

# Waukivory 13

|              |           |          |                         |             |       |
|--------------|-----------|----------|-------------------------|-------------|-------|
| Project      | AGL       | Easting  | 402416.74               | Collar      | 100.3 |
| Organization |           | Northing | 6452164.46              | Total Depth | 1100  |
| Site         |           | Grid     | GDA-94                  | Inclination | 0     |
| Hole Type    | Open hole | Accuracy |                         | Azimuth     | 0     |
|              |           | Datum    | Australian Height Datum |             |       |

|           |          |                  |  |
|-----------|----------|------------------|--|
| Commenced | 03/11/12 | Drilling Company |  |
| Completed | 10/11/12 | Drill Rig Type   |  |

|                 |   |                            |         |
|-----------------|---|----------------------------|---------|
| Plug Depth      | 0 | Cased Depth                | 0       |
| Logging Company |   | Casing Type                |         |
| Logged By       |   | Size of Casing             | 0       |
| Encoded By      |   | Fluid                      |         |
| Core Type       |   | Upper Standing Water Level | 0       |
| Drill Bit Type  |   | Lower                      | 0       |
|                 |   | Downhole Logging Company   |         |
|                 |   | Lease                      | PEL 258 |

- |                                      |                                      |                                       |   |   |  |                                  |
|--------------------------------------|--------------------------------------|---------------------------------------|---|---|--|----------------------------------|
| <input type="checkbox"/> Gamma Log   | <input type="checkbox"/> Neutron Log | <input type="checkbox"/> Density Log  | <input type="checkbox"/> Bed Resolution Log | <input type="checkbox"/> Self Potential Log | <input type="checkbox"/> Resistivity Log | <input type="checkbox"/> Dip Log |
| <input type="checkbox"/> Caliper Log | <input type="checkbox"/> Sonic Log   | <input type="checkbox"/> Photographed | <input type="checkbox"/> X Rayed            | <input type="checkbox"/> Geotechnical Log   |  |                                  |

| From | To |   |
|------|----|---|
| 14   | 17 | SANDSTONE 80%, fine grained, light grey, occasional coal,banded fragments moderately sorted; intermixed with SILTSTONE 20%, grey brown, stringers of coal with stone bands in part; slightly weathered, strong, carbonaceous fragments  |
| 17   | 20 | COAL 50%, black, coal,banded sandy throughout mainly dull, frequent bright bands(>10%); intermixed with SANDSTONE 30%, fine grained, dark grey brown, moderately sorted coal,banded occasional silty; with TUFF 20%, cream white, silty occasional clayey; fresh, weak  |
| 20   | 23 | SILTSTONE 60%, dark grey brown, sandy coal,banded throughout; intermixed with SANDSTONE 30%, fine grained, grey dark grey, moderately sorted occasional micaceous; with COAL 10%, dark brown black, dull, minor bright bands(>1%) silty in part stringers of coal; fresh, moderately strong, carbonaceous fragments |
| 23   | 26 | SILTSTONE 70%, grey brown, rare stringers of coal possibly tuffaceous in part; intermixed with SANDSTONE 30%, fine grained, dark grey, moderately sorted rare coal,banded fragments; fresh, strong, carbonaceous laminae  |
| 26   | 29 | COAL 50%, black, coal,banded silty throughout dull, minor bright bands(>1%); intermixed with SANDSTONE 30%, fine grained, grey, lithic moderately sorted; with SILTSTONE 20%, dark grey brown, sandy in part coal,banded in part; fresh, moderately strong  |
| 29   | 32 | SILTSTONE 70%, dark grey, occasional coal,banded sandy; intermixed with SANDSTONE 30%, fine grained, light grey grey, moderately sorted lithic tuffaceous in part; fresh, strong, carbonaceous fragments  |
| 32   | 38 | SANDSTONE 60%, fine grained, grey, moderately sorted lithic rare coal,banded; intermixed with SILTSTONE 40%, dark grey brown, rare coal,banded; fresh, strong   |

