

Waukivory 11

Project Gloucester Project
 Organization AGL LTD
 Site
 Hole Type Open hole

Easting 402419.02
 Northing 6452589.82
 Grid GDA-94
 Accuracy
 Datum Australian Height Datum

Collar 104.6
 Total Depth 1103
 Inclination 0
 Azimuth 0

Commenced 14/11/12
 Completed 24/11/12

Drilling Company
 Drill Rig Type

Plug Depth 0
 Logging Company GeoConsult Pty Ltd
 Logged By
 Encoded By
 Core Type
 Drill Bit Type

Cased Depth 0
 Casing Type
 Size of Casing 0
 Fluid
 Upper Standing Water Level 0 Lower 0
 Downhole Logging Company
 Lease PEL 258

- Gamma Log Neutron Log Density Log Bed Resolution Log Self Potential Log Resistivity Log Dip Log
- Caliper Log Sonic Log Photographed X Rayed Geotechnical Log

From	To	Description
14	17	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, strong, carbonaceous fragments
17	20	SILTSTONE 80%, dark grey brown, rare tuffaceous rare coaly; intermixed with SANDSTONE 20%, fine grained, light grey, lithic moderately sorted; slightly weathered, strong
20	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, strong, carbonaceous fragments
23	26	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, strong, clayey
26	29	SILTSTONE 90%, green grey, clayey throughout rare coal,banded; intermixed with SANDSTONE 10%, fine grained, light grey, lithic moderately sorted rare micaceous; fresh, moderately strong, clayey
29	35	SANDSTONE 60%, fine grained, light grey white, lithic moderately sorted; intermixed with SILTSTONE 40%, dark grey, clayey throughout; fresh, strong
35	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, strong, carbonaceous fragments

From	To	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

From	To	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%, dark grey grey, coal,banded in part rare shaly; fresh, strong, carbonaceous fragments
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 grained, grey brown, lithic poorly to moderately sorted silty in part; fresh, moderately strong, carbonaceous fragments
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 throughout; fresh, strong
145	148	SANDSTONE 80%, fine grained, grey green, lithic moderately sorted silty in part; intermixed with SILTSTONE 20%, dark brown grey, occasional coal,banded fragments; fresh, very strong, silty
148	151	SILTSTONE 70%, dark grey black, 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, moderately strong, carbonaceous fragments
151	154	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, strong
154	157	SANDSTONE 70%, fine grained, grey, lithic moderately sorted silty in part; intermixed with SILTSTONE 30%, dark grey brown, rare coal,banded; fresh, strong
157	160	SANDSTONE 90%, fine grained, grey dark grey, lithic moderately sorted rare micaceous; intermixed with SILTSTONE 10%, dark grey brown, rare shaly; fresh, strong
160	163.265	SANDSTONE 50%, fine grained, grey light grey, lithic moderately sorted; intermixed with SILTSTONE 50%, dark grey brown, rare coal,banded sandy in part; fresh, strong
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 coal,banded sandy in part; fresh, strong
166	175	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, strong
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, coaly fragments in part coal,banded; fresh, strong
184	187	SANDSTONE 90%, fine grained, grey, lithic moderately sorted occasional silty; intermixed with SILTSTONE 10%, dark grey brown, coaly fragments in part coal,banded; fresh, strong
187	193	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, strong

From	To	Description
193	196	CARBONACEOUS SILTSTONE 60%, dark brown black, coaly fragments dull(<1% bright); intermixed with SILTSTONE 40%, dark grey, sandy in part; fresh, weak
196	199	SANDSTONE 70%, fine grained, grey, lithic moderately sorted rare coal,banded; intermixed with SILTSTONE 20%, dark grey, occasional sandy; 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, sandy in part rare coaly; fresh, strong
202	208	SILTSTONE 50%, dark brown grey, rare coal,banded fragments; intermixed with SANDSTONE 50%, fine grained, dark grey, lithic feldspathic in part V1; fresh, strong, carbonaceous fragments
208	211	SILTSTONE 70%, dark grey, rare coal,banded fragments; intermixed with SANDSTONE 30%, fine grained, grey light grey, lithic fragments rare coal,banded; fresh, strong
211	214	SILTSTONE 80%, dark brown black, rare coaly fragments dull, tends to stony; intermixed with SANDSTONE 20%, dark grey, lithic silty in part; fresh, strong
214	223	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, strong, clayey, carbonaceous fragments
223	229	SANDSTONE 90%, fine grained, grey light grey, lithic sandy feldspathic in part; with SILTSTONE 10%, dark grey brown, rare coal,banded fragments sandy; fresh, strong
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
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, carbonaceous siltstone in part; fresh, moderately strong
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

