

Appendix 2 - DDH OJ002

Drill hole details:

Collar Co ordinates	E 55 524 507 N 5 308 900
RL	392m
Dip	-90 ⁰
Drill type	HQ Diamond
Depth	99.65m

Graphic log	2
Detailed seam log	7
Photographs of core	13
Drill log	22

Graphic log

MIDLANDS ENERGY

DRILL HOLE No 0J002

Survey Depth	Azimuth	Dip	Hole Co-ordinates GDA (GPS)	
SURFACE	-	-90°	Easting_	55 524 507
			Northing_	5 308 900
			Elevation (m)	~392
			Azimuth_Mag	-
			Dip	-90°

SHEET 1 OF 5

PROJECT: SOUTHERN MIDLANDS COAL
PROSPECT: EL 25/2008 JERICHO RD
DATE: 23-3-12 → 27-3-12
LOGGED BY: KAREN ADAMS

DRILLED: 23-3-12 → 27-3-12

HOLE DEPTH	CORE RECOVERY	ROD	SAMPLE NO	SULPHIDES					PICTORIAL LOG		GRAPHIC LOG	GEOLOGY NOTES	SUMMARY LOG	
				1	3	1	3	5	STRUCT	ALT				
1	1	1	1											
2	1	1	1											
3	1	1	1											
4	1	1	1											
5	0	0	1											
6	42	0	1											CL
7	100	100 ^a	1											
8	100	100 ^b	1											
9	100	46	1											
10	100	94	1											SS
11	100	70	1						Tr 20 ^o					
12	100	100 ^c	1						VH 20 ^o					
13	100	42	1						FT					MS
14	100	80	1											
15	100	100 ^d	1						FT					SS
16	100	80	1											
17	100	100	1											
18	100	85 ^e	1											
19	100	85	1						BD 80 ^o					MS
20	100	100	1											

REMARKS *CORE THAT IS WEAK AND PERHAPS LESS COMPLETE THAN ROD SURVEILLO E.G. COAL OR WEATHERED ROCK ETC

SOUTHERN MIDLANDS ENERGY

DRILL HOLE No 0J002

Survey Depth	Azimuth	Dip	Hole Co-ordinates GDA (GPS)	
			Easting_	55 524 507
			Northing_	5 308 900
			Elevation (m)	~392
			Azimuth_Mag	—
			Dip	-90°

SHEET 2 **OF** 5

PROJECT: SOUTHERN MIDLANDS COAL
PROSPECT: EL 25/2008 JERICO RD
DATE: 23-3-12 → 27-3-12
LOGGED BY: KAREN ADAMS

HOLE DEPTH	CORE RECOVERY	ROD	SAMPLE NO	SULPHIDES	PICTORIAL LOG		GRAPHIC LOG	GEOLOGY NOTES	SUMMARY LOG
					STRUCT	ALT			
21	100	100						19.57-22.85: GREY MUDSTONE AND FINE SANDSTONE WITH MINOR CARBONACEOUS MUDSTONE FLACER BANDING IN SMALL UPWARD FINING CYCLES, INCREASING AMOUNTS OF LITHIC SANDSTONE WITH DICHRIDIUM FOSSILS DOWNHOLE	MS SS
22	100	95							
23	100	100						22.85-28.81: PALE GREY, MEDIUM GRAINED LITHIC SANDSTONE WITH DICHRIDIUM FOSSILS AND CARBONACEOUS MUDSTONE/COAL FLACER BANDING AT AROUND 25.5m	
24	100	100						FLACER BANDING, ALMOST SYCLIC IN APPEARANCE, INCREASING IN ABUNDANCE FROM 24.4m (SOME CALCITE VEINING APPEARING ASSOCIATED WITH FLACER BANDING)	
25	100	100						SOME MUDSTONE (STARTING AROUND 25.90m) GRADING BACK TO SANDSTONE AND STARTING A SERIES OF UPWARD FINING CYCLE	
26	100	100						FLACER BANDING (AT APPROX 70°) AT APPROX 26.50m	SS
27	100	100						OVERALL SANDSTONE IS MASSIVE TO SEMI-MASSIVE	
28	100	100							
29	100	100						28.89-29.19: INTERBEDDED GREY SANDSTONE AND MUDSTONE WITH MINOR CARBONACEOUS MUDSTONE	MS
30	100	100						29.19-29.91: CARBONACEOUS MUDSTONE INTERBEDDED WITH DARK GREY SANDSTONE AND MINOR COAL IN VITRIC BANDS (APPROX 1mm WIDE) AT 70-80°	MS SS
31	100	100						29.91-31.60: GREY MUDSTONE INTERBEDDED WITH GREY, FINE GRAINED LITHIC SANDSTONE AND MINOR CARBONACEOUS MUDSTONE IN AN OVERALL UPWARD FINING CYCLE	
32	100	91"						31.60-31.95: MODERATELY BRIGHT COAL WITH CALCITE VEINS AND CLUSTS	MS
33	100	42						31.95-33.70: COAL WITH CALCITE VEINING AND VITRIC BANDS	
34	100	85"						33.70-34.19: BROWN TO GREY MUDSTONE AND CARBONACEOUS MUDSTONE	MS MS
35	100	100						34.19-35.24: PALE GREY TO GREY MEDIUM TO COARSE GRAINED LITHIC SANDSTONE WITH MINOR TO VERY MINOR FLACER BANDING AND SMALL (15cm) INTERVALS OF FINE GRAINED MATERIAL	
36	100	100							
37	100	100							SS
38	100	100							
39	100	100							
40	100	100							
REMARKS									

WELL LOG ON CORE

DRILL HOLE No OJ002
SHEET 3 OF 5

Survey Depth	Azimuth	Dip	Hole Co-ordinates	GDA (GPS)
			Easting	55 524 507
			Northing	5 308 900
			Elevation (m)	~392
			Azimuth_Mag	—
			Dip	-90°