| From | To  | Description   |
|------|-----|---|
| 38   | 41  | SILTSTONE 60%, dark grey, coal,banded occasional sandy; intermixed with SANDSTONE 30%, fine grained, grey dark grey, lithic rare tuffaceous; with COAL 10%, black, occasional sandy dull, minor bright bands(>1%); fresh, moderately strong, carbonaceous laminae |
| 41   | 44  | SILTSTONE 70%, dark grey brown, rare coaly; intermixed with SANDSTONE 30%, fine grained, grey, moderately sorted lithic rare micaceous; fresh, moderately strong, carbonaceous fragments  |
| 44   | 47  | CARBONACEOUS SILTSTONE 80%, dark grey black, shaly coaly in part; intermixed with SANDSTONE 20%, fine grained, grey, silty in part moderately sorted; fresh, moderately strong  |
| 47   | 50  | SANDSTONE 80%, fine grained, dark grey, lithic moderately sorted rare coal,banded; intermixed with SILTSTONE 20%, dark grey brown, rare coaly occasional coal,banded; fresh, strong, carbonaceous fragments   |
| 50   | 56  | SANDSTONE 60%, fine grained, grey, occasional quartzose moderately sorted; intermixed with SILTSTONE 40%, dark grey brown, coal,banded throughout; fresh, strong  |
| 56   | 62  | SANDSTONE 80%, fine grained, grey, moderately sorted lithic possibly tuffaceous in part; intermixed with SILTSTONE 20%, dark grey brown, rare coal,banded laminations; fresh, strong, secondary calcite   |
| 62   | 65  | SANDSTONE 90%, fine grained, green grey, moderately sorted lithic tuffaceous throughout; intermixed with SILTSTONE 10%, grey, sandy; fresh, strong  |
| 65   | 74  | TUFF, green grey, sandy occasional lithic; fresh, strong  |
| 74   | 77  | SILTSTONE 60%, grey, occasional sandy rare coal,banded; intermixed with TUFF 40%, green grey, silty throughout occasional lithic; fresh, moderately strong, carbonaceous fragments  |
| 77   | 80  | SILTSTONE 70%, dark grey brown, rare coal,banded; intermixed with TUFF 20%, grey white, sandy; with SANDSTONE 10%, fine grained, grey dark grey, lithic moderately sorted; fresh, moderately strong   |
| 80   | 86  | SANDSTONE 60%, fine grained, light grey grey, lithic moderately sorted silty; intermixed with SILTSTONE 40%, dark grey, rare shaly; fresh, strong   |
| 86   | 89  | SILTSTONE 80%, dark grey brown, coaly fragments throughout coal,banded; intermixed with SANDSTONE 20%, fine grained, grey, lithic moderately sorted; fresh, moderately strong, carbonaceous bands   |
| 89   | 92  | SANDSTONE 70%, fine grained, dark grey grey, lithic moderately to well sorted rare coal,banded; intermixed with SILTSTONE 30%, dark grey brown, occasional coal,banded laminations; fresh, strong   |
| 92   | 95  | SANDSTONE 90%, fine grained, grey dark grey, litho- feldspathic moderately to well sorted rare coal,banded; intermixed with SILTSTONE 10%, dark grey, sandy in part; fresh, strong  |
| 95   | 101 | SAND 90%, fine grained, dark grey brown, coal,banded throughout; intermixed with CARBONACEOUS SHALE 10%, dark grey black, occasional coaly fragments; fresh, weak, carbonaceous bands   |
| 101  | 104 | SILTSTONE 80%, dark grey brown, coal,banded throughout; intermixed with SANDSTONE 20%, fine grained, dark grey, lithic moderately sorted high sphericity, sub-rounded to sub-angular; fresh, strong   |
| 104  | 107 | SAND 50%, fine grained, dark grey grey, coal,banded; intermixed with SILTSTONE 30%, EY brown, coal,banded throughout coaly fragments; with COAL 20%, dark grey black, occasional silty dull, minor bright bands(>1%); fresh, strong                               |
| 107  | 113 | SILTSTONE 80%, dark grey brown, rare coal,banded rare coaly; intermixed with SANDSTONE 20%, fine grained, grey, lithic moderately sorted; fresh, strong   |

| From  | To    | Description   |
|-------|-------|---|
| 113   | 116   | SANDSTONE 60%, fine grained, dark grey, lithic moderately sorted rare coal,banded; intermixed with SILTSTONE 40%, grey, occasional coal,banded; fresh, strong   |
| 116   | 122   | SILTSTONE 80%, dark grey brown, coaly ferruginous coal,banded throughout; intermixed with SANDSTONE 20%, fine grained, dark grey grey, lithic moderately sorted; fresh, moderately strong   |
| 122   | 124.5 | SANDSTONE 90%, fine grained, dark grey black, lithic moderately sorted coal,banded throughout; intermixed with COAL 10%, black brown, silty in part clayey matrix; fresh, strong  |
| 124.5 | 127.5 | SANDSTONE 80%, very fine-fine grained, grey, lithic low sphericity, sub-rounded moderately to well sorted; intermixed with SILTSTONE 20%, brownish grey, occasional carbonaceous fragments; fresh, moderately strong  |
| 127.5 | 130   | SANDSTONE 60%, fine grained, grey, lithic low sphericity, sub-rounded moderately to well sorted; intermixed with SILTSTONE 30%, brownish grey, occasional carbonaceous laminations; with COAL 10%, black, stony in part dull, tends to stony; fresh, moderately strong                            |
| 130   | 133   | SANDSTONE 60%, fine grained, grey, lithic occasional carbonaceous fragments; intermixed with SILTSTONE 40%, brownish grey, occasional carbonaceous laminations; fresh, moderately strong  |
| 133   | 136   | SANDSTONE 80%, fine grained, greyish off-white, lithic moderately sorted low sphericity, sub-rounded to sub-angular; intermixed with SILTSTONE 20%, brownish grey; fresh, moderately strong   |
| 136   | 140   | SILTSTONE 60%, dark grey brown, occasional carbonaceous laminations; intermixed with SANDSTONE 40%, fine grained, greyish off-white, lithic moderately sorted low sphericity, sub-rounded to sub-angular; fresh, strong   |
| 140   | 143   | SANDSTONE 70%, fine grained, grey, lithic silty in part; intermixed with SILTSTONE 30%, brownish grey, carbonaceous laminations; fresh, moderately strong   |
| 143   | 146   | SANDSTONE 50%, fine-medium grained, greyish off-white, lithic poorly to moderately sorted low sphericity, sub-angular; intermixed with SILTSTONE 50%, brownish grey, sandy in part; fresh, moderately strong  |
| 146   | 150   | SANDSTONE 60%, fine-medium grained, greyish off-white, lithic occasional coaly laminations; intermixed with SILTSTONE 30%, brownish grey, occasional carbonaceous laminations; with COAL 10%, black, dull, tends to stony; fresh, moderately strong   |
| 150   | 153   | SILTSTONE 60%, brownish grey, occasional carbonaceous laminations; intermixed with SANDSTONE 40%, fine-medium grained, greyish off-white, lithic poorly to moderately sorted low sphericity, sub-rounded to sub-angular; fresh, strong, platy   |
| 153   | 157   | SILTSTONE 70%, brownish grey, micaceous in part; intermixed with SANDSTONE 30%, fine-medium grained, greyish off-white, lithic poorly to moderately sorted low sphericity, sub-rounded to sub-angular; fresh, strong, platy   |
| 157   | 160   | SANDSTONE 70%, fine-medium grained, greyish off-white, lithic occasional carbonaceous laminations; intermixed with SILTSTONE 30%, brownish grey, occasional micaceous; fresh, moderately strong   |
| 160   | 163   | SILTSTONE 50%, brownish grey, occasional carbonaceous laminations; intermixed with SANDSTONE 30%, fine-medium grained, greyish off-white, lithic poorly to moderately sorted low sphericity, sub-rounded to sub-angular; with COAL 20%, black, dull, tends to stony; fresh, strong, platy         |
| 163   | 166   | SANDSTONE 60%, fine-medium grained, greyish off-white, lithic carbonaceous laminations in part; intermixed with SILTSTONE 40%, brownish grey, clayey in part; fresh, moderately strong  |
| 166   | 171   | SANDSTONE 60%, fine grained, greyish off-white, lithic poorly to moderately sorted low sphericity, sub-rounded to sub-angular; intermixed with SILTSTONE 30%, brownish grey, occasional carbonaceous laminations; intermixed with COAL 10%, black, dull, tends to stony; fresh, moderately strong |

