

REPORT TC14-01

THIESS COAL SYSTEM

PAGE 221 11/11/82 15:45:57

LAUNCESTON.

GEOLOGICAL LOG REPORT

ATP EL2080  
LAUNCESTON

TENEMENT 2080

\*\*\*\*\*  
EL2080 LAUNCESTON. C0075  
\*\*\*\*\*

Easting: 488160.000  
Northing: 5410000.000  
Grid Type: Australian Mapping Grid  
Accuracy: Approximate  
Cr1: 150.00

Logging Organisation: CSR Exploration and Evaluation Group  
Logged By: ELLIS  
Drilling Contractor: Deadline Drilling  
Geophysical Logging: Century Geophysical Corp.

Datum: Approximate Level - Not Surveyed

Sheet Reference:

County:

Sheet Index:

Parish:

Total Depth: 27.00

Portion:

Drilling Commenced: 19/04/82

Drilling Completed: / /

Inclination:

Plug Depths:

Azimuth:

Hole Diameter: 120

Standing Water Level:

Core Diameter:

Cased Depths:

Core Barrel:

Available Data: Gamma Logs

Neutron Logs

Density Logs

Self Potential Logs

Resistivity Logs

Caliper Logs

Drill Bits: Blades  
Tungsten Carbide

ALL ROCKS ARE FRESH UNLESS OTHERWISE INDICATED

EL2080 LAUNCESTON. C0075

367

387293

628369

LAUNCESTON.

GEOLOGICAL LOG REPORT

ATP EL2080

TENEMENT 2080

LAUNCESTON

STRAT NAME	SEQ NO.	SEAM NAME	WORK SECT	SAMPLE NUMBER	DEPTH (m)	THICK (m)	ROCK TYPE	GEOLOGICAL DESCRIPTION OF STRATA
				R	0.30	0.30	SOIL	Clayey, silty, medium to dark brown, medium dense, non-plastic.
				R	0.70	0.40	CLAY	Medium to dark grey, firm, high plasticity (clay), occasional iron oxide, secondary, staining.
				R	1.50	0.80	CLAY	Medium to dark brown - yellow, firm, high plasticity (clay).
				R	2.15	0.65	CLAY	Silty, sandy, medium to dark brown - yellow, soft, low plasticity (organic), common iron oxide, secondary, staining; Additional features include: gravelly, red.
				R	2.81	0.66	INFERIOR LIGNITE	Clayey, dark brown - black, firm, friable.
				C0269	2.83	0.02	INFERIOR LIGNITE	Clayey, dark brown - black, firm, friable, good core - unbroken.
				C0269	2.87	0.04	INFERIOR LIGNITE	Clayey, dark brown - black, firm, low plasticity (organic), good core - unbroken.
				C0269	2.88	0.01	CLAY	Mottled brown - grey, firm, high plasticity (clay), good core - unbroken.
				C0269	3.06	0.18	INFERIOR LIGNITE	Clayey, dark brown - black, firm, friable, good core - unbroken.
				C0269	3.09	0.03	LIGNEOUS CLAY	Dark brown, firm, high plasticity (clay), good core - unbroken.
				C0269	3.22	0.13	INFERIOR LIGNITE	Clayey, dark brown, firm, friable, good core - unbroken, occasional bioturbation.
				C0269	3.44	0.22	INFERIOR LIGNITE	Clayey, dark brown - black, firm, friable, good core - unbroken.
				C0269	3.46	0.02	LIGNEOUS CLAY	Dark brown, firm, high plasticity (clay), good core - unbroken.
				C0269	3.48	0.02	INFERIOR LIGNITE	Clayey, dark brown - black, firm, friable, good core - unbroken.
				C0269	3.52	0.04	CLAY	Medium to dark brown - grey, firm, high plasticity (clay), good core - unbroken.
				C0269	3.55	0.03	LIGNEOUS CLAY	Dark brown, firm, high plasticity (clay), good core - unbroken.

EL2080 LAUNCESTON. C0075

368

628370

STRAT NAME	SEQ NO.	SEAM NAME	WRK SECT	SAMPLE NUMBER	DEPTH (m)	THICK (m)	ROCK TYPE	GEOLOGICAL DESCRIPTION OF STRATA
				C0269	3.65	0.10	INFERIOR LIGNITE	Clayey, dark brown - buff, firm, friable, good core - unbroken, common bioturbation.
				C0270	3.75	0.10	LIGNEOUS CLAY and CLAY	Interbedded 90:10. LIGNEOUS CLAY: dark brown, firm, high plasticity (clay), good core - unbroken; CLAY: light to medium brown - grey, firm, high plasticity (clay), good core - unbroken.
				C0270	3.78	0.03	CLAY	Medium to dark brown, firm, high plasticity (clay), good core - unbroken.
				C0270	3.79	0.01	INFERIOR LIGNITE	Clayey, dark brown - black, firm, low plasticity (organic), good core - unbroken, fibrous.
				C0270	3.83	0.04	LIGNEOUS CLAY	Dark brown, firm, high plasticity (clay), good core - unbroken.
				C0270	3.87	0.04	CLAY	Ligneous, medium to dark brown, firm, high plasticity (clay), good core - unbroken.
				C0270	3.91	0.04	CLAY	Ligneous, silty, medium to dark brown - grey, firm, high plasticity (clay), good core - unbroken.
				C0270	4.07	0.16	CLAY	Silty, light to medium brown, firm, high plasticity (clay), good core - unbroken.
				C0270	4.47	0.40	CLAY	Light to medium brown - grey, firm, high plasticity (clay), good core - unbroken.
				TOP OF SEAM SA1		4.47		
		SA1		C0271	4.50	0.03	CLAY	Silty, medium to dark brown, firm, high plasticity (clay), good core - unbroken.
		SA1		C0271	4.61	0.11	LIGNITE	Dark brown - black, firm, friable, good core - unbroken.
		SA1		C0271	4.82	0.21	LIGNITE	Clayey, dark brown, firm, friable, good core - unbroken.
		SA1		C0271	5.00	0.18	LIGNEOUS CLAY	Dark brown, firm, low plasticity (organic), good core - unbroken.
		SA1		C0271	5.11	0.11	LIGNITE	Clayey, silty, dark brown, firm, friable, good core - unbroken, common resin aggregates.