PROJECT: SOUTHERN MIDLANDS COAL
PROSPECT: EL 25/2008 JERICHO RD
DATE: 23-3-12 → 27-3-12
LOGGED BY: KAREN ADAMS

HOLE DEPTH	CORE RECOVERY	ROD	SAMPLE NO	SULPHIDES	PICTORIAL LOG		GRAPHIC LOG	GEOLOGY NOTES	SUMMARY LOG
					STRUCT	ALT			
41	100	100						31.19-43.24: PALE GREY TO EBEN, MEDIUM TO COARSE GRAINED LITHIC SANDSTONE WITH MINOR TO VERY MINOR FLAKER BANDING AND SMALL (10cm) INTERVALS OF FINER GRAINED MATERIAL	
42	100	100							
43	100	100							
44	100	90						43.24-44.55: GREY, MEDIUM-COARSE GRAINED LITHIC SANDSTONE WITH ABUNDANT IRREGULAR COAL-CALCITE 'VEINS', CALCITE SOMETIMES OCCURRING IN TENSIONAL, EN-ESCHELON ORIENTATIONS WITHIN COAL (FLAKE BANDS?) AT APPROX 2° (N)	
45	100	100						44.55-50.34: PALE GREY, MEDIUM-COARSE GRAINED LITHIC SANDSTONE WITH SOME FLAKER BANDING UP-HOLE AND BRIDDING AT DOWN-HOLE CONTACT AT 50°	SS
46	100	100							
47	100	100							
48	100	100							
49	100	100							
50	100	100							
51	100	100				64	80°	50.34-50.94: DARK BROWN-BROWN MUDSTONE AND CARBONACEOUS MUDSTONE WITH CARBONACEOUS MUDSTONE INCREASING IN ABUNDANCE DOWN-HOLE	MS
52	100	79*						50.94-51.88: COAL, GRADING FROM DULL AND MODERATELY HEAVY TO MODERATELY BRIGHT WITH VITRIC BANDS AND CALCITE VEINING (FROM SUB-PARALLEL TO 26° TO CORE AXIS)	
53	100	100						51.88-53.06: DARK BROWN TO GREY CARBONACEOUS MUDSTONE AND MUDSTONE WITH SOME COAL BANDS (52.6-52.7) WITH CALCITE CLEARS	MS MS
54	100	85						53.06-55.10: VITRIC COAL BANDS WITH CALCITE VEINING AND CLEARS, SOME CARBONACEOUS MUDSTONE PRESENT	MS MS
55	100	100						55.10-54.85: DARK GREY TO DARK BROWN MUDSTONE AND CARBONACEOUS MUDSTONE WITH VERY MINOR CALCITE VEINING	
56	100	20						54.85-62.92: GREY, FINE-MEDIUM GRAINED LITHIC SANDSTONE WITH TWO JOINT SETS FROM 55.10-56.50m AT 40° AND 20-30°, UNDISJOSE AND ROUGH JOINTS WITH SOME CALCITE ALTERATION	
57	100	78						RIP UP CLASTS OF COAL / CARBONACEOUS MUDSTONE (UP TO 7cm) AND FLAKER BANDING FROM 60.35-60.50m	SS
58	100	100							
59	100	100							
60	100	100							
REMARKS									

DRILL HOLE LOG

DRILL HOLE No 0J002
SHEET 4 OF 5

Survey Depth	Azimuth	Dip	Hole Co-ordinates	GDA (GPS)
			Easting	55 524 507
			Northing	5 308 900
			Elevation (m)	~392
			Azimuth_Mag	-
			Dip	-90°