| From   | To     | Description   |
|--------|--------|---|
| 171    | 174    | SANDSTONE 70%, fine grained, grey dark grey, lithic moderately sorted coal,banded in part; intermixed with SILTSTONE 30%, dark grey brown, coal,banded throughout sandy; fresh, strong, carbonaceous fragments  |
| 174    | 177    | SILTSTONE 80%, dark grey brown, occasional coal,banded; intermixed with SANDSTONE 20%, fine grained, grey, lithic moderately sorted rare coal,banded; fresh, strong   |
| 177    | 183    | SANDSTONE 70%, fine grained, grey, lithic moderately sorted high sphericity, sub-rounded; intermixed with SILTSTONE 30%, dark grey brown, rare coal,banded; fresh, strong   |
| 183    | 186    | SANDSTONE, grey dark grey, rare coal,banded silty; fresh, moderately strong, carbonaceous fragments   |
| 186    | 189    | SANDSTONE 80%, fine grained, grey dark grey, coal,banded high sphericity, sub-rounded; intermixed with SILTSTONE 20%, dark grey brown, stringers of coal coal,banded throughout; fresh, strong, carbonaceous bands  |
| 189    | 195    | SANDSTONE 60%, fine grained, light grey grey, lithic occasional micaceous moderately sorted; intermixed with SILTSTONE 40%, dark grey brown, occasional coal,banded coaly fragments; fresh, strong, carbonaceous fragments  |
| 195    | 198    | SANDSTONE 80%, fine grained, dark grey grey, silty in part lithic; intermixed with SILTSTONE 20%, grey brown, coal,banded throughout occasional stringers of coal; fresh, strong, carbonaceous laminae  |
| 198    | 201    | SILTSTONE 70%, brown dark grey, stringers of coal coal,banded throughout sandy; intermixed with SANDSTONE 30%, fine grained, dark grey, coal,banded lithic; fresh, moderately strong  |
| 201    | 204    | SANDSTONE 50%, fine grained, grey, lithic moderately sorted coal,banded fragments; intermixed with SILTSTONE 50%, dark grey brown, occasional coal,banded coaly fragments; fresh, strong  |
| 204    | 207    | SILTSTONE 50%, dark grey brown, coal,banded throughout coaly fragments; intermixed with SANDSTONE 30%, fine grained, dark grey, coal,banded silty stringers of coal; intermixed with COAL 20%, dark grey black, dull, minor bright bands(>1%) sandy coal,banded; fresh, moderately strong |
| 207    | 210    | SANDSTONE 60%, fine grained, dark grey, coal,banded lithic moderately sorted; intermixed with SILTSTONE 40%, dark grey brown, coal,banded throughout coaly fragments; fresh, strong   |
| 210    | 213    | SANDSTONE 70%, fine grained, dark grey brown, coal,banded coaly fragments high sphericity, sub-rounded to sub-angular; intermixed with SILTSTONE 30%, dark grey black, coaly fragments throughout stringers of coal; fresh, moderately strong, carbonaceous fragments                     |
| 213    | 220.6  | SANDSTONE 90%, fine grained, grey, clayey fragments possibly tuffaceous in part; intermixed with SILTSTONE 10%, dark grey brown, coaly fragments coal,banded throughout; fresh, strong  |
| 220.6  | 221.1  | COAL, brown black, sandy coal,banded silty throughout; fresh, weak, sandy, carbonaceous bands   |
| 221.1  | 221.36 | SANDSTONE, fine grained, dark grey black, coaly fragments coal,banded; fresh, moderately strong, carbonaceous fragments   |
| 221.36 | 222    | COAL, brown black, sandy coal,banded silty throughout; fresh, weak, sandy, carbonaceous bands   |
| 222    | 224.08 | SANDSTONE 80%, fine grained, dark grey brown, coal,banded throughout rare tuffaceous; intermixed with SILTSTONE 20%, dark grey black, coal,banded coaly sandy throughout; fresh, strong, carbonaceous bands   |
| 224.08 | 224.52 | COAL UNDIFF., black; fresh, weak  |
| 224.52 | 228    | SANDSTONE 80%, fine grained, dark grey brown, coal,banded throughout rare tuffaceous; intermixed with SILTSTONE 20%, dark grey black, coal,banded coaly sandy throughout; fresh, strong, carbonaceous bands   |