369

387295

628371

370

REPORT TC14-01

THIESS COAL SYSTEM

PAGE 224 11/11/82 15:46:06

LAUNCESTON.

GEOLOGICAL LOG REPORT

ATP EL2080  
LAUNCESTON

TENEMENT 2080

STRAT NAME	SEQ NO.	SEAM NAME	WORK SECT	SAMPLE NUMBER	DEPTH (m)	THICK (m)	ROCK TYPE	GEOLOGICAL DESCRIPTION OF STRATA
		SA1		C0271	5.13	0.02	LIGNITE	Clayey, dark brown, firm, friable, good core - unbroken.
		SA1		C0271	5.39	0.26	LIGNITE	Dark brown - black, firm, friable, good core - unbroken.
		SA1		C0272	6.63	1.24	LIGNITE	Clayey, dark brown - black, firm, friable, good core - unbroken, gradational base, occasional bioturbation.
		SA1		C0272	6.81	0.18	LIGNITE	Clayey, dark brown - black, firm, friable, good core - unbroken, common bioturbation.
-----								
BASE OF SEAM SA1					6.81	2.34		
				C0273	6.85	0.04	CLAY	Medium to dark brown - grey, firm, high plasticity (clay), good core - unbroken, common bioturbation.
				C0273	6.87	0.02	LIGNEDUS CLAY	Dark brown, firm, high plasticity (clay), good core - unbroken, common bioturbation.
				C0273	6.89	0.02	CLAY	Medium to dark brown, firm, high plasticity (clay), good core - unbroken, common bioturbation.
				C0273	6.92	0.03	LIGNEDUS CLAY	Dark brown, firm, high plasticity (clay), good core - unbroken.
				C0273	6.95	0.03	CLAY	Medium to dark brown, firm, high plasticity (clay), good core - unbroken, common bioturbation.
				C0273	7.05	0.10	INFERIOR LIGNITE	Clayey, dark brown - black, firm, friable, good core - unbroken, abundant bioturbation.
				C0274	7.08	0.03	CLAY	Light to medium grey - brown, firm, high plasticity (clay), good core - unbroken, common bioturbation.
				C0274	7.43	0.35	CLAY	Silty, light to medium grey, firm, high plasticity (clay), good core - unbroken.
				C0274	7.47	0.04	CLAY	Sandy, light to medium grey, firm, high plasticity (clay), good core - unbroken, fine and medium grained.
				C0274	7.51	0.04	CLAY	Sandy, light to medium brown, firm, high plasticity (clay), good core - unbroken, fine and medium grained, abundant bioturbation.

EL2080 LAUNCESTON. C0075

628372

LAUNCESTON.

GEOLOGICAL LOG REPORT

ATP EL2080  
LAUNCESTON

TENEMENT 2080

STRAT NAME	SEQ NO.	SEAM NAME	WORK SECT	SAMPLE NUMBER	DEPTH (m)	THICK (m)	ROCK TYPE	GEOLOGICAL DESCRIPTION OF STRATA
				C0274	8.09	0.58	CLAY	Sandy, light to medium grey, firm, high plasticity (clay), good core - unbroken, fine and medium grained; Bands include: CLAY, sandy, light to medium brown, firm, high plasticity (clay), good core - unbroken, common ligneous wisps.
				C0274	8.13	0.04	CLAY	Sandy, light to medium brown, firm, high plasticity (clay), good core - unbroken, fine and medium grained.
				C0274	8.15	0.02	CLAY	Silty, sandy, light to medium grey, firm, high plasticity (clay), good core - unbroken, fine grained.
				C0274	8.22	0.07	CLAY	Light to medium brown, firm, high plasticity (clay), good core - unbroken, occasional bioturbation.
				C0274	8.41	0.19	CLAY	Light to medium brown - grey, firm, high plasticity (clay), good core - unbroken.
					TOP OF SEAM SA2		8.41	
		SA2		C0275	8.51	0.10	INFERIOR LIGNITE	Clayey, dark brown, firm, low plasticity (organic), good core - unbroken.
		SA2		C0275	8.54	0.03	LIGNEOUS CLAY	Dark brown, firm, low plasticity (organic), good core - unbroken, common bioturbation.
		SA2		C0275	8.56	0.02	LIGNEOUS CLAY	Dark brown, firm, low plasticity (organic), good core - unbroken, abundant woody fragments.
		SA2		C0275	8.58	0.02	INFERIOR LIGNITE	Clayey, dark brown - black, firm, low plasticity (organic), good core - unbroken, common bioturbation.
		SA2		C0275	8.59	0.01	LIGNEOUS CLAY	Dark brown, firm, low plasticity (organic), good core - unbroken, common bioturbation.
		SA2		C0275	8.64	0.05	INFERIOR LIGNITE	Clayey, dark brown, firm, low plasticity (organic), good core - unbroken, common bioturbation.
		SA2		C0275	8.68	0.04	LIGNEOUS CLAY	Dark brown, firm, low plasticity (organic), good core - unbroken, common bioturbation.
		SA2		C0275	8.71	0.03	LIGNITE	Clayey, dark brown - black, firm, friable, good core - unbroken, common bioturbation.