PROJECT SOUTHERN MIDLANDS COAL
PROSPECT. EL 25/2008 JERICHO RD
DATE: 23-3-12 -> 27-3-12
LOGGED BY: KAREN ADAMS

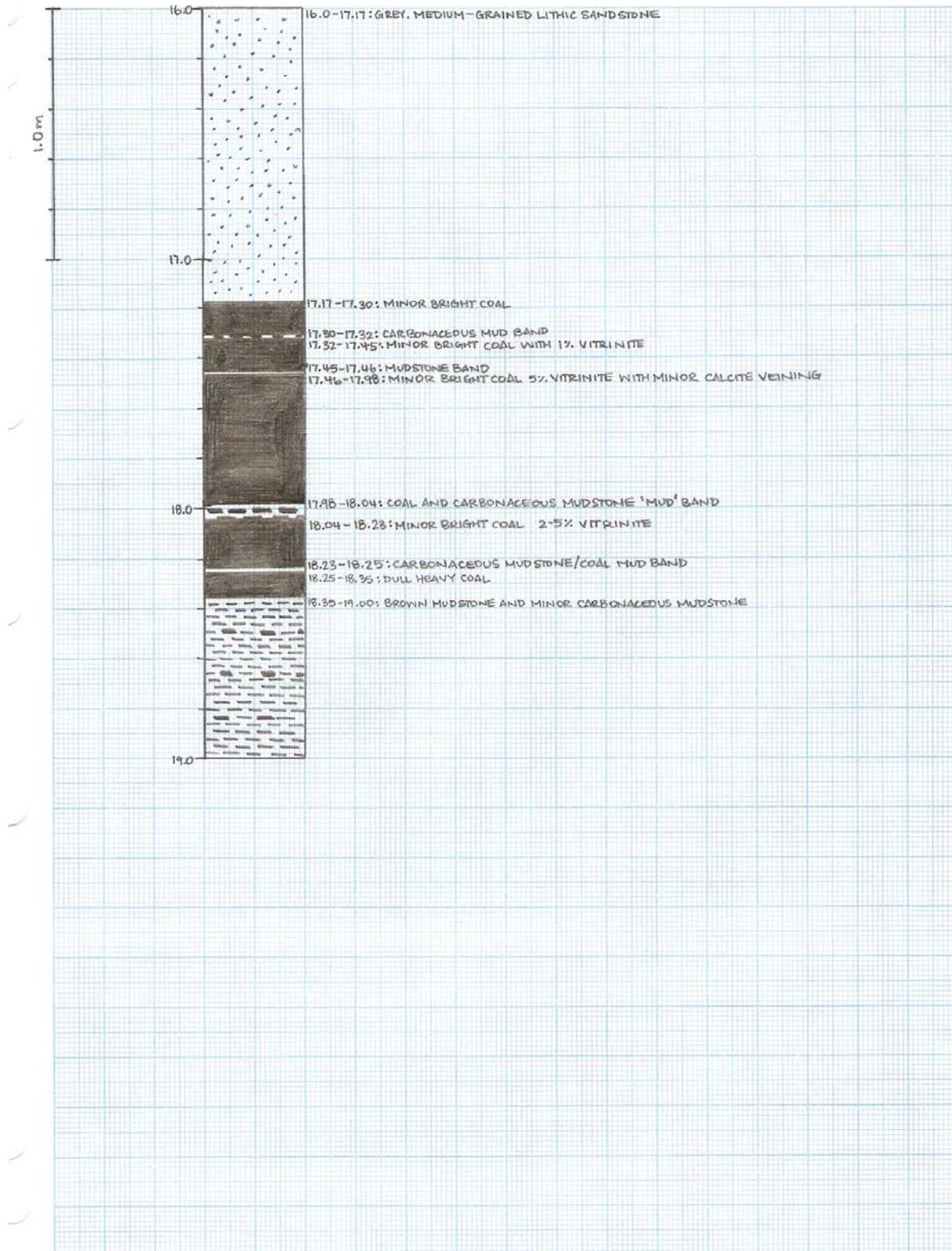
HOLE DEPTH	CORE RECOVERY	RQD	SAMPLE NO	SULPHIDES	PICTORIAL LOG		GRAPHIC LOG	GEOLOGY NOTES	SUMMARY LITHO
					STRUCT	ALT			
61	100	90					0.00 0.5 1 2 3 4 5	64.03-62.92: GREY, FINE TO MEDIUM-GRAINED (MINOR COARSE GRAINED MATERIAL) LITHIC SANDSTONE WITH CONGLOMERATIC ZONE OF CARBONACEOUS MUDSTONE CLASTS (UP TO 7cm) AND FLACER BANDING FROM 60.85-60.80m.	SS
62	100	100							
63	100	100							
64	100	82						62.72-62.18: DARK GREY CARBONACEOUS MUDSTONE 62.18-64.96: DUL. MODERATELY BRN COAL WITH CONGLOMERATIC ZONE BANDING. CALCITE VEINING COMMON. POSSIBLY 'BRACIATED' DOWN-HOLE. CONTACT PYRITE MINERALISATION AT 64.77m.	CM2
65	100	44			Jr	20'		64.77: FAULT BRECCIA(?)	
66	100	100						64.96-74.28: GRADING FROM DARK GREY TO LIGHT GREY, FINE TO MEDIUM-GRAINED SANDSTONE. CHANGE IN ALTERATION (!) FROM APPROX 71.30m (PALE GREEN)	
67	100	62			Fa	8.0'			
68	100	100							
69	100	100							SS
70	100	100							
71	100	90			Jr	30-40'			
72	100	100							
73	100	100							
74	100	100							
75	100	64						74.28-74.44: VERY PALE GREY, STRONGLY SILICA AND SERICITE ALTERED, FREQUENTLY FRACTURED, MUDSTONE WITH INCREASING AMOUNTS OF SIMILARLY ALTERED FINE TO MEDIUM-GRAINED SANDSTONE DOWN-HOLE.	
76	100	26			Jr	10-20' 20-30' 30-40'		APPEARS TO BE CONTACT METAMORPHOSIS REMANANT BEDDING 70-80' AROUND 74.45 AND 78.20 CROSS BEDDING APPARENT? AROUND 78.15 45 JOINT SETS PRESENT, DOMINANTLY PLAINLY SMOOTH WITH SOME CARBONATE ALTERATION 10-20', 250, 150', 45°	MS (Sc)
77	100	70							
78	100	100			Bd	70'			
79	100	100			Bd	80'			
80	100	56						79.14-79.85: INTENSELY BANDED AND ALTERED ZONE. LIQUEFIED PATH WAY, PARTIALLY HEALED FAULT. SILICA, SERICITE PLUS OTHER FINE-GRAINED MINERALS	MS
REMARKS								74.65-80.00: PALE GREY, BROKEN, SILICA-SERICITE ALTERED MUDSTONE	

Detailed seam log

OJ002 - DETAILED LOG : SEAM ONE

1mm Squares

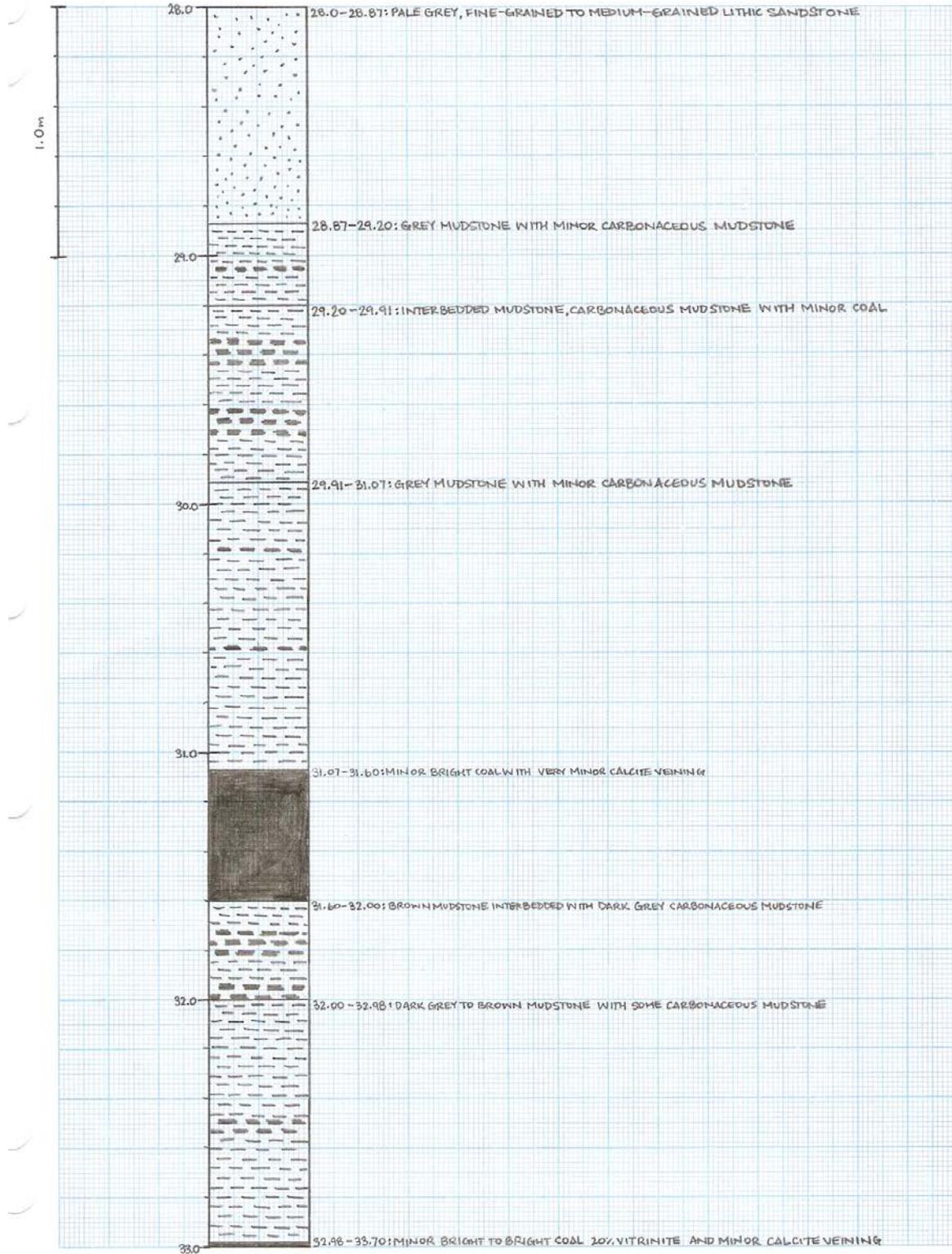
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OJ002 - DETAILED LOG : SEAM TWO