| From   | To     | Description  |
|--------|--------|--|
| 228    | 231    | SANDSTONE 90%, fine grained, light grey grey, litho- feldspathic rare micaceous moderately sorted; intermixed with SILTSTONE 10%, dark grey brown, sandy coaly fragments in part; fresh, strong  |
| 231    | 234    | SANDSTONE 70%, fine grained, grey dark grey, litho- feldspathic occasional coal,banded fragments; intermixed with SILTSTONE 30%, dark grey, sandy occasional coal,banded; fresh, strong  |
| 234    | 237    | SANDSTONE, fine grained, light grey, basaltic silty tuffaceous litho- feldspathic; fresh, strong   |
| 237    | 240    | SANDSTONE 90%, fine grained, grey, silty in part rare coal,banded; intermixed with SILTSTONE 10%, dark grey brown, occasional coal,banded; fresh, strong   |
| 240    | 243    | SANDSTONE 60%, fine grained, dark grey, litho- feldspathic occasional coal,banded; intermixed with SILTSTONE 40%, dark grey brown, coal,banded throughout coaly fragments; fresh, strong   |
| 243    | 246    | SANDSTONE 50%, fine grained, grey brown, coal,banded throughout occasional silty; intermixed with CARBONACEOUS SILTSTONE 50%, dark grey brown, coaly fragments throughout; fresh, strong, carbonaceous fragments   |
| 246    | 249    | SANDSTONE 70%, fine grained, grey brown, coal,banded in part lithic; intermixed with SILTSTONE 30%, dark grey brown, coal,banded throughout coaly fragments; fresh, strong   |
| 249    | 252    | SILTSTONE 80%, dark grey brown, occasional coal,banded coaly fragments; intermixed with SANDSTONE 20%, fine grained, grey dark grey, occasional coal,banded lithic; fresh, strong, carbonaceous fragments  |
| 252    | 258    | SANDSTONE 60%, fine grained, dark grey brown, silty in part coal,banded sandy; intermixed with SILTSTONE 40%, dark grey brown, occasional coal,banded coaly fragments; fresh, strong   |
| 258    | 261    | SILTSTONE 80%, grey white, clayey in part coal,banded in part; intermixed with SANDSTONE 20%, fine grained, dark grey brown, coal,banded moderately sorted; fresh, moderately strong   |
| 261    | 267    | SANDSTONE, fine grained, grey dark grey, clayey in part rare stringers of coal; fresh, moderately strong, carbonaceous fragments   |
| 267    | 273    | SANDSTONE 90%, fine grained, dark grey, lithic occasional clayey; intermixed with SILTSTONE 10%, grey brown, occasional coal,banded fragments; fresh, strong   |
| 273    | 276    | CARBONACEOUS SILTSTONE 50%, dark grey brown, stringers of coal coaly fragments; intermixed with SILTSTONE 30%, dark grey, sandy in part; intermixed with SANDSTONE 20%, fine grained, dark grey brown, lithic coal,banded throughout; fresh, moderately strong, carbonaceous bands |
| 276    | 286.83 | SANDSTONE 60%, fine grained, grey, occasional micaceous occasional coal,banded; intermixed with SILTSTONE 40%, dark grey brown, occasional coal,banded occasional coaly; fresh, moderately strong  |
| 286.83 | 287.63 | COAL, dark grey black, sandy mainly dull, frequent bright bands(>10%) occasional silty; fresh, weak  |
| 287.63 | 288.26 | SANDSTONE, fine grained, dark grey brown, coal,banded throughout moderately sorted; fresh, strong, carbonaceous bands  |
| 288.26 | 288.61 | COAL, dark grey black, sandy mainly dull, frequent bright bands(>10%) occasional silty; fresh, weak  |
| 288.61 | 291    | SANDSTONE, fine grained, dark grey brown, coal,banded throughout moderately sorted; fresh, strong, carbonaceous bands  |
| 291    | 294    | SANDSTONE 60%, fine grained, dark grey black, coal,banded throughout occasional silty; intermixed with COAL 40%, dark grey black, coal,banded silty dull, minor bright bands(>1%); fresh, moderately strong, carbonaceous bands  |