EL2080 LAUNCESTON. C0075

178

387297

628373

STRAT NAME	SEQ NO.	SEAM NAME	WORK SECT	SAMPLE NUMBER	DEPTH (m)	THICK (m)	ROCK TYPE	GEOLOGICAL DESCRIPTION OF STRATA
		SA2		C0275	8.80	0.09	LIGNEOUS CLAY	Dark brown, firm, friable, good core - unbroken, occasional bioturbation.
		SA2		C0275	8.85	0.05	LIGNITE	Clayey, dark brown - grey, firm, friable, good core - unbroken.
		SA2		C0275	9.14	0.29	LIGNITE	Clayey, dark brown, firm, friable, good core - unbroken.
		SA2		C0275	9.26	0.12	INFERIOR LIGNITE	Clayey, dark brown - black, firm, low plasticity (organic), good core - unbroken.
		SA2		C0275	9.30	0.04	LIGNITE	Clayey, dark brown - black, firm, friable, good core - unbroken, rare bioturbation.
		SA2		C0275	9.36	0.06	INFERIOR LIGNITE	Clayey, dark brown, firm, low plasticity (organic), good core - unbroken.
		SA2		C0275	9.41	0.05	INFERIOR LIGNITE	Clayey, dark brown - grey, firm, low plasticity (organic), good core - unbroken, rare bioturbation.
		SA2		C0275	9.82	0.41	LIGNITE	Clayey, dark brown, firm, friable, good core - unbroken, occasional bioturbation.
		SA2		C0276	9.84	0.02	LIGNEOUS CLAY	Dark brown, firm, low plasticity (organic), good core - unbroken.
		SA2		C0276	9.94	0.10	LIGNITE	Clayey, dark brown - black, firm, friable, good core - unbroken, occasional bioturbation.
		SA2		C0276	10.08	0.14	LIGNITE	Clayey, dark brown - black, firm, friable, good core - unbroken, common bioturbation.
		SA2		C0276	10.14	0.06	LIGNEOUS CLAY	Medium to dark brown, firm, high plasticity (clay), good core - unbroken, occasional bioturbation.
		SA2		C0276	10.20	0.06	CLAY	Medium to dark brown - grey, firm, high plasticity (clay), good core - unbroken, common bioturbation; Additional features include: good core - unbroken, occasional ligneous wisps.
		SA2		C0276	10.30	0.10	INFERIOR LIGNITE	Clayey, dark brown - black, firm, low plasticity (organic), good core - unbroken, occasional bioturbation.

BASE OF SEAM SA2	10.30	1.89
------------------	-------	------

STRAT NAME	SEQ NO.	SEAM NAME	WORK SECT	SAMPLE NUMBER	DEPTH (m)	THICK (m)	ROCK TYPE	GEOLOGICAL DESCRIPTION OF STRATA
				C0277	10.54	0.24	CLAY	Light to medium brown - grey, firm, high plasticity (clay), good core - unbroken, occasional ligneous wisps.
				C0277	10.73	0.19	CLAY	Light to medium grey - brown, firm, slickensides on fracture, low plasticity (clay), sparse, oblique joints, angle of joints 50 degrees, good core - unbroken, rare ligneous wisps;  ALL BIOTURBATION IN THIS RUN INFILLED BY  CLAYEY SAND IS FINE TO MEDIUM GRAINED
				C0277	10.93	0.20	CLAY	Light to medium grey - brown, firm, high plasticity (clay), good core - unbroken, abundant bioturbation.
				C0277	11.29	0.36	CLAY	Light to medium brown - grey, firm, high plasticity (clay), good core - unbroken.
				C0277	11.42	0.13	CLAY	Silty, sandy, light to medium grey - brown, firm, high plasticity (clay), good core - unbroken, common ligneous wisps.
				C0277	11.47	0.05	CLAY	Light to medium brown - grey, firm, high plasticity (clay), good core - unbroken.
				C0277	11.52	0.05	CLAY	Silty, light to medium brown, firm, high plasticity (clay), good core - unbroken, common ligneous wisps.
				C0277	11.55	0.03	CLAY	Light to medium grey - brown, firm, high plasticity (clay), good core - unbroken.
				C0277	11.58	0.03	CLAY	Silty, light to medium brown, firm, high plasticity (clay), good core - unbroken, common bioturbation.
				C0277	11.63	0.05	CLAY and CLAY	Interbedded 50:50. CLAY: silty, light to medium brown, firm, high plasticity (clay), good core - unbroken; CLAY: sandy, silty, light to medium grey - brown, firm, high plasticity (clay), good core - unbroken, fine grained.
				C0277	11.72	0.09	CLAY	Silty, light to medium brown - grey, firm, high plasticity (clay), good core - unbroken; Bands include: CLAY, silty, sandy, light to medium grey, firm, high plasticity (clay), good core - unbroken, fine grained.
				C0277	11.77	0.05	CLAY	Silty, light to medium grey, firm, high plasticity (clay), good core - unbroken, common ligneous wisps.

387299

628375

LAUNCESTON.