1mm Squares

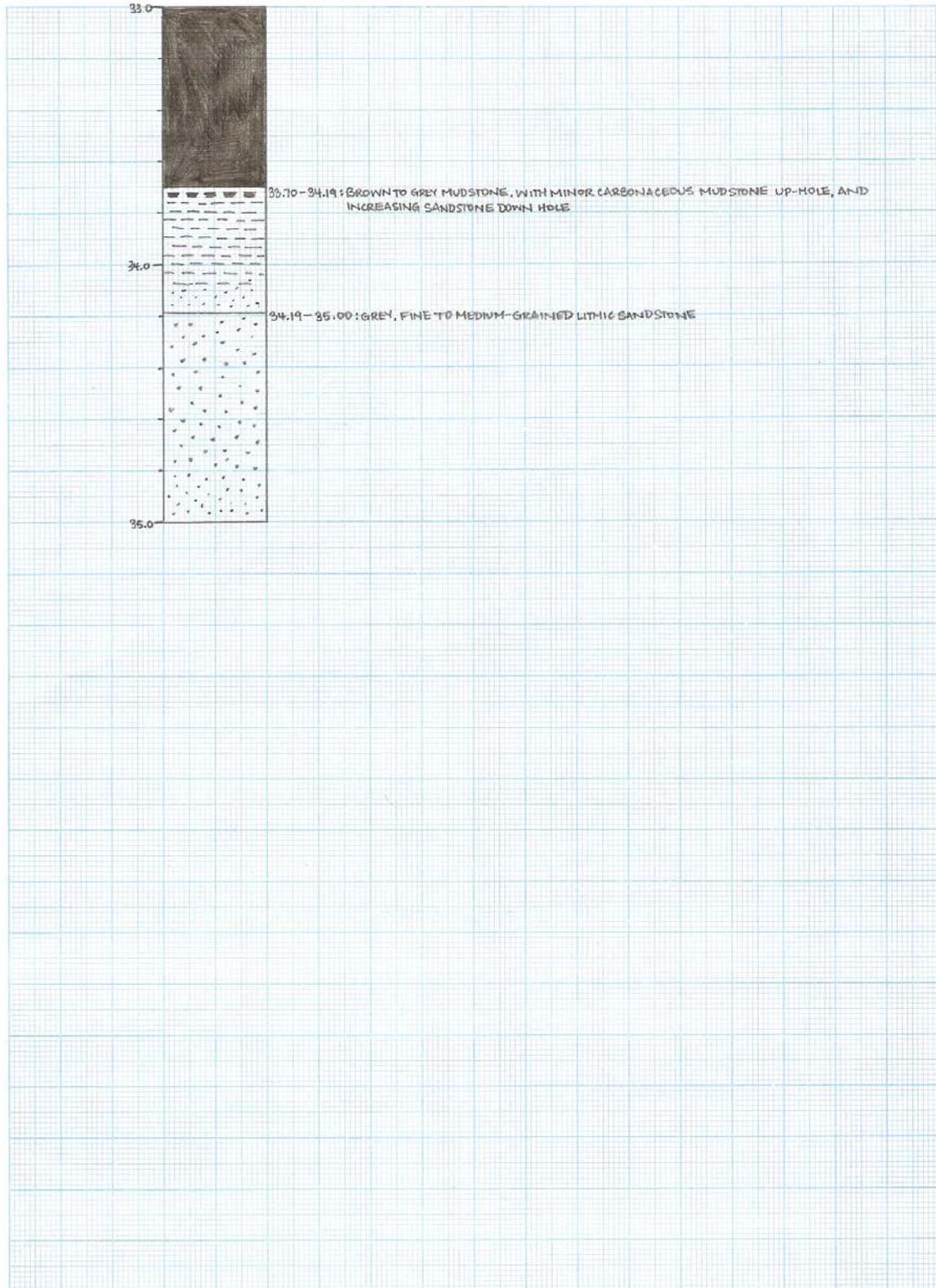
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OJ002 - DETAILED LOG : SEAM TWO CONTINUED