| From   | To     | Description   |
|--------|--------|---|
| 294    | 297    | SANDSTONE 70%, fine grained, grey dark grey, litho- feldspathic high sphericity, sub-rounded; intermixed with SILTSTONE 30%, dark grey brown, rare coaly fragments coal,banded; fresh, moderately strong  |
| 297    | 299.45 | SANDSTONE 80%, fine grained, grey dark grey, litho- feldspathic occasional feldspathic OT; intermixed with SILTSTONE 20%, dark grey black, occasional coal,banded fragments; fresh, strong  |
| 299.45 | 300    | COAL UNDIFF., black; fresh, weak  |
| 300    | 306    | SANDSTONE 80%, fine grained, grey dark grey, silty in part coal,banded; intermixed with SILTSTONE 10%, dark grey brown, coal,banded throughout coaly fragments; intermixed with COAL 10%, dark grey black, stringers of coal dull, minor bright bands(>1%); fresh, strong |
| 306    | 307.41 | SANDSTONE, fine grained, dark grey brown, occasional silty coal,banded throughout; fresh, moderately strong, carbonaceous bands   |
| 307.41 | 308.48 | COAL, dark grey black, sandy occasional silty dull, minor bright bands(>1%); fresh, weak  |
| 308.48 | 308.83 | SANDSTONE, fine grained, dark grey brown, occasional silty coal,banded throughout; fresh, moderately strong, carbonaceous bands   |
| 308.83 | 309.85 | COAL UNDIFF., black; fresh, weak  |
| 309.85 | 310.3  | SILTSTONE 20%, dark grey black, coaly fragments; fresh, moderately strong, carbonaceous bands   |
| 310.3  | 311.1  | COAL UNDIFF., black; fresh, weak  |
| 311.1  | 315    | SILTSTONE 20%, dark grey black, coaly fragments; fresh, moderately strong, carbonaceous bands   |
| 315    | 318    | SANDSTONE 60%, fine-medium grained, grey, poorly to moderately sorted lithic low sphericity, sub-angular to angular; intermixed with SILTSTONE 40%, dark grey brown, sandy in part rare coal,banded; fresh, strong  |
| 318    | 321    | SANDSTONE 80%, fine grained, dark grey, silty in part lithic; intermixed with SILTSTONE 20%, dark grey brown, rare coal,banded; fresh, strong   |
| 321    | 322.88 | SANDSTONE 50%, fine grained, dark grey brown, coal,banded throughout; intermixed with SILTSTONE 50%, dark grey, sandy in part coal,banded; fresh, strong, carbonaceous bands  |
| 322.88 | 323.32 | COAL, dark grey black, dull, minor bright bands(>1%) coal,banded silty in part; fresh, weak   |
| 323.32 | 323.81 | SANDSTONE 80%, fine grained, dark grey, lithic occasional coal,banded fragments; intermixed with SILTSTONE 20%, dark grey brown, occasional coaly fragments; fresh, strong, carbonaceous fragments  |
| 323.81 | 324.21 | COAL UNDIFF., black; fresh, weak  |
| 324.21 | 332.26 | SANDSTONE 80%, fine grained, dark grey, lithic occasional coal,banded fragments; intermixed with SILTSTONE 20%, dark grey brown, occasional coaly fragments; fresh, strong, carbonaceous fragments  |
| 332.26 | 332.88 | COAL, black, mainly dull, frequent bright bands(>10%) sandy in part; fresh, weak  |
| 332.88 | 336    | SILTSTONE 60%, grey brown, coal,banded throughout sandy in part; intermixed with SANDSTONE 40%, fine grained, dark grey, lithic rare coal,banded; fresh, moderately strong, platy, carbonaceous fragments   |
| 336    | 339    | CARBONACEOUS SILTSTONE 50%, dark grey brown, coaly fragments in part; intermixed with SILTSTONE 30%, dark grey, sandy in part rare clayey; intermixed with COAL 20%, black, dull, minor bright bands(>1%) silty; fresh, moderately strong                                 |
| 339    | 343.95 | SILTSTONE 70%, dark grey brown, coaly fragments throughout coal,banded; intermixed with SANDSTONE 30%, fine grained, grey, lithic moderately sorted; fresh, moderately strong, carbonaceous fragments   |