## GEOLOGICAL LOG REPORT

ATP EL2080  
LAUNCESTON

TENEMENT 2080

STRAT NAME	SEQ NO.	SEAM NAME	WRK SECT	SAMPLE NUMBER	DEPTH (m)	THICK (m)	ROCK TYPE	GEOLOGICAL DESCRIPTION OF STRATA
				C0277	10.54	0.24	CLAY	Light to medium brown - grey, firm, high plasticity (clay), good core - unbroken, occasional ligneous wisps.
				C0277	10.73	0.19	CLAY	Light to medium grey - brown, firm, slickensides on fracture, low plasticity (clay), sparse, oblique joints, angle of joints 50 degrees, good core - unbroken, rare ligneous wisps;  ALL BIOTURBATION IN THIS RUN INFILLED BY  CLAYEY SAND IS FINE TO MEDIUM GRAINED
				C0277	10.93	0.20	CLAY	Light to medium grey - brown, firm, high plasticity (clay), good core - unbroken, abundant bioturbation.
				C0277	11.29	0.36	CLAY	Light to medium brown - grey, firm, high plasticity (clay), good core - unbroken.
				C0277	11.42	0.13	CLAY	Silty, sandy, light to medium grey - brown, firm, high plasticity (clay), good core - unbroken, common ligneous wisps.
				C0277	11.47	0.05	CLAY	Light to medium brown - grey, firm, high plasticity (clay), good core - unbroken.
				C0277	11.52	0.05	CLAY	Silty, light to medium brown, firm, high plasticity (clay), good core - unbroken, common ligneous wisps.
				C0277	11.55	0.03	CLAY	Light to medium grey - brown, firm, high plasticity (clay), good core - unbroken.
				C0277	11.58	0.03	CLAY	Silty, light to medium brown, firm, high plasticity (clay), good core - unbroken, common bioturbation.
				C0277	11.63	0.05	CLAY and CLAY	Interbedded 50:50. CLAY: silty, light to medium brown, firm, high plasticity (clay), good core - unbroken; CLAY: sandy, silty, light to medium grey - brown, firm, high plasticity (clay), good core - unbroken, fine grained.
				C0277	11.72	0.09	CLAY	Silty, light to medium brown - grey, firm, high plasticity (clay), good core - unbroken; Bands include: CLAY, silty, sandy, light to medium grey, firm, high plasticity (clay), good core - unbroken, fine grained.
				C0277	11.77	0.05	CLAY	Silty, light to medium grey, firm, high plasticity (clay), good core - unbroken, common ligneous wisps.

EL2080 LAUNCESTON. C0075

387299

374

628376

375

REPORT TC14-01

THIESS COAL SYSTEM

PAGE 228 11/11/82 15:46:16

LAUNCESTON.

GEOLOGICAL LOG REPORT

ATP EL2080  
LAUNCESTON

TENEMENT 2090

STRAT NAME	SEQ NO.	SEAM NAME	WORK SECT	SAMPLE NUMBER	DEPTH (m)	THICK (m)	ROCK TYPE	GEOLOGICAL DESCRIPTION OF STRATA
				C0277	11.92	0.15	CLAY	Silty, light to medium brown - grey, firm, high plasticity (clay), good core - unbroken.
				C0277	12.01	0.09	CLAY	Light to medium grey - brown, firm, high plasticity (clay), good core - unbroken, occasional bioturbation.
				C0277	12.03	0.02	CLAY	Light to medium brown, firm, high plasticity (clay), good core - unbroken.
					TOP OF SEAM SB1		12.03	
SB1				C0278	12.14	0.11	LIGNITE	Clayey, dark brown - black, firm, friable, good core - unbroken, common bioturbation.
SB1				C0278	12.17	0.03	CLAY	Ligneous, medium to dark brown, firm, high plasticity (clay), good core - unbroken.
SB1				C0278	12.25	0.08	LIGNEOUS CLAY	Dark brown - black, firm, low plasticity (organic), good core - unbroken.
SB1				C0278	12.32	0.07	CLAY	Ligneous, medium to dark brown, firm, high plasticity (clay), good core - unbroken.
SB1				C0278	12.38	0.06	CLAY	Ligneous, medium to dark brown, firm, high plasticity (clay), good core - unbroken, abundant bioturbation.
SB1				C0278	12.43	0.05	CLAY	Ligneous, medium to dark brown, firm, high plasticity (clay), good core - unbroken.
SB1				C0278	12.54	0.11	LIGNEOUS CLAY	Dark brown, firm, low plasticity (organic), good core - unbroken.
SB1				C0278	12.58	0.04	INFERIOR LIGNITE	Clayey, dark brown - black, firm, low plasticity (organic), good core - unbroken.
					BASE OF SEAM SB1		12.58	0.55
				C0279	13.19	0.61	CLAY	Light to medium grey, firm, high plasticity (clay), good core - unbroken, gradational base, occasional ligneous wisps; Additional features include: good core - unbroken, abundant bioturbation.

EL2080 LAUNCESTON. C0075

628377

LAUNCESTON.

