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				Waukivo	ry 11		
Organiz	zation AG Site	oucester Project L LTD en hole		Northing Grid Accuracy	402419.02 6452589.82 GDA-94 Australian Height Datum	Collar 104.6 Total Depth 1103 Inclination 0 Azimuth 0	
	nenced 14	=		Drilling Company Drill Rig Type			
E	Plug Depth g Company Logged By Encoded By Core Type Irill Bit Type	GeoConsult Pty Ltd			Cased Depth 0 Casing Type Size of Casing 0 Fluid Standing Water Level 0 ole Logging Company Lease PEL 25	Lower 0	
	mma Log iper Log	Neutron Log Sonic Log	Density Log Photographed	Bed Resolution L	og Self Potential Log X Rayed	Resistivity Log Geotechnical Log	Dip Log
From	То						
14	17	SILTSTONE 70%, grey silty in part; moderately			ous; intermixed with SANDSTC	NE 30%, very fine grained,	grey dark grey, lithic
17	20	SILTSTONE 80%, dark slightly weathered, strong		ceous rare coaly; interr	nixed with SANDSTONE 20%,	fine grained, light grey, lithic	moderately sorted;
20	23		uffaceous; intermixed		xed with SANDSTONE 40%, fin %, black brown, shaly in part du		
23	26	SILTSTONE 60%, green moderately sorted; slight			nixed with SANDSTONE 40%, f	ine grained, light grey white	, lithic poorly to
26	29	SILTSTONE 90%, greer sorted rare micaceous; f			ntermixed with SANDSTONE 10	0%, fine grained, light grey, l	ithic moderately
29	35	SANDSTONE 60%, fine strong	grained, light grey wh	nite, lithic moderately so	orted; intermixed with SILTSTO	NE 40%, dark grey, clayey t	nroughout; fresh,
35	38				DNACEOUS SILTSTONE 30%, ic moderately sorted; fresh, stro		

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From	То	Description
38	41	SILTSTONE 80%, grey brown, sandy in part; intermixed with CARBONACEOUS SILTSTONE 20%, dark grey black, rare coaly fragments; fresh, moderately strong
41	47	SANDSTONE 60%, very fine grained, light grey white, micaceous lithic sandy occasional; intermixed with SILTSTONE 40%, dark grey brown, muddy rare coal, banded fragments; fresh, strong
47	50	SANDSTONE, very fine grained, grey, lithic minor coaly; fresh, moderately strong
50	53	SANDSTONE, fine grained, grey, lithic lithic-quartz; fresh, moderately strong
53	59	SANDSTONE, fine grained, grey, lithic lithic-quartz muddy nodules; fresh, moderately strong
59	65	SANDSTONE 65%, fine grained, grey, coaly fragments throughout lithic; intermixed with TUFF 35%, cream, coaly fragments throughout; fresh, moderately strong
65	68	SANDSTONE 90%, fine grained, grey, lithic silty fragments; intermixed with COAL UNDIFF. 10%, black, rare tuffaceous; fresh, moderately strong
68	71	SANDSTONE, fine grained, grey, lithic silty fragments rare coaly; fresh, moderately strong
71	74	SANDSTONE, fine grained, grey, lithic silty in part; fresh, moderately strong
74	77	SANDSTONE, fine grained, grey, rare coaly rare tuffaceous; intermixed with SHALE, black, rare sideritic fragments; fresh, moderately strong
77	80	SANDSTONE 60%, fine grained, grey, coaly in part muddy lithic; intermixed with SILTSTONE 40%, grey, shaly fragments throughout; fresh, moderately strong
80	86	SANDSTONE, fine grained, grey, coaly in part shaly fragments; fresh, moderately strong
86	89	SANDSTONE, fine grained, grey, lithic clayey shaly fragments; fresh, moderately strong
89	92	SANDSTONE, fine grained, grey, carbonaceous siltstone fragments clayey nodules; fresh, moderately strong
92	95	SANDSTONE, fine grained, grey, shaly fragments clayey nodules; fresh, moderately strong
95	98	SANDSTONE, fine grained, grey, tuffaceous fragments shaly rare; intermixed with SILTSTONE, dark grey, carbonaceous siltstone in part; fresh, moderately strong
98	101	SANDSTONE 55%, fine grained, grey, silty fragments lithic-quartz; intermixed with TUFF 45%, cream, carbonaceous siltstone fragments; fresh, moderately strong
101	107	TUFF, cream; fresh, strong
107	110	SANDSTONE 60%, fine-medium grained, grey, silty fragments clayey nodules; intermixed with TUFF 40%, cream; fresh, strong
110	119	SANDSTONE, fine-medium grained, grey, rare tuffaceous lithic-quartz lithic; intermixed with SILTSTONE, grey, carbonaceous siltstone fragments rare coaly; fresh, strong
119	122	SANDSTONE, fine grained, grey, shaly fragments coaly in part; intermixed with SILTSTONE, grey, carbonaceous siltstone fragments throughout; fresh, moderately strong
122	123	SANDSTONE, grey, lithic lithic-quartz; intermixed with SILTSTONE, grey; fresh, moderately strong
123	127	NO RECOVERY
127	130	SANDSTONE, fine grained, grey, lithic coaly in part; fresh, moderately strong

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From	То	Description	
130	133	SANDSTONE, fine grained, grey, lithic lithic-quartz; fresh, moderately strong	
133	136.615	SANDSTONE 80%, fine grained, grey light grey, lithic poorly to moderately sorted rare coal,banded; intermixed with SILTSTONE 20 grey, coal,banded in part rare shaly; fresh, strong, carbonaceous fragments)%, dark grey
136.615	136.759	COAL UNDIFF., black, tending to inferior in part; fresh, weak	
136.759	139.037	CARBONACEOUS SILTSTONE 60%, dark grey brown, coaly fragments rare tuffaceous; intermixed with SANDSTONE 40%, fine grown, lithic poorly to moderately sorted silty in part; fresh, moderately strong, carbonaceous fragments	rained, grey
139.037	139.225	COAL UNDIFF., black, tending to inferior in part; fresh, weak	
139.225	145	SANDSTONE 70%, fine grained, grey, lithic moderately sorted; intermixed with SILTSTONE 30%, dark brown grey, coal,banded thr strong	oughout; fresh,
145	148	SANDSTONE 80%, fine grained, grey green, lithic moderately sorted silty in part; intermixed with SILTSTONE 20%, dark brown gre coal, banded fragments; fresh, very strong, silty	y, occasional
148	151	SILTSTONE 70%, dark grey black, occasional coal, banded sandy in part; intermixed with TUFF 20%, brown light brown, silty; intermixed SANDSTONE 10%, fine grained, light grey, lithic moderately sorted; fresh, moderately strong, carbonaceous fragments	nixed with
151	154	SANDSTONE 90%, fine grained, light grey grey, lithic feldspathic in part moderately sorted; intermixed with SILTSTONE 10%, dark coal, banded shaly in part; fresh, strong	grey brown, rare
154	157	SANDSTONE 70%, fine grained, grey, lithic moderately sorted silty in part; intermixed with SILTSTONE 30%, dark grey brown, rare fresh, strong	coal,banded;
157	160	SANDSTONE 90%, fine grained, grey dark grey, lithic moderately sorted rare micaceous; intermixed with SILTSTONE 10%, dark gr shaly; fresh, strong	ey brown, rare
160	163.265	SANDSTONE 50%, fine grained, grey light grey, lithic moderately sorted; intermixed with SILTSTONE 50%, dark grey brown, rare c sandy in part; fresh, strong	oal,banded
163.265	163.443	COAL UNDIFF., black, tending to inferior in part; fresh, weak	
163.443	166	SANDSTONE 50%, fine grained, grey light grey, lithic moderately sorted; intermixed with SILTSTONE 50%, dark grey brown, rare c sandy in part; fresh, strong	oal,banded
166	175	SANDSTONE 90%, fine grained, light grey grey, lithic moderately sorted possibly tuffaceous in part; intermixed with SILTSTONE 10 sandy in part rare coal, banded; fresh, strong	%, dark grey,
175	178	SANDSTONE, fine grained, light grey grey, silty in part rare coal, banded; fresh, strong, carbonaceous fragments	
178	181	SANDSTONE 90%, fine grained, light grey grey, lithic moderately sorted; intermixed with SILTSTONE 10%, dark grey, shaly in part;	; fresh, strong
181	184	SANDSTONE 70%, fine grained, grey, lithic moderately sorted occasional silty; intermixed with SILTSTONE 30%, dark grey brown, in part coal, banded; fresh, strong	coaly fragments
184	187	SANDSTONE 90%, fine grained, grey, lithic moderately sorted occasional silty; intermixed with SILTSTONE 10%, dark grey brown, in part coal, banded; fresh, strong	coaly fragments
187	193	SANDSTONE 60%, fine grained, grey dark grey, lithic moderately sorted rare coal, banded; intermixed with SILTSTONE 30%, dark greatly coal, banded in part stringers of coal; intermixed with STONY COAL 10%, black, dull(<1% bright); fresh, strong	grey brown,

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From	То	Description	_
193	196	CARBONACEOUS SILTSTONE 60%, dark brown black, coaly fragments dull(<1% bright); intermixed with SILTSTONE 40%, darpart; fresh, weak	k grey, sandy in
196	199	SANDSTONE 70%, fine grained, grey, lithic moderately sorted rare coal, banded; intermixed with SILTSTONE 20%, dark grey, or intermixed with CARBONACEOUS SILTSTONE 10%, dark brown black, coaly fragments; fresh, strong, carbonaceous fragments	
199	202	SANDSTONE 60%, very fine grained, grey dark grey, occasional lithic; intermixed with SILTSTONE 40%, dark grey dark brown, coaly; fresh, strong	sandy in part rare
202	208	SILTSTONE 50%, dark brown grey, rare coal, banded fragments; intermixed with SANDSTONE 50%, fine grained, dark grey, lithin V1; fresh, strong, carbonaceous fragments	c feldspathic in part
208	211	SILTSTONE 70%, dark grey, rare coal, banded fragments; intermixed with SANDSTONE 30%, fine grained, grey light grey, lithic coal, banded; fresh, strong	fragments rare
211	214	SILTSTONE 80%, dark brown black, rare coaly fragments dull, tends to stony; intermixed with SANDSTONE 20%, dark grey, lith strong	ic silty in part; fresh,
214	223	SILTSTONE 60%, dark grey brown, stringers of coal occasional coal, banded; intermixed with SANDSTONE 40%, fine grained, g moderately sorted occasional feldspathic; fresh, strong, clayey, carbonaceous fragments	rey light grey, lithic
223	229	SANDSTONE 90%, fine grained, grey light grey, lithic sandy feldspathic in part; with SILTSTONE 10%, dark grey brown, rare co fragments sandy; fresh, strong	al,banded
229	232	SANDSTONE, fine grained, grey, lithic lithic-quartz; fresh, moderately strong	
232	238	SANDSTONE, fine-medium grained, grey, lithic lithic-quartz coaly in part; fresh, moderately strong	
238	247	SANDSTONE, fine-medium grained, grey, lithic lithic-quartz rare coaly; fresh, moderately strong	
247	256	SANDSTONE, fine-medium grained, grey, lithic lithic-quartz muddy nodules; fresh, moderately strong	
256	262	SANDSTONE 70%, fine-medium grained, grey, lithic lithic-quartz; intermixed with SILTSTONE 30%, grey; fresh, moderately strong	ng
262	268	SANDSTONE, fine-medium grained, grey, silty in part minor carbonaceous siltstone fragments; fresh, moderately strong	
268	274	SANDSTONE 65%, fine-medium grained, grey, lithic lithic-quartz muddy nodules; intermixed with SILTSTONE 35%, grey, carbor part; fresh, moderately strong	naceous siltstone in
274	277	SANDSTONE, very fine-fine grained, grey, lithic minor silty lithic-quartz; fresh, moderately strong	
277	280	SANDSTONE, very fine-fine grained, grey, lithic coaly rare muddy; fresh, moderately strong	
280	286	SANDSTONE, fine grained, grey, clayey nodules rare shaly in part; fresh, moderately strong	
286	289	SANDSTONE, fine grained, grey, lithic lithic-quartz; fresh, moderately strong	
289	292	SANDSTONE, fine grained, grey, lithic lithic-quartz rare coaly; intermixed with COAL UNDIFF., black; fresh, moderately strong	
292	295	SANDSTONE, fine grained, grey, lithic lithic-quartz rare coaly; fresh, moderately strong	
295	301	SANDSTONE, fine grained, grey, silty in part rare coaly; fresh, moderately strong	

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From	То	Description
301	304	SANDSTONE 80%, fine grained, grey, lithic lithic-quartz rare coaly; intermixed with TUFF 20%, cream, clayey nodules throughout; fresh, moderately strong
304	313	TUFF, cream, sandy in part; fresh, moderately strong
313	315.091	SANDSTONE, fine grained, grey, tuffaceous fragments coaly in part; fresh, moderately strong
315.091	315.424	COAL UNDIFF., black, tending to inferior dull(<1% bright); fresh, weak
315.424	315.835	SANDSTONE, fine grained, grey, tuffaceous fragments coaly in part; fresh, moderately strong
315.835	316.124	COAL UNDIFF., black, dull(<1% bright); fresh, weak
316.124	322	SANDSTONE, fine grained, grey, tuffaceous coaly shaly in part; fresh, moderately strong
322	325	SANDSTONE 90%, fine grained, grey, lithic lithic-quartz tuffaceous fragments; intermixed with COAL UNDIFF. 10%, black; fresh, moderately strong
325	330.814	SANDSTONE 80%, fine grained, grey, lithic lithic-quartz tuffaceous fragments; intermixed with COAL UNDIFF. 20%, black; fresh, moderately strong
330.814	330.98	COAL UNDIFF., black, dull(<1% bright); fresh, weak
330.98	334.769	SANDSTONE, fine grained, grey, coaly in part clayey nodules; fresh, moderately strong
334.769	334.925	COAL UNDIFF., black, dull(<1% bright); fresh, weak
334.925	337.946	SANDSTONE 90%, fine grained, grey, lithic lithic-quartz clayey nodules; intermixed with COAL UNDIFF. 10%, black; fresh, moderately strong
337.946	338.169	COAL UNDIFF., black, dull(<1% bright); fresh, weak
338.169	343.468	SANDSTONE, fine grained, grey, lithic coaly in part rare shaly; fresh, moderately strong
343.468	343.824	COAL UNDIFF., black, dull, minor bright bands(>1%); fresh, weak
343.824	355	SANDSTONE, fine grained, grey, minor coaly quartz veined fragments; fresh, moderately strong
355	358	SANDSTONE, fine grained, grey, lithic lithic-quartz rare coaly; fresh, moderately strong
358	361	SANDSTONE, fine grained, grey, lithic muddy in part rare quartz veined; intermixed with SILTSTONE, grey, carbonaceous siltstone fragments throughout; fresh, moderately strong
361	367	SANDSTONE, fine grained, grey, quartz veined fragments rare coaly; fresh, moderately strong
367	370	SANDSTONE 90%, fine grained, grey, lithic lithic-quartz; intermixed with COAL UNDIFF. 10%, black, rare quartz veined stony in part; fresh, moderately strong
370	373	SANDSTONE, fine grained, grey black, coaly fragments throughout lithic; fresh, moderately strong
373	376	SANDSTONE, fine grained, grey cream, rare coaly tuffaceous fragments throughout; fresh, moderately strong
376	382	SANDSTONE, fine grained, grey white, rare quartz veined fragments muddy nodules; fresh, moderately strong
382	384.779	SANDSTONE, fine grained, grey black, lithic coaly in part rare quartz veined; fresh, moderately strong
384.779	384.967	COAL UNDIFF., black, dull(<1% bright); fresh, weak
384.967	391	SANDSTONE 90%, fine grained, grey, lithic lithic-quartz muddy in part; intermixed with COAL UNDIFF. 10%, black; fresh, moderately strong

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From	То	Description
391	394	SANDSTONE 70%, fine grained, grey, lithic lithic-quartz silty in part; intermixed with COALY SHALE 30%, black; fresh, moderately strong
394	397	SANDSTONE, fine grained, grey, minor quartz veined minor silty; fresh, moderately strong
397	399.879	SANDSTONE 60%, fine grained, grey, lithic lithic-quartz coaly fragments; intermixed with COALY SHALE 25%, black, fragments; intermixed with SILTSTONE 15%, dark grey, fragments; fresh, moderately strong
399.879	400.101	COAL UNDIFF., black, dull(<1% bright); fresh, weak
400.101	401.723	SANDSTONE 90%, fine grained, grey, quartz veined fragments throughout; intermixed with COAL UNDIFF. 10%, black, coaly fragments abundant; fresh, moderately strong
401.723	401.912	COAL UNDIFF., black, dull(<1% bright); fresh, weak
401.912	412	SANDSTONE 50%, fine grained, grey, quartz veined fragments silty muddy; intermixed with SILTSTONE 50%, grey, nodules; fresh, moderately strong
412	415	SANDSTONE 65%, fine grained, grey, lithic lithic-quartz muddy; intermixed with CARBONACEOUS SILTSTONE 20%, dark grey, fragments throughout silty in part; intermixed with COALY SHALE 15%, black, fragments throughout; fresh, moderately strong
415	418	SANDSTONE, fine grained, light grey, rare quartz veined; fresh, moderately strong
418	421	SANDSTONE 60%, fine grained, grey black, shaly throughout; intermixed with SILTSTONE 40%, grey black, shaly throughout; fresh, moderately strong
421	424	SANDSTONE, fine grained, grey, rare coaly fragments lithic-quartz; fresh, moderately strong
424	427	SANDSTONE, fine grained, grey, coaly fragments throughout silty fragments; fresh, moderately strong
427	430	SANDSTONE 60%, fine grained, grey, lithic lithic-quartz; intermixed with COAL UNDIFF. 40%, black; fresh, moderately strong
430	439	SANDSTONE, fine grained, grey, quartz veined fragments silty fragments; fresh, moderately strong
439	448	SANDSTONE, fine grained, grey, coaly fragments throughout silty fragments; fresh, moderately strong
448	454	SANDSTONE, fine grained, grey, quartz veined fragments throughout silty fragments; fresh, moderately strong
454	460.677	SANDSTONE, fine grained, grey, lithic lithic-quartz rare shaly; fresh, moderately strong
460.677	460.944	COAL UNDIFF., black, dull(<1% bright); fresh, weak
460.944	461.455	SANDSTONE 45%, fine grained, grey, silty in part lithic-quartz; fresh, moderately strong
461.455	461.621	COAL UNDIFF., black, dull(<1% bright); fresh, weak
461.621	461.832	SANDSTONE, fine grained, grey, abundant quartz veined fragments; fresh, moderately strong
461.832	461.921	COAL UNDIFF., black, dull(<1% bright); fresh, weak
461.921	463.488	SANDSTONE, very fine-fine grained, grey, lithic-quartz lithic; fresh, moderately strong
463.488	463.621	COAL UNDIFF., black, dull(<1% bright); fresh, weak
463.621	463.732	SANDSTONE, fine grained, grey, silty in part feldspathic- quartzose; fresh, moderately strong
463.732	464.754	COAL UNDIFF., black, dull, minor bright bands(>1%); fresh, weak