| From   | To     | Description   |
|--------|--------|---|
| 343.95 | 344.12 | COAL UNDIFF., black; fresh, weak  |
| 344.12 | 348    | SILTSTONE 70%, dark grey brown, coaly fragments throughout coal,banded; intermixed with SANDSTONE 30%, fine grained, grey, lithic moderately sorted; fresh, moderately strong, carbonaceous fragments   |
| 348    | 354    | SANDSTONE 80%, fine grained, dark grey brown, coal,banded lithic DSL fragments; intermixed with COAL 20%, dark grey black, silty in part dull, minor bright bands(>1%); fresh, moderately strong, carbonaceous bands  |
| 354    | 363    | SILTSTONE 70%, dark grey, rare coal,banded fragments; intermixed with SANDSTONE 30%, fine grained, grey, lithic moderately sorted; fresh, moderately strong   |
| 363    | 366    | SILTSTONE 80%, dark grey brown, sandy in part rare coal,banded; intermixed with SANDSTONE 20%, fine grained, light grey grey, lithic moderately sorted high sphericity, sub-rounded; fresh, strong, platy   |
| 366    | 369    | SILTSTONE 80%, dark grey brown, sandy throughout coal,banded fragments; intermixed with COAL 20%, dark grey black, dull, minor bright bands (>1%) stringers of coal; fresh, moderately strong, carbonaceous fragments   |
| 369    | 372    | SILTSTONE 90%, dark grey, rare coal,banded; intermixed with SANDSTONE 10%, fine grained, light grey grey, lithic clayey in part; fresh, strong  |
| 372    | 378    | SILTSTONE 50%, dark grey, rare coal,banded; intermixed with SANDSTONE 50%, fine grained, light grey grey, occasional clayey lithic moderately sorted; fresh, strong, platy  |
| 378    | 384    | SANDSTONE 70%, fine grained, grey, lithic moderately sorted occasional coal,banded; intermixed with SILTSTONE 30%, dark grey brown, occasional coal,banded fragments; fresh, strong   |
| 384    | 387    | SANDSTONE 80%, fine grained, grey dark grey, poorly to moderately sorted lithic rare coal,banded; intermixed with SILTSTONE 20%, dark grey brown, coaly fragments occasional coal,banded; fresh, strong   |
| 387    | 393    | SILTSTONE 40%, dark grey, rare sandy; intermixed with CARBONACEOUS SILTSTONE 40%, dark grey brown, occasional coaly fragments; intermixed with COAL 20%, dark grey black, silty throughout dull, minor bright bands(>1%); fresh, moderately strong, platy   |
| 393    | 396    | SANDSTONE 70%, fine grained, grey light grey, lithic moderately sorted high sphericity, sub-rounded clayey; intermixed with SILTSTONE 30%, dark grey brown, occasional coal,banded fragments; fresh, strong   |
| 396    | 399    | SILTSTONE 80%, dark grey, rare sandy coal,banded fragments; intermixed with CARBONACEOUS SILTSTONE 20%, grey brown, occasional coaly fragments; fresh, moderately strong, carbonaceous fragments  |
| 399    | 406.66 | SANDSTONE 40%, fine grained, grey brown, silty in part coal,banded; intermixed with SILTSTONE 30%, dark grey, coal,banded throughout stringers of coal; intermixed with COAL 30%, dark grey black, dull, minor bright bands(>1%) coal,banded silty throughout; fresh, moderately strong, carbonaceous bands |
| 406.66 | 406.92 | COAL, dark grey black, coal,banded silty throughout; fresh, weak  |
| 406.92 | 408    | SILTSTONE, dark grey brown, sandy in part coal,banded; fresh, moderately strong, carbonaceous bands   |
| 408    | 411    | SILTSTONE 50%, dark grey brown, sandy in part coal,banded in part; intermixed with CARBONACEOUS SILTSTONE 40%, dark grey black, coaly fragments throughout; intermixed with SANDSTONE 10%, fine grained, dark grey, coal,banded occasional lithic; fresh, moderately strong, carbonaceous fragments         |
| 411    | 414    | SANDSTONE 60%, fine grained, light grey grey, litho- feldspathic occasional silty high sphericity, sub-rounded to sub-angular; intermixed with SILTSTONE 40%, dark grey brown, rare coal,banded; fresh, strong  |

| From   | To     | Description   |
|--------|--------|---|
| 414    | 417    | SANDSTONE 70%, fine grained, grey, litho- feldspathic carbonaceous stringers of coal; intermixed with CARBONACEOUS SILTSTONE 30%, dark grey brown, rare coaly fragments; fresh, strong                                  |
| 417    | 420    | SILTSTONE 60%, dark grey brown, rare coal,banded; intermixed with SANDSTONE 40%, fine grained, grey dark grey, litho- feldspathic rare coaly fragments; fresh, moderately strong  |
| 420    | 423    | SANDSTONE 80%, fine grained, light grey grey, litho- feldspathic silty in part; intermixed with SILTSTONE 20%, dark grey, rare coaly fragments coal,banded; fresh, strong   |
| 423    | 426    | SANDSTONE 60%, fine grained, grey, litho- feldspathic occasional coal,banded fragments; intermixed with SILTSTONE 40%, dark grey brown, occasional coal,banded fragments; fresh, strong                                 |
| 426    | 432    | SANDSTONE 80%, fine grained, grey, lithic moderately sorted; intermixed with SILTSTONE 20%, dark grey brown, coal,banded throughout rare coaly; fresh, strong   |
| 432    | 441    | SILTSTONE 70%, dark grey brown, occasional coal,banded occasional sandy; intermixed with SANDSTONE 30%, fine grained, grey light grey, lithic clayey in part; fresh, moderately strong, carbonaceous fragments          |
| 441    | 444    | SANDSTONE 60%, fine grained, grey white, clayey lithic; intermixed with SILTSTONE 40%, dark grey, clayey in part rare coal,banded; fresh, strong  |
| 444    | 447    | SANDSTONE 70%, fine grained, dark grey, coal,banded throughout occasional micaceous; intermixed with SILTSTONE 30%, dark grey black, coaly fragments throughout coal,banded; fresh, moderately strong                   |
| 447    | 450    | SILTSTONE 80%, dark grey brown, coal,banded in part rare moderately sorted; intermixed with SANDSTONE 20%, fine grained, grey white, clayey throughout lithic; fresh, moderately strong, clayey, carbonaceous fragments |
| 450    | 451.32 | SANDSTONE 60%, fine grained, greyish off-white, lithic moderately sorted low sphericity, sub-rounded to sub-angular; intermixed with SILTSTONE 40%, grey, clayey in part; fresh, moderately strong                      |
| 451.32 | 451.72 | COAL UNDIFF., black; fresh, weak  |
| 451.72 | 453.9  | SANDSTONE 60%, fine grained, greyish off-white, lithic moderately sorted low sphericity, sub-rounded to sub-angular; intermixed with SILTSTONE 40%, grey, clayey in part; fresh, moderately strong                      |
| 453.9  | 454.52 | COAL UNDIFF., black; fresh, weak  |
| 454.52 | 455    | SANDSTONE 60%, fine grained, greyish off-white, lithic moderately sorted low sphericity, sub-rounded to sub-angular; intermixed with SILTSTONE 40%, grey, clayey in part; fresh, moderately strong                      |
| 455    | 456.12 | SILTSTONE 60%, dark grey brown, clayey in part carbonaceous laminations; intermixed with SANDSTONE 40%, fine grained, greyish white, lithic occasional carbonaceous fragments; fresh, strong, carbonaceous lamellae     |
| 456.12 | 456.83 | COAL, black, dull, tends to stony; fresh, weak  |
| 456.83 | 463    | SILTSTONE 60%, dark grey brown, clayey in part carbonaceous laminations; intermixed with SANDSTONE 40%, fine grained, greyish white, lithic occasional carbonaceous fragments; fresh, strong, carbonaceous lamellae     |
| 463    | 465    | SILTSTONE 70%, brownish black, coaly in part; intermixed with SANDSTONE 30%, greyish white, lithic poorly to moderately sorted low sphericity, sub-rounded to sub-angular; fresh, strong                                |
| 465    | 468    | SANDSTONE 80%, very fine-fine grained, grey, lithic clayey; intermixed with SILTSTONE 20%, brownish grey, carbonaceous laminations; fresh, moderately strong  |