## GEOLOGICAL LOG REPORT

ATP EL2080  
LAUNCESTON

TENEMENT 2080

STRAT NAME	SEQ NO.	SEAM NAME	WRK SECT	SAMPLE NUMBER	DEPTH (m)	THICK (m)	ROCK TYPE	GEOLOGICAL DESCRIPTION OF STRATA
				C0279	13.65	0.46	CLAY	Silty, light to medium brown, firm, high plasticity (clay), good core - unbroken, common ligneous wisps.
					13.67	0.02	CORE LOSS	
				TOP OF SEAM SB2				13.67
		SB2		C0280	13.69	0.02	INFERIOR LIGNITE	Clayey, dark brown, firm, low plasticity (organic), good core - unbroken, subfissile.
		SB2		C0280	13.71	0.02	CLAY	Light to medium grey - brown, stiff, high plasticity (clay), good core - unbroken, abundant ligneous wisps.
		SB2		C0280	13.76	0.05	LIGNITE	Clayey, dark brown, firm, friable, good core - unbroken.
		SB2		C0280	13.82	0.06	INFERIOR LIGNITE	Clayey, dark brown, firm, low plasticity (organic), good core - unbroken.
		SB2		C0280	13.96	0.14	LIGNEOUS CLAY	Dark brown, firm, low plasticity (organic), good core - unbroken, common bioturbation.
		SB2		C0280	14.11	0.15	CLAY	Ligneous, medium to dark brown, firm, high plasticity (clay), good core - unbroken.
								50% CLAY CLASTS
		SB2		C0280	14.19	0.08	CLAY	Light to medium brown, firm, high plasticity (clay), good core - unbroken.
		SB2		C0281	14.34	0.15	LIGNITE	Clayey, dark brown - black, firm, friable, good core - unbroken, common bioturbation.
		SB2		C0281	14.45	0.11	LIGNEOUS CLAY	Dark brown, firm, low plasticity (organic), good core - unbroken.
		SB2		C0281	14.46	0.01	LIGNITE	Clayey, dark brown - black, firm, friable, good core - unbroken.
		SB2		C0281	14.60	0.14	INFERIOR LIGNITE	Clayey, dark brown, firm, low plasticity (organic), good core - unbroken.
		SB2		C0281	14.63	0.03	LIGNITE	Clayey, dark brown - black, firm, friable, good core - unbroken.

EL2080 LAUNCESTON. C0075

376

387301

628378

STRAT NAME	SEQ NO.	SEAM NAME	WORK SECT	SAMPLE NUMBER	DEPTH (m)	THICK (m)	ROCK TYPE	GEOLOGICAL DESCRIPTION OF STRATA
		SB2		C0281	14.75	0.12	LIGNEOUS CLAY	Dark brown, firm, high plasticity (clay), good core - unbroken.
		SB2		C0281	14.79	0.04	LIGNEOUS CLAY	Dark brown, firm, low plasticity (organic), good core - unbroken.
		SB2		C0281	14.83	0.04	LIGNEOUS CLAY	Dark brown, firm, high plasticity (clay), good core - unbroken.
		SB2		C0281	14.86	0.03	CLAY	Light to medium brown, firm, high plasticity (clay), good core - unbroken.
		SB2		C0281	14.89	0.03	CLAY	Ligneous, dark brown - grey, firm, high plasticity (clay), good core - unbroken.
		SB2		C0281	14.96	0.07	CLAY	Ligneous, medium to dark brown - grey, firm, high plasticity (clay), good core - unbroken.
		SB2		C0281	14.99	0.03	CLAY	Light to medium brown, firm, high plasticity (clay), good core - unbroken.
		SB2		C0281	15.02	0.03	LIGNEOUS CLAY	Dark brown, firm, low plasticity (organic), good core - unbroken.
		SB2		C0281	15.13	0.11	LIGNITE	Clayey, dark brown - black, firm, friable, good core - unbroken.
		SB2		C0281	15.15	0.02	CLAY	Medium to dark brown, firm, high plasticity (clay), good core - unbroken.
		SB2		C0281	15.20	0.05	LIGNEOUS CLAY	Dark brown, firm, low plasticity (organic), good core - unbroken.
		SB2		C0281	15.29	0.09	CLAY	Medium to dark brown - grey, firm, high plasticity (clay), good core - unbroken.
		SB2		C0281	15.34	0.05	LIGNITE	Clayey, dark brown, firm, friable, good core - unbroken, common bioturbation.
		SB2		C0281	15.37	0.03	CLAY	Light to medium brown, firm, high plasticity (clay), good core - unbroken.
		SB2		C0281	15.42	0.05	LIGNEOUS CLAY	Dark brown, firm, high plasticity (clay), good core - unbroken, common bioturbation; Additional features include: good core - unbroken, occasional ligneous wisps.

377

378

REPORT TC14-01

THIESS COAL SYSTEM

PAGE 231 11/11/82 15:46:21

LAUNCESTON.

GEOLOGICAL LOG REPORT

ATP EL2080  
LAUNCESTON

TENEMENT 2080

387303

STRAT NAME	SEQ NO.	SEAM NAME	WORK SECT	SAMPLE NUMBER	DEPTH (m)	THICK (m)	ROCK TYPE	GEOLOGICAL DESCRIPTION OF STRATA
		SB2		C0281	15.54	0.12	CLAY	Light to medium brown - grey, firm, high plasticity (clay), good core - unbroken.
		SB2		C0281	15.56	0.02	CLAY	Ligneous, medium to dark brown, firm, high plasticity (clay), good core - unbroken.
		SB2		C0281	15.70	0.14	LIGNITE	Clayey, dark brown, firm, friable, good core - unbroken, common bioturbation.
		SB2		C0281	15.80	0.10	INFERIOR LIGNITE	Clayey, dark brown, firm, low plasticity (organic), good core - unbroken, common bioturbation.
		SB2		C0281	15.82	0.02	CLAY	Ligneous, medium to dark brown, firm, high plasticity (clay), good core - unbroken.