1mm Squares

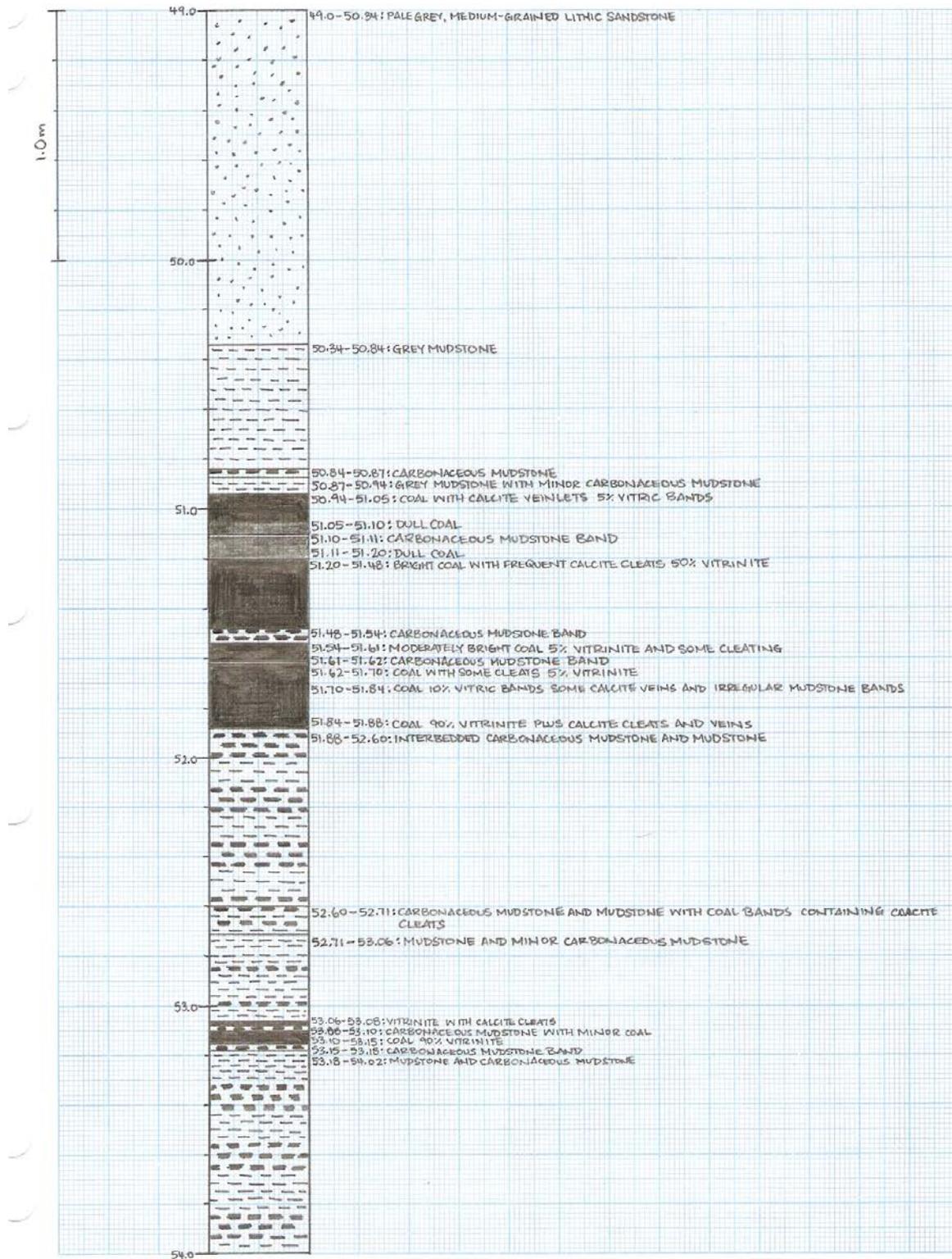
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OJ002 - DETAILED LOG : SEAM THREE

1mm Squares

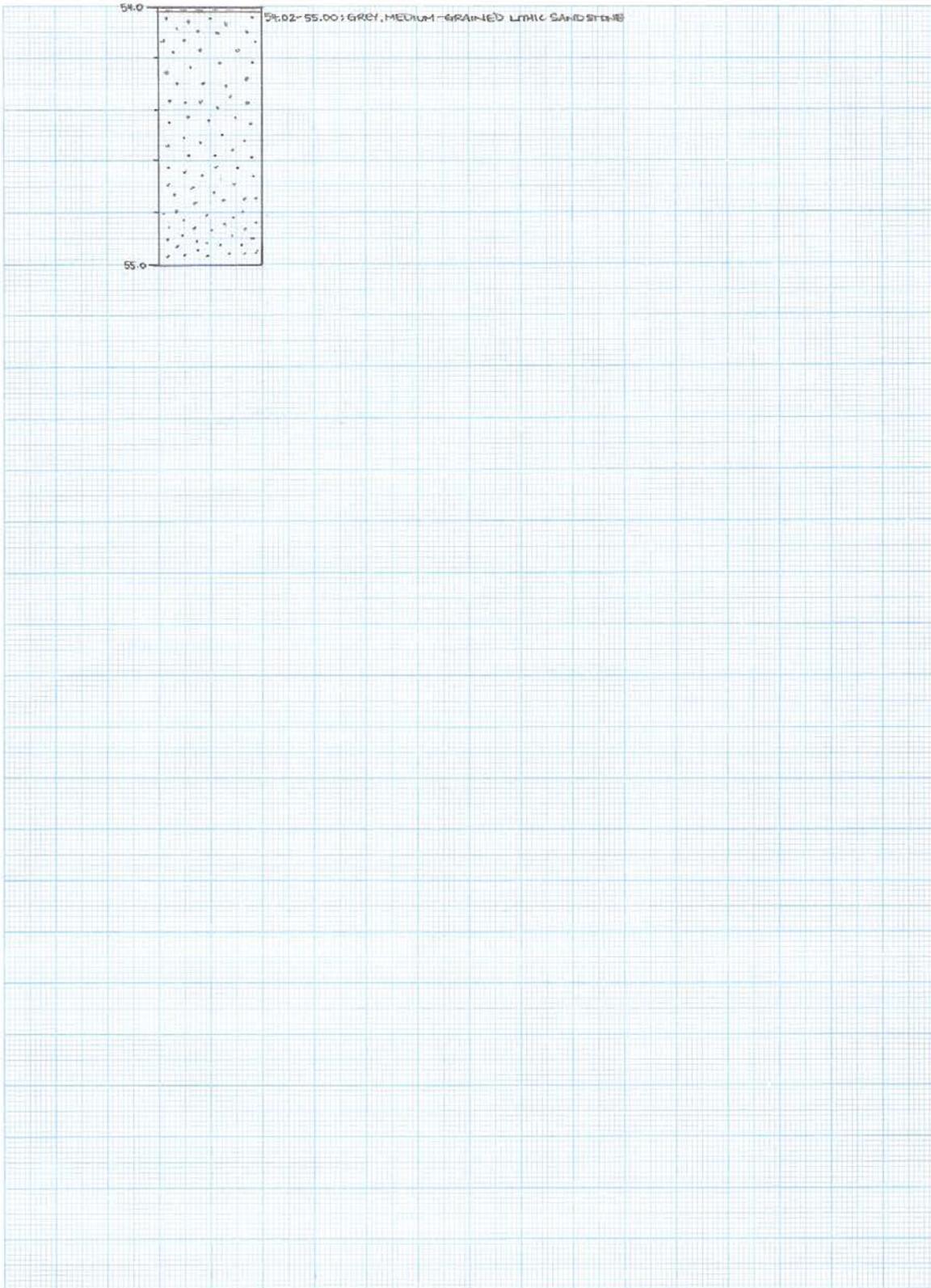
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OJ002 - DETAILED LOG: SEAM THREE CONTINUED