From	To	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

From	To	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

From	To	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

From	To	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

From	To	Description
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

From	To	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

From	To	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

From	To	Description
691	694	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, moderately strong
694	697	SANDSTONE 60%, fine grained, light grey, lithic occasional carbonaceous wisps; intermixed with SILTSTONE 40%, dark grey, sandy in part carbonaceous laminations; fresh, moderately strong
697	700	SANDSTONE 90%, fine-medium grained, whitish grey, lithic; intermixed with SILTSTONE 10%, dark grey, sandy in part; fresh, moderately strong
700	703	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, moderately strong
703	706	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, moderately strong
706	709.21	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, strong
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 COAL UNDIFF. 10%, black, dull(<1% bright); fresh, moderately strong
713	716	SILTSTONE 50%, dark grey, sandy laminations micaceous; intermixed with SANDSTONE 50%, grey, lithic tuffaceous feldspathic- quartzose; fresh, strong
716	720	SANDSTONE 70%, fine grained, whitish grey, lithic; intermixed with SILTSTONE 30%, dark grey, micaceous in part carbonaceous laminations; fresh, moderately strong
720	723	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, strong
723	725.905	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, strong
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%, black, dull, minor bright bands(>1%); fresh, moderately strong
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 laminations; with STONY COAL 30%, black, shaly in part dull(<1% bright); fresh, moderately strong
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, laminations sandy in part; fresh, moderately strong

From	To	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

From	To	Description
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
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

From	To	Description
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

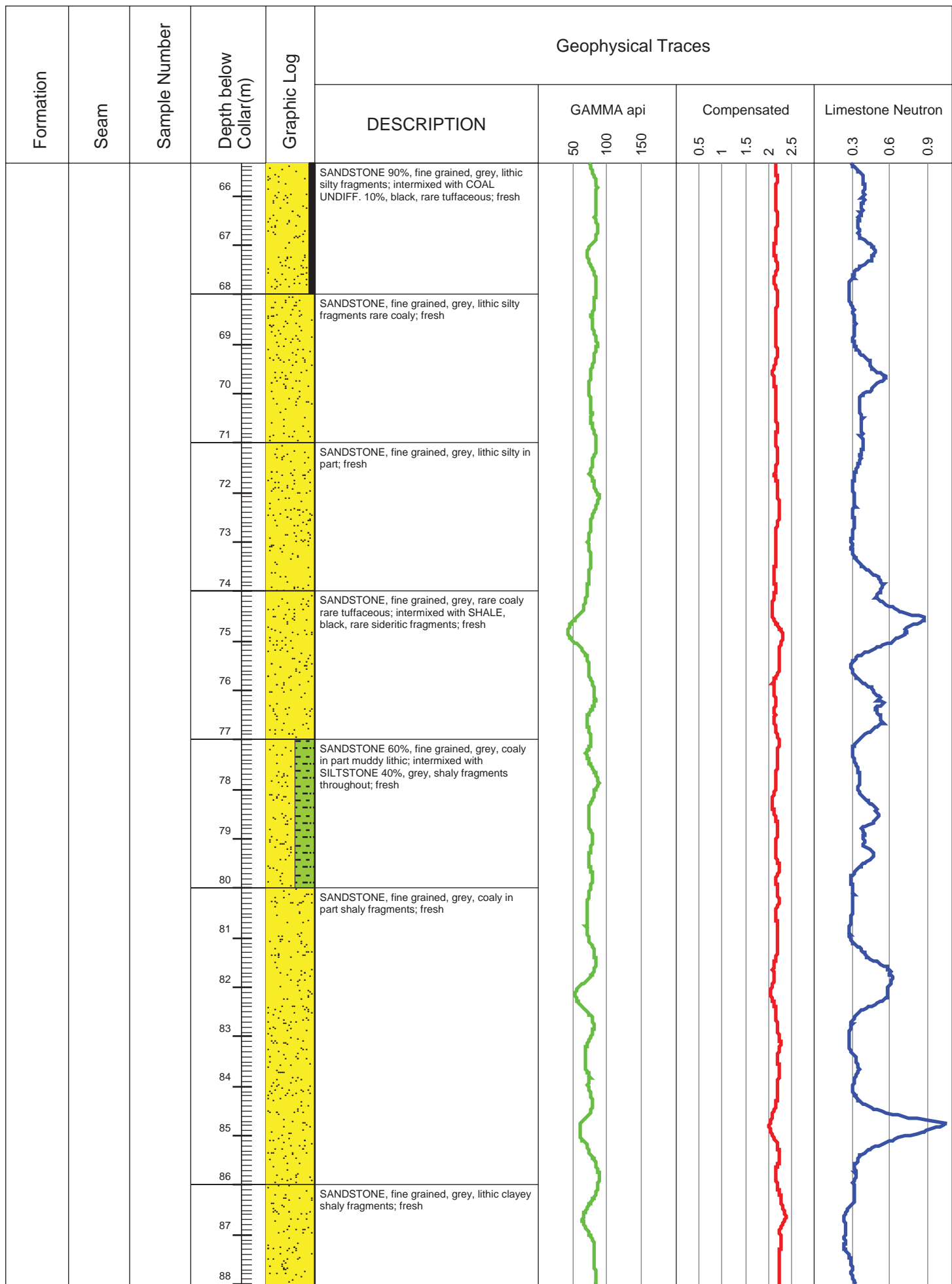
From	To	Description
933.728	937	CARBONACEOUS SHALE 90%, black, sandy in part; intermixed with COAL UNDIFF. 10%, black, sandy in part; fresh, weak
937	952	SANDSTONE, fine grained, grey, lithic-quartz minor quartz veined; fresh, moderately strong
952	957.491	SANDSTONE, fine grained, grey, lithic-quartz 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