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From	То	Description
464.754	471.063	SANDSTONE, fine grained, grey, abundant quartz veined fragments; fresh, moderately strong
471.063	471.263	COAL UNDIFF., black, dull(<1% bright); fresh, weak
471.263	476.274	SANDSTONE, fine grained, grey, lithic-quartz; fresh, moderately strong
476.274	476.618	COAL UNDIFF., black, dull, minor bright bands(>1%); fresh, weak
476.618	478.54	SANDSTONE, fine grained, grey, AN quartz veined fragments; fresh, moderately strong
478.54	478.718	COAL UNDIFF., black, stony in part; fresh, weak
478.718	490	SANDSTONE 70%, fine grained, grey, lithic-quartz lithic silty in part; intermixed with COALY SHALE 30%, black, coaly fragments; fresh, moderately strong
490	496	SANDSTONE, fine-medium grained, grey, lithic lithic-quartz; fresh, moderately strong
496	501.506	SANDSTONE, fine-medium grained, grey, quartz veined fragments throughout muddy nodules; fresh, moderately strong
501.506	501.74	COAL UNDIFF., black, dull(<1% bright); fresh, weak
501.74	511	SANDSTONE 70%, grey, silty in part; intermixed with SHALE 30%, grey; fresh, moderately strong
511	514	SANDSTONE 60%, very fine-fine grained, light grey, lithic lithic-quartz rare quartz veined; intermixed with COALY SHALE 40%, black; fresh, moderately strong
514	518.416	SANDSTONE, very fine-fine grained, grey, lithic lithic-quartz rare quartz veined; fresh, moderately strong
518.416	518.683	COAL UNDIFF., black, dull(<1% bright); fresh, weak
518.683	518.916	SANDSTONE, very fine-fine grained, grey, lithic; fresh, moderately strong
518.916	519.327	COAL UNDIFF., black, dull, minor bright bands(>1%); fresh, weak
519.327	519.594	SANDSTONE, very fine-fine grained, grey, lithic; fresh, moderately strong
519.594	519.916	COAL UNDIFF., black, dull(<1% bright); fresh, weak
519.916	521.827	SILTSTONE 20%, black; intermixed with SANDSTONE 80%, grey, coaly fragments throughout; fresh, weak
521.827	523.016	COAL UNDIFF., black, dull, minor bright bands(>1%); fresh, weak
523.016	528.148	SANDSTONE, fine grained, grey, lithic lithic-quartz minor quartz veined; fresh, moderately strong
528.148	529.004	COAL UNDIFF., black, dull, minor bright bands(>1%); fresh, weak
529.004	532	CARBONACEOUS SHALE 40%, black; intermixed with SANDSTONE 40%, fine grained, grey, lithic lithic-quartz; intermixed with COAL UNDIFF. 20%, black; fresh, weak
532	535	CARBONACEOUS SILTSTONE 50%, dark brown black, shaly in part; intermixed with SANDSTONE 30%, fine grained, grey brown, litho-feldspathic sandy rare quartzose; intermixed with COAL UNDIFF. 20%, black, dull, minor bright bands(>1%) coal,banded in part; fresh, moderately strong, shaly
535	538	SANDSTONE 70%, fine grained, grey light grey, litho- feldspathic sandy silty in part; intermixed with CARBONACEOUS SILTSTONE 30%, dark brown, shaly in part rare coaly; fresh, strong

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From	То	Description
538	541	SANDSTONE 90%, fine grained, grey, litho- feldspathic rare coal, banded fragments; intermixed with SILTSTONE 10%, dark brown grey, rare coal, banded fragments sandy; fresh, strong
541	544	CARBONACEOUS SILTSTONE 80%, dark brown, sandy in part rare coaly; intermixed with STONY COAL 10%, dark grey black, dull(<1% bright); intermixed with SANDSTONE 10%, fine grained, grey light grey, litho- feldspathic sandy rare carbonaceous; fresh, moderately strong
544	548.99	SANDSTONE 60%, fine grained, grey brown, litho- feldspathic sandy rare coal, banded; intermixed with CARBONACEOUS SILTSTONE 40%, dark grey black, dull, tends to stony coaly in part; fresh, strong, carbonaceous fragments
548.99	549.335	COAL UNDIFF., black, dull, minor bright bands(>1%); fresh, weak
549.335	549.679	SANDSTONE, fine grained, grey, lithic; fresh, moderately strong
549.679	549.812	COAL UNDIFF., black, dull(<1% bright); fresh, weak
549.812	556	COAL UNDIFF. 90%, black, dull, tends to stony coal, banded in part dull(<1% bright); intermixed with SILTSTONE 10%, dark brown dark grey, coal, banded throughout rare sandy; fresh, weak
556	559	SANDSTONE 60%, fine grained, dark grey, lithic sandy occasional coal,banded; intermixed with CARBONACEOUS SILTSTONE 40%, dark brown black, rare coaly fragments; fresh, strong
559	566.89	SANDSTONE 90%, fine grained, grey dark grey, lithic sandy; intermixed with SILTSTONE 10%, dark brown dark grey, rare coal, banded fragments; fresh, strong
566.89	567.115	COAL UNDIFF., black, dull(<1% bright); fresh, weak
567.115	567.184	SANDSTONE, fine grained, grey, lithic; fresh, moderately strong
567.184	567.574	COAL UNDIFF., black, dull, minor bright bands(>1%); fresh, weak
567.574	568	SANDSTONE 80%, fine grained, grey brown, litho- feldspathic sandy; intermixed with CARBONACEOUS SILTSTONE 20%, dark brown black, silty in part; fresh, strong
568	571	SANDSTONE 60%, fine grained, grey dark grey, litho- feldspathic sandy; intermixed with STONY COAL 30%, dark brown black, dull(<1% bright) coal, banded in part; intermixed with CARBONACEOUS SILTSTONE 10%, dark brown, occasional clayey; fresh, strong
571	574	CARBONACEOUS SILTSTONE 80%, dark brown black, dull, tends to stony coaly in part; intermixed with SANDSTONE 20%, fine grained, dark grey brown, litho- feldspathic sandy occasional coal,banded; fresh, moderately strong
574	576.05	SANDSTONE 70%, fine grained, grey brown, lithic sandy; intermixed with SILTSTONE 30%, dark brown black, coal,banded in part; fresh, strong
576.05	576.535	COAL UNDIFF., black, dull, minor bright bands(>1%); fresh, weak
576.535	577.599	CARBONACEOUS SILTSTONE, dark brown, occasional sandy; fresh, moderately strong
577.599	577.789	COAL UNDIFF., black, dull(<1% bright); fresh, weak
577.789	578.187	CARBONACEOUS SILTSTONE, dark brown, occasional sandy; fresh, moderately strong
578.187	578.49	COAL UNDIFF., black, dull, minor bright bands(>1%); fresh, weak
578.49	579.069	CARBONACEOUS SILTSTONE 80%, dark brown, occasional sandy; with STONY COAL 20%, black, coal,banded throughout dull(<1% bright); fresh, moderately strong

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579.069	579.147	COAL UNDIFF., black, stony in part dull(<1% bright); fresh, weak
579.147	579.389	CARBONACEOUS SILTSTONE, dark brown; fresh, moderately strong
579.389	579.493	COAL UNDIFF., black, dull(<1% bright); fresh, weak
579.493	579.675	CARBONACEOUS SILTSTONE, dark brown; fresh, moderately strong
579.675	580.203	COAL UNDIFF., black, dull, minor bright bands(>1%); fresh, weak
580.203	580.99	CARBONACEOUS SILTSTONE 80%, dark brown, occasional sandy; with STONY COAL 20%, black, coal,banded throughout dull(<1% bright); fresh, moderately strong
580.99	581.065	COAL UNDIFF., black, dull(<1% bright); fresh, weak
581.065	581.319	CARBONACEOUS SILTSTONE, dark brown; fresh, moderately strong
581.319	581.448	COAL UNDIFF., black, dull(<1% bright); fresh, weak
581.448	581.561	CARBONACEOUS SILTSTONE, dark brown; fresh, moderately strong
581.561	581.777	COAL UNDIFF., black, dull(<1% bright); fresh, weak
581.777	581.95	CARBONACEOUS SILTSTONE, dark brown; fresh, moderately strong
581.95	582.011	COAL UNDIFF., black, dull(<1% bright); fresh, weak
582.011	583	SANDSTONE 90%, fine grained, dark grey, lithic coal,banded throughout; with COAL UNDIFF. 10%, black, dull, tends to stony; fresh, moderately strong, sandy
583	586	CARBONACEOUS SILTSTONE 60%, dark brown dark grey, silty in part; intermixed with COAL UNDIFF. 30%, black, dull(<1% bright) dull, tends to stony sandy in part; intermixed with SANDSTONE 10%, fine grained, grey dark grey, lithic sandy rare coal,banded; fresh, moderately strong
586	592	SANDSTONE 40%, fine grained, grey dark grey, lithic sandy occasional coal, banded; intermixed with SILTSTONE 30%, dark grey brown, stringers of coal; intermixed with CARBONACEOUS SILTSTONE 30%, dark brown black, occasional coaly fragments; fresh, strong
592	595	SANDSTONE 80%, fine grained, grey light grey, feldspathic occasional quartzose; intermixed with CARBONACEOUS SILTSTONE 20%, dark brown black, rare coaly fragments; fresh, strong
595	604	SANDSTONE 70%, fine grained, grey light grey, lithic sandy O clayey; intermixed with SILTSTONE 30%, dark grey brown, rare coal, banded fragments; fresh, strong, secondary calcite
604	612	SANDSTONE 90%, fine grained, grey dark grey, litho- feldspathic sandy; intermixed with SILTSTONE 10%, dark grey brown, rare coal, banded occasional sandy; fresh, strong
612	614.625	SANDSTONE 70%, fine grained, grey light grey, lithic sandy possibly tuffaceous in part; intermixed with SILTSTONE 30%, dark grey brown, rare coal, banded fragments; fresh, strong
614.625	615.317	COAL UNDIFF., black, dull, minor bright bands(>1%) throughout; fresh, weak
615.317	619.485	SANDSTONE 70%, fine grained, dark grey, lithic sandy occasional coal,banded; intermixed with COAL UNDIFF. 20%, black, dull, tends to stony throughout dull(<1% bright); intermixed with SILTSTONE 10%, dark brown grey, occasional coal,banded; fresh, strong
619.485	620.342	COAL UNDIFF., black, dull, minor bright bands(>1%); fresh, weak

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From	То	Description
620.342	621.077	SANDSTONE, fine grained, grey, lithic; fresh, moderately strong
621.077	621.267	COAL UNDIFF., black, dull(<1% bright); fresh, weak
621.267	623.015	SANDSTONE 80%, fine grained, dark grey, lithic sandy; intermixed with SILTSTONE 20%, dark brown dark grey, occasional coal,banded fragments; fresh, strong
623.015	623.153	COAL UNDIFF., black, dull(<1% bright); fresh, weak
623.153	624.528	SANDSTONE 80%, fine grained, dark grey, lithic sandy; intermixed with SILTSTONE 20%, dark brown dark grey, occasional coal,banded fragments; fresh, strong
624.528	624.926	COAL UNDIFF., black, dull, minor bright bands(>1%); fresh, weak
624.926	625.134	SANDSTONE, fine grained, dark grey, lithic; fresh, strong
625.134	625.333	COAL UNDIFF., black, dull(<1% bright); fresh, weak
625.333	625.454	SANDSTONE, fine grained, dark grey, lithic; fresh, strong
625.454	626.25	COAL UNDIFF., black, dull, minor bright bands(>1%) throughout; fresh, weak
626.25	626.54	SANDSTONE, fine grained, dark grey, lithic carbonaceous fragments; fresh, strong
626.54	627.03	COAL UNDIFF., black, dull, minor bright bands(>1%); fresh, weak
627.03	628	SANDSTONE 80%, fine grained, dark grey, lithic carbonaceous HO throughout; intermixed with CARBONACEOUS SILTSTONE 20%, brownish black, carbonaceous laminations shaly in part; fresh, strong
628	631	SANDSTONE 60%, fine-medium grained, whitish grey, lithic sandy; intermixed with SILTSTONE 40%, brownish grey, occasional carbonaceous laminations; fresh, moderately strong
631	633.472	SANDSTONE 70%, fine-medium grained, whitish grey, lithic sandy silty in part; intermixed with SILTSTONE 30%, dark grey, micaceous in part; fresh, moderately strong
633.472	633.766	COAL UNDIFF., black, dull(<1% bright); fresh, weak
633.766	635.228	SANDSTONE 80%, fine-medium grained, whitish grey, lithic sandy; intermixed with COAL UNDIFF. 20%, black, tending to inferior in part dull(<1% bright); fresh, moderately strong
635.228	635.41	COAL UNDIFF., black, dull(<1% bright); fresh, weak
635.41	635.669	SANDSTONE, fine-medium grained, whitish grey, lithic; fresh, moderately strong
635.669	635.911	COAL UNDIFF., black, dull(<1% bright); fresh, weak
635.911	636.288	CARBONACEOUS SILTSTONE, brownish black, tending to inferior in part; fresh, strong
636.288	636.724	COAL UNDIFF., black, dull, minor bright bands(>1%); fresh, weak
636.724	637.018	CARBONACEOUS SILTSTONE, brownish black; fresh, strong
637.018	637.338	COAL UNDIFF., black, dull, minor bright bands(>1%); fresh, weak
637.338	638.247	CARBONACEOUS SILTSTONE, brownish black; fresh, strong

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From	То	Description
638.247	638.965	COAL UNDIFF., black, dull, minor bright bands(>1%); fresh, weak
638.965	640	CARBONACEOUS SILTSTONE 60%, brownish black, tending to inferior in part dull(<1% bright); intermixed with SANDSTONE 30%, fine-medium grained, whitish grey, lithic; with COAL UNDIFF. 10%, black, shaly in part; fresh, strong
640	643	COAL UNDIFF. 70%, black, dull, tends to stony tending to inferior in part; intermixed with SANDSTONE 20%, fine-medium grained, whitish grey, lithic; with SILTSTONE 10%, brownish grey, carbonaceous siltstone in part; fresh, weak
643	646	SANDSTONE 80%, fine grained, whitish grey, lithic silty throughout; intermixed with SILTSTONE 20%, brownish grey, carbonaceous siltstone in part carbonaceous laminations; fresh, moderately strong
646	649	SANDSTONE 90%, fine grained, whitish grey, lithic silty in part; intermixed with SILTSTONE 10%, dark grey, occasional carbonaceous laminations; fresh, moderately strong
649	652	SANDSTONE, fine grained, whitish grey, lithic silty throughout; fresh, moderately strong
652	655	SANDSTONE 60%, fine-medium grained, whitish grey, lithic; intermixed with SILTSTONE 40%, dark grey, sandy laminations; fresh, moderately strong
655	657.183	SANDSTONE 70%, fine-medium grained, whitish grey, lithic silty; intermixed with SILTSTONE 30%, dark grey, carbonaceous siltstone in part sandy; fresh, moderately strong
657.183	657.356	COAL UNDIFF., black, dull(<1% bright); fresh, weak
657.356	662	SANDSTONE 70%, fine grained, whitish grey, lithic silty throughout; intermixed with SILTSTONE 30%, dark grey, carbonaceous siltstone in part carbonaceous laminations; fresh, moderately strong
662	664.061	SANDSTONE 80%, fine grained, grey, lithic carbonaceous fragments; intermixed with SILTSTONE 20%, dark grey, micaceous in part; fresh, moderately strong
664.061	664.225	COAL UNDIFF., black, dull(<1% bright) stony in part; fresh, weak
664.225	668	SILTSTONE 60%, micaceous in part sandy; intermixed with SANDSTONE 40%, fine grained, whitish grey, lithic; fresh, strong
668	671	SANDSTONE 80%, fine grained, whitish grey, lithic silty; intermixed with SILTSTONE 20%, dark grey, micaceous in part; fresh, moderately strong
671	675	SILTSTONE 60%, dark grey, micaceous carbonaceous laminations; intermixed with SANDSTONE 40%, fine grained, whitish grey, lithic silty in part; fresh, strong
675	678	SANDSTONE 50%, fine grained, grey, lithic silty in part; intermixed with SILTSTONE 30%, dark grey, carbonaceous siltstone in part carbonaceous laminations; with COAL UNDIFF. 20%, black, tending to inferior in part dull(<1% bright); fresh, moderately strong
678	681	SANDSTONE 70%, fine grained, whitish grey, lithic; intermixed with SILTSTONE 30%, dark grey, carbonaceous laminations sandy; fresh, moderately strong
681	684	SILTSTONE 50%, dark grey, sandy in part carbonaceous fragments; intermixed with SANDSTONE 50%, fine grained, grey, lithic-quartz coaly laminations; fresh, strong
684	687	SANDSTONE 70%, very fine-fine grained, grey, lithic; intermixed with SILTSTONE 30%, dark grey, sandy laminations; fresh, moderately strong
687	691	SANDSTONE 80%, very fine-fine grained, whitish grey, lithic; intermixed with SILTSTONE 20%, brownish grey, sandy in part carbonaceous siltstone in part; fresh, moderately strong