1mm Squares

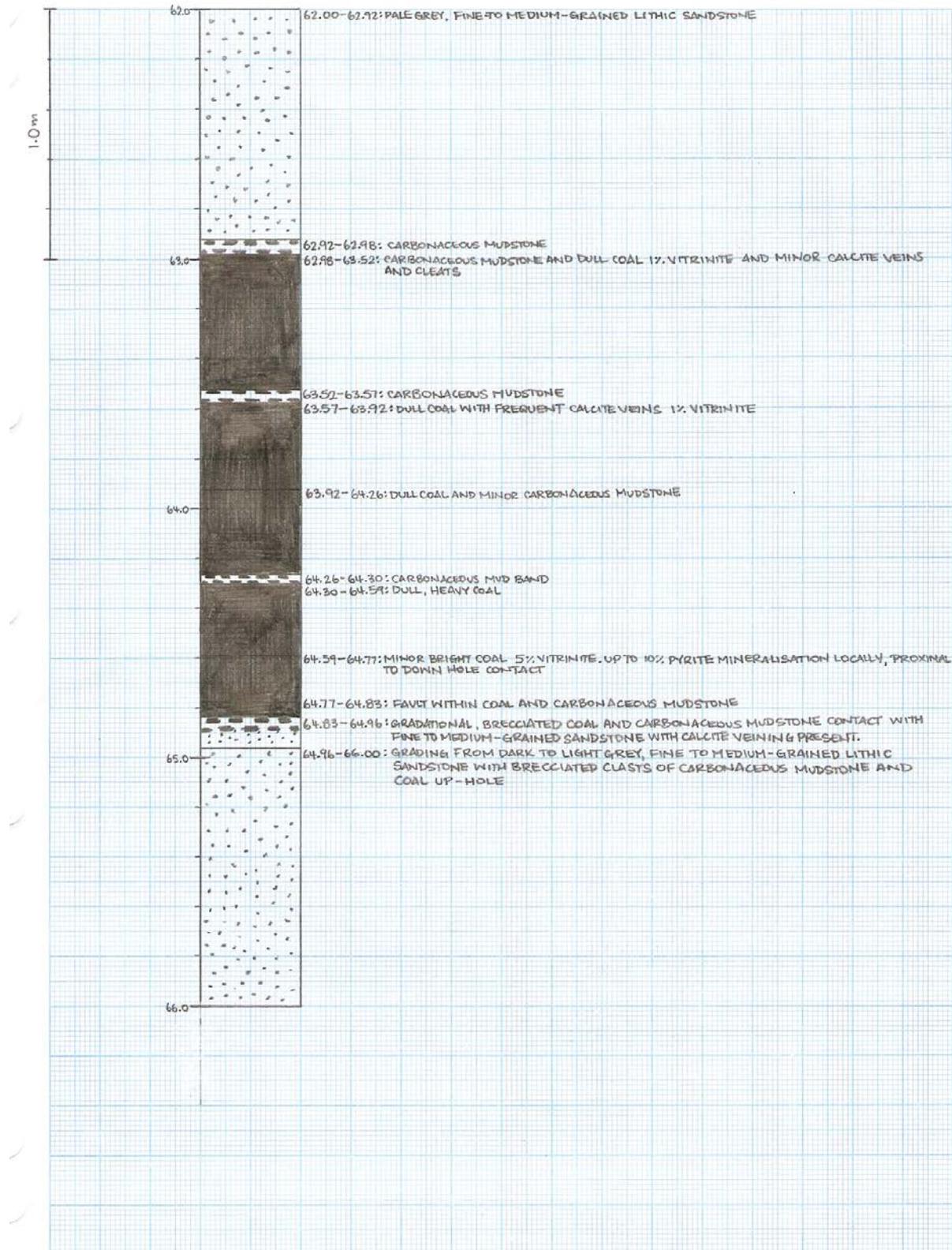
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OJ002 - DETAILED LOG : SEAM FOUR