BASE OF SEAM SB2 15.82 2.15

				C0282	15.94	0.12	CLAY	Light to medium brown - grey, firm, high plasticity (clay), good core - unbroken, common ligneous wisps.
				C0282	16.03	0.09	CLAY	Medium to dark brown - grey, good core - unbroken, common ligneous wisps.
				C0282	16.11	0.08	INFERIOR LIGNITE	Clayey, dark brown, firm, low plasticity (organic), good core - unbroken, common bioturbation.
				C0282	16.18	0.07	LIGNEOUS CLAY	Dark brown, firm, high plasticity (clay), good core - unbroken.
				C0282	16.20	0.02	CLAY	Ligneous, medium to dark brown, firm, high plasticity (clay), good core - unbroken, common bioturbation.
				C0282	16.39	0.19	CLAY	Light to medium brown - grey, firm, high plasticity (clay), good core - unbroken, common ligneous wisps; Additional features include: good core - unbroken, common bioturbation.
				C0283	16.46	0.07	LIGNEOUS CLAY	Dark brown, firm, high plasticity (clay), good core - unbroken, abundant bioturbation.
				C0283	16.56	0.10	LIGNITE	Clayey, dark brown, firm, friable, good core - unbroken, abundant bioturbation.

EL2080 LAUNCESTON. C0075

628380

LAUNCESTON.

## GEOLOGICAL LOG REPORT

ATP EL2080  
LAUNCESTON

TENEMENT 2080

STRAT NAME	SEQ NO.	SEAM NAME	WORK SECT	SAMPLE NUMBER	DEPTH (m)	THICK (m)	ROCK TYPE	GEOLOGICAL DESCRIPTION OF STRATA
				C0283	16.73	0.17	LIGNITE	Clayey, dark brown - black, firm, friable, good core - unbroken, occasional bioturbation.
				-----		TOP OF SEAM SB3		16.73
		SB3		C0284	17.25	0.52	LIGNITE	Clayey, dark brown - black, firm, friable, good core - unbroken, common bioturbation.
		SB3		C0284	17.27	0.02	LIGNEOUS CLAY	Dark brown, firm, high plasticity (clay), good core - unbroken.
		SB3		C0284	17.47	0.20	LIGNITE	Clayey, dark brown - black, firm, friable, good core - unbroken, rare bioturbation.
		SB3		C0284	17.52	0.05	CLAY	Ligneous, medium to dark brown - grey, firm, high plasticity (clay), good core - unbroken.
		SB3		C0284	17.68	0.16	LIGNITE	Clayey, dark brown - black, firm, friable, good core - unbroken, occasional bioturbation.
		SB3		C0284	17.72	0.04	INFERIOR LIGNITE	Clayey, dark brown, firm, low plasticity (organic), good core - unbroken.
		SB3		C0284	17.95	0.23	LIGNITE	Clayey, dark brown - black, firm, friable, good core - unbroken.
		SB3		C0284	17.99	0.04	LIGNITE	Woody textured, humified, dark brown, low strength, brittle, good core - unbroken.
		SB3		C0284	18.14	0.19	LIGNITE	Clayey, dark brown - black, firm, friable, good core - unbroken, occasional bioturbation.
		SB3		C0284	18.17	0.03	LIGNEOUS CLAY	Dark brown, firm, high plasticity (clay), good core - unbroken.
		SB3		C0284	18.20	0.03	INFERIOR LIGNITE	Clayey, dark brown - black, firm, low plasticity (organic), good core - unbroken.
		SB3		C0284	18.24	0.04	LIGNITE	Clayey, dark brown - black, firm, friable, good core - unbroken.
		SB3		C0284	18.28	0.04	LIGNITE	Clayey, dark brown - grey, firm, friable, good core - unbroken.

379

628381

STRAT NAME	SEQ NO.	SEAM NAME	WORK SECT	SAMPLE NUMBER	DEPTH (m)	THICK (m)	ROCK TYPE	GEOLOGICAL DESCRIPTION OF STRATA
		SB3		C0285	18.42	0.14	LIGNITE	Clayey, dark brown - black, firm, friable, good core - unbroken.
		SB3		C0285	18.53	0.11	INFERIOR LIGNITE and LIGNITE and CLAY	Intermixed 80:10:10. INFERIOR LIGNITE: dark brown, firm, high plasticity (clay), good core - unbroken; LIGNITE: clayey, dark brown - black, firm, friable, good core - unbroken; CLAY: light to medium grey - brown, firm, high plasticity (clay), good core - unbroken.
		SB3		C0285	18.80	0.27	LIGNITE	Clayey, dark brown - black, firm, friable, good core - unbroken, occasional bioturbation.
					-----			
					BASE OF SEAM SB3	18.80	2.07	
					-----			
				C0286	18.87	0.07	LIGNEOUS CLAY	Dark brown, firm, high plasticity (clay), good core - unbroken.
				C0286	18.90	0.03	CLAY	Medium to dark brown - grey, firm, high plasticity (clay), good core - unbroken.
				C0286	18.92	0.02	CLAY	Medium to dark brown, firm, high plasticity (clay), good core - unbroken.
				C0286	19.16	0.24	CLAY and CLAY	Intermixed 70:30. CLAY: light to medium brown - grey, firm, high plasticity (clay), good core - unbroken, common bioturbation; CLAY: light to medium grey - brown, firm, high plasticity (clay), good core - unbroken.
					-----			
					TOP OF SEAM SB4	19.16		
					-----			
		SB4		C0287	19.33	0.17	LIGNITE	Clayey, dark brown - black, firm, friable, good core - unbroken, common bioturbation.
		SB4		C0287	19.38	0.05	LIGNITE	Clayey, dark brown - black, firm, friable, good core - unbroken, subfissile.
		SB4		C0287	19.66	0.28	LIGNITE	Clayey, dark brown - black, firm, friable, good core - unbroken, common bioturbation.

