	58
Heat value (d.a.f.) MJ/kg	34.5	34.5	33.5
Ultimate analysis (dry, ash-free) (per cent by weight)			-
carbon	83.0	83.0	-
hydrogen	5.5	5.5	-
nitrogen	1.5	1.2	-
sulphur	0.5	1.5	1.1
oxygen	9.5	8.8	-
Analysis of ash (per cent by weight)			
SiO ₂	37.5	30.0	-
Al ₂ O ₃	20.5	18.5	-
Fe ₂ O ₃	6.5	14.5	-
CaO	21.0	17.5	-
MgO	5.0	2.0	-
MnO	0.1	-	-
Na ₂ O	1.1	0.5	-
K ₂ O	0.9	0.6	-
P ₂ O ₅	0.8	0.5	-
TiO ₂	1.1	1.0	-
S ₂ O ₃	4.0	13.0	-
undetected	1.5	1.9	-
Properties			-
free swelling index	1-6	6-8	-
caking index (Gray)	45-63	65	-
grindability index (Hardgrove)	67	65	-
ash softening temp. (reduce-10)	1265	1160	-
Rank classification (ASTM)	hvbA/B	hvbA/B	hvbB

*dry, ash-free

**considered part of the Comox coalfield

(Smith, G.G., 1989)

Vancouver Island Coalfields



- Coal is present in Upper Cretaceous Nanaimo group strata, concentrated in three main coalfields: Nanaimo, Comox and Suquamish
- Predominant coal rank high volatile bituminous
- The Nanaimo and Comox coalfields consist of simple gently dipping open folds offset by several large scale shear zones
- Coal has been mined to a depth of 450 metres but the coal measures have been traced to a depth of 1200 metres
- Various estimates of present coal resources to a depth of 2000 metres range from 800 to 6920 million tonnes and average 3850 million tonnes