1mm Squares

SCALE 1:20



Photographs of core - OJ002



Trays 1 & 2 - 4.75 to 10.71m



Trays 3 & 4 - 10.71m to 16.23m



Trays 5 & 6 - 16.23m to 21.69m



Trays 7 & 8 - 21.69m to 27.34m



Trays 9 & 10 - 27.34m to 32.97m



Trays 11 & 12 - 32.97m to 38.49m



Trays 13 & 14 – 38.49m to 44.03m



Trays 15 & 16 – 44.03 to 49.60m



Trays 17 & 18 – 49.60m to 55.29m



Trays 19 & 20 – 55.29m to 60.65m



Trays 21 & 22 – 60.65m to 66.26m



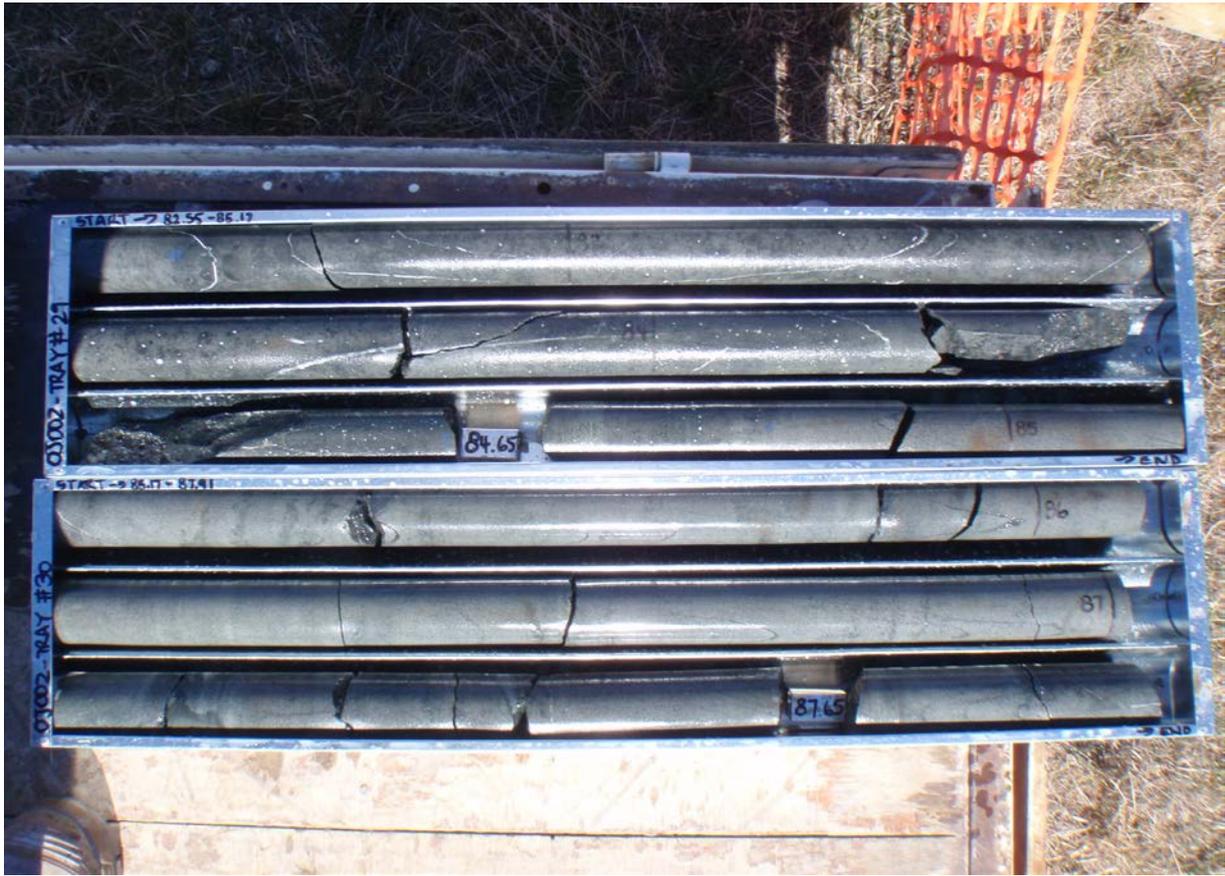
Trays 23 & 24 – 66.26m to 71.71m



Trays 25 & 26 – 71.71m to 77.09m



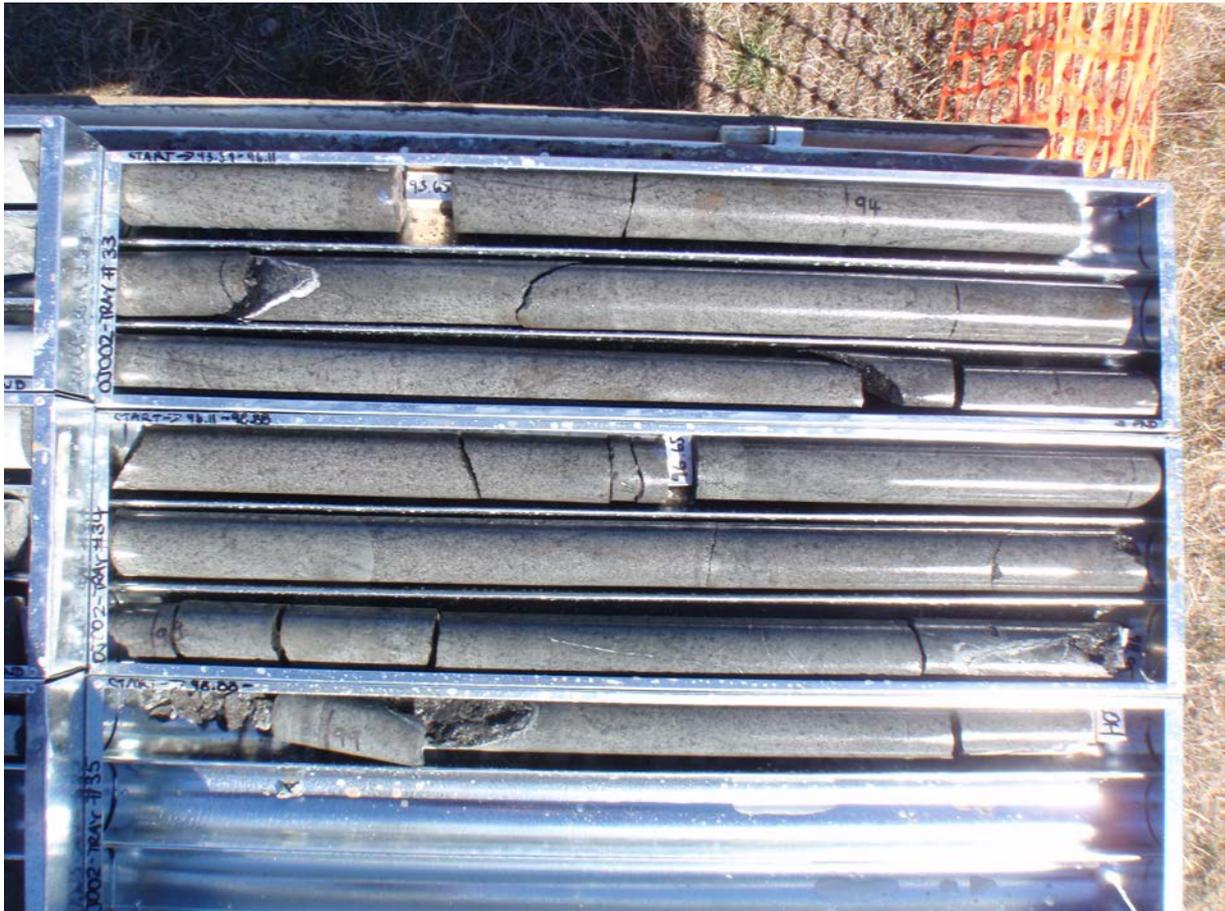
Trays 27 & 28 – 77.09m to 82.55m



Trays 29 & 30 – 82.55m to 87.91m



Trays 31 & 32 – 87.91m to 93.39m



Trays 33, 34 & 35 – 93.39m to 99.65m

Drill log

Drill Hole ID: OJ002

Project: Southern Midlands Coal
 License: EL 25/2008 (Jericho Road)
 Date Drilled: 23/3/12 - 27/3/12