STRAT NAME	SEQ NO.	SEAM NAME	WRK SECT.	SAMPLE NUMBER	DEPTH (m)	THICK (m)	ROCK TYPE	GEOLOGICAL DESCRIPTION OF STRATA
		SB4		C0288	19.75	0.09	LIGNEOUS CLAY	Dark brown, firm, low plasticity (organic), good core - unbroken.
		SB4		C0288	19.89	0.14	CLAY and CLAY	Intermixed 80:20. CLAY: medium to dark brown, firm, high plasticity (clay), good core - unbroken, common ligneous wisps; CLAY: light to medium brown - grey, firm, high plasticity (clay), good core - unbroken.
		SB4		C0288	20.04	0.15	LIGNITE	Clayey, dark brown - black, firm, friable, good core - unbroken, common bioturbation.
		SB4		C0288	20.15	0.11	INFERIOR LIGNITE	Clayey, dark brown, firm, low plasticity (organic), good core - unbroken, common bioturbation.
		SB4		C0288	20.23	0.08	LIGNITE	Clayey, dark brown - black, firm, friable, good core - unbroken, occasional bioturbation.
		SB4		C0288	20.27	0.04	LIGNEOUS CLAY	Dark brown, firm, high plasticity (clay), good core - unbroken, occasional bioturbation.
		SB4		C0288	20.48	0.21	LIGNITE	Clayey, dark brown - black, firm, friable, good core - unbroken, occasional bioturbation.
BASE OF SEAM SB4					20.48	1.32		
				C0288	20.64	0.16	LIGNEOUS CLAY	Dark brown, firm, low plasticity (organic), good core - unbroken, common bioturbation.
				C0288	20.68	0.04	LIGNITE	Clayey, dark brown - black, firm, friable, good core - unbroken, occasional bioturbation.
				C0289	20.80	0.12	LIGNEOUS CLAY	Dark brown, firm, high plasticity (clay), good core - unbroken, common bioturbation.
				C0289	20.84	0.04	CLAY	Ligneous, medium to dark brown - grey, firm, high plasticity (clay), good core - unbroken, common bioturbation.
				C0289	20.98	0.14	LIGNITE	Clayey, dark brown - black, firm, friable, good core - unbroken, abundant bioturbation.
				C0289	21.02	0.04	LIGNEOUS CLAY	Dark brown, firm, high plasticity (clay), good core - unbroken, abundant bioturbation.

381

628383

382

REPORT TC14-01

THIESS COAL SYSTEM

PAGE 235

11/11/82 15:46:57

LAUNCESTON.

GEOLOGICAL LOG REPORT

ATP EL2080  
LAUNCESTON

TENEMENT 2080

387307

STRAT NAME	SEQ NO.	SEAM NAME	WORK SECT	SAMPLE NUMBER	DEPTH (m)	THICK (m)	ROCK TYPE	GEOLOGICAL DESCRIPTION OF STRATA
				C0289	21.13	0.11	INFERIOR LIGNITE	Clayey, dark brown - black, firm, low plasticity (organic), good core - unbroken, abundant bioturbation.
				C0290	21.19	0.06	CLAY	Medium to dark brown, firm, high plasticity (clay), good core - unbroken, abundant bioturbation.
				C0290	21.54	0.35	CLAY	Light to medium grey - brown, firm, high plasticity (clay), good core - unbroken, common bioturbation; Additional features include: expanding clay.
				C0290	21.82	0.28	CLAY	Sandy, light to medium grey, firm, high plasticity (clay), good core - unbroken, fine and medium grained, occasional bioturbation; Additional features include: good core - unbroken, occasional ligneous wisps.
				C0290	22.10	0.28	CLAY and CLAY	Intermixed 80:20. CLAY: silty, light to medium brown, firm, high plasticity (clay), good core - unbroken; CLAY: sandy, light to medium grey, firm, high plasticity (clay), good core - unbroken.
				C0290	22.41	0.31	CLAY and CLAY	Intermixed 60:40. CLAY: light to medium brown - grey, firm, high plasticity (clay), good core - unbroken; CLAY: silty, light to medium grey, firm, high plasticity (clay), good core - unbroken.
					23.50	1.08	CLAY	Silty, sandy, light to medium grey - brown, firm, high plasticity (clay).
					24.20	0.70	CLAY	Light to medium brown, firm, high plasticity (clay).
					25.00	0.80	INFERIOR LIGNITE and LIGNEOUS CLAY	Interbedded 60:40. INFERIOR LIGNITE: clayey, gelatinous, dark brown, firm, friable; LIGNEOUS CLAY: dark brown - black, firm, high plasticity (organic).
					25.60	0.60	CLAY	Lithic, medium to dark brown, firm, high plasticity (clay), common woody fragments; Additional features include: silty, sandy.
					28.80	3.20	CLAY	Silty, sandy, light to medium grey - brown, firm, high plasticity (clay), common ligneous fragments.

EL2080 LAUNCESTON. C0075

628384

383

REPORT TC14-01

THIESS COAL SYSTEM

PAGE 236 11/11/82 15:46:30

LAUNCESTON.