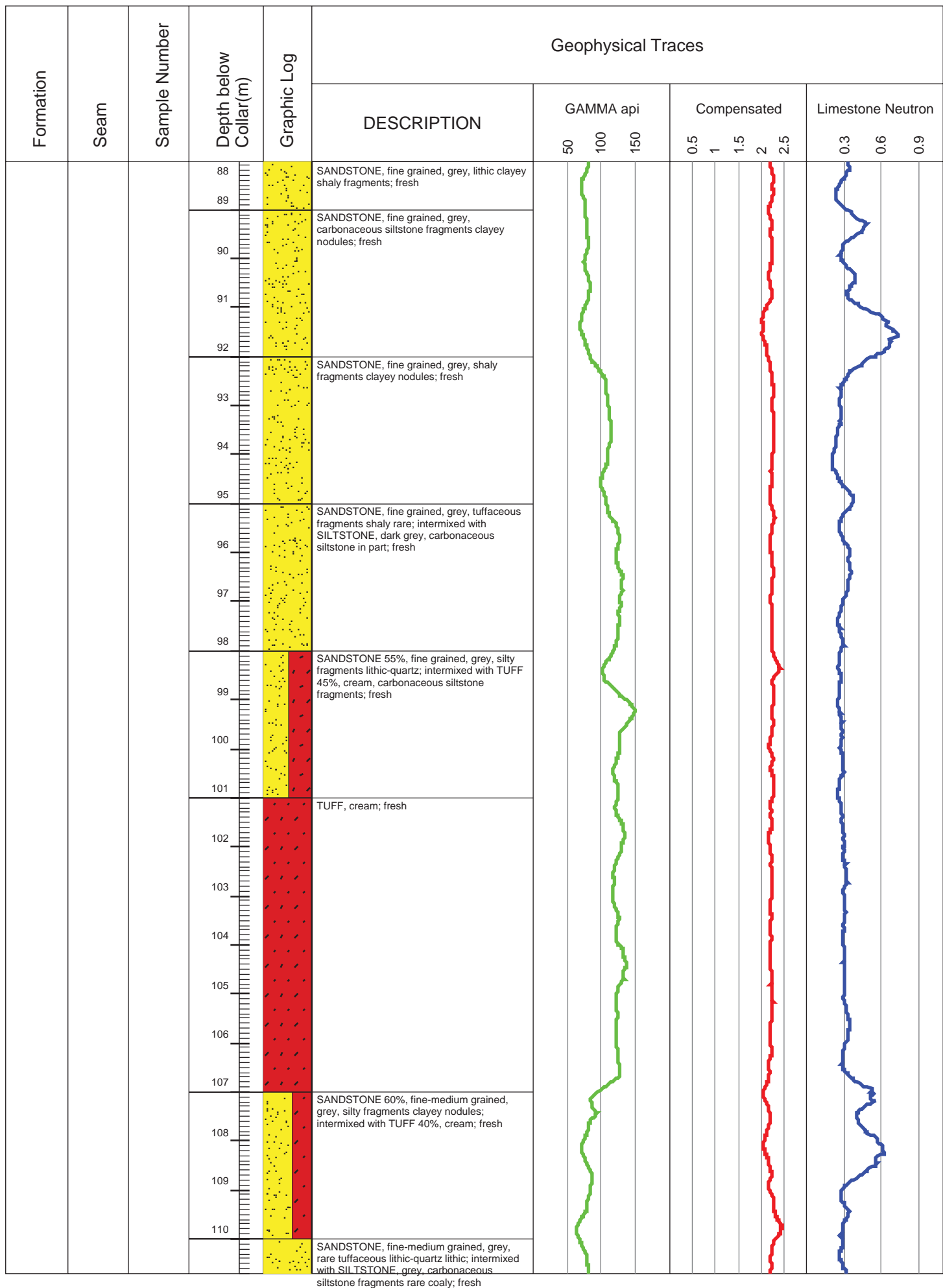
From	To	Description
998.557	998.92	COAL UNDIFF., black, dull, minor bright bands(>1%); fresh, weak
998.92	1000	SANDSTONE 50%, fine grained, light grey, lithic moderately sorted low sphericity, sub-angular to angular; intermixed with SILTSTONE 30%, dark grey, sandy laminations in part; with COAL UNDIFF. 20%, brownish black, tending to inferior in part laminations; fresh, moderately strong
1000	1003	SANDSTONE 60%, fine grained, light grey, lithic moderately sorted low sphericity, sub-angular; intermixed with COAL UNDIFF. 20%, black, pebbly in part dull, minor bright bands(>1%); with CARBONACEOUS SILTSTONE 20%, brownish black, shaly in part; fresh, moderately strong
1003	1006	SANDSTONE 60%, very fine-fine grained, whitish grey, lithic moderately sorted low sphericity, sub-angular; intermixed with SILTSTONE 30%, brownish grey, carbonaceous siltstone in part; with COAL UNDIFF. 10%, black, stony pebbly in part; fresh, moderately strong
1006	1009	SANDSTONE 50%, fine grained, light grey, lithic moderately sorted low sphericity, sub-rounded to sub-angular; intermixed with SILTSTONE 40%, dark grey, occasional carbonaceous siltstone; with COAL UNDIFF. 10%, black, occasional pebbly dull(<1% bright); fresh, moderately strong
1009	1012	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, strong
1012	1015	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, moderately strong
1015	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, moderately strong
1018	1021	SILTSTONE 90%, dark grey, sandy in part carbonaceous siltstone in part; intermixed with SANDSTONE 20%, very fine-fine grained, whitish grey, lithic moderately sorted; fresh, strong
