

LITHOLOGICAL REPORT

Fingal-82B

Well Site Geologist: Matthew Armstrong

Location: Fingal, Tasmania

Interval		
From	To	CUTTINGS DESCRIPTION
0	6	Clay, reddish-brown, oxidised
6	9	Clay, orange-brown, slightly oxidised
9	12	Clay, orange-off white
12	15	Clay, light brown (80%), w/ lithic fragments up to 5mm; sand (30%)
15	18	Dolerite
18	21	Dolerite w/ minor clay content (15%)
21	36	Dolerite
36	39	Dolerite w/ minor red clay content (15%)
39	42	Dolerite w/ minor red and white clay content.
42	45	Dolerite w/ minor clay nodules
45	63	Dolerite
63	66	Dark grey mudstone chips (70%), clay nodules (10%), sand (m-f) (20%)
66	69	Dark grey mudstone chips (95%), Other lithics (5%)
69	72	Dark grey mudstone chips, minor dolerite fragments
72	75	Dark grey, (m-f) sub-angular to sub-rounded, sand; red clay nodules
75	78	Dark grey, (m-f) sand, moderately well sorted, sub-rounded, w/ minor silt
78	81	Dark grey, (m-f) sand, moderately well sorted, sub-rounded, w/ minor coarser lithics
81	84	Dark grey-black (m-f) sand, w/ mud fragments
84	87	Dark grey-black (m-f) sand, w/ mud fragments; reddish-brown clay nodules, poorly sorted
87	90	Grey mudstone fragments, w/ orange clay nodules
90	93	Dark grey (m-f) moderately sorted, sub-rounded sand, w/ larger lithic fragments
93	96	Dark grey (m-f) sand, well sorted
96	102	Dark grey (m-f) sand, well sorted, well rounded grains
From	To	CORE DESCRIPTION
102.2	102.6	Conglomerate, very minor carb lam tb, lithics up to 5cm
102.6	105	Sandstone (m-f), light grey, carb lam and coal stringers, fractured (hor & oblique), very minor mud rip-up
105	106.3	Dark grey mudstone, heavily fractured (hor & high angle oblique) grading to muddy sandstone tb
106.3	108.5	Light grey muddy sandstone, fractured (hor), coarsening tb
108.5	115.27	Medium grey sandstone (m-f), coarsening tb, minor carb lam & coal whisps tb
115.27	115.47	Calcareous sandstone, white to grey, minor mud rip-up clasts & carb lam
115.47	116.28	Light grey sandstone (m-f) (40%) w/ coal whisps/stringers <1cm, becoming calcareous (60%) w/ minor carb
116.28	117.31	Dark grey muddy sandstone, fractured (hor)
117.31	117.57	Dark grey mudstone
117.57	118.27	Interlaminated siltstone, mudstone, sandstone (m-f)
118.27	118.35	Conglomerate, w/ lithics up to 5mm
118.35	120.41	Tuff, olive green to grey, w/ minor calcite veins near top of band; very crumbly w/ high angle fractures, large
120.41	120.91	Shale, dark grey-black, major irregular fractures tb
120.91	123.98	Dark grey mudstone & light grey siltstone interlaminated, becoming slightly calcareous within lower meter,
123.98	124.55	Carbonaceous shale w/ minor dull coal bands <2cm near top
124.55	124.57	Tuff band, light brown
124.57	124.78	Carbonaceous shale, dark grey-black
124.78	125.76	Light grey siltstone, massive.

