



Observed lithologies of the Thorburn, Coal Brook, Abbot and Plymouth Members, Stellarton Group, Stellarton Basin

UNIT	LITHOLOGY	COLOR	GRAIN SIZE	SEDIMENTARY STRUCTURES AND DIAGENETIC PHYSICAL PROPERTIES	FORMS
CL	claystone	grey	medium to coarse	- dark mineral and micaceous - poorly developed normal grading - moderate to coarse grained - moderate to coarse grained	very truncated beds
SL1	shale	grey	very fine to coarse sand	- micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand	truncated part fragments truncated part fragments
SL2	shale	grey	fine to medium sand	- micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand	truncated part fragments truncated part fragments
SL3	shale	grey	very fine to coarse sand	- micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand	truncated part fragments truncated part fragments
SL4	shale	grey	fine to medium sand	- micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand	truncated part fragments truncated part fragments
SL5	shale	grey	fine sand	- micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand	truncated part fragments truncated part fragments
SL6	shale	grey	fine sand	- micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand	truncated part fragments truncated part fragments
SL7	shale	grey	fine sand	- micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand	truncated part fragments truncated part fragments
SL8	shale	grey	fine sand	- micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand	truncated part fragments truncated part fragments
SL9	shale	grey	fine sand	- micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand	truncated part fragments truncated part fragments
SL10	shale	grey	fine sand	- micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand	truncated part fragments truncated part fragments
S11	shale	grey	fine sand	- micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand	truncated part fragments truncated part fragments
S12	shale	grey	fine sand	- micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand	truncated part fragments truncated part fragments
S13	shale	grey	fine sand	- micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand	truncated part fragments truncated part fragments
S14	shale	grey	fine sand	- micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand	truncated part fragments truncated part fragments
S15	shale	grey	fine sand	- micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand	truncated part fragments truncated part fragments
S16	shale	grey	fine sand	- micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand	truncated part fragments truncated part fragments
S17	shale	grey	fine sand	- micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand	truncated part fragments truncated part fragments
S18	shale	grey	fine sand	- micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand	truncated part fragments truncated part fragments
S19	shale	grey	fine sand	- micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand	truncated part fragments truncated part fragments
S20	shale	grey	fine sand	- micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand	truncated part fragments truncated part fragments
S21	shale	grey	fine sand	- micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand	truncated part fragments truncated part fragments
S22	shale	grey	fine sand	- micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand	truncated part fragments truncated part fragments
S23	shale	grey	fine sand	- micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand	truncated part fragments truncated part fragments
S24	shale	grey	fine sand	- micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand	truncated part fragments truncated part fragments
S25	shale	grey	fine sand	- micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand	truncated part fragments truncated part fragments
S26	shale	grey	fine sand	- micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand	truncated part fragments truncated part fragments
S27	shale	grey	fine sand	- micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand	truncated part fragments truncated part fragments
S28	shale	grey	fine sand	- micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand	truncated part fragments truncated part fragments
S29	shale	grey	fine sand	- micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand	truncated part fragments truncated part fragments
S30	shale	grey	fine sand	- micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand	truncated part fragments truncated part fragments
S31	shale	grey	fine sand	- micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand	truncated part fragments truncated part fragments
S32	shale	grey	fine sand	- micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand	truncated part fragments truncated part fragments
S33	shale	grey	fine sand	- micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand	truncated part fragments truncated part fragments
S34	shale	grey	fine sand	- micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand	truncated part fragments truncated part fragments
S35	shale	grey	fine sand	- micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand	truncated part fragments truncated part fragments
S36	shale	grey	fine sand	- micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand	truncated part fragments truncated part fragments
S37	shale	grey	fine sand	- micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand	truncated part fragments truncated part fragments
S38	shale	grey	fine sand	- micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand	truncated part fragments truncated part fragments
S39	shale	grey	fine sand	- micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand	truncated part fragments truncated part fragments
S40	shale	grey	fine sand	- micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand	truncated part fragments truncated part fragments
S41	shale	grey	fine sand	- micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand	truncated part fragments truncated part fragments
S42	shale	grey	fine sand	- micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand	truncated part fragments truncated part fragments
S43	shale	grey	fine sand	- micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand	truncated part fragments truncated part fragments
S44	shale	grey	fine sand	- micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand	truncated part fragments truncated part fragments
S45	shale	grey	fine sand	- micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand	truncated part fragments truncated part fragments
S46	shale	grey	fine sand	- micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand	truncated part fragments truncated part fragments
S47	shale	grey	fine sand	- micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand	truncated part fragments truncated part fragments
S48	shale	grey	fine sand	- micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand	truncated part fragments truncated part fragments
S49	shale	grey	fine sand	- micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand	truncated part fragments truncated part fragments
S50	shale	grey	fine sand	- micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand - micaceous to micaceous sand	truncated part fragments truncated part fragments