1021	1024	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, strong
1024	1027	SANDSTONE 60%, fine grained, whitish grey, lithic moderately sorted low sphericity, sub-rounded to sub-angular; intermixed with SILTSTONE 40%, dark grey, micaceous in part; fresh, moderately strong
1027	1030	SILTSTONE 60%, dark grey, micaceous rare carbonaceous laminations; intermixed with SANDSTONE 30%, fine grained, whitish grey, lithic moderately sorted low sphericity, sub-rounded to sub-angular; with CARBONACEOUS SHALE 10%, black, coaly in part laminations; fresh, strong
1030	1034	SANDSTONE 80%, fine grained, whitish grey, lithic poorly to moderately sorted clayey in part; intermixed with SILTSTONE 20%, brownish grey, rare carbonaceous siltstone; fresh, moderately strong
1034	1036	SANDSTONE 60%, fine grained, whitish grey, lithic poorly to moderately sorted low sphericity, sub-angular; intermixed with SILTSTONE 30%, dark grey, sandy in part micaceous; with CARBONACEOUS SHALE 10%, black, coaly in part dull(<1% bright) laminations; fresh, moderately strong
1036	1040	SANDSTONE 80%, fine grained, whitish grey, lithic poorly to moderately sorted silty in part; intermixed with SILTSTONE 20%, dark grey, occasional laminations; fresh, moderately strong
1040	1046	SANDSTONE 60%, fine grained, whitish grey, clayey in part lithic poorly sorted; intermixed with SILTSTONE 40%, dark grey, rare carbonaceous laminations; fresh, moderately strong
1046	1050	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, strong