125.76	128.03	Dark grey-black shale, fractures (hor & oblique), minor siltstone laminations
129.03	134.27	Interlaminated dark grey mudstone (70%) & light grey siltstone (30%), minor clay nodules tb
134.27	134.56	Tuff band, major calcite veins throughout, hard, minor fractures
134.56	136.3	Interlaminated black shale (50%), sandstone (m-f); coarsening tb, minor clay nodules & dull coal stringers tb
136.3	140.45	Medium grey sandstone (m-f), massive
140.45	141	Light grey sandstone (m-f), w/ minor silt content
141	148.36	Medium grey sandstone (m-f), massive, coarsening tb w/ minor coal whisps tb
148.36	148.5	Conglomerate, polymictic; lithics up to 4cm, calcite nodules
148.5	149.02	Weathered coal, w/ minor brighter bands, calcite veins, no visible cleating, Desorption Sample #1
149.02	152.37	Interlaminated Siltstone (70%), mudstone (30%), fractured (hor & oblique), dark grey mudstone lense ~50cm tb. Fining downwards
152.37	158.44	Light grey siltstone, massive, w/ carb & mud lam predominantly tb. Minor fine grained sandstone lenses ~1-30cm tb
158.44	158.85	Black-brown carbonaceous mudstone, very soft, w/ minor tuff band ~5cm at top
158.85	159.76	Olive-grey claystone band, very soft and crumbly becoming hard and compact tb. Large vertical frac at base
159.76	162.3	Light grey siltstone (80%) w/ (20%) dark grey mudstone laminations & bands up to 5cm thick. Minor Slickenside
162.3	163.55	Light grey sandstone (m-f) w/ minor carb lam tb
163.55	163.65	Olive-grey tuff claystone, compact
163.65	164.08	Carbonaceous shale w/ minor 2cm thick tuff band at top
164.08	164.24	Coal, black, 10-40% bright, vertical cleats w/ calcite in cleats and veins, irregular fractures
164.24	165.14	Interlaminated 50% light grey siltstone & dark grey mudstone.
165.14	165.36	Grey claystone, soft, crumbly, fractured
165.36	165.8	Black shale, fractured (hor)
165.8	165.87	Grey tuff, soft, friable
165.87	166.37	Coal, black, 10-40% bright, vertical cleats w/ calcite infill, dull carb shale bands. Irregular fracture. Desorption Sample #2
166.37	168.86	Interlaminated Light grey siltstone & dark grey mudstone, minor fractures, Slickensides
168.86	169.05	Light brown claystone band, relatively compact
169.05	169.26	Black carbonaceous mudstone, Slickensides (high angle)
169.26	170.79	Dark brown shale (80%), w/ minor siltstone laminations and lenses
170.79	171.28	Off white tuff claystone, soft, small surface fracs
171.28	172.02	Black carbonaceous mudstone, fractured (hor)
172.02	175.8	Light grey siltstone w/ very minor dark grey mudstone laminations. Slickensides. Mudstone laminations inc tb
175.8	184.38	Light grey sandstone (m-f), very minor ~5cm carb lam band & minor coal whisps; massive, fining tb
184.38	184.8	Dark grey-black weathered coal, becoming sandy tb
184.8	184.95	Brownish-grey claystone, relatively compact
184.95	185.14	Black weathered coal
185.14	185.21	Brown-grey carbonaceous claystone, plant fossils
185.21	185.31	Black weathered coal
185.31	185.35	Brown-grey carbonaceous claystone
185.35	185.45	Black weathered coal
185.45	185.71	Light brown claystone w/ minor carb whisps
185.71	186.27	Black weathered coal, Desorption Sample #3
186.27	186.6	Light brown claystone, w/ carb whisps inc tb
186.6	186.85	Black weathered coal
186.85	187.26	Light brown-grey claystone, w/ minor carb specks tb, relatively compact
187.26	188.54	Black weathered coal, Desorption Sample #4
188.54	188.68	Light brown claystone, relatively compact
188.68	189.2	Black weathered coal, Desorption Sample #5
189.2	189.38	Brownish-grey claystone, w/ carb specks
189.38	190.94	Black weathered coal w/ minor ~1cm (10-40%) bright coal bands; minor ~1cm claystone bands; Calcite in cleats, vert cleats, uneven fracture, Desorption Sample #6