Collar: Easting: 55 524 507
 Northing: 5 308 900
 Elevation: 392

(GDA - GPS)

Azimuth: n/a
 Dip: -90 degrees

mFrom	mTo	Description
0	4.75	Hammer Bit - No Core
4.75	5.58	Core Loss - washed away
5.58	5.63	Weathered mudstone talus with black mud coating
5.63	5.82	Highly weathered coal 'dirt'
5.82	5.95	Weathered mudstone and sandstone
5.95	9.85	Moderately to highly weathered, cream to orange lithic sandstone with minor flacer banding. Base of oxidation at 9.85m
9.85	11.75	Pale grey, medium to coarse-grained lithic sandstone with very minor flacer banding
11.75	12	Pale orange to cream, oxidised (fault proximal) lithic sandstone
12	12.25	oxidised fault zone
12.25	12.4	Pale orange to cream, oxidised (fault proximal) lithic sandstone
12.4	12.6	Grey, medium grained lithic sandstone with minor carbonaceous mudstone clasts down hole
12.6	13.15	Grey mudstone with minor carbonaceous mudstone
13.15	14.76	Pale grey, medium to coarse-grained lithic sandstone with <i>dichroidium</i> fossils and carbonaceous mudstone banding present
14.76	15.5	Cream lithic sandstone with minor oxidation zone proximal to fault
15.5	17.18	Pale grey, medium-grained lithic sandstone with minor zonal oxidation up hole (fault proximal)
17.18	18.37	Minor bright coal with calcite cleats and veining with some mud bands
18.37	22.85	Grey mudstone and fine sandstone with minor carbonaceous mudstone flacer banding. Small upwardly fining cycles. Increasing lithic sandstone abundances increasing down hole with <i>dichroidium</i> fossils present
22.85	28.89	Pale grey, medium-grained lithic sandstone with <i>dichroidium</i> fossils and carbonaceous mudstone and coal banding at around 23.8m. Flacer banding almost stylonitic in appearance and increasing in abundance from 24.9m. Some calcite veining, apparently associated with flacer banding. Series of small upwardly fining cycles of mud and sandstone beginning at 25.9m. Flacer banding at 26.5m at 70 degrees to core axis. Overall sandstone is massive to semi-massive.
28.89	29.19	Interbedded grey sandstone and mudstone with minor carbonaceous mudstone
29.19	29.91	Carbonaceous mudstone interbedded with dark grey sandstone and minor coal in 1mm wide vitric bands at 70-80 degrees to core axis
29.91	31.05	Grey mudstone interbedded with grey, fine-grained lithic sandstone and minor carbonaceous mudstone in an overall upwardly fining cycle
31.05	31.6	Moderately bright coal with calcite veins and cleats
31.6	31.9	Dark grey to grey mudstone interbedded with carbonaceous mudstone
31.9	33.7	Coal with calcite veining and vitric bands

33.7	34.19	Brown to grey mudstone and carbonaceous mudstone
34.19	43.24	Pale grey to grey, medium to coarse-grained lithic sandstone with minor to very minor flacer banding and small (<15cm) intervals of finer grained material
43.24	44.55	Grey, medium to coarse-grained lithic sandstone with abundant irregular coal-calcite 'veins'. Calcite sometimes occurring in tensional, en eschelon orientation within coal.
44.55	50.34	pale grey, medium to coarse-grained lithic sandstone with some flacer banding up hole and bedding at down hole contact at 80 degrees to core axis
50.34	50.94	Dark grey to brown mudstone and carbonaceous mudstone increasing in abundance downhole
50.94	51.88	Coal, grading from dull and moderately heavy to moderately bright with vitric bands and calcite veining (ranging from sub paralell to 20 degrees to core axis)
51.88	53.06	Dark brown to grey carbonaceous mudstone and mudstone with some coal bands (from 52.6-52.7m) with calcite cleats
53.06	53.18	Vitric coal bands with calcite veining and cleats. Some carbonaceous mudstone present
53.18	54.03	Dark grey to dark brown mudstone and carbonaceous mudstone with very minor calcite veining
54.03	62.92	Grey, fine to medium grained lithic sandstone with two joint sets from 55.15 to 56.3m at 40 and 20-30 degrees to core axis. Joints were undulose and rough with some calcite alteration. Rip up clasts of coal and carbonaceous mudstone (up to 7cm in size) and flacer banding from 60.35-60.8m
62.92	62.98	Dark grey carbonaceous mudstone
62.98	64.96	Dull, moderately heavy coal with carbonaceous mudstone banding and calcite veining common. Brecciated down hole contact. Pyrite mineralisation at 64.77m
64.96	74.28	Grading from dark grey to light grey, fine to medium-grained sandstone. Pale green alteration from approximately 71.3m
74.28	79.44	Very pale grey, strongly silica-sericite altered, frequently fractured mudstone with increasing abundances of fine to medium-grained sandstone down hole. Alteration likely attributable to contact metamorphism. Bedding still apparent around 77.65 and 78.2m at 70-80 degrees to core axis. Cross-bedding apparent at 78.15. 4.5 joint sets apparent, dominantly planar smooth with some carbonate alteration
79.44	79.85	Intensely banded and altered zone. Likely fluid pathway, partially healed fault. Silica-sericite prominent plus other fine-grained and banded minerals
79.85	80	Pale grey, broken silica-sericite altered mudstone
80	80.42	Pale grey silica-sericite altered mudstone
80.42	82.67	Grey-green, fine to medium grained dolerite with calcite veining common (5mm band of dark red, jasperoidal material at uphole contact)
82.67	84.8	Dark grey-green with rounded xenoliths, up to 4cm in size, at up hole contact. Vesicles, often calcite filled (amygdaloidal), throughout and calcite veins common
84.8	99.65	Dark green-grey dolerite with calcite veins common
	EOH	