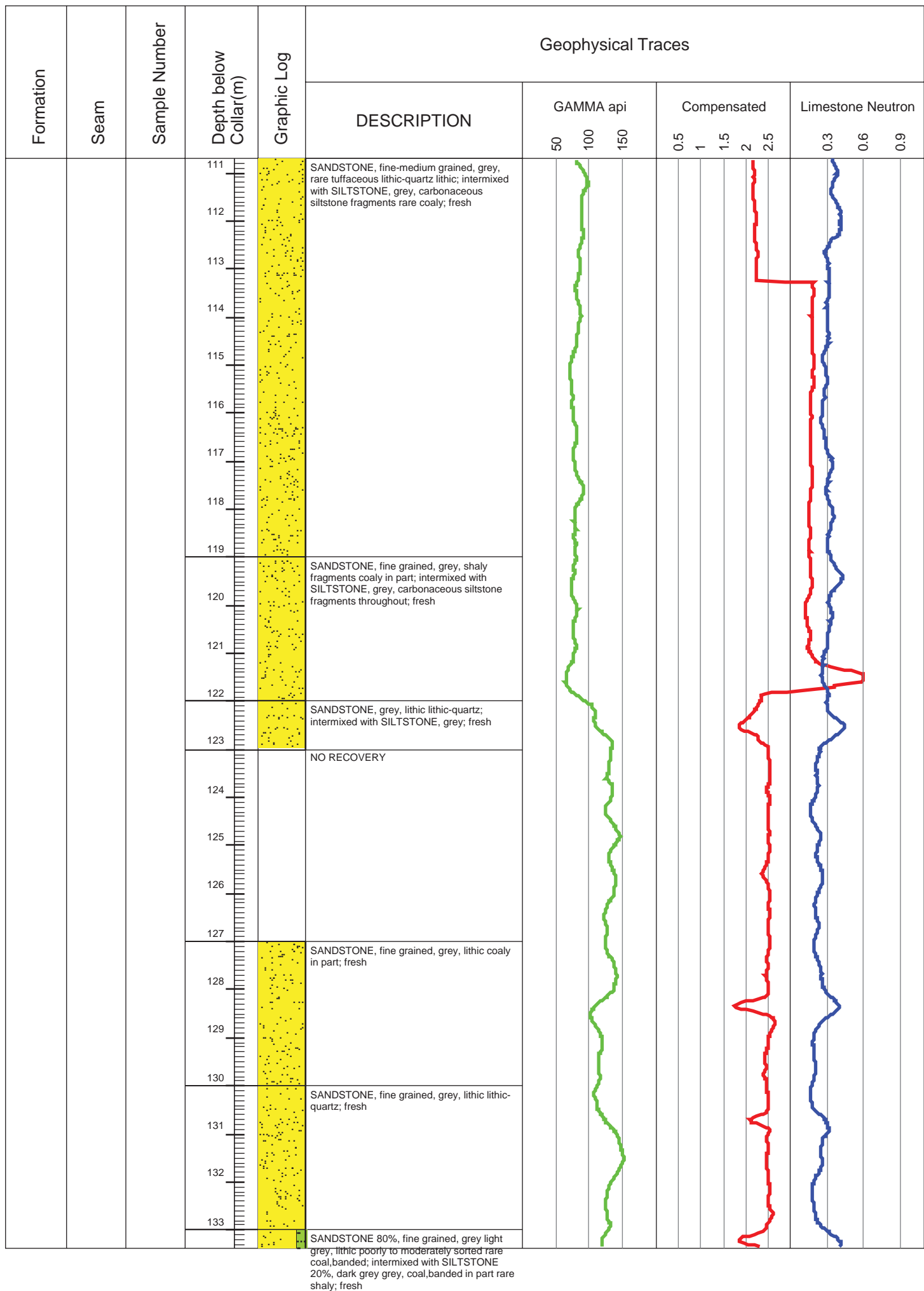
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1050	1053	SANDSTONE 70%, fine grained, whitish grey, lithic moderately sorted low sphericity, sub-angular; intermixed with SILTSTONE 20%, brownish grey, micaceous in part carbonaceous fragments; with CARBONACEOUS SHALE 10%, black, coaly in part laminations; fresh, moderately strong
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, moderately 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, moderately strong
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
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