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From	То	Description	
691	694	SANDSTONE 50%, fine grained, whitish grey, lithic; intermixed with SILTSTONE 30%, dark grey, carbonaceous laminations sandy in pa COAL UNDIFF. 20%, black, tending to inferior in part dull, minor bright bands(>1%); fresh, moderately strong	rt; with
694	697	SANDSTONE 60%, fine grained, light grey, lithic occasional carbonaceous wisps; intermixed with SILTSTONE 40%, dark grey, sandy in carbonaceous laminations; fresh, moderately strong	part
697	700	SANDSTONE 90%, fine-medium grained, whitish grey, lithic; intermixed with SILTSTONE 10%, dark grey, sandy in part; fresh, moderate	ely strong
700	703	SANDSTONE 70%, fine grained, whitish grey, lithic; intermixed with SILTSTONE 20%, dark grey, carbonaceous siltstone in part sandy; UNDIFF. 10%, black, tending to inferior in part dull(<1% bright); fresh, moderately strong	with COAL
703	706	SANDSTONE 60%, fine grained, whitish grey, lithic silty; intermixed with SILTSTONE 20%, dark grey, carbonaceous siltstone in part car laminations; with COAL UNDIFF. 20%, black, stony in part dull(<1% bright); fresh, moderately strong	bonaceous
706	709.21	SILTSTONE 50%, dark grey, micaceous in part laminations; intermixed with SANDSTONE 40%, fine grained, whitish grey, lithic; with COUNDIFF. 10%, black, dull(<1% bright); fresh, strong	OAL
709.21	709.667	COAL UNDIFF., black, dull(<1% bright); fresh, weak	
709.667	713	SANDSTONE 50%, fine grained, whitish grey, lithic; intermixed with SILTSTONE 40%, brownish grey, carbonaceous siltstone in part; with UNDIFF. 10%, black, dull(<1% bright); fresh, moderately strong	ith COAL
713	716	SILTSTONE 50%, dark grey, sandy laminations micaceous; intermixed with SANDSTONE 50%, grey, lithic tuffaceous feldspathic- quartz strong	zose; fresh,
716	720	SANDSTONE 70%, fine grained, whitish grey, lithic; intermixed with SILTSTONE 30%, dark grey, micaceous in part carbonaceous lamin fresh, moderately strong	ations;
720	723	SILTSTONE 60%, dark grey, carbonaceous laminations; intermixed with SANDSTONE 30%, very fine-fine grained, light grey, lithic silty t shaly; with STONY COAL 10%, black, stony dull(<1% bright); fresh, strong	hroughout
723	725.905	SILTSTONE 50%, dark grey, carbonaceous siltstone in part carbonaceous laminations; intermixed with SANDSTONE 30%, very fine-fine whitish grey, carbonaceous wisps lithic shaly; with STONY COAL 20%, black, stony dull(<1% bright); fresh, strong	e grained,
725.905	726.19	COAL UNDIFF., black, stony in part dull(<1% bright); fresh, weak	
726.19	726.493	SANDSTONE, very fine-fine grained, whitish grey, carbonaceous wisps; fresh, moderately strong	
726.493	726.857	COAL UNDIFF., black, dull, minor bright bands(>1%); fresh, weak	
726.857	731.311	SANDSTONE 50%, fine grained, whitish grey, lithic; intermixed with CARBONACEOUS SHALE 40%, black; with COAL UNDIFF. 10%, be minor bright bands(>1%); fresh, moderately strong	olack, dull,
731.311	731.562	COAL UNDIFF., black, dull(<1% bright); fresh, weak	
731.562	733	SANDSTONE 40%, very fine-fine grained, whitish grey, lithic silty; intermixed with CARBONACEOUS SHALE 30%, black, shaly lamination STONY COAL 30%, black, shaly in part dull(<1% bright); fresh, moderately strong	ons; with
733	736	SANDSTONE 60%, fine grained, grey, lithic; intermixed with SILTSTONE 30%, brownish grey, carbonaceous siltstone in part; with CARBONACEOUS SHALE 10%, black, coaly in part; fresh, moderately strong	
736	738.292	SANDSTONE 90%, very fine-fine grained, whitish grey, lithic moderately sorted silty; intermixed with SILTSTONE 10%, dark grey, lamina in part; fresh, moderately strong	ations sandy
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From	То	Description
738.292	738.699	COAL UNDIFF., black, dull, minor bright bands(>1%); fresh, weak
738.699	740.818	SANDSTONE 60%, very fine-fine grained, light grey, lithic; intermixed with SILTSTONE 30%, dark grey, laminations sandy in part; with STONY COAL 10%, black, stony dull(<1% bright); fresh, moderately strong
740.818	741.061	COAL UNDIFF., black, dull(<1% bright); fresh, weak
741.061	741.674	SANDSTONE 60%, very fine-fine grained, light grey, lithic; intermixed with SILTSTONE 30%, dark grey, laminations sandy in part; with STONY COAL 10%, black, stony dull(<1% bright); fresh, moderately strong
741.674	741.838	COAL UNDIFF., black, dull(<1% bright); fresh, weak
741.838	746	SILTSTONE 60%, brownish grey, rare carbonaceous siltstone; intermixed with SANDSTONE 40%, whitish grey, lithic; fresh, strong
746	750	SANDSTONE 90%, fine-medium grained, whitish grey, lithic; intermixed with SILTSTONE 10%, dark grey, sandy in part laminations; fresh, moderately strong
750	753	SANDSTONE 80%, fine-medium grained, whitish grey, lithic; intermixed with SILTSTONE 20%, dark grey, sandy carbonaceous laminations; fresh, moderately strong
753	758	SANDSTONE 70%, fine-medium grained, whitish grey, lithic; intermixed with SILTSTONE 30%, dark grey, sandy in part; fresh, moderately strong
758	760.169	SANDSTONE 90%, fine grained, whitish grey, lithic; intermixed with SILTSTONE 10%, brownish dark grey, rare carbonaceous siltstone; fresh, moderately strong
760.169	760.757	COAL UNDIFF., black, dull, minor bright bands(>1%); fresh, weak
760.757	764	SANDSTONE 90%, fine grained, whitish grey, lithic; intermixed with COAL UNDIFF. 10%, black, stony in part dull, minor bright bands(>1%); fresh, moderately strong
765.791	767.02	COAL UNDIFF., black, dull, minor bright bands(>1%); fresh, weak
767.02	767.288	SANDSTONE, fine grained, whitish grey, lithic; fresh, moderately strong
767.288	767.444	COAL UNDIFF., black, dull(<1% bright) stony in part; fresh, weak
767.444	768.006	SANDSTONE, fine grained, whitish grey, lithic; fresh, moderately strong
768.006	768.248	COAL UNDIFF., black, dull(<1% bright); fresh, weak
768.248	769.71	SANDSTONE 70%, fine grained, whitish grey, lithic; intermixed with CARBONACEOUS SHALE 30%, brownish black, coaly in part carbonaceous laminations; fresh, moderately strong
769.71	770.333	COAL UNDIFF., black, dull, minor bright bands(>1%); fresh, weak
770.333	774	CARBONACEOUS SHALE 50%, black, coaly in part dull(<1% bright); intermixed with COAL UNDIFF. 30%, black, dull, minor bright bands(>1%); with SANDSTONE 20%, fine grained, whitish grey, abundant carbonaceous laminations; fresh, moderately strong
774	777	CARBONACEOUS SILTSTONE 40%, brownish black, abundant carbonaceous laminations; intermixed with COAL UNDIFF. 30%, black, dull, minor bright bands(>1%); with SANDSTONE 30%, fine grained, light grey, lithic; fresh, moderately strong
777	780	SANDSTONE 80%, fine grained, whitish grey, lithic; intermixed with SILTSTONE 20%, dark grey, occasional carbonaceous siltstone; fresh, moderately strong

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780	783	SILTSTONE 60%, dark grey grey, occasional carbonaceous siltstone; intermixed with SANDSTONE 40%, fine grained, whitish grey, lithic; fresh, strong	
783	787	SANDSTONE 70%, fine grained, whitish grey, lithic silty in part; intermixed with SILTSTONE 30%, dark grey, micaceous in part; fresh, moderately strong	
787	791.139	SANDSTONE 50%, fine-medium grained, grey, lithic quartz veined fragments throughout; intermixed with SILTSTONE 50%, grey, quartz veined fragments throughout; fresh, moderately strong	
791.139	791.632	COAL UNDIFF., black, dull, minor bright bands(>1%); fresh, weak	
791.632	793	SANDSTONE, fine grained, light grey, rare quartz veined minor silty; fresh, moderately strong	
793	796	CARBONACEOUS SHALE 45%, black, coaly in part; intermixed with SANDSTONE 40%, fine grained, grey, carbonaceous fragments lithic lithic-quartz; with SILTSTONE 15%, grey; fresh, weak	
796	806.606	SANDSTONE 50%, fine grained, grey, lithic lithic-quartz clayey throughout; intermixed with SILTSTONE 35%, grey; with CARBONACEOUS SHALE 15%, black; fresh, moderately strong	Ξ
806.606	806.969	COAL UNDIFF., black, dull, minor bright bands(>1%); fresh, weak	
806.969	807.376	CARBONACEOUS SHALE, brownish black, carbonaceous throughout shaly in part; fresh, moderately strong	
807.376	807.644	COAL UNDIFF., black, dull(<1% bright); fresh, weak	
807.644	812.082	CARBONACEOUS SHALE 45%, black, coaly in part; intermixed with SANDSTONE 40%, fine grained, grey, carbonaceous fragments lithic lithic-quartz; with SILTSTONE 15%, grey; fresh, weak	
812.082	812.359	COAL UNDIFF., black, dull(<1% bright); fresh, weak	
812.359	817.808	SANDSTONE 50%, fine grained, grey, silty throughout coaly fragments; intermixed with COALY SHALE 50%, black; fresh, moderately strong	
817.808	818.292	COAL UNDIFF., black, dull, minor bright bands(>1%); fresh, weak	
818.292	820.058	COALY SHALE 40%, black, clayey nodules throughout; intermixed with SANDSTONE 40%, fine grained, grey, lithic lithic-quartz silty in part; with SILTSTONE 20%, grey; fresh, weak	
820.058	820.386	COAL UNDIFF., black, dull, minor bright bands(>1%); fresh, weak	
820.386	820.853	CARBONACEOUS SHALE 40%, black, clayey nodules throughout; intermixed with SANDSTONE 40%, fine grained, grey, lithic lithic-quartz silty in part; with SILTSTONE 20%, grey; fresh, weak	
820.853	821.087	COAL UNDIFF., black, dull(<1% bright); fresh, weak	
821.087	826	CARBONACEOUS SHALE 40%, black, clayey nodules throughout; intermixed with SANDSTONE 40%, fine grained, grey, lithic lithic-quartz silty in part; with SILTSTONE 20%, grey; fresh, weak	
826	836.122	SANDSTONE, fine grained, light grey, lithic-quartz quartz veined fragments throughout; fresh, moderately strong	
836.122	836.425	COAL UNDIFF., black, dull(<1% bright); fresh, weak	
836.425	837.757	SANDSTONE, fine grained, light grey, lithic-quartz quartz veined fragments throughout; fresh, moderately strong	
837.757	837.964	COAL UNDIFF., black, dull(<1% bright); fresh, weak	

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837.964	844	COALY SHALE 60%, black; intermixed with SANDSTONE 40%, fine grained, grey black, coaly fragments throughout; fresh, weak
844	850	SANDSTONE, fine grained, grey, lithic-quartz minor quartz veined fragments; fresh, moderately strong
850	853	SANDSTONE, fine grained, grey, minor quartz veined silty in part lithic-quartz; fresh, moderately strong
853	860.448	SANDSTONE, fine grained, light grey, lithic-quartz lithic minor quartz veined; fresh, moderately strong
860.448	860.985	COAL UNDIFF., black, dull, minor bright bands(>1%); fresh, weak
860.985	867.377	SILTSTONE 50%, grey; intermixed with SANDSTONE 50%, fine grained, grey, lithic lithic-quartz coaly fragments; with CARBONACEOUS SHALE 20%, black, shaly in part; fresh, moderately strong
867.377	867.558	COAL UNDIFF., black, dull(<1% bright); fresh, weak
867.558	867.714	SILTSTONE, dark grey; fresh, moderately strong
867.714	867.93	COAL UNDIFF., black, dull(<1% bright); fresh, weak
867.93	871	SANDSTONE, fine grained, light grey, lithic-quartz quartz veined fragments in part; fresh, moderately strong
871	874	SANDSTONE 50%, fine grained, grey black, lithic coaly fragments throughout; intermixed with COALY SHALE 50%, black; fresh, moderately strong
874	877	SANDSTONE 75%, fine grained, grey, lithic lithic-quartz; intermixed with COALY SHALE 25%, black; fresh, moderately strong
877	878.233	SANDSTONE, very fine-fine grained, grey, lithic-quartz minor quartz veined fragments; fresh, moderately strong
878.233	879.453	COAL UNDIFF., black, dull, minor bright bands(>1%) bright(>90%) in part; fresh, weak
879.453	883	COALY SHALE 60%, black, sandy minor; intermixed with SILTSTONE 40%, grey, clayey nodules throughout; fresh, weak
883	886	SANDSTONE 50%, fine grained, grey, lithic-quartz silty in part; intermixed with COALY SHALE 50%, black, silty in part; fresh, moderately strong
886	892	SANDSTONE 90%, fine grained, light grey, lithic lithic-quartz; intermixed with SHALE 10%, black, fragments; fresh, moderately strong
892	898	SANDSTONE, very fine-fine grained, light grey, quartz veined minor lithic-quartz; fresh, moderately strong
898	907	SANDSTONE, fine grained, grey, minor quartz veined minor silty; fresh, moderately strong
907	916	SANDSTONE 85%, fine grained, grey, quartz veined fragments throughout lithic-quartz; intermixed with SILTSTONE 15%, grey, quartz veined fragments throughout; fresh, moderately strong
916	928.209	SANDSTONE, fine grained, grey, lithic lithic-quartz rare quartz veined; fresh, moderately strong
928.209	930.605	COAL UNDIFF., black, dull, minor bright bands(>1%) bright(>90%) in part; fresh, weak
930.605	931.124	SANDSTONE 80%, fine grained, grey, lithic; intermixed with COAL UNDIFF. 20%, black, stony in part dull(<1% bright); fresh, moderately strong
931.124	932.569	COAL UNDIFF., black, dull, minor bright bands(>1%) bright(>90%) in part; fresh, weak
932.569	932.855	SANDSTONE, fine grained, grey, lithic; fresh, moderately strong
932.855	933.019	COAL UNDIFF., black, dull(<1% bright) stony in part; fresh, weak
933.019	933.356	SANDSTONE, fine grained, grey, lithic; fresh, moderately strong
933.356	933.728	COAL UNDIFF., black, dull, minor bright bands(>1%); fresh, weak

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933.728	937	CARBONACEOUS SHALE 90%, black, sandy in part; intermixed with COAL UNDIFF. 10%, black, sandy in part; fresh, weak
937	952	SANDSTONE, fine grained, grey, lithic-quartz minor quartz veined; fresh, moderately strong
952	957.491	SANDSTONE, fine grained, grey, lithic-quartz rare quartz veined; fresh, moderately strong
957.491	958.694	COAL UNDIFF., black, dull, minor bright bands(>1%) bright(>90%) in part; fresh, weak
958.694	959.23	SANDSTONE, fine grained, grey, lithic-quartz minor quartz veined; fresh, moderately strong
959.23	959.671	COAL UNDIFF., black, dull, minor bright bands(>1%); fresh, weak
959.671	959.904	SANDSTONE, fine grained, grey, lithic-quartz minor quartz veined; fresh, moderately strong
959.904	960.51	COAL UNDIFF., black, dull, minor bright bands(>1%); fresh, weak
960.51	961.029	SANDSTONE, fine grained, grey, lithic-quartz minor quartz veined; fresh, moderately strong
961.029	961.704	COAL UNDIFF., black, dull, minor bright bands(>1%); fresh, weak
961.704	962.76	SANDSTONE, fine grained, grey; fresh, moderately strong
962.76	964.62	COAL UNDIFF., black, bright(>90%) in part; fresh, weak
964.62	967.249	SANDSTONE, fine grained, grey, lithic-quartz minor quartz veined; fresh, moderately strong
967.249	967.405	COAL UNDIFF., black, dull(<1% bright); fresh, weak
967.405	970	SANDSTONE 60%, fine grained, grey, lithic; intermixed with COAL UNDIFF. 40%, black, dull(<1% bright); fresh, moderately strong
970	973	SANDSTONE 90%, grey, lithic quartz veined fragments; intermixed with COAL UNDIFF. 10%, black, stony in part; fresh, moderately strong
973	976	SANDSTONE, fine grained, grey, lithic-quartz minor quartz veined; fresh, moderately strong
976	979	SANDSTONE, grey, coaly fragments minor quartz veined; fresh, moderately strong
979	982	SANDSTONE 60%, fine-medium grained, whitish grey, lithic moderately sorted low sphericity, sub-angular; intermixed with SILTSTONE 40%, dark grey, occasional carbonaceous laminations; fresh, moderately strong
982	985	SANDSTONE 80%, fine-medium grained, whitish grey, lithic-quartz moderately sorted low sphericity, sub-angular; intermixed with SILTSTONE 20%, dark grey, carbonaceous wisps; fresh, moderately strong
985	987.544	SANDSTONE 50%, fine grained, light grey, lithic moderately sorted low sphericity, sub-rounded to sub-angular; intermixed with SILTSTONE 50%, dark grey, sandy in part carbonaceous laminations; fresh, moderately strong
987.544	988.037	COAL UNDIFF., black, dull, minor bright bands(>1%); fresh, weak
988.037	991	CARBONACEOUS SHALE 50%, black, carbonaceous; intermixed with COAL UNDIFF. 30%, black, stony in part dull(<1% bright); with SANDSTONE 20%, fine grained, light grey, lithic moderately sorted; fresh, moderately strong
991	994	SILTSTONE 40%, brownish grey, carbonaceous siltstone in part; intermixed with CARBONACEOUS SHALE 30%, black, coaly in part laminations; with SANDSTONE 30%, fine grained, light grey, lithic silty in part poorly to moderately sorted; fresh, strong
994	998.557	SILTSTONE 60%, dark grey, carbonaceous siltstone in part coaly fragments; intermixed with SANDSTONE 40%, fine grained, light grey, lithic moderately sorted low sphericity, sub-angular to angular; fresh, strong