190.94	191.43	Black weathered coal, int bedded w/ claystone (Tuffaceous?); minor vert cleating in coal w/ calcite infill
191.43	194	Light grey siltstone interbedded w/ grey sandstone (m-f), coarsening tb' minor carb lam, & evidence of bioturbation in siltstone
194	216.7	Medium grey fine-medium grained, coal stringers <1cm abundant in zones, bands of rip ups/flooding surfaces, minor clay bands<4cm
216.7	217.3	Coal: earthy, interbedded with tuff bands<15cm
217.3	217.8	Desorb #7: earthy coal
217.8	218.05	Tuff
218.05	218.95	Coal: earthy, evenly interbedded with tuff & brown sediment(possibly reworked tuff)
218.95	219.19	Tuff
219.19	219.9	Coal: earthy, minor interbeds carb shale and tuff
219.9	220.9	Desorb#8
220.9	221.4	Coal: earthy, abundant tuff, mud, and carb shale
221.4	221.7	Carbonaceous siltstone: light-medium grey, grades dark grey brown carb shale
221.7	222.7	Coal: earthy, interbedded with light grey mud & carb shale
222.7	222.9	Claystone: light-dark grey laminated
222.9	245.8	Sandstone: light-medium grey, medium-coarse, zones abundant in carb stringers, bands of rip ups, minor earthy coal<5cm and minor arenaceous silt bands and carb laminations
245.8	249.7	Coal measures- predominantly tight earthy coal with some brighter cleated bands with moderate calcite infill. The coal is interbedded extensively with tuff carbonaceous/coaly shale and lesser carbonaceous mudstone D#9, D#10
249.7	253.1	Mudstone: carbonaceous medium-dark grey
253.1	263.7	Sandstone: fine-medium, carb stringers which increase in frequency and density towards base
263.7	266.2	Coal measures: predominantly tight earthy coal, moderately interbedded with tuff carbonaceous/coaly shale and lesser carbonaceous mudstone, D#11
266.2	270.9	Siltstone: arenaceous, minor mud/carbonaceous mud bands towards base
270.9	281.3	Sandstone: fine-medium grained, light grey, carbonaceous laminations, carbonaceous granules, 1.2m of silt at base, arenaceous, laminated light dark silt, some bands of silt rip ups in medium sand matrix
281.3	282.75	Carbonaceous shale: very dark grey/brown, very carbonaceous
282.75	292.14	Sandstone: light-medium grey, fine-medium, minor stringers and silt rip ups
292.14	298.6	Carbonaceous shale: dark grey/black, very carbonaceous minor earthy coal, coals 1- 40cm thick
298.6	306.05	Siltstone: Siltstone: light-medium grey, thin light/dark laminations
306.05	325.51	Interbedded fine-medium grained sandstone with carbonaceous mudstone. Both rock had substantial carbonaceous material
325.51	326	Coal seam: earthy coal interbedded with minor carbonaceous mud/shale and tuff
326	335.9	Sandstone: very fine-medium with minor carb laminations and silt bands followed by carbonaceous silt and carbonaceous mudstone
335.89	337.71	Coal seam: dull earthy, heavy coal, some with good fracture, some bright bands (D#12, D#13)
337.71	348.44	Interbedded-interlaminated fine sandstone and carbonaceous silt, beds<20cm, grades mud
348.44	361	Interbedded: dull coal based by calcite with herringbone structure, followed by beds (15-80cm) of dark brown/black very carb mudstone/shale, arenaceous-argillaceous carbonaceous silt and minor coal, minor light grey mud granules throughout. Extensive calcite veining
361	362.9	Sandstone: fine-medium grey sandstone, minor wispy carb lamination
362.9	363.45	Carbonaceous shale: medium grey, carbonaceous/coal specks, grades to minor coal at base
363.45	365.8	Carbonaceous siltstone: grey/brown, laminated, becomes sandier with depth, and eventually grades to sand, light brown mud granules
365.8	388.88	Sandstone: grey/brown becoming lighter grey, laminated in places quartzose, poorly sorted, light brown mud granules, becomes cleaner with depth, very minor carb lamination, minor silt<50cm, silt rip ups and minor carb mud bands<3cm
388.8	391.96	Interbedded carbonaceous mudstone and carbonaceous siltstone(argillaceous-arenaceous), both with wispy carb lamination, minor earthy coal at top of sequence
391.96	392.02	Minor tuff seam followed by a minor earthy coal seam
392.02	398	Siltstone: light-medium grey, laminated, arenaceous-very arenaceous, grades fine sandstone
398	T.D.	Sandstone: fine-very fine, light grey, sparse silt laminations, abundant mud/silt rip ups