GEOLOGICAL LOG REPORT

ATP EL2080 TENEMENT 2080  
LAUNCESTON

STRAT NAME	SEQ NO.	SEAM NAME	WORK SECT	SAMPLE NUMBER	DEPTH (m)	THICK (m)	ROCK TYPE	GEOLOGICAL DESCRIPTION OF STRATA
					29.00	0.20	INFERIOR LIGNITE and LIGNEOUS CLAY	Interbedded 80:20. INFERIOR LIGNITE: clayey, gelatinous, dark brown - black, soft, friable; LIGNEOUS CLAY: dark brown - black, firm, high plasticity (organic).
					30.40	1.40	LIGNEOUS CLAY	Dark brown - black, firm, high plasticity (organic); Bands include: INFERIOR LIGNITE, clayey, gelatinous, dark brown - black, soft, friable; Bands include: CLAY, base at 0031.00m, medium to dark brown, firm, high plasticity (clay).
					33.20	2.80	CLAY	Light to medium brown - grey, firm, high plasticity (clay).
					34.70	1.50	LIGNEOUS CLAY	Dark brown - black, firm, low plasticity (organic), common ligneous wisps.
					36.00	1.30	CLAY	Light to medium brown - grey, firm, high plasticity (clay), occasional woody fragments.
					38.40	2.40	CLAY	Light to medium grey - brown, firm, high plasticity (clay).
					39.00	0.60	SIDERITE	Light to medium brown, high strength, tough.
					43.70	4.70	CLAY	Light to medium grey - brown, firm, high plasticity (clay), common woody fragments; Additional features include: occasional ligneous wisps.
					43.90	0.20	SIDERITE	Light to medium brown, extremely high strength, tough.
					45.60	1.70	CLAY	Silty, light to medium grey - brown, firm, high plasticity (clay).
					46.10	0.50	INFERIOR LIGNITE	Clayey, woody textured, dark brown - black, firm, friable.
					48.00	1.90	CLAY	Light to medium grey, firm, high plasticity (clay).
					49.00	1.00	CLAY	Silty, light to medium brown - grey, firm, low plasticity (clay).
					51.30	2.30	CLAY	Light to medium brown - grey, firm, high plasticity (clay).
					52.50	1.20	LIGNEOUS CLAY	Dark brown - black, soft, low plasticity (organic).

EL2080 LAUNCESTON. C0075

628385

LAUNCESTON

GEOLOGICAL LOG REPORT

ATP EL2080  
LAUNCESTON

TENEMENT 2080

STRAT NAME	SEQ NO.	SEAM NAME	WORK SECT	SAMPLE NUMBER	DEPTH (m)	THICK (m)	ROCK TYPE	GEOLOGICAL DESCRIPTION OF STRATA
					53.50	1.00	CLAY and CLAY	Interbedded 60:40. CLAY: ligneous, medium to dark brown, firm, high plasticity (clay); CLAY: carbonaceous, medium to dark brown - grey, firm, high plasticity (clay), common ligneous wisps.
					55.50	2.00	CLAY	Light to medium brown - grey, firm, high plasticity (clay).
					56.00	0.50	CLAY	Ligneous, medium to dark brown, firm, high plasticity (clay).
					57.60	1.60	CLAY	Light to medium grey, firm, high plasticity (clay); Bands include: LIGNEOUS CLAY, dark brown - black, firm, low plasticity (organic).
					58.00	0.40	INFERIOR LIGNITE	Clayey, gelatinous, dark brown - black, firm, low plasticity (organic).
					60.00	2.00	CLAY and CLAY	Interbedded 50:50. CLAY: light to medium brown - grey, firm, high plasticity (clay); CLAY: medium to dark brown, firm, high plasticity (clay).
					63.70	3.70	CLAY	Light to medium brown, firm, high plasticity (clay).
					64.80	1.10	LIGNEOUS CLAY and INFERIOR LIGNITE	Interbedded 70:30. LIGNEOUS CLAY: dark brown - black, firm, low plasticity (organic); INFERIOR LIGNITE: clayey, glauconitic, dark brown - black, soft, low plasticity (organic).
					65.10	0.30	CLAY	Light to medium grey, firm, high plasticity (clay).
					65.30	0.20	SIDERITE	Light grey - brown, extremely high strength, tough; Bands include: CLAY, light to medium brown - grey, firm, high plasticity (clay).
					68.40	3.10	SILT	Sandy, clayey, light white - grey, soft, non-plastic, fine grained, common woody fragments; Additional features include: quartzose.
					68.85	0.45	LIGNEOUS CLAY	Dark brown, firm, low plasticity (organic); Bands include: INFERIOR LIGNITE, gelatinous, clayey, dark brown, soft, low plasticity (organic).
					72.00	3.15	CLAY	Light to medium grey - brown, firm, high plasticity (clay); Bands include: CLAY, medium to dark brown, firm, high plasticity (clay), rare ligneous wisps.

EL2080 LAUNCESTON. C0075

384

387309

628386

385

REPORT TC14-01

THIESS COAL SYSTEM

PAGE 238

11/11/82 15:46:34

LAUNCESTON.

GEOLOGICAL LOG REPORT

ATP EL2080  
LAUNCESTON

TENEMENT 2080

STRAT NAME	SEQ NO.	SEAM NAME	WORK SECT	SAMPLE NUMBER	DEPTH (m)	THICK (m)	ROCK TYPE	GEOLOGICAL DESCRIPTION OF STRATA
					73.25	1.25	INFERIOR LIGNITE	Gelatinous, clayey, dark brown - black, soft, low plasticity (organic); Bands include: LIGNEOUS CLAY, dark brown - black, firm, low plasticity (organic).
					78.00	4.75	CLAY and CLAY	Interbedded 80:20. CLAY: light to medium grey - brown, firm, high plasticity (clay); CLAY: medium to dark brown, firm, high plasticity (clay); Bands include: LIGNEOUS CLAY, dark brown, firm, low plasticity (organic); Bands include: INFERIOR LIGNITE, clayey, dark brown, firm, low plasticity (organic).

END OF BORE AT	78.00 m
----------------	---------

EL2080 LAUNCESTON. C0075

628387