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998.557	998.92	COAL UNDIFF., black, dull, minor bright bands(>1%); fresh, weak	
998.92	1000	SANDSTONE 50%, fine grained, light grey, lithic moderately sorted low sphericity, sub-angular to angular; intermixed with SILT grey, sandy laminations in part; with COAL UNDIFF. 20%, brownish black, tending to inferior in part laminations; fresh, moderated	
1000	1003	SANDSTONE 60%, fine grained, light grey, lithic moderately sorted low sphericity, sub-angular; intermixed with COAL UNDIFF in part dull, minor bright bands(>1%); with CARBONACEOUS SILTSTONE 20%, brownish black, shaly in part; fresh, moderate	
1003	1006	SANDSTONE 60%, very fine-fine grained, whitish grey, lithic moderately sorted low sphericity, sub-angular; intermixed with SIL brownish grey, carbonaceous siltstone in part; with COAL UNDIFF. 10%, black, stony pebbly in part; fresh, moderately strong	TSTONE 30%,
1006	1009	SANDSTONE 50%, fine grained, light grey, lithic moderately sorted low sphericity, sub-rounded to sub-angular; intermixed with dark grey, occasional carbonaceous siltstone; with COAL UNDIFF. 10%, black, occasional pebbly dull(<1% bright); fresh, moderately sorted low sphericity, sub-rounded to sub-angular; intermixed with	
1009	1012	CARBONACEOUS SHALE 60%, brownish black, carbonaceous siltstone in part laminations; intermixed with COAL UNDIFF. 30 bright bands(>1%) stony in part; with SANDSTONE 10%, very fine-fine grained, light grey, lithic moderately sorted low spherici fresh, strong	
1012	1015	SANDSTONE 80%, very fine-fine grained, whitish grey, lithic moderately sorted low sphericity, sub-angular silty; intermixed with dark grey, occasional carbonaceous laminations; fresh, moderately strong	SILTSTONE 20%,
1015	1018	SANDSTONE 80%, very fine-fine grained, whitish grey, lithic moderately sorted low sphericity, sub-angular silty; intermixed with dark grey, occasional carbonaceous laminations; fresh, moderately strong	SILTSTONE 20%,
1018	1021	SILTSTONE 90%, dark grey, sandy in part carbonaceous siltstone in part; intermixed with SANDSTONE 20%, very fine-fine gralithic moderately sorted; fresh, strong	nined, whitish grey,
1021	1024	SILTSTONE 50%, dark grey, carbonaceous siltstone in part; intermixed with CARBONACEOUS SHALE 40%, black, coaly in passands 500 solutions. SANDSTONE 10%, very fine-fine grained, whitish grey, lithic moderately sorted low sphericity, sub-angular; fresh, strong	art laminations; with
1024	1027	SANDSTONE 60%, fine grained, whitish grey, lithic moderately sorted low sphericity, sub-rounded to sub-angular; intermixed w 40%, dark grey, micaceous in part; fresh, moderately strong	ith SILTSTONE
1027	1030	SILTSTONE 60%, dark grey, micaceous rare carbonaceous laminations; intermixed with SANDSTONE 30%, fine grained, whiti moderately sorted low sphericity, sub-rounded to sub-angular; with CARBONACEOUS SHALE 10%, black, coaly in part laminations.	
1030	1034	SANDSTONE 80%, fine grained, whitish grey, lithic poorly to moderately sorted clayey in part; intermixed with SILTSTONE 20% carbonaceous siltstone; fresh, moderately strong	6, brownish grey, rare
1034	1036	SANDSTONE 60%, fine grained, whitish grey, lithic poorly to moderately sorted low sphericity, sub-angular; intermixed with SIL grey, sandy in part micaceous; with CARBONACEOUS SHALE 10%, black, coaly in part dull(<1% bright) laminations; fresh, m	TSTONE 30%, dark oderately strong
1036	1040	SANDSTONE 80%, fine grained, whitish grey, lithic poorly to moderately sorted silty in part; intermixed with SILTSTONE 20%, claminations; fresh, moderately strong	dark grey, occasional
1040	1046	SANDSTONE 60%, fine grained, whitish grey, clayey in part lithic poorly sorted; intermixed with SILTSTONE 40%, dark grey, ralaminations; fresh, moderately strong	are carbonaceous
1046	1050	SILTSTONE 60%, dark grey, micaceous in part; intermixed with SANDSTONE 30%, fine grained, whitish grey, clayey nodules moderately sorted; with COAL UNDIFF. 10%, black, pebbly in part stony dull(<1% bright); fresh, strong	ithic poorly to

GPAC		AGL energy V12 28/02/2013 15:06:3	33
From	То	Description	
1050	1053	SANDSTONE 70%, fine grained, whitish grey, lithic moderately sorted low sphericity, sub-angular; intermixed with SILTSTONE 20%, brownish gremicaceous in part carbonaceous fragments; with CARBONACEOUS SHALE 10%, black, coaly in part laminations; fresh, moderately strong	 y,
1053	1057.404	SANDSTONE 60%, fine grained, whitish grey, lithic moderately sorted low sphericity, sub-angular clayey; intermixed with SILTSTONE 30%, brownish dark grey, micaceous in part carbonaceous fragments; with CARBONACEOUS SHALE 10%, black, coaly in part laminations; fresh, moderately strong	
1057.404	1057.499	COAL UNDIFF., black, dull(<1% bright); fresh, weak	
1057.499	1059	SILTSTONE 60%, brownish dark grey, carbonaceous laminations in part; intermixed with COAL UNDIFF. 10%, black, dull, minor bright bands(>1% in part; with SANDSTONE 30%, whitish grey, lithic moderately sorted low sphericity, sub-angular; fresh, strong	%)
1059	1062	SANDSTONE, fine grained, whitish grey, lithic-quartz poorly to moderately sorted clayey nodules; fresh, moderately strong	
1062	1065	SANDSTONE, fine grained, whitish grey, lithic-quartz poorly to moderately sorted clayey nodules; fresh, moderately strong	
1065	1068	SANDSTONE 60%, very fine-fine grained, whitish grey, lithic poorly to moderately sorted low sphericity, sub-angular; intermixed with SILTSTONE 30%, brownish dark grey, carbonaceous siltstone in part carbonaceous wisps; with COAL UNDIFF. 10%, black, dull(<1% bright); fresh, moderate strong	
1068	1071	SANDSTONE 90%, whitish grey, lithic moderately sorted high sphericity, sub-rounded to sub-angular; intermixed with SILTSTONE 10%, dark grey fresh, moderately strong	/ ;
1071	1075	SANDSTONE, whitish grey, lithic-quartz moderately to well sorted high sphericity, sub-rounded to sub-angular silty; fresh, moderately strong	
1075	1078	SANDSTONE, whitish grey, lithic-quartz moderately sorted coaly fragments; fresh, moderately strong	
1078	1081	SANDSTONE, fine-medium grained, whitish grey, lithic-quartz moderately sorted high sphericity, sub-rounded to sub-angular silty; fresh, moderate strong	эly
1081	1084	SANDSTONE 80%, fine grained, whitish grey, lithic clayey nodules poorly to moderately sorted; intermixed with SILTSTONE 20%, brownish dark grey, carbonaceous siltstone in part carbonaceous fragments; fresh, moderately strong	
1084	1087.214	SANDSTONE 60%, fine grained, whitish grey, lithic clayey in part; intermixed with SILTSTONE 40%, dark grey, occasional carbonaceous fragments; fresh, moderately strong	
1087.214	1087.413	COAL UNDIFF., black, dull(<1% bright); fresh, weak	
1087.413	1091.133	SILTSTONE 50%, dark grey, carbonaceous laminations in part micaceous; intermixed with SANDSTONE 50%, fine grained, whitish grey, lithic clayey nodules poorly sorted; fresh, strong	
1091.133	1091.496	COAL UNDIFF., black, dull, minor bright bands(>1%); fresh, weak	
1091.496	1093	SILTSTONE 70%, dark grey, carbonaceous siltstone in part; intermixed with SANDSTONE 30%, fine grained, whitish grey, lithic moderately sorted high sphericity, sub-angular; fresh, strong	b
1093	1096	SILTSTONE 60%, dark grey, carbonaceous siltstone in part sandy; intermixed with CARBONACEOUS SHALE 20%, black, coaly in part dull(<1% bright); with SANDSTONE 20%, fine grained, whitish grey, lithic abundant carbonaceous fragments; fresh, strong	
1096	1100	SANDSTONE 70%, fine grained, whitish grey, lithic abundant carbonaceous fragments; intermixed with SILTSTONE 30%, dark grey, rare carbonaceous siltstone; fresh, moderately strong	
1100	1103	SILTSTONE 50%, brownish grey, occasional carbonaceous siltstone; intermixed with SANDSTONE 50%, fine grained, light grey, lithic; fresh, strong strong siltstone; intermixed with SANDSTONE 50%, fine grained, light grey, lithic; fresh, strong siltstone; intermixed with SANDSTONE 50%, fine grained, light grey, lithic; fresh, strong siltstone; intermixed with SANDSTONE 50%, fine grained, light grey, lithic; fresh, strong siltstone; intermixed with SANDSTONE 50%, fine grained, light grey, lithic; fresh, strong siltstone; intermixed with SANDSTONE 50%, fine grained, light grey, lithic; fresh, strong siltstone; lithic silts	ng
-			_

From To Description

End of Hole Waukivory 11

GPAC

GLOUCESTER PROJECT

Borehole Number: Waukivory 11

Drilling Method: Logged by: Date Drilled:24/11/2012 Sheet:1 of:56

Easting: 402419.02 **Northing**: 6452589.82 **R.L.**: 104.6 **Dip**: 0 **Dir**: 0

ڌ		Vumber	yow (Log		Geophy	sical Tra	aces			
Formation	Seam	Sample Number	Depth below Collar(m)	Graphic Log	DESCRIPTION	6AMMA	120 iqa <i>l</i>		ensated	Limestor ೮	tron 6.0
			1		SILTSTONE 70%, grey white, rare coaly possibly tuffaceous ferruginous; intermixed with SANDSTONE 30%, very fine grained, grey dark grey, lithic silty in part; moderately weathered SILTSTONE 80%, dark grey brown, rare tuffaceous rare coaly; intermixed with SANDSTONE 20%, fine grained, light grey, lithic moderately sorted; slightly weathered						

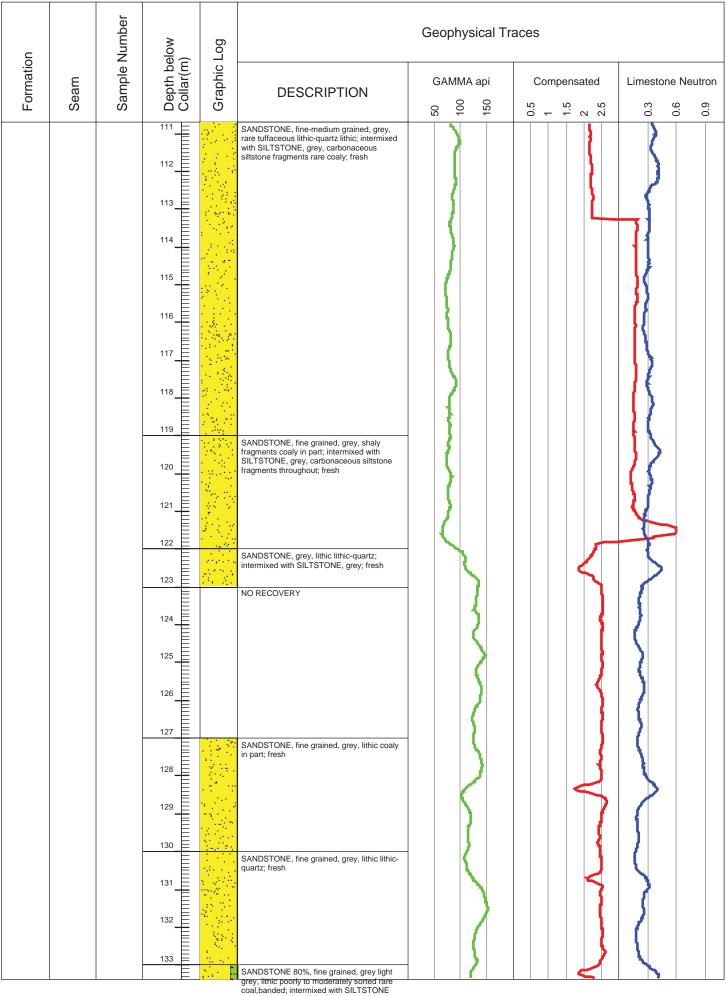
Ë		Number	elow (Log		Geophysical T	races	
Formation	Seam	Sample Number	Depth below Collar(m)	Graphic Log	DESCRIPTION	GAMMA api	Compensated Compensated	Limestone Neutron
			20 21 22 22 23 23		SILTSTONE 40%, dark grey, sandy in part rare coal, banded; intermixed with SANDSTONE 40%, fine grained, light grey white, lithic poorly to moderately sorted rare tuffaceous; intermixed with STONY COAL 20%, black brown, shaly in part dull(<1% bright) stringers of coal; fresh		}	
			24		SILTSTONE 60%, green grey, rare coal,banded clayey in part; intermixed with SANDSTONE 40%, fine grained, light grey white, lithic poorly to moderately sorted; slightly weathered			
			27		SILTSTONE 90%, green grey, clayey throughout rare coal,banded; intermixed with SANDSTONE 10%, fine grained, light grey, lithic moderately sorted rare micaceous; fresh			
			31 32 33 33 34 34 35 35		SANDSTONE 60%, fine grained, light grey white, lithic moderately sorted; intermixed with SILTSTONE 40%, dark grey, clayey throughout; fresh			
			36 37 37 38 38		SILTSTONE 60%, grey brown, sandy in part; intermixed with CARBONACEOUS SILTSTONE 30%, dark grey brown, coaly fragments in part; intermixed with SANDSTONE 10%, fine grained, light grey white, lithic moderately sorted; fresh			
			39 40 41		SILTSTONE 80%, grey brown, sandy in part; intermixed with CARBONACEOUS SILTSTONE 20%, dark grey black, rare coaly fragments; fresh			
			42		SANDSTONE 60%, very fine grained, light grey white, micaceous lithic sandy occasional; intermixed with SILTSTONE 40%, dark grey brown, muddy rare coal,banded fragments; fresh			

c		Vumber	low (Log		Geophysical Tr	aces	
Formation	Seam	Sample Number	Depth below Collar(m)	Graphic Log	DESCRIPTION	GAMMA api 20 20 20	Compensated Compensated	Limestone Neutron
Format	Seam	Sample	1 44 45 46 47 48 48 49 50 51 51 52 53 53 54 55 56 60 61 61 62 63 63 63 63 63 63 63 63 63 63 63 63 63	Craphile Control of the Control of t	SANDSTONE 65%, fine grained, grey, lithic lithic-quartz muddy nodules; fresh SANDSTONE, fine grained, grey, lithic lithic-quartz muddy nodules; fresh	0 0		
			65		SANDSTONE 90%, fine grained, grey, lithic sity fragments; intermixed with COAL UNDIFE 10%, black rare tuffaceous; fresh	}		}

silty fragments; intermixed with COAL UNDIFF. 10%, black, rare tuffaceous; fresh

u		Number	wole (Log		Geophysical Tra	aces	
Formation	Seam	Sample Number	Depth below Collar(m)	Graphic Log	DESCRIPTION	GAMMA api	Compensated	Limestone Neutron
			66		SANDSTONE 90%, fine grained, grey, lithic silty fragments; intermixed with COAL UNDIFF. 10%, black, rare tuffaceous; fresh			}
			69		SANDSTONE, fine grained, grey, lithic silty fragments rare coaly; fresh			
			71 72 73 73 74 74		SANDSTONE, fine grained, grey, lithic silty in part; fresh			
			75		SANDSTONE, fine grained, grey, rare coaly rare tuffaceous; intermixed with SHALE, black, rare sideritic fragments; fresh			
			78		SANDSTONE 60%, fine grained, grey, coaly in part muddy lithic; intermixed with SILTSTONE 40%, grey, shaly fragments throughout; fresh			
			81 82 83 83 84 84 85 85 86 86		SANDSTONE, fine grained, grey, coaly in part shaly fragments; fresh			
			87		SANDSTONE, fine grained, grey, lithic clayey shaly fragments; fresh			

u		Jumber	low	-og		Geophysical Tra	aces	
Formation	Seam	Sample Number	Depth below Collar(m)	Graphic Log	DESCRIPTION	GAMMA api 20 20 21	Compensated	Limestone Neutron
			88		SANDSTONE, fine grained, grey, lithic clayey shaly fragments; fresh			7
			90	・ 東京 (1987年) ・ 東京 (1987年) ・ 東京 (1987年) ・ 東京 (1987年)	SANDSTONE, fine grained, grey, carbonaceous siltstone fragments clayey nodules; fresh			
			92		SANDSTONE, fine grained, grey, shaly fragments clayey nodules; fresh			
			95					
			96		SANDSTONE, fine grained, grey, tuffaceous fragments shaly rare; intermixed with SILTSTONE, dark grey, carbonaceous siltstone in part; fresh			
			97					
			98		SANDSTONE 55%, fine grained, grey, silty fragments lithic-quartz; intermixed with TUFF 45%, cream, carbonaceous siltstone fragments; fresh			{
			100	** / / / / / / / / / / / / / / / / / /				
			101		TUFF, cream; fresh			
			103	• • • •				
			104					
			105			}		1
			106	· · · · ·				}
			107	· · ·	SANDSTONE 60%, fine-medium grained,			
			108		grey, silty fragments clayey nodules; intermixed with TUFF 40%, cream; fresh			
			109					
			110		SANDSTONE, fine-medium grained, grey, rare tuffaceous lithic-quartz lithic; intermixed with SILTSTONE, grey, carbonaceous siltstone fragments rare coaly; fresh			{



grey, firthe poorly to moderately sorted rate coal,banded; intermixed with SILTSTONE 20%, dark grey grey, coal,banded in part rare shaly; fresh