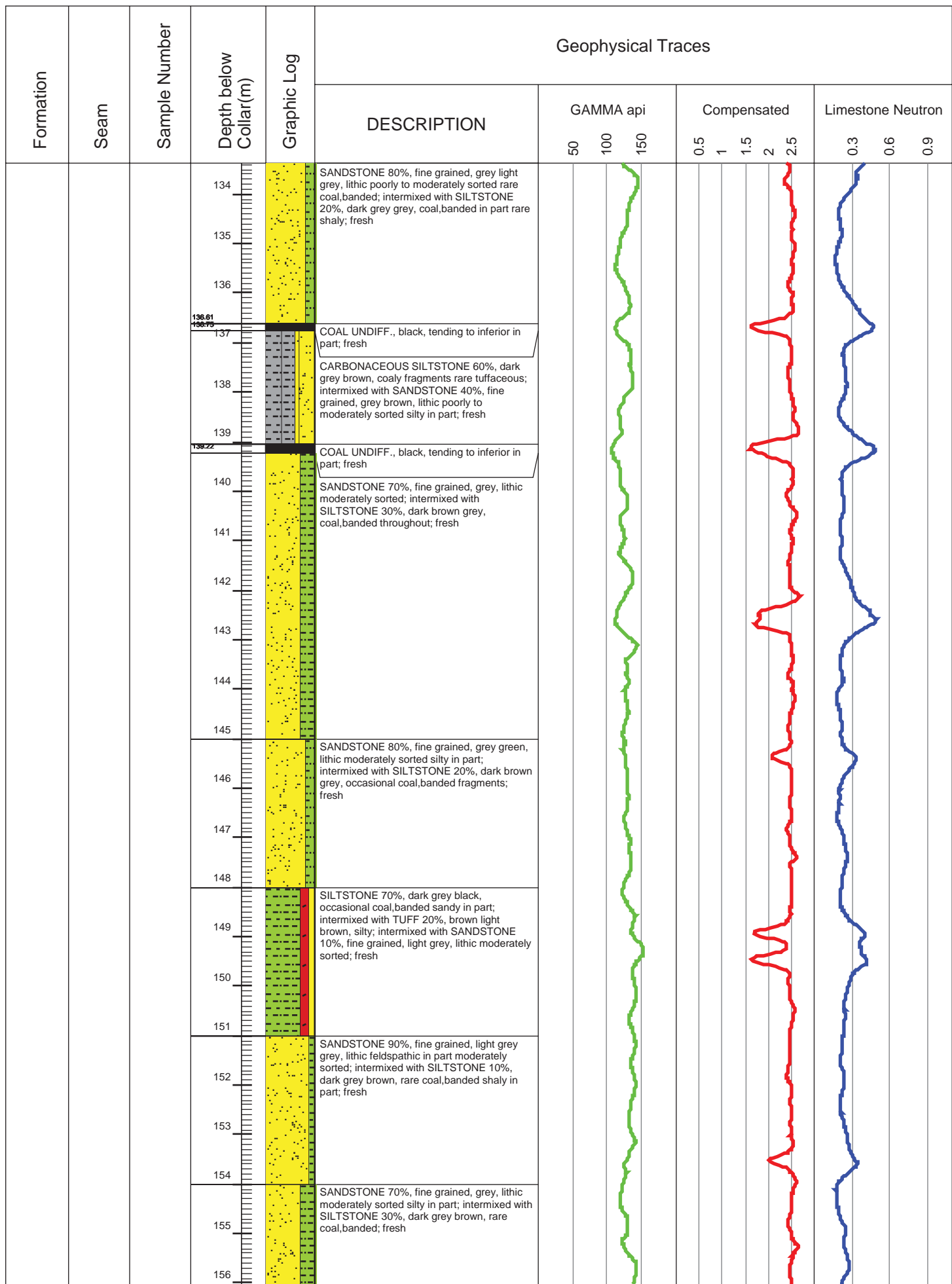
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