| From   | To     | Description   |
|--------|--------|---|
| 468    | 471    | SANDSTONE 60%, very fine-fine grained, grey, lithic moderately sorted low sphericity, sub-rounded to sub-angular; intermixed with SILTSTONE 30%, brownish grey, sandy in part; with COAL 10%, brownish black, dull, tends to stony occasional shaly; fresh, moderately strong |
| 471    | 472.83 | SANDSTONE 50%, fine grained, grey, lithic moderately sorted low sphericity, sub-rounded to sub-angular silty; intermixed with SILTSTONE 50%, greyish grey, rare carbonaceous laminations; fresh, moderately strong  |
| 472.83 | 473.23 | COAL, black, dull, tends to stony; fresh, weak  |
| 473.23 | 473.63 | SANDSTONE 50%, fine grained, grey, lithic moderately sorted low sphericity, sub-rounded to sub-angular silty; intermixed with SILTSTONE 50%, greyish grey, rare carbonaceous laminations; fresh, moderately strong  |
| 473.63 | 474.03 | COAL, black, dull, tends to stony; fresh, weak  |
| 474.03 | 481    | SANDSTONE 80%, fine grained, greyish off-white, abundant carbonaceous fragments silty; intermixed with SILTSTONE 20%, brownish black, occasional carbonaceous siltstone; fresh, moderately strong   |
| 481    | 486    | SANDSTONE 70%, fine-medium grained, greyish off-white, lithic silty throughout poorly sorted; intermixed with COAL 30%, black, dull, tends to stony; fresh, weak  |
| 486    | 490    | SANDSTONE 60%, fine grained, grey, lithic moderately sorted low sphericity, sub-rounded to sub-angular; intermixed with SILTSTONE 40%, brownish grey, sandy in part; fresh, moderately strong   |
| 490    | 494    | SANDSTONE 60%, very fine-fine grained, grey, clayey throughout lithic; intermixed with SILTSTONE 40%, brownish grey, occasional micaceous; fresh, strong  |
| 494    | 497    | SANDSTONE 80%, fine grained, greyish off-white, lithic silty in part; intermixed with SILTSTONE 20%, brownish grey, occasional sandy; fresh, moderately strong, carbonaceous fragments  |
| 497    | 500    | SILTSTONE 60%, brownish grey, sandy; intermixed with SANDSTONE 40%, very fine-fine grained, brownish grey, lithic clayey in part poorly to moderately sorted; fresh, moderately strong  |
| 500    | 508    | SANDSTONE 80%, fine grained, grey, lithic moderately sorted low sphericity, sub-rounded to sub-angular; intermixed with SILTSTONE 20%, brownish grey, occasional carbonaceous laminations in part; fresh, moderately strong, carbonaceous fragments                           |
| 508    | 511    | SANDSTONE 60%, fine grained, greyish off-white, silty in part poorly to moderately sorted; intermixed with SILTSTONE 40%, brownish grey, sandy in part; fresh, LI   |
| 511    | 514.34 | SANDSTONE 40%, fine grained, greyish off-white, lithic moderately sorted low sphericity, sub-rounded; intermixed with SILTSTONE 60%, brownish black, occasional carbonaceous siltstone; fresh, moderately strong, carbonaceous fragments                                      |
| 514.34 | 515.49 | COAL, black, dull, tends to stony; fresh, weak  |
| 515.49 | 517    | SANDSTONE 40%, fine grained, greyish off-white, lithic moderately sorted low sphericity, sub-rounded; intermixed with SILTSTONE 60%, brownish black, occasional carbonaceous siltstone; fresh, moderately strong, carbonaceous fragments                                      |
| 517    | 517.94 | STONY COAL, brownish black, carbonaceous; fresh, moderately strong  |
| 517.94 | 522    | SANDSTONE 70%, fine-medium grained, greyish off-white, lithic occasional carbonaceous laminations; intermixed with SILTSTONE 20%, brownish black, occasional carbonaceous siltstone; fresh, moderately strong   |
| 522    | 522.34 | SILTSTONE 70%, brownish black, occasional carbonaceous siltstone; intermixed with SANDSTONE 30%, fine grained, greyish off-white, lithic moderately sorted silty in part; fresh, strong   |