		Jumber	low	-od		Geophysical Tr	aces	
Formation	Seam	Sample Number	Depth below Collar(m)	Graphic Log	DESCRIPTION	GAMMA api 20 12 12 13	Compensated	Limestone Neutron
			134		SANDSTONE 80%, fine grained, grey light grey, lithic poorly to moderately sorted rare coal, banded; intermixed with SILTSTONE 20%, dark grey grey, coal, banded in part rare shaly; fresh			
			138.61 137.73 137 138		COAL UNDIFF., black, tending to inferior in part; fresh CARBONACEOUS SILTSTONE 60%, dark grey brown, coaly fragments rare tuffaceous; intermixed with SANDSTONE 40%, fine grained, grey brown, lithic poorly to moderately sorted silty in part; fresh			
			140		COAL UNDIFF., black, tending to inferior in part; fresh SANDSTONE 70%, fine grained, grey, lithic moderately sorted; intermixed with SILTSTONE 30%, dark brown grey, coal,banded throughout; fresh			
			142					
			144		SANDSTONE 80%, fine grained, grey green, lithic moderately sorted silty in part; intermixed with SILTSTONE 20%, dark brown grey, occasional coal,banded fragments;			
			147		fresh SILTSTONE 70%, dark grey black,	{		
			149		occasional coal,banded sandy in part; intermixed with TUFF 20%, brown light brown, silty; intermixed with SANDSTONE 10%, fine grained, light grey, lithic moderately sorted; fresh		W S	
			151 = 152 = 153 = 153		SANDSTONE 90%, fine grained, light grey grey, lithic feldspathic in part moderately sorted; intermixed with SILTSTONE 10%, dark grey brown, rare coal,banded shaly in part; fresh			
			154		SANDSTONE 70%, fine grained, grey, lithic moderately sorted silty in part; intermixed with SILTSTONE 30%, dark grey brown, rare coal,banded; fresh			

C		Vumber	low (Log		Geophysical Tr	aces	
Formation	Seam	Sample Number	Depth below Collar(m)	Graphic Log	DESCRIPTION	GAMMA api 20 20 21	Compensated	Limestone Neutron
			157		SANDSTONE 70%, fine grained, grey, lithic moderately sorted silty in part; intermixed with SILTSTONE 30%, dark grey brown, rare coal,banded; fresh			{
			158		SANDSTONE 90%, fine grained, grey dark grey, lithic moderately sorted rare micaceous; intermixed with SILTSTONE 10%, dark grey brown, rare shally; fresh			
			160	18.7	SANDSTONE 50%, fine grained, grey light			
			161		grey, lithic moderately sorted; intermixed with SILTSTONE 50%, dark grey brown, rare coal,banded sandy in part; fresh			
			162					
			163.26 163.44		COAL UNDIFF., black, tending to inferior in part; fresh			
			164		SANDSTONE 50%, fine grained, grey light grey, lithic moderately sorted; intermixed with SILTSTONE 50%, dark grey brown, rare coal,banded sandy in part; fresh			
			166					
			167		SANDSTONE 90%, fine grained, light grey grey, lithic moderately sorted possibly tuffaceous in part; intermixed with SILTSTONE 10%, dark grey, sandy in part rare coal,banded; fresh)
			168					
			169					
			171					
			172					
			173					
			175				{	{
			176		SANDSTONE, fine grained, light grey grey, silty in part rare coal,banded; fresh			
			177					
			178		SANDSTONE 90%, fine grained, light grey grey, lithic moderately sorted; intermixed with			
			<u> </u>		grey, lithic moderately sorted; intermixed with SILTSTONE 10%, dark grey, shaly in part; fresh			

u		Jumber	low	Fog		Geophysical T	races	
Formation	Seam	Sample Number	Depth below Collar(m)	Graphic Log	DESCRIPTION	GAMMA api	Compensated	Limestone Neutron
			180		SANDSTONE 90%, fine grained, light grey grey, lithic moderately sorted; intermixed with SILTSTONE 10%, dark grey, shaly in part; fresh		{	
			182		SANDSTONE 70%, fine grained, grey, lithic moderately sorted occasional silty; intermixed with SILTSTONE 30%, dark grey brown, coaly fragments in part coal,banded; fresh	1	4	
			185		SANDSTONE 90%, fine grained, grey, lithic moderately sorted occasional silty; intermixed with SILTSTONE 10%, dark grey brown, coaly fragments in part coal,banded; fresh			
			188		SANDSTONE 60%, fine grained, grey dark grey, lithic moderately sorted rare coal,banded; intermixed with SILTSTONE 30%, dark grey brown, coal,banded in part stringers of coal; intermixed with STONY COAL 10%, black, dull(<1% bright); fresh			
			191					\$
			192					3
			194		CARBONACEOUS SILTSTONE 60%, dark brown black, coaly fragments dull(<1% bright); intermixed with SILTSTONE 40%, dark grey, sandy in part; fresh			}
			196		SANDSTONE 70%, fine grained, grey, lithic			
			197		moderately sorted rare coal,banded; intermixed with SILTSTONE 20%, dark grey, occasional sandy; intermixed with CARBONACEOUS SILTSTONE 10%, dark brown black, coaly fragments; fresh			
			199	- (*)	SANDSTONE 60%, very fine grained, grey			
			200		dark grey, occasional lithic; intermixed with SILTSTONE 40%, dark grey dark brown, sandy in part rare coaly; fresh			

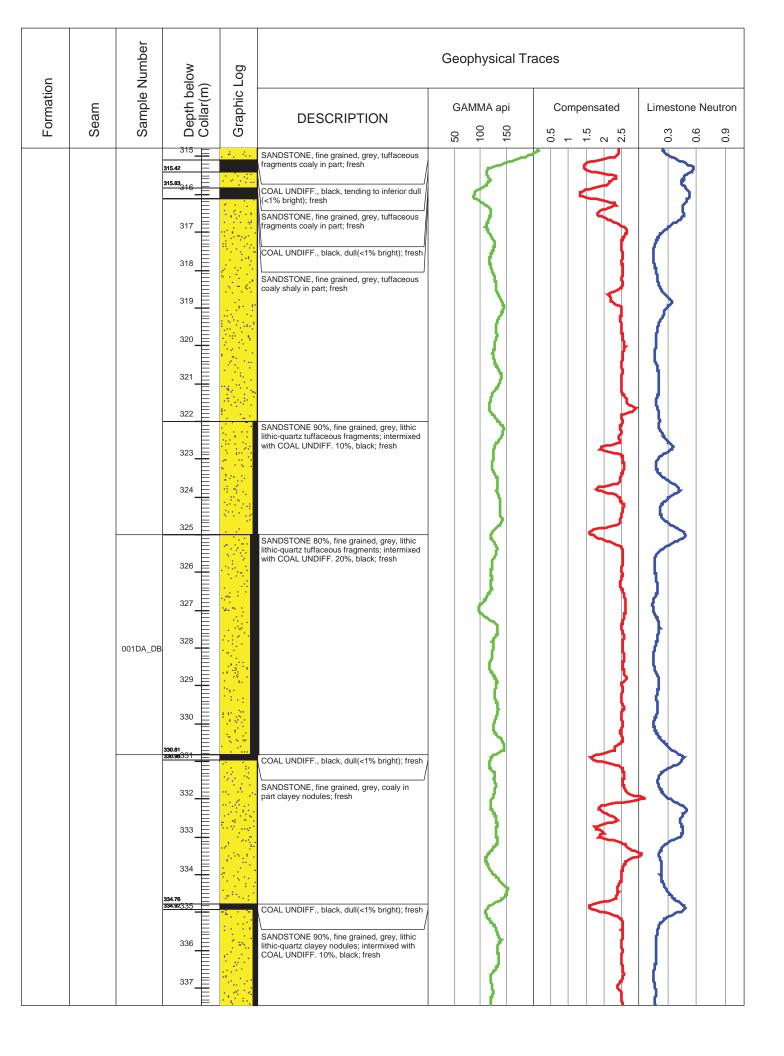
ڌ		Vumber	elow)	Log		Geophysical T	races	
Formation	Seam	Sample Number	Depth below Collar(m)	Graphic Log	DESCRIPTION	GAMMA api	Compensated Compensated	Limestone Neutron
			202		SANDSTONE 60%, very fine grained, grey dark grey, occasional lithic; intermixed with SILTSTONE 40%, dark grey dark brown, sandy in part rare coaly; fresh SILTSTONE 50%, dark brown grey, rare coal, banded fragments; intermixed with SANDSTONE 50%, fine grained, dark grey, lithic feldspathic in part V1; fresh SILTSTONE 70%, dark grey, rare coal, banded fragments; intermixed with SANDSTONE 30%, fine grained, grey light grey, lithic fragments rare coal, banded; fresh SILTSTONE 80%, dark brown black, rare coaly fragments dull, tends to stony; intermixed with SANDSTONE 20%, dark grey, lithic silty in part; fresh SILTSTONE 60%, dark grey brown, stringers of coal occasional coal, banded; intermixed with SANDSTONE 40%, fine grained, grey light grey, lithic moderately sorted occasional feldspathic; fresh			
			224		grey, lithic sandy feldspathic in part; with SILTSTONE 10%, dark grey brown, rare coal,banded fragments sandy; fresh			

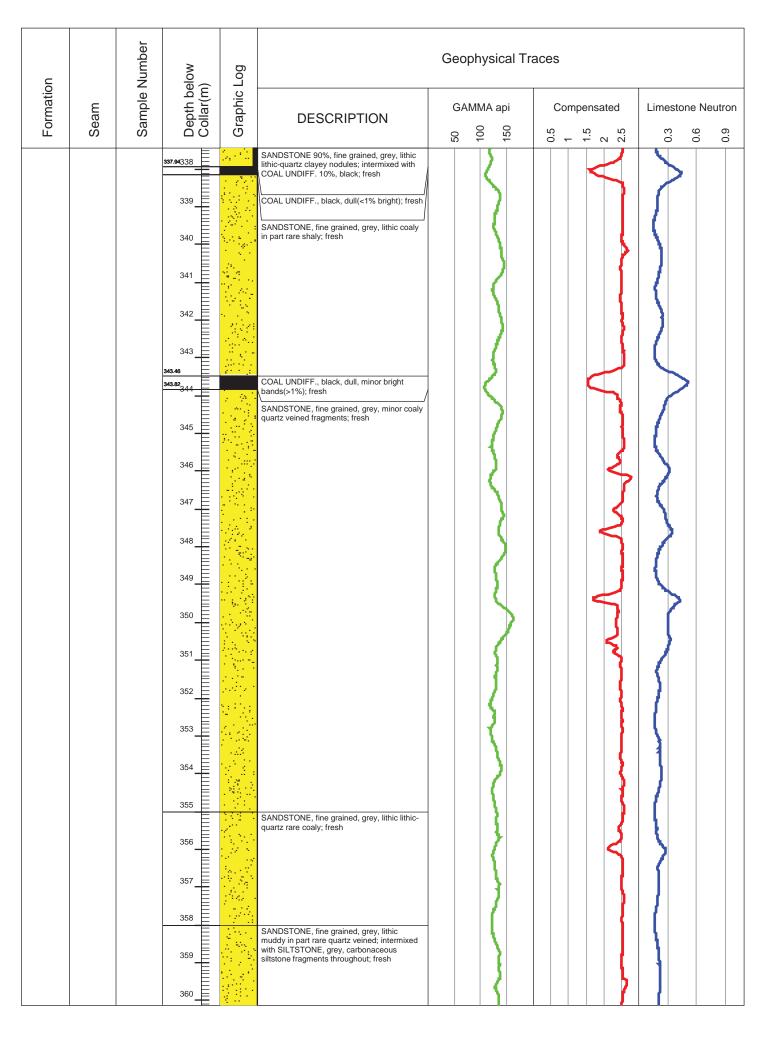
Ē		Number	elow (Log		Geophysical T	races	
Formation	Seam	Sample Number	Depth below Collar(m)	Graphic Log	DESCRIPTION	GAMMA api	Compensated 5: 4: 5: 5: 5: 5: 5: 5: 5: 5: 5: 5: 5: 5: 5:	Limestone Neutron
			225	· 不是教徒,我们不是有人的人,我们也不是一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个	SANDSTONE, fine-medium grained, grey, lithic lithic-quartz coaly in part; fresh SANDSTONE, fine-medium grained, grey, lithic lithic-quartz coaly in part; fresh SANDSTONE, fine-medium grained, grey, lithic lithic-quartz coaly in part; fresh			

c		Number	low	-og		Geophysical T	races	
Formation	Seam	Sample Number	Depth below Collar(m)	Graphic Log	DESCRIPTION	GAMMA api	Compensated	Limestone Neutron
			248		SANDSTONE, fine-medium grained, grey, lithic lithic-quartz rare coaly; fresh SANDSTONE, fine-medium grained, grey, lithic lithic-quartz muddy nodules; fresh SANDSTONE 30%, grey; fresh SANDSTONE 30%, grey; fresh SANDSTONE 65%, fine-medium grained, grey, silty in part minor carbonaceous siltstone fragments; fresh SANDSTONE 65%, fine-medium grained, grey, lithic lithic-quartz muddy nodules; intermixed with SILTSTONE 35%, grey, carbonaceous siltstone in part; fresh			

		Jumber	wo!	Fog		Geophysical Tr	aces	
Formation	Seam	Sample Number	Depth below Collar(m)	Graphic Log	DESCRIPTION	GAMMA api	Compensated Compensated	Limestone Neutron
			270		SANDSTONE 65%, fine-medium grained, grey, lithic lithic-quartz muddy nodules; intermixed with SILTSTONE 35%, grey, carbonaceous siltstone in part; fresh SANDSTONE, very fine-fine grained, grey, lithic minor silty lithic-quartz; fresh			
			275		SANDSTONE, very fine-fine grained, grey, lithic coaly rare muddy; fresh			
			278				\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	
			281		SANDSTONE, fine grained, grey, clayey nodules rare shaly in part; fresh			
			284					
			287		SANDSTONE, fine grained, grey, lithic lithic- quartz; fresh			
			290		SANDSTONE, fine grained, grey, lithic lithic- quartz rare coaly; intermixed with COAL UNDIFF., black; fresh			

C		Vumber	yow (Log		Geophysical Tr	aces	
Formation	Seam	Sample Number	Depth below Collar(m)	Graphic Log	DESCRIPTION	GAMMA api	Compensated Compensated	Limestone Neutron
			293		SANDSTONE, fine grained, grey, lithic lithic- quartz rare coaly; fresh	}	\$	
			296 297 298 299 300 301		SANDSTONE, fine grained, grey, silty in part rare coaly; fresh			
			302		SANDSTONE 80%, fine grained, grey, lithic lithic-quartz rare coaly; intermixed with TUFF 20%, cream, clayey nodules throughout; fresh			
			305		TUFF, cream, sandy in part; fresh			
			308					
			305 306 307 308 309 310 311 312 313					
			314		SANDSTONE, fine grained, grey, tuffaceous fragments coaly in part; fresh			





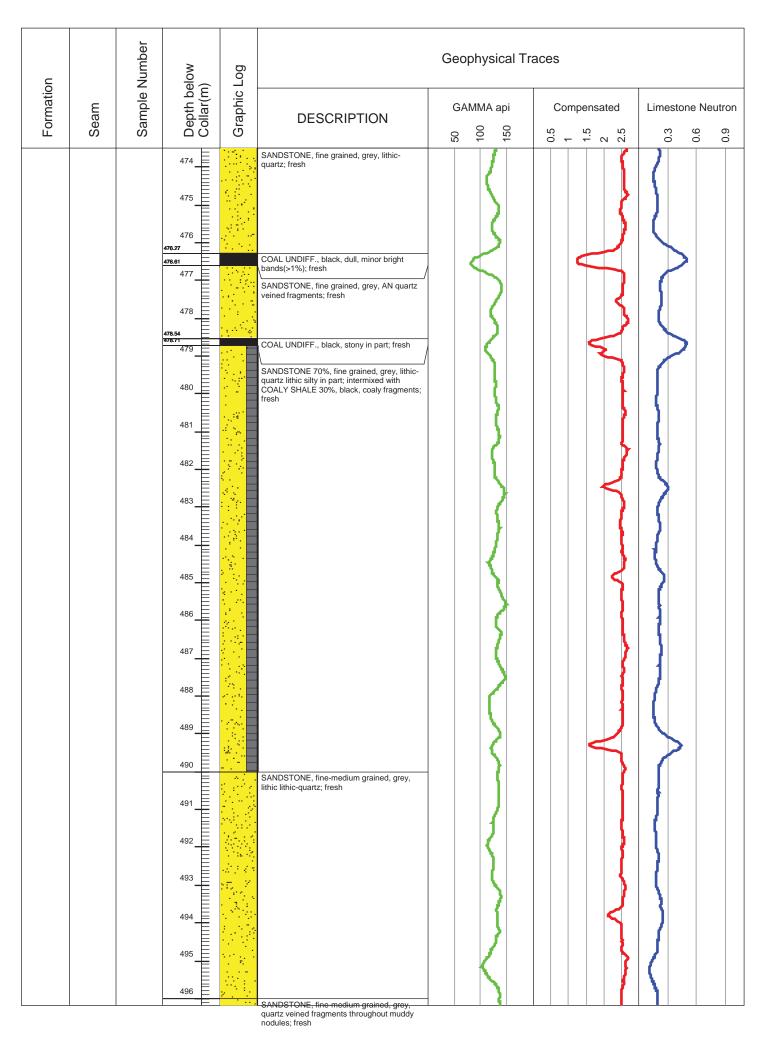
Ē	Number	elow (Log		Geophysical Tr	races	
Formation	Sample Number	Depth below Collar(m)	Graphic Log	DESCRIPTION	GAMMA api 20 120	Compensated Compensated	Limestone Neutron
		361 = 362 = 363 = 364 = 365 = 366 = 367 = 367		SANDSTONE, fine grained, grey, lithic muddy in part rare quartz veined; intermixed with SILTSTONE, grey, carbonaceous siltstone fragments throughout; fresh SANDSTONE, fine grained, grey, quartz veined fragments rare coaly; fresh			
		368 369 370 370		SANDSTONE 90%, fine grained, grey, lithic lithic-quartz; intermixed with COAL UNDIFF. 10%, black, rare quartz veined stony in part; fresh			
		371		SANDSTONE, fine grained, grey black, coaly fragments throughout lithic; fresh			
		374		SANDSTONE, fine grained, grey cream, rare coaly tuffaceous fragments throughout; fresh			
		377		SANDSTONE, fine grained, grey white, rare quartz veined fragments muddy nodules; fresh SANDSTONE, fine grained, grey black, lithic			