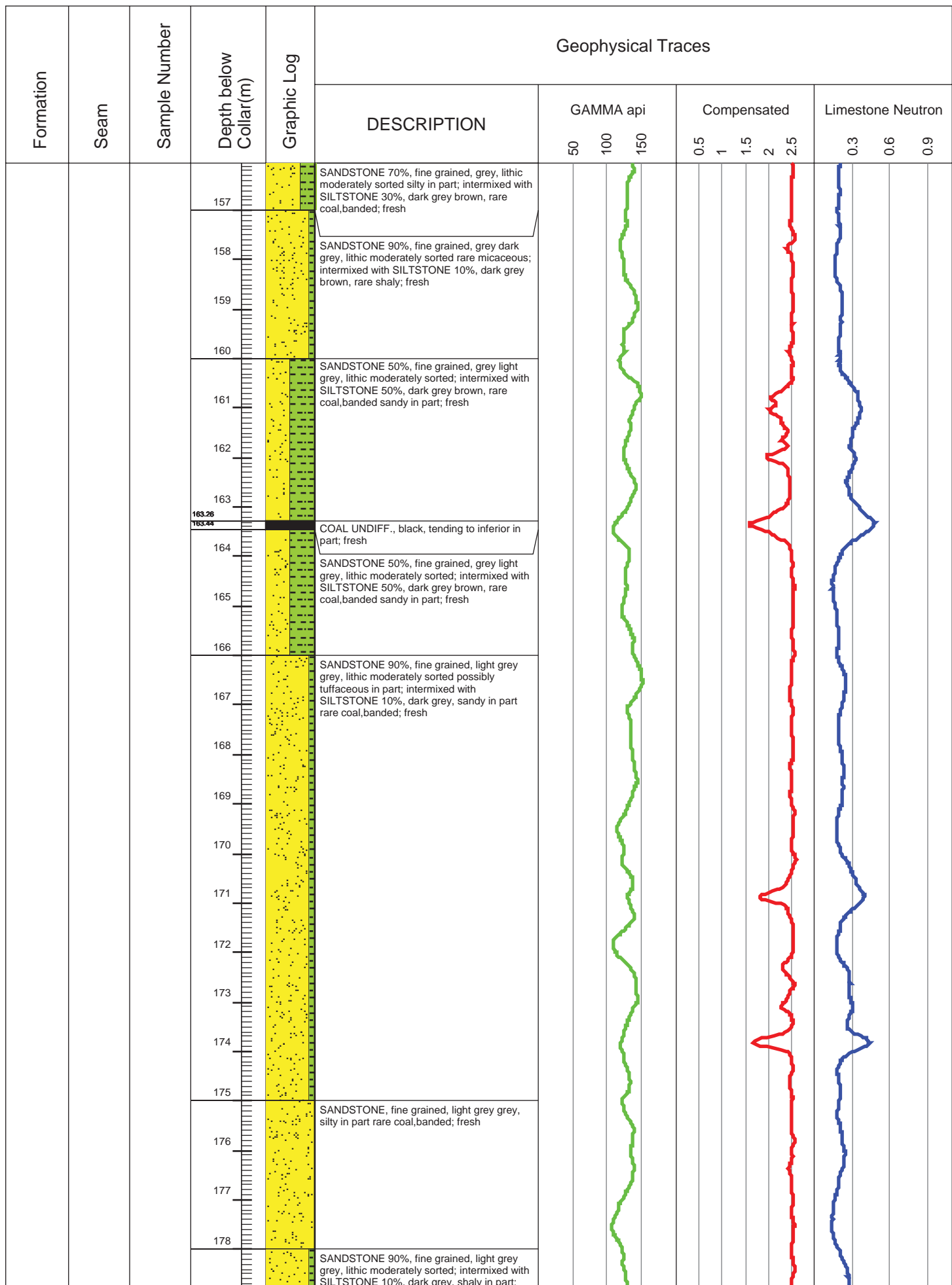
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