| From   | To     | Description   |
|--------|--------|---|
| 522.34 | 523.37 | COAL UNDIFF., black; fresh, weak  |
| 523.37 | 526    | SILTSTONE 70%, brownish black, occasional carbonaceous siltstone; intermixed with SANDSTONE 30%, fine grained, greyish off-white, lithic moderately sorted silty in part; fresh, strong   |
| 526    | 529    | SILTSTONE 80%, grey, micaceous in part; intermixed with SANDSTONE 20%, very fine-fine grained, greyish off-white, lithic moderately to well sorted low sphericity, sub-rounded; fresh, strong   |
| 529    | 532    | SANDSTONE 60%, fine grained, greyish off-white, lithic silty in part poorly to moderately sorted; intermixed with SILTSTONE 40%, brownish grey, rare carbonaceous siltstone; fresh, moderately strong   |
| 532    | 535    | SILTSTONE 50%, grey, micaceous throughout; intermixed with CARBONACEOUS SILTSTONE 30%, brownish black, carbonaceous; with SANDSTONE 20%, fine grained, greyish off-white, silty throughout lithic poorly to moderately sorted; fresh, strong, carbonaceous lamellae |
| 535    | 538    | SANDSTONE 60%, fine grained, greyish off-white, silty throughout lithic poorly to moderately sorted; intermixed with SILTSTONE 40%, brownish grey, occasional sandy; fresh, moderately strong   |
| 538    | 541    | SANDSTONE 70%, fine grained, grey, lithic moderately sorted low sphericity, sub-rounded to sub-angular; intermixed with SILTSTONE 30%, brownish grey, sandy in part carbonaceous laminations; fresh, moderately strong  |
| 541    | 545    | CARBONACEOUS SILTSTONE 40%, brownish black, abundant carbonaceous laminations; intermixed with SANDSTONE 30%, fine grained, greyish off-white, silty throughout moderately sorted; with COAL 30%, black, dull, tends to stony; fresh, strong                        |
| 545    | 547.85 | SANDSTONE 60%, fine grained, greyish off-white, clayey in part poorly sorted lithic; intermixed with CARBONACEOUS SILTSTONE 40%, brownish black, shaly in part; fresh, moderately strong  |
| 547.85 | 548.16 | COAL UNDIFF., black; fresh, weak  |
| 548.16 | 552    | SANDSTONE 80%, fine grained, greyish off-white, lithic clayey in part; intermixed with SILTSTONE 20%, brownish black, micaceous carbonaceous siltstone in part; fresh, moderately strong  |
| 552    | 556    | SANDSTONE 60%, fine grained, greyish off-white, silty throughout lithic; intermixed with SILTSTONE 40%, grey, micaceous throughout; fresh, moderately strong  |
| 556    | 560    | SANDSTONE 70%, very fine-fine grained, greyish off-white, silty in part lithic moderately sorted; intermixed with SILTSTONE 30%, brownish black, micaceous carbonaceous siltstone in part; fresh, moderately strong   |
| 560    | 566    | SANDSTONE 50%, very fine-fine grained, greyish off-white, silty throughout lithic poorly to moderately sorted; intermixed with SILTSTONE 50%, grey, micaceous throughout; fresh, moderately strong  |
| 566    | 568.43 | SANDSTONE, fine grained, grey, lithic poorly to moderately sorted silty throughout; fresh, moderately strong  |
| 568.43 | 569.63 | COAL, black, dull, minor bright bands(>1%); fresh, weak   |
| 569.63 | 574.12 | SANDSTONE, fine grained, grey, lithic poorly to moderately sorted silty throughout; fresh, moderately strong  |
| 574.12 | 574.52 | COAL UNDIFF., black; fresh, weak  |
| 574.52 | 574.78 | SANDSTONE 80%, fine grained, greyish off-white, lithic carbonaceous wisps; intermixed with SILTSTONE 15%, brownish grey, micaceous throughout; with TUFF 5%, brownish Yellow Brown, carbonaceous XF; fresh, moderately strong                                       |
| 574.78 | 575.05 | COAL UNDIFF., black; fresh, weak  |

| From   | To     | Description   |
|--------|--------|---|
| 575.05 | 582    | SANDSTONE 80%, fine grained, greyish off-white, lithic carbonaceous wisps; intermixed with SILTSTONE 15%, brownish grey, micaceous throughout; with TUFF 5%, brownish Yellow Brown, carbonaceous XF; fresh, moderately strong                     |
| 582    | 586    | SILTSTONE 30%, brownish grey, micaceous throughout; fresh, strong   |
| 586    | 591    | SILTSTONE 70%, brownish grey, carbonaceous in part; intermixed with SANDSTONE 30%, fine grained, greyish off-white, lithic moderately sorted silty in part; fresh, strong   |
| 591    | 594    | SANDSTONE 80%, fine grained, greyish off-white, lithic poorly to moderately sorted low sphericity, sub-rounded to sub-angular; intermixed with SILTSTONE 20%, brownish grey, carbonaceous laminations micaceous in part; fresh, moderately strong |
| 594    | 597    | SANDSTONE 70%, fine grained, greyish off-white, lithic silty throughout poorly to moderately sorted; intermixed with SILTSTONE 30%, brownish grey, micaceous throughout; fresh, moderately strong   |
| 597    | 600    | SANDSTONE 90%, fine grained, greyish off-white, lithic