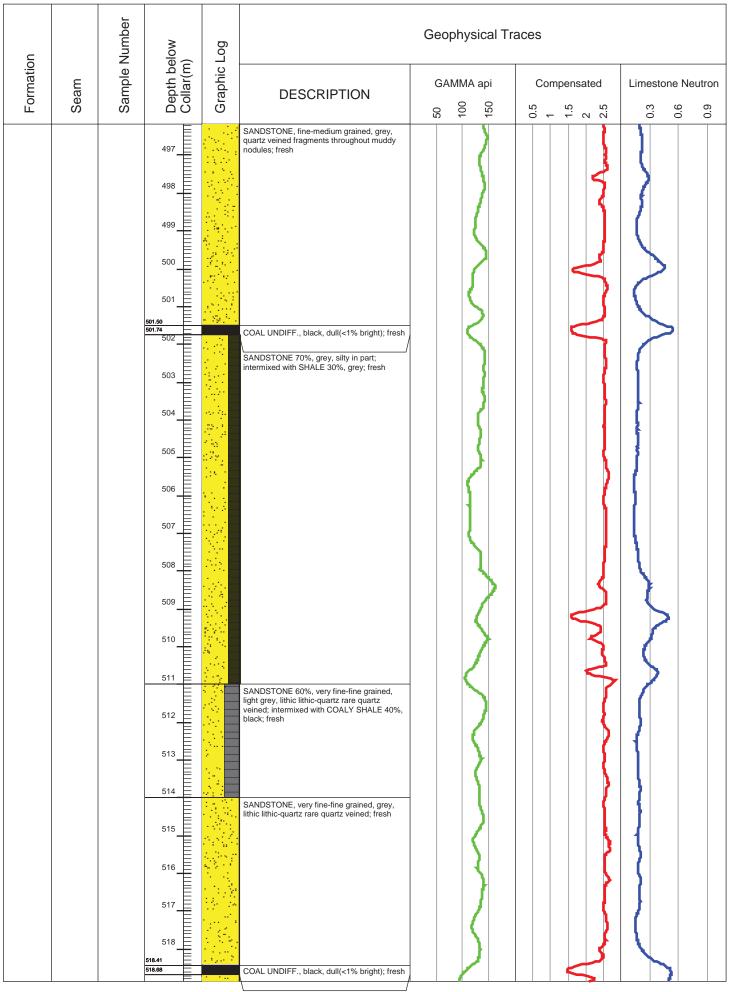
		Jumper	wol	bo-		Geophysical Tr	aces	
Formation	Seam	Sample Number	Depth below Collar(m)	Graphic Log	DESCRIPTION	GAMMA api	Compensated Compensated	Limestone Neutron
Formatio	Seam	002DA_DB	383	Section 1 and 1 an	DESCRIPTION SANDSTONE, fine grained, grey black, lithic coaly in part rare quartz veined; fresh COAL UNDIFF., black, dull(<1% bright); fresh SANDSTONE 90%, fine grained, grey, lithic lithic-quartz muddy in part; intermixed with COAL UNDIFF. 10%, black; fresh SANDSTONE 50%, black; fresh SANDSTONE, fine grained, grey, minor quartz veined minor silty; fresh SANDSTONE, fine grained, grey, minor quartz veined minor silty; fresh COAL UNDIFF. 10%, black, fragments; intermixed with COAL y SHALE 25%, black, fragments; irragments; fresh COAL UNDIFF., black, dull(<1% bright); fresh SANDSTONE 90%, fine grained, grey, quartz veined fragments throughout; intermixed with COAL UNDIFF. 10%, black, coaly fragments abundant; fresh			
			401.72 401.91402 403 404 404 405		COAL UNDIFF., black, dull(<1% bright); fresh SANDSTONE 50%, fine grained, grey, quartz veined fragments silty muddy; intermixed with SILTSTONE 50%, grey, nodules; fresh			

u		Jumper	wo	bo-		Geophysical Tr	aces	
Formation	Seam	Sample Number	Depth below Collar(m)	Graphic Log	DESCRIPTION	GAMMA api 20 00 100 000	Compensated Compensated	Limestone Neutron
			406 407 408 409 410 411 412		SANDSTONE 50%, fine grained, grey, quartz veined fragments silty muddy; intermixed with SILTSTONE 50%, grey, nodules; fresh			
			413		SANDSTONE 65%, fine grained, grey, lithic lithic-quartz muddy; intermixed with CARBONACEOUS SILTSTONE 20%, dark grey, fragments throughout silty in part; intermixed with COALY SHALE 15%, black, fragments throughout; fresh			
			416		SANDSTONE, fine grained, light grey, rare quartz veined; fresh			
			419		SANDSTONE 60%, fine grained, grey black, shaly throughout; intermixed with SILTSTONE 40%, grey black, shaly throughout; fresh			
			422		SANDSTONE, fine grained, grey, rare coaly fragments lithic-quartz; fresh			
			425		SANDSTONE, fine grained, grey, coaly fragments throughout silty fragments; fresh			
		003DA_DB			SANDSTONE 60%, fine grained, grey, lithic lithic-quartz; intermixed with COAL UNDIFF. 40%, black; fresh			

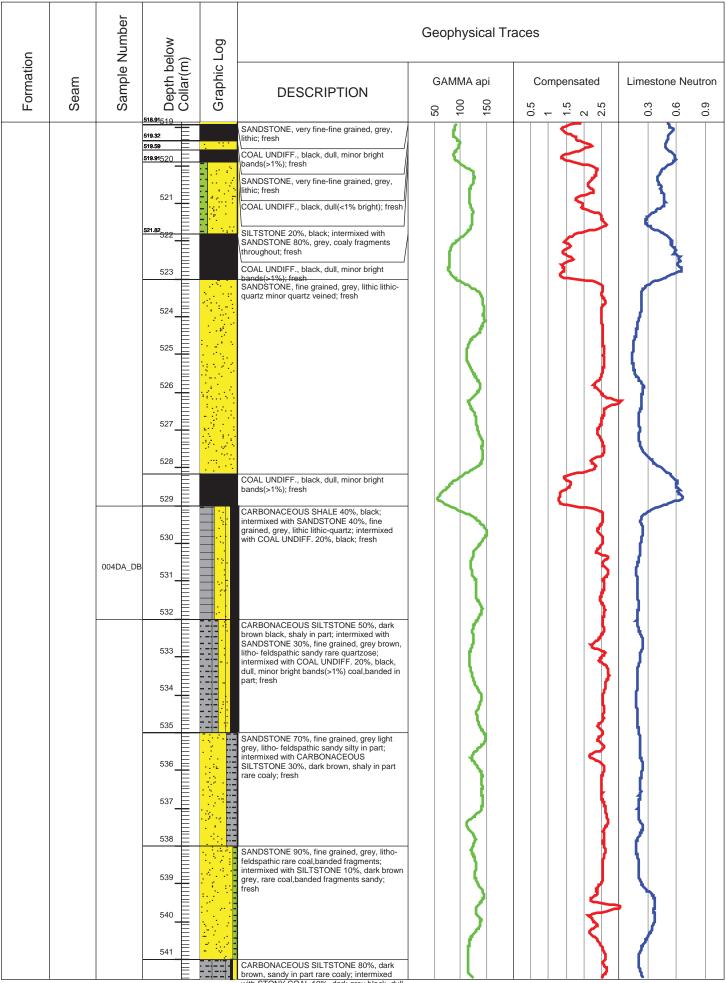
Ĕ		Number	wole)	Log		Geophysical Tr	aces	
Formation	Seam	Sample Number	Depth below Collar(m)	Graphic Log	DESCRIPTION	GAMMA api	Compensated	Limestone Neutron
		003DA_DB	429		SANDSTONE 60%, fine grained, grey, lithic lithic-quartz; intermixed with COAL UNDIFF. 40%, black; fresh			
					SANDSTONE, fine grained, grey, quartz veined fragments silty fragments; fresh			
			431				 	
			E				}	{
			434 435 436 437					}
			436					}
			438					
		_			SANDSTONE, fine grained, grey, coaly fragments throughout silty fragments; fresh			
			440				5	
			441					
			443				 }	
			443 444 445 446 446					}
			_					
			447					
		-			SANDSTONE, fine grained, grey, quartz veined fragments throughout silty fragments; fresh			\$
			449				$\left \; \left \; \right \; \right \; \right \; $	

		lumber	wol	bo-		Geophysical Tr	races	
Formation	Seam	Sample Number	Depth below Collar(m)	Graphic Log	DESCRIPTION	GAMMA api	Compensated	Limestone Neutron
			451 452 453 453 454 455 456 457 458 460.67 460.94461 461.45 881.82	が、「は、「ないでは、」というでは、「ないでは、「ないでは、」というでは、「ないでは、「ないでは、ないのでは、「ないでは、ないでは、ないでは、「ないでは、ないでは、「ないでは、」というでは、「ないでは、	SANDSTONE, fine grained, grey, quartz veined fragments throughout silty fragments; fresh SANDSTONE, fine grained, grey, lithic lithic-quartz rare shally; fresh COAL UNDIFF., black, dull(<1% bright); fresh			
			463 463 463 464 464 466 466 467 468 469 470 471 471 471 28 473 473 473	のでは、「「「大き」というというでは、「大き」というです。 「これのでは、「ないのでは、「ないのでは、「ないのでは、」では、「ないのでは、「ないのでは、「ないのでは、」というでは、「ないのでは、」」というでは、「ないのでは、「ないのでは、「ないのでは、」」というでは、「ないのでは、「ないのでは、「ないのでは、」」というでは、「ないのでは、「ないのでは、」」というでは、「ないのでは、「ないのでは、」」というでは、「ないのでは、」」 「ないのでは、これでは、これでは、これでは、これでは、これでは、これでは、これでは、これ	SANDSTONE 45%, fine grained, grey, silty in part lithic-quartz; fresh COAL UNDIFF., black, dull(<1% bright); fresh SANDSTONE, fine grained, grey, abundant quartz veined fragments; fresh COAL UNDIFF., black, dull(<1% bright); fresh SANDSTONE, very fine-fine grained, grey, lithic-quartz lithic; fresh COAL UNDIFF., black, dull(<1% bright); fresh SANDSTONE, fine grained, grey, silty in part feldspathic- quartzose; fresh COAL UNDIFF., black, dull, minor bright bands(>1%); fresh SANDSTONE, fine grained, grey, abundant quartz veined fragments; fresh COAL UNDIFF., black, dull(<1% bright); fresh SANDSTONE, fine grained, grey, lithic-quartz; fresh		My My My My	





SANDSTONE, very fine-fine grained, grey, lithic; fresh



with STONY COAL 10%, dark grey black, dull (<1% bright); intermixed with SANDSTONE 10%, fine grained, grey light grey, lithofeldspathic sandy rare carbonaceous; fresh

c		Vumber	olow (Log		Geophysical Tr	races	
Formation	Seam	Sample Number	Depth below Collar(m)	Graphic Log	DESCRIPTION	GAMMA api 20 120 120	Compensated Compensated	Limestone Neutron
			542		CARBONACEOUS SILTSTONE 80%, dark brown, sandy in part rare coaly; intermixed with STONY COAL 10%, dark grey black, dull (<1% bright); intermixed with SANDSTONE 10%, fine grained, grey light grey, lithofeldspathic sandy rare carbonaceous; fresh		\\	3
			545 546 547 548 548,39549 549,33 550 551		SANDSTONE 60%, fine grained, grey brown, litho-feldspathic sandy rare coal,banded; intermixed with CARBONACEOUS SILTSTONE 40%, dark grey black, dull, tends to stony coaly in part; fresh COAL UNDIFF., black, dull, minor bright bands(>1%); fresh SANDSTONE, fine grained, grey, lithic; fresh COAL UNDIFF., black, dull(<1% bright); fresh COAL UNDIFF., black, dull(<1% bright); intermixed with SILTSTONE 10%, dark brown		J. May J.	
		005DA_DE	553		dark grey, coal,banded throughout rare sandy; fresh SANDSTONE 60%, fine grained, dark grey,			
			557		SANDSTONE 0-0%, line grained, dark grey, lithic sandy occasional coal,banded; intermixed with CARBONACEOUS SILTSTONE 40%, dark brown black, rare coaly fragments; fresh			
			560		SANDSTONE 90%, fine grained, grey dark grey, lithic sandy; intermixed with SILTSTONE 10%, dark brown dark grey, rare coal,banded fragments; fresh			

c		Vumber	elow)	Log		Geophysical Tr	aces	
Formation	Seam	Sample Number	Depth below Collar(m)	Graphic Log	DESCRIPTION	GAMMA api 22 00 12 12 00 12	Compensated	Limestone Neutron
FC	98	O06DA_DB	566		SANDSTONE 90%, fine grained, grey dark grey, lithic sandy; intermixed with SILTSTONE 10%, dark brown dark grey, rare coal, banded fragments; fresh COAL UNDIFF., black, dull(<1% bright); fresh bands(>1%); fresh	50	0.5 1.5 2.5 2.5	0.3
					COAL UNDIFF., black, dull(<1% bright); fresh CARBONACEOUS SILTSTONE, dark brown; fresh			

c		Jumber	wol	bo-		Geophysical T	races	
Formation	Seam	Sample Number	Depth below Collar(m)	Graphic Log	DESCRIPTION	GAMMA api	Compensated	Limestone Neutron
			588		SANDSTONE 40%, fine grained, grey dark grey, lithic sandy occasional coal,banded; intermixed with SILTSTONE 30%, dark grey brown, stringers of coal; intermixed with CARBONACEOUS SILTSTONE 30%, dark brown black, occasional coaly fragments; fresh			
			593		SANDSTONE 80%, fine grained, grey light grey, feldspathic occasional quartzose; intermixed with CARBONACEOUS SILTSTONE 20%, dark brown black, rare coaly fragments; fresh			
			596		SANDSTONE 70%, fine grained, grey light grey, lithic sandy O clayey; intermixed with SILTSTONE 30%, dark grey brown, rare coal,banded fragments; fresh			
			599					
			602					
			606		SANDSTONE 90%, fine grained, grey dark grey, litho- feldspathic sandy; intermixed with SILTSTONE 10%, dark grey brown, rare coal, banded occasional sandy; fresh			
			608					

		Jumper	low	bo-		Geophysical Tr	aces	
Formation	Seam	Sample Number	Depth below Collar(m)	Graphic Log	DESCRIPTION	GAMMA api	Compensated	Limestone Neutron
			633		SANDSTONE 70%, fine-medium grained, whitish grey, lithic sandy sithy in part; intermixed with SILTSTONE 30%, dark grey, micaceous in part; fresh COAL UNDIFF., black, dull(<1% bright); fresh SANDSTONE 80%, fine-medium grained, whitish grey, lithic sandy; intermixed with COAL UNDIFF. 20%, black, tending to inferior in part dull(<1% bright); fresh COAL UNDIFF., black, dull(<1% bright); fresh SANDSTONE, fine-medium grained, whitish grey, lithic; fresh COAL UNDIFF., black, dull(<1% bright); fresh CARBONACEOUS SILTSTONE, brownish black, tending to inferior in part; fresh COAL UNDIFF., black, dull, minor bright bands(>1%); fresh CARBONACEOUS SILTSTONE, brownish black; fresh COAL UNDIFF., black, dull, minor bright bands(>1%); fresh CARBONACEOUS SILTSTONE, brownish black; fresh COAL UNDIFF., black, dull, minor bright bands(>1%); fresh CARBONACEOUS SILTSTONE, brownish black; fresh COAL UNDIFF., black, dull, minor bright bands(>1%); fresh CARBONACEOUS SILTSTONE, brownish black; fresh COAL UNDIFF., black, dull, minor bright bands(>1%); fresh CARBONACEOUS SILTSTONE, brownish black; fresh COAL UNDIFF., black, dull, minor bright bands(>1%); fresh CARBONACEOUS SILTSTONE, brownish black; fresh CARBONACEOUS SILTSTONE 60%, brownish black, tending to inferior in part dull (<1% bright); intermixed with SANDSTONE 30%, fine-medium grained, whitish grey, lithic; with COAL UNDIFF. 10%, black, shaly in part; fresh SANDSTONE 80%, fine grained, whitish grey, lithic silty throughout; intermixed with SILTSTONE 10%, bark, dark grey, occasional carbonaceous siltstone in part carbonaceous laminations; fresh SANDSTONE, fine grained, whitish grey, lithic silty in part; intermixed with SILTSTONE 10%, dark grey, occasional carbonaceous laminations; fresh			

Ē		Vumber	wole (Log		Geophysical Tr	races	
Formation	Seam	Sample Number	© Depth below Collar(m)	Graphic Log	DESCRIPTION	GAMMA api	Compensated Compensated	Limestone Neutron
			656		SANDSTONE 60%, fine-medium grained, whitish grey, lithic; intermixed with SILTSTONE 40%, dark grey, sandy laminations; fresh SANDSTONE 70%, fine-medium grained, whitish grey, lithic sitly; intermixed with SILTSTONE 30%, dark grey, carbonaceous siltstone in part sandy; fresh			
			658		COAL UNDIFF., black, dull(<1% bright); fresh SANDSTONE 70%, fine grained, whitish grey, lithic silty throughout; intermixed with SILTSTONE 30%, dark grey, carbonaceous siltstone in part carbonaceous laminations; fresh			
			662		SANDSTONE 80%, fine grained, grey, lithic carbonaceous fragments; intermixed with SILTSTONE 20%, dark grey, micaceous in part; fresh COAL UNDIFF., black, dull(<1% bright) stony			
			665		in part; fresh SILTSTONE 60%, micaceous in part sandy; intermixed with SANDSTONE 40%, fine grained, whitish grey, lithic; fresh			
			669 670 671		SANDSTONE 80%, fine grained, whitish grey, lithic silty; intermixed with SILTSTONE 20%, dark grey, micaceous in part; fresh			
			672	V () () () ()	SILTSTONE 60%, dark grey, micaceous carbonaceous laminations; intermixed with SANDSTONE 40%, fine grained, whitish grey, lithic silty in part; fresh			
			676		SANDSTONE 50%, fine grained, grey, lithic silty in part; intermixed with SILTSTONE 30%, dark grey, carbonaceous siltstone in part carbonaceous laminations; with COAL UNDIFF. 20%, black, tending to inferior in part dull(<1% bright); fresh			