Classification of Oil Shale Lithotypes

LITHOLOGY	COLOR	STREAK	FRACTURE	TEXTURE	APPEARANCE
Oil Shale (A)	dark grey to black	black	irregular	blocky	non-homogeneous, exhibits cleavage
Oil Shale (B)	dark grey to black	black	irregular	blocky	non-homogeneous, exhibits cleavage
Oil Shale (C)	dark grey to black	black	irregular	blocky	non-homogeneous, exhibits cleavage
Oil Shale (D)	dark grey to black	black	irregular	blocky	non-homogeneous, exhibits cleavage
Oil Shale (E)	dark grey to black	black	irregular	blocky	non-homogeneous, exhibits cleavage
Oil Shale (F)	dark grey to black	black	irregular	blocky	non-homogeneous, exhibits cleavage
Oil Shale (G)	dark grey to black	black	irregular	blocky	non-homogeneous, exhibits cleavage
Oil Shale (H)	dark grey to black	black	irregular	blocky	non-homogeneous, exhibits cleavage
Oil Shale (I)	dark grey to black	black	irregular	blocky	non-homogeneous, exhibits cleavage
Oil Shale (J)	dark grey to black	black	irregular	blocky	non-homogeneous, exhibits cleavage
Oil Shale (K)	dark grey to black	black	irregular	blocky	non-homogeneous, exhibits cleavage
Oil Shale (L)	dark grey to black	black	irregular	blocky	non-homogeneous, exhibits cleavage
Oil Shale (M)	dark grey to black	black	irregular	blocky	non-homogeneous, exhibits cleavage
Oil Shale (N)	dark grey to black	black	irregular	blocky	non-homogeneous, exhibits cleavage
Oil Shale (O)	dark grey to black	black	irregular	blocky	non-homogeneous, exhibits cleavage
Oil Shale (P)	dark grey to black	black	irregular	blocky	non-homogeneous, exhibits cleavage
Oil Shale (Q)	dark grey to black	black	irregular	blocky	non-homogeneous, exhibits cleavage
Oil Shale (R)	dark grey to black	black	irregular	blocky	non-homogeneous, exhibits cleavage
Oil Shale (S)	dark grey to black	black	irregular	blocky	non-homogeneous, exhibits cleavage
Oil Shale (T)	dark grey to black	black	irregular	blocky	non-homogeneous, exhibits cleavage
Oil Shale (U)	dark grey to black	black	irregular	blocky	non-homogeneous, exhibits cleavage
Oil Shale (V)	dark grey to black	black	irregular	blocky	non-homogeneous, exhibits cleavage
Oil Shale (W)	dark grey to black	black	irregular	blocky	non-homogeneous, exhibits cleavage
Oil Shale (X)	dark grey to black	black	irregular	blocky	non-homogeneous, exhibits cleavage
Oil Shale (Y)	dark grey to black	black	irregular	blocky	non-homogeneous, exhibits cleavage
Oil Shale (Z)	dark grey to black	black	irregular	blocky	non-homogeneous, exhibits cleavage

Lithologic Nomenclature

The addition of symbols serves to modify the lithologic description of a unit:

- (1) Indicates that the unit is composed of interbedded lithotypes: e.g. SL₁SL₂SL₃ represents interbedded SL₁, SL₂, and SL₃.
- (2) When used in conjunction with a subscript it indicates that the unit is intermediate between two lithotypes; e.g. SL_{1.5} has properties of SL₁ and SL₂, but cannot be precisely identified as to exact lithotype.
- (3) Indicates that the unit grades from one lithotype to another: e.g. F₁ to O₁.
- (4) Indicates that the unit is a sequence of lithotypes listed in the order in which they were encountered along the traverse; e.g. SL₁SL₂SL₃.
- (5) Indicates that the unit is rooted; e.g. F₁ is a rooted massive mudstone/shalestone.
- (6) Indicates that the unit is only somewhat comparable to the lithologic description given in the lithologic classification scheme; e.g. O_{1.5} indicates an oil shale which is tantamount to a granular texture and is only partially representative of a true oil shale.



Geological Map of THE STELLARTON BASIN (EAST HALF) PICTOU COUNTY, NOVA SCOTIA 1986 NOVA SCOTIA DEPARTMENT OF MINES AND ENERGY Scale 1:5000

- DIAMOND DRILLHOLE IDENTIFICATION
- N.S. Dept. of Mines and Energy (Coal Inventory P-Series)
 - N.S. Dept. of Mines and Energy (N.S. Series)
 - ★ Sunor Incorporated (AP Series)
 - ▲ NovaCorp Engineering (E and P Series)
 - ✳ Acadia Coal Company (ACC Series)
- Acknowledgements: R. Snow, Mapping assistance in the Thorburn member; K. Giles, Drillhole compilation; J. Delisle, Cartography; Basin Boundary (after Yoo (1987)) modified from Bell (1940).
- NSDME, Open File Map 86-047

86-047 Sheet 1 of 2