ڌ		Vumber	elow (Log		Geophysical Tr	races	
Formation	Seam	Sample Number	Depth below Collar(m)	Graphic Log	DESCRIPTION	GAMMA api	Compensated	Limestone Neutron
	0,	- 0,	<u> </u>		SANDSTONE 50%, fine grained, grey, lithic	15(0 0 0	0 0 0
			678		silty in part; intermixed with SILTSTONE 30%, dark grey, carbonaceous siltstone in part carbonaceous laminations; with COAL UNDIFF. 20%, black, tending to inferior in part dull(<1% bright); fresh SANDSTONE 70%, fine grained, whitish grey, lithic; intermixed with SILTSTONE 30%, dark grey, carbonaceous laminations sandy; fresh SILTSTONE 50%, dark grey, sandy in part carbonaceous fragments; intermixed with SANDSTONE 50%, fine grained, grey, lithic- quartz coaly laminations; fresh			
			685		SANDSTONE 70%, very fine-fine grained, grey, lithic; intermixed with SILTSTONE 30%, dark grey, sandy laminations; fresh			
			688		SANDSTONE 80%, very fine-fine grained, whitish grey, lithic; intermixed with SILTSTONE 20%, brownish grey, sandy in part carbonaceous siltstone in part; fresh		M	
			692	HENNEN HENNEN HENNEN	SANDSTONE 50%, fine grained, whitish grey, lithic; intermixed with SILTSTONE 30%, dark grey, carbonaceous laminations sandy in part; with COAL UNDIFF. 20%, black, tending to inferior in part dull, minor bright bands(>1%); fresh			
			695		SANDSTONE 60%, fine grained, light grey, lithic occasional carbonaceous wisps; intermixed with SILTSTONE 40%, dark grey, sandy in part carbonaceous laminations; fresh			
			698		SANDSTONE 90%, fine-medium grained, whitish grey, lithic; intermixed with SILTSTONE 10%, dark grey, sandy in part; fresh SANDSTONE 70%, fine grained, whitish grey, lithic; intermixed with SILTSTONE 20%,			

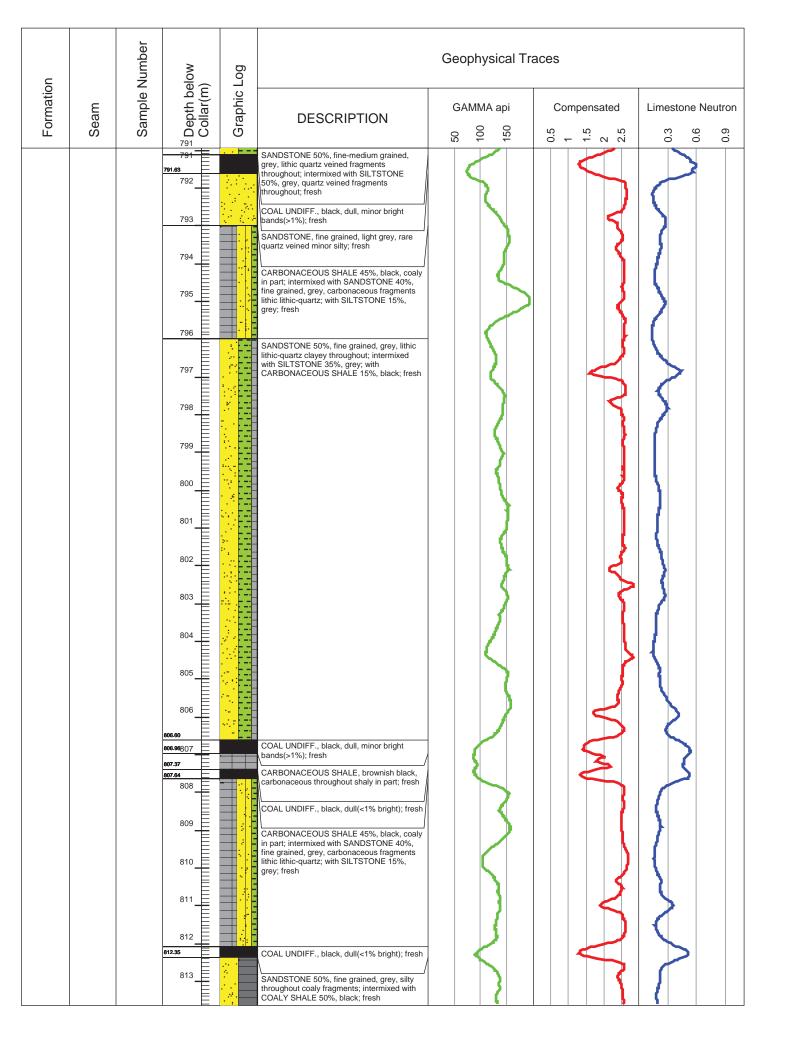
grey, lithic; intermixed with SILTSTONE 20%, dark grey, carbonaceous siltstone in part sandy; with COAL UNDIFF. 10%, black, tending to inferior in part dull(<1% bright); fresh

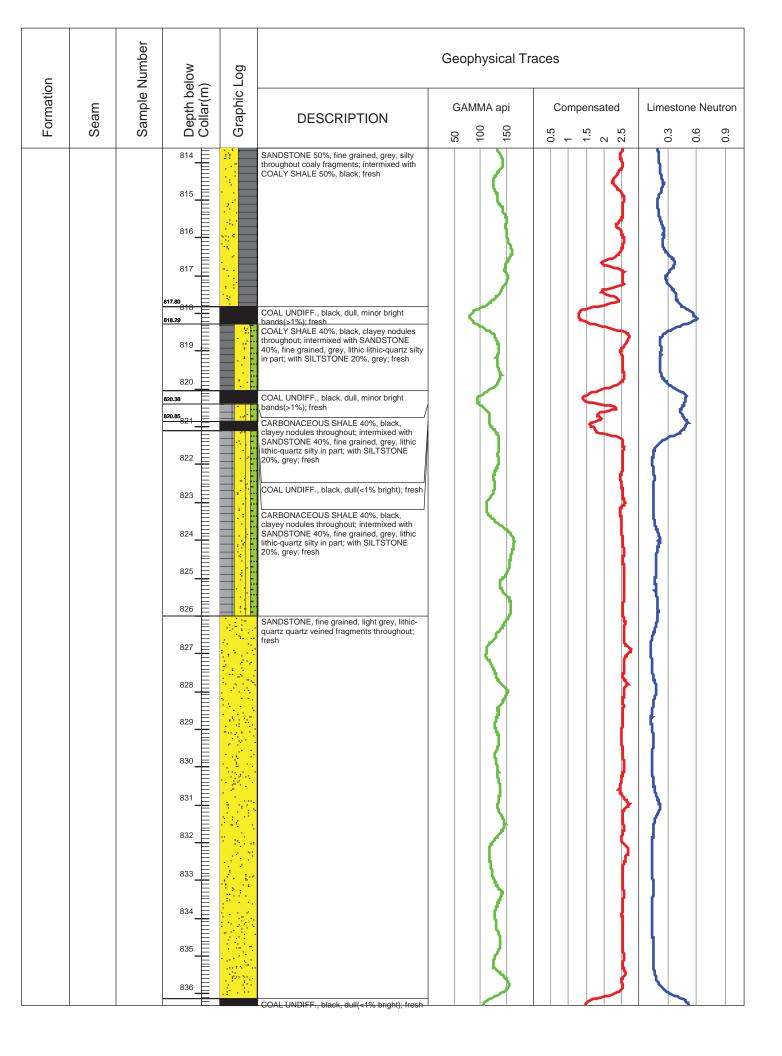
Ë		Number	wole (Log		Geophysical Tr	races	
Formation	Seam	Sample Number	Depth below Collar(m)	Graphic Log	DESCRIPTION	GAMMA api	Compensated	Limestone Neutron
			701		SANDSTONE 70%, fine grained, whitish grey, lithic; intermixed with SILTSTONE 20%, dark grey, carbonaceous siltstone in part sandy; with COAL UNDIFF. 10%, black, tending to inferior in part dull(<1% bright); fresh			
			704		SANDSTONE 60%, fine grained, whitish grey, lithic silty; intermixed with SILTSTONE 20%, dark grey, carbonaceous siltstone in part carbonaceous laminations; with COAL UNDIFF. 20%, black, stony in part dull(<1% bright); fresh			\\
			707		SILTSTONE 50%, dark grey, micaceous in part laminations; intermixed with SANDSTONE 40%, fine grained, whitish grey, lithic; with COAL UNDIFF. 10%, black, dull(<1% bright); fresh			
			709.66		COAL UNDIFF., black, dull(<1% bright); fresh SANDSTONE 50%, fine grained, whitish			
		007DA_DB	711		grey, lithic; intermixed with SILTSTONE 40%, brownish grey, carbonaceous siltstone in part; with COAL UNDIFF. 10%, black, dull (<1% bright); fresh		$\left\{ \left\{ \right\} \right\}$	S
			712				<u> </u>	
			714		SILTSTONE 50%, dark grey, sandy laminations micaceous; intermixed with SANDSTONE 50%, grey, lithic tuffaceous feldspathic- quartzose; fresh	1		
			715					
			716		SANDSTONE 70%, fine grained, whitish grey, lithic; intermixed with SILTSTONE 30%, dark grey, micaceous in part carbonaceous laminations; fresh			$ \rangle$
			718				}	(
			Ī					
					SILTSTONE 60%, dark grey, carbonaceous laminations; intermixed with SANDSTONE 30%, very fine-fine grained, light grey, lithic silty throughout shaly; with STONY COAL 10%, block stony duff-41% bright; freeb			
			721		10%, black, stony dull(<1% bright); fresh			

c		Number	low	Fog		Geophysical T	races	
Formation	Seam	Sample Number	≅ Depth below Collar(m)	Graphic Log	DESCRIPTION	GAMMA api	Compensated	Limestone Neutron
		008DA_DB	724		SILTSTONE 60%, dark grey, carbonaceous laminations; intermixed with SANDSTONE 30%, very fine-fine grained, light grey, lithic silty throughout shaly; with STONY COAL 10%, black, stony dull(<1% bright); fresh SILTSTONE 50%, dark grey, carbonaceous siltstone in part carbonaceous laminations; intermixed with SANDSTONE 30%, very fine-fine grained, whitish grey, carbonaceous wisps lithic shaly; with STONY COAL 20%, black, stony dull(<1% bright); fresh COAL UNDIFF., black, stony in part dull(<1% bright); fresh SANDSTONE, very fine-fine grained, whitish grey, carbonaceous wisps; fresh SANDSTONE, very fine-fine grained, whitish grey, lithic; intermixed with CARBONACEOUS SHALE 40%, black; with COAL UNDIFF. 10%, black, dull, minor bright bands(>1%); fresh COAL UNDIFF., black, dull(<1% bright); fresh COAL UNDIFF., black, dull(<1% bright); fresh COAL UNDIFF. black, dull(<1% bright); fresh COAL UNDIFF. black, dull(<1% bright); fresh SANDSTONE 40%, very fine-fine grained, whitish grey, lithic silty; intermixed with CARBONACEOUS SHALE 30%, black, shaly laminations; with STONY COAL 30%, black, shaly in part dull(<1% bright); fresh SANDSTONE 60%, fine grained, grey, lithic; intermixed with SILTSTONE 30%, brownish grey, carbonaceous siltstone in part; with CARBONACEOUS SHALE 10%, black, coaly in part; fresh COAL UNDIFF., black, dull, minor bright bands(>1%). fresh SANDSTONE 90%, very fine-fine grained, light grey, lithic; intermixed with SILTSTONE 10%, dark grey, laminations sandy in part; fresh COAL UNDIFF., black, dull(<1% bright); fresh COAL UNDIFF., black, dull(<1% bright); fresh COAL UNDIFF., black, dull(<1% bright); fresh			

c		Vumber	olow (Log		Geophysical T	races	
Formation	Seam	Sample Number	Depth below Collar(m)	Graphic Log	DESCRIPTION	GAMMA api	Compensated	Limestone Neutron
			746 747 748 749 750		SILTSTONE 60%, brownish grey, rare carbonaceous siltstone; intermixed with SANDSTONE 40%, whitish grey, lithic; fresh SANDSTONE 90%, fine-medium grained, whitish grey, lithic; intermixed with SILTSTONE 10%, dark grey, sandy in part laminations; fresh			
			751		SANDSTONE 80%, fine-medium grained, whitish grey, lithic; intermixed with SILTSTONE 20%, dark grey, sandy carbonaceous laminations; fresh SANDSTONE 70%, fine-medium grained,			
			754		whitish grey, lithic; intermixed with SILTSTONE 30%, dark grey, sandy in part; fresh			
			760 ————————————————————————————————————	をは、大きのでは、	SANDSTONE 90%, fine grained, whitish grey, lithic; intermixed with SILTSTONE 10%, brownish dark grey, rare carbonaceous siltstone; fresh COAL UNDIFF., black, dull, minor bright bands(>1%); fresh SANDSTONE 90%, fine grained, whitish grey, lithic; intermixed with COAL UNDIFF. 10%, black, stony in part dull, minor bright bands(>1%); fresh			
			764		COAL UNDIFF., black, dull, minor bright bands(>1%); fresh SANDSTONE, fine grained, whitish grey, lithic; fresh COAL UNDIFF., black, dull(<1% bright) stony in part; fresh			
					SANDSTONE, fine grained, whitish grey, lithic; fresh COAL UNDIFF., black, dull(<1% bright); fresh			

c		Jumber	low	bo-		Geophysical Tr	races	
Formation	Seam	Sample Number	Depth below Collar(m)	Graphic Log	DESCRIPTION	GAMMA api 20 120 120	Compensated	Limestone Neutron
			769		SANDSTONE 70%, fine grained, whitish grey, lithic; intermixed with CARBONACEOUS SHALE 30%, brownish black, coaly in part carbonaceous laminations; fresh COAL UNDIFF., black, dull, minor bright bands(-1%); fresh CARBONACEOUS SHALE 50%, black, coaly in part dull(-1% bright); intermixed with COAL UNDIFF. 30%, black, dull, minor bright bands (>1%); with SANDSTONE 20%, fine grained, whitish grey, abundant carbonaceous laminations; fresh CARBONACEOUS SILTSTONE 40%, brownish black, abundant carbonaceous laminations; intermixed with COAL UNDIFF. 30%, black, dull, minor bright bands (>1%); with SANDSTONE 30%, fine grained, light grey, lithic; fresh SANDSTONE 80%, fine grained, whitish grey, lithic; intermixed with SILTSTONE 20%, dark grey, occasional carbonaceous siltstone; fresh SANDSTONE 60%, dark grey grey, occasional carbonaceous siltstone; intermixed with SANDSTONE 40%, fine grained, whitish grey, lithic; fresh SANDSTONE 70%, fine grained, whitish grey, lithic; fresh grained, whitish grey, lithic; fresh			



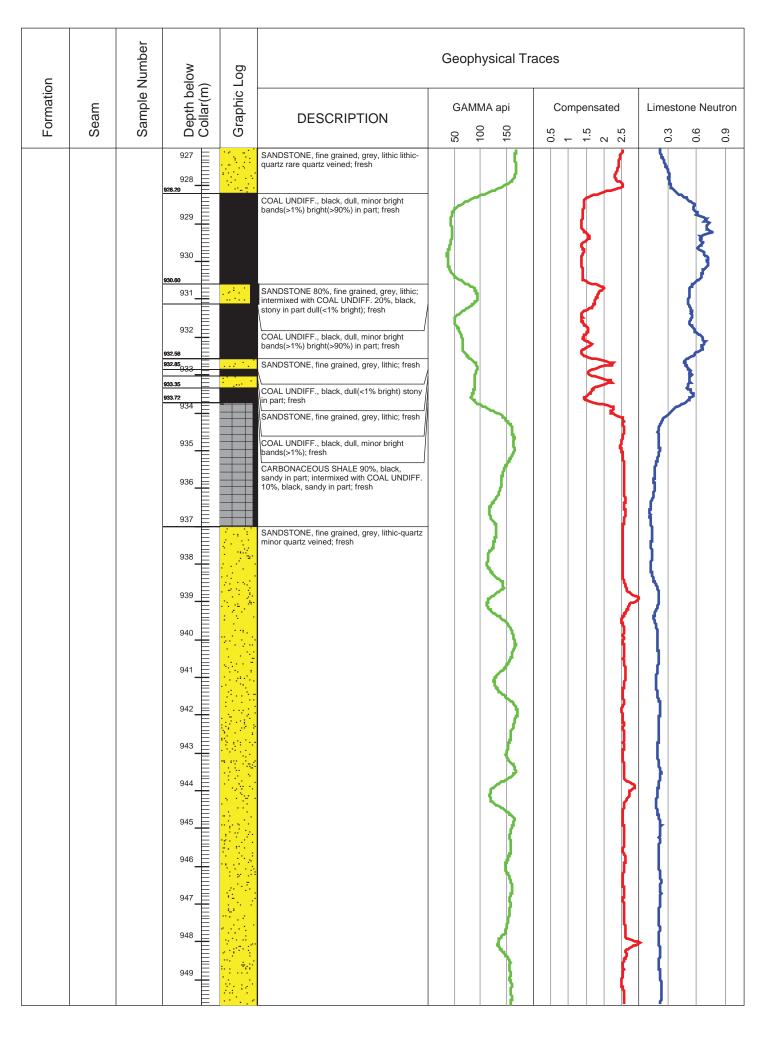


c		Jumber	wol	bo-		Geophysical Tr	races	
Formation	Seam	Sample Number	Depth below Collar(m)	Graphic Log	DESCRIPTION	GAMMA api	Compensated	Limestone Neutron
			837.75 837.96838 839 840 841 841 844 845 8445 8446 8447 8448 8449 850 851 851		COAL UNDIFF., black, dull(<1% bright); fresh SANDSTONE, fine grained, light grey, lithic- quartz quartz veined fragments throughout; fresh COAL UNDIFF., black, dull(<1% bright); fresh COALY SHALE 60%, black; intermixed with SANDSTONE 40%, fine grained, grey black, coaly fragments throughout; fresh SANDSTONE, fine grained, grey, lithic-quartz minor quartz veined fragments; fresh SANDSTONE, fine grained, grey, minor quartz veined silty in part lithic-quartz; fresh SANDSTONE, fine grained, light grey, lithic- quartz lithic minor quartz veined; fresh			
			856					

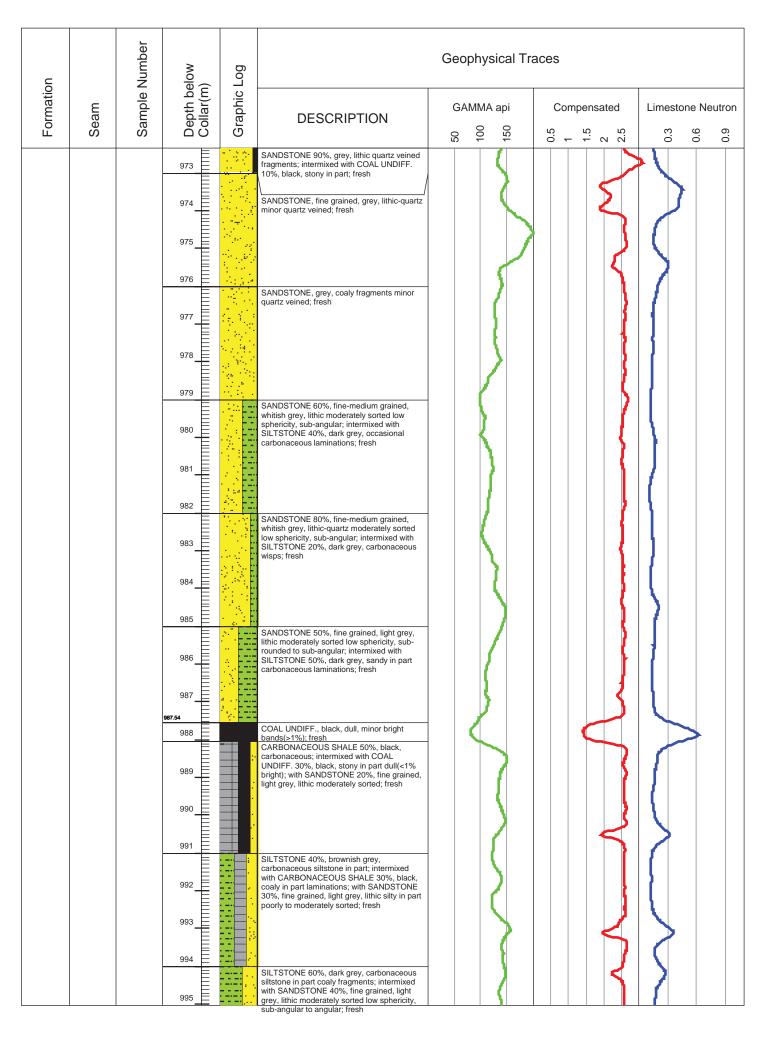
c		Jumber	wo	bo-		Geophysical Tr	aces	
Formation	Seam	Sample Number	©Depth below Collar(m)	Graphic Log	DESCRIPTION	GAMMA api	Compensated	Limestone Neutron
			860.44 860.98361 862 863 864 865 866 867 887.37 887.93868	が大き は 2000 mm である。	SANDSTONE, fine grained, light grey, lithic-quartz lithic minor quartz veined; fresh COAL UNDIFF., black, dull, minor bright bands(>1%); fresh SILTSTONE 50%, grey; intermixed with SANDSTONE 50%, fine grained, grey, lithic lithic-quartz coaly fragments; with CARBONACEOUS SHALE 20%, black, shaly in part; fresh COAL UNDIFF., black, dull(<1% bright); fresh SILTSTONE, dark grey; fresh COAL UNDIFF., black, dull(<1% bright); fresh SANDSTONE, fine grained, light grey, lithic-quartz quartz veined fragments in part; fresh			
			871		SANDSTONE 50%, fine grained, grey black, lithic coaly fragments throughout; intermixed with COALY SHALE 50%, black; fresh SANDSTONE 75%, fine grained, grey, lithic lithic-quartz; intermixed with COALY SHALE 25%, black; fresh SANDSTONE, very fine-fine grained, grey, lithic-quartz minor quartz veined fragments; fresh			
			879 879.45 880 881		COAL UNDIFF., black, dull, minor bright bands(>1%) bright(>90%) in part; fresh COALY SHALE 60%, black, sandy minor; intermixed with SILTSTONE 40%, grey, clayey nodules throughout; fresh			

		Jumper	low	go-		Geophysical Ti	races	
Formation	Seam	Sample Number	Depth below Collar(m)	Graphic Log	DESCRIPTION	GAMMA api	Compensated Compensated	Limestone Neutron
O L	ΘS .	Sa	882	But the second of the second o	COALY SHALE 60%, black, sandy minor; intermixed with SILTSTONE 40%, grey, clayey nodules throughout; fresh SANDSTONE 50%, fine grained, grey, lithic-quartz silty in part; intermixed with COALY SHALE 50%, black, silty in part; fresh SANDSTONE 90%, fine grained, light grey, lithic lithic-quartz; intermixed with SHALE 10%, black, fragments; fresh SANDSTONE, very fine-fine grained, light grey, quartz veined minor lithic-quartz; fresh SANDSTONE, fine grained, grey, minor quartz veined minor silty; fresh	50 100	0.5	0.0

Ē		Number	elow (Log		Geophysical Tr	aces	
Formation	Seam	Sample Number	Depth below Collar(m)	Graphic Log	DESCRIPTION	GAMMA api	Compensated	Limestone Neutron
			923	語の方式では、一直は、一直は、一直は、一直は、一直は、一直は、一直は、一直は、一直は、一直	SANDSTONE, fine grained, grey, minor quartz veined minor silty; fresh SANDSTONE 85%, fine grained, grey, quartz veined fragments throughout lithic-quartz; intermixed with SILTSTONE 15%, grey, quartz veined fragments throughout; fresh SANDSTONE, fine grained, grey, lithic lithic-quartz rare quartz veined; fresh			



c		Vumber	low	Fog		Geophysical Tr	races	
Formation	Seam	Sample Number	Depth below Collar(m)	Graphic Log	DESCRIPTION	GAMMA api 00 05 00 05	Compensated Compensated	Limestone Neutron
			950 951 952		SANDSTONE, fine grained, grey, lithic-quartz minor quartz veined; fresh	{		
			953 954 955 956 957	· · · · · · · · · · · · · · · · · · ·	SANDSTONE, fine grained, grey, lithic-quartz rare quartz veined; fresh			
			958		COAL UNDIFF., black, dull, minor bright bands(>1%) bright(>90%) in part; fresh SANDSTONE, fine grained, grey, lithic-quartz			
			959 959.23 959.67 959.90 ₉₆₀	er er er er	minor quartz veined; fresh COAL UNDIFF., black, dull, minor bright bands(>1%); fresh		5	7
			960.51	. 18. 1 . 18. 18	SANDSTONE, fine grained, grey, lithic-quartz minor quartz veined; fresh		3	
			961.70 962 962.76		COAL UNDIFF., black, dull, minor bright bands(>1%); fresh SANDSTONE, fine grained, grey, lithic-quartz minor quartz veined; fresh			
			964		COAL UNDIFF., black, dull, minor bright bands(>1%); fresh SANDSTONE, fine grained, grey; fresh			
			964.62 965		COAL UNDIFF., black, bright(>90%) in part; fresh		}	\
			966		SANDSTONE, fine grained, grey, lithic-quartz minor quartz veined; fresh			
			967.24 967.40		COAL UNDIFF., black, dull(<1% bright); fresh			
		010DA_DB	968		SANDSTONE 60%, fine grained, grey, lithic; intermixed with COAL UNDIFF. 40%, black, dull(<1% bright); fresh			
			971		SANDSTONE 90%, grey, lithic quartz veined fragments; intermixed with COAL UNDIFF. 10%, black, stony in part; fresh			
			972					



		lumber	wo	bo-		Geophysical Tr	races	
Formation	Seam	Sample Number	Depth below Collar(m)	Graphic Log	DESCRIPTION	GAMMA api	Compensated	Limestone Neutron
			995		SILTSTONE 60%, dark grey, carbonaceous siltstone in part coaly fragments; intermixed with SANDSTONE 40%, fine grained, light grey, lithic moderately sorted low sphericity, sub-angular to angular; fresh			
			1000		COAL UNDIFF., black, dull, minor bright bands(>1%); fresh SANDSTONE 50%, fine grained, light grey, lithic moderately sorted low sphericity, subangular to angular; intermixed with SILTSTONE 30%, dark grey, sandy laminations in part; with COAL UNDIFF. 20%, brownish black, tending to inferior in part laminations; fresh			
			1003		SANDSTONE 60%, fine grained, light grey, lithic moderately sorted low sphericity, subangular; intermixed with COAL UNDIFF. 20%, black, pebbly in part dull, minor bright bands(>1%); with CARBONACEOUS SILTSTONE 20%, brownish black, shaly in part; fresh SANDSTONE 60%, very fine-fine grained, whitish grey, lithic moderately sorted low		}	
			1005		williast grey, inter into analys street low sphericity, sub-angular; intermixed with SILTSTONE 30%, brownish grey, carbonaceous siltstone in part; with COAL UNDIFF. 10%, black, stony pebbly in part; fresh SANDSTONE 50%, fine grained, light grey, lithic moderately sorted low sphericity, sub-			
			1007		rounded to sub-angular; intermixed with SILTSTONE 40%, dark grey, occasional carbonaceous siltstone; with COAL UNDIFF. 10%, black, occasional pebbly dull(<1% bright); fresh			
			1010		CARBONACEOUS SHALE 60%, brownish black, carbonaceous siltstone in part laminations; intermixed with COAL UNDIFF. 30%, black, dull, minor bright bands(>1%) stony in part; with SANDSTONE 10%, very fine-fine grained, light grey, lithic moderately sorted low sphericity, sub-angular; fresh			
			1012		SANDSTONE 80%, very fine-fine grained, whitish grey, lithic moderately sorted low sphericity, sub-angular silty; intermixed with SILTSTONE 20%, dark grey, occasional carbonaceous laminations; fresh		}	
			1014		SANDSTONE 80%, very fine-fine grained,			
			1016		whitish grey, lithic moderately sorted low sphericity, sub-angular silty; intermixed with SILTSTONE 20%, dark grey, occasional carbonaceous laminations; fresh			

DESCRIPTION DESCRIPTION DESCRIPTION GAMMA api Compensated Limestone Neutro Solidation of the state of t			Jumper	wo	bo-		Geophysical Tra	aces	
which draw, this member with intermined with conformation of the c	Formation	Seam	Sample Number	Depth below Collar(m)	Graphic Log	DESCRIPTION			Limestone Neutron
1039 1040 SANDSTONE 60%, fine grained, whitish	Form	Sear	Sam	1018		SANDSTONE 80%, very fine-fine grained, whitish grey, lithic moderately sorted low sphericity, sub-angular silty, intermixed with SILTSTONE 20%, dark grey, occasional carbonaceous laminations; fresh SILTSTONE 90%, dark grey, sandy in part carbonaceous siltsone in part; intermixed with SANDSTONE 20%, very fine-fine grained, whitish grey, lithic moderately sorted; fresh SILTSTONE 50%, dark grey, carbonaceous siltstone in part; intermixed with CARBONACEOUS SHALE 40%, black, coaly in part laminations; with SANDSTONE 10%, very fine-fine grained, whitish grey, lithic moderately sorted low sphericity, sub-angular; fresh SANDSTONE 60%, fine grained, whitish grey, lithic moderately sorted low sphericity, sub-rounded to sub-angular; intermixed with SANDSTONE 40%, dark grey, micaceous in part; fresh SILTSTONE 60%, fine grained, whitish grey, lithic moderately sorted low sphericity, sub-rounded to sub-angular; with CARBONACEOUS SHALE 10%, black, coaly in part laminations; fresh SANDSTONE 80%, fine grained, whitish grey, lithic moderately sorted low sphericity, sub-rounded to sub-angular; with CARBONACEOUS SHALE 10%, black, coaly in part; intermixed with SILTSTONE 20%, brownish grey, rare carbonaceous siltstone; fresh SANDSTONE 80%, fine grained, whitish grey, lithic poorly to moderately sorted low sphericity, sub-angular; intermixed with SILTSTONE 20%, brownish grey, rare carbonaceous siltstone; fresh SANDSTONE 80%, fine grained, whitish grey, lithic poorly to moderately sorted low sphericity, sub-angular; intermixed with SILTSTONE 20%, brownish grey, rare carbonaceous siltstone; fresh			

grey, clayey in part lithic poorly sorted; intermixed with SILTSTONE 40%, dark grey, rare carbonaceous laminations; fresh

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Formation	Seam	Sample Number	Depth below Collar(m)	Graphic Log	DESCRIPTION	GAMMA api	Compensated	Limestone Neutron
			1041 1042 1043 1044 1045		SANDSTONE 60%, fine grained, whitish grey, clayey in part lithic poorly sorted; intermixed with SILTSTONE 40%, dark grey, rare carbonaceous laminations; fresh			
			1047		SILTSTONE 60%, dark grey, micaceous in part; intermixed with SANDSTONE 30%, fine grained, whitish grey, clayey nodules lithic poorly to moderately sorted; with COAL UNDIFF. 10%, black, pebbly in part stony dull (<1% bright); fresh			
			1051		SANDSTONE 70%, fine grained, whitish grey, lithic moderately sorted low sphericity, sub-angular; intermixed with SILTSTONE 20%, brownish grey, micaceous in part carbonaceous fragments; with CARBONACEOUS SHALE 10%, black, coaly in part laminations; fresh			
			1054		SANDSTONE 60%, fine grained, whitish grey, lithic moderately sorted low sphericity, sub-angular clayey; intermixed with SILTSTONE 30%, brownish dark grey, micaceous in part carbonaceous fragments; with CARBONACEOUS SHALE 10%, black, coaly in part laminations; fresh			
			1056		COAL UNDIFF., black, dull(<1% bright); fresh /			
			1058		SILTSTONE 60%, brownish dark grey, carbonaceous laminations in part; intermixed with COAL UNDIFF. 10%, black, dull, minor bright bands(>1%) in part; with SANDSTONE 30%, whitish grey, lithic moderately sorted low sphericity, sub-angular; fresh			
			1061		SANDSTONE, fine grained, whitish grey, lithic-quartz poorly to moderately sorted clayey nodules; fresh SANDSTONE, fine grained, whitish grey, lithic quartz poorly to moderately control.			
			1063		lithic-quartz poorly to moderately sorted clayey nodules; fresh			

		Jumber	wol	bo-		Geophysical Tr	races	
Formation	Seam	Sample Number	Depth below Collar(m)	Graphic Log	DESCRIPTION	GAMMA api	Compensated Compensated	Limestone Neutron
			1064		SANDSTONE, fine grained, whitish grey, lithic-quartz poorly to moderately sorted clayey nodules; fresh		}	
			1066	S. S	SANDSTONE 60%, very fine-fine grained, whitish grey, lithic poorly to moderately sorted low sphericity, sub-angular, intermixed with SILTSTONE 30%, brownish dark grey, carbonaceous siltstone in part carbonaceous wisps; with COAL UNDIFF. 10%, black, dull (<1% bright); fresh			
					SANDSTONE 90%, whitish grey, lithic moderately sorted high sphericity, subrounded to sub-angular; intermixed with SILTSTONE 10%, dark grey; fresh			}
			1069					}
			 		SANDSTONE, whitish grey, lithic-quartz moderately to well sorted high sphericity, sub- rounded to sub-angular silty; fresh			}
			1072					}
			1075					
			1076		SANDSTONE, whitish grey, lithic-quartz moderately sorted coaly fragments; fresh	}		\
			1077				}	
					SANDSTONE, fine-medium grained, whitish			
			1079		grey, lithic-quartz moderately sorted high sphericity, sub-rounded to sub-angular silty; fresh			
			1079					$ \rangle$
					SANDSTONE 80%, fine grained, whitish grey, lithic clayey nodules poorly to moderately sorted; intermixed with SILTSTONE 20%, brownish dark grey, carbonaceous siltstone in part carbonaceous fragments; fresh			
			1082			\$		
			1085		SANDSTONE 60%, fine grained, whitish grey, lithic clayey in part; intermixed with SILTSTONE 40%, dark grey, occasional carbonaceous fragments; fresh	}	$\left \left \left \left \right \right \right \right $	$\left \left\{ \right \; \right \; \right $

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Formation	Seam	Sample Number	Depth below Collar(m)	Graphic Log	DESCRIPTION	GAMMA api 20 20 21	Compensated	Limestone Neutron
			1086 1087 1087.2		SANDSTONE 60%, fine grained, whitish grey, lithic clayey in part; intermixed with SILTSTONE 40%, dark grey, occasional carbonaceous fragments; fresh		3	
			1088		COAL UNDIFF., black, dull(<1% bright); fresh SILTSTONE 50%, dark grey, carbonaceous laminations in part micaceous; intermixed with SANDSTONE 50%, fine grained, whitish grey, lithic clayey nodules poorly sorted; fresh			
			1091.4		COAL UNDIFF., black, dull, minor bright bands(>1%); fresh SILTSTONE 70%, dark grey, carbonaceous siltstone in part; intermixed with SANDSTONE 30%, fine grained, whitish grey, lithic moderately sorted high sphericity, sub-angular; fresh			
			1094		SILTSTONE 60%, dark grey, carbonaceous siltstone in part sandy; intermixed with CARBONACEOUS SHALE 20%, black, coaly in part dull(<1% bright); with SANDSTONE 20%, fine grained, whitish grey, lithic abundant carbonaceous fragments; fresh			}
			.000		SANDSTONE 70%, fine grained, whitish			
			1097		grey, lithic abundant carbonaceous fragments; intermixed with SILTSTONE 30%, dark grey, rare carbonaceous siltstone; fresh			
			1100					
			1101		SILTSTONE 50%, brownish grey, occasional carbonaceous siltstone; intermixed with SANDSTONE 50%, fine grained, light grey, lithic; fresh			
			1102					
			1105					
			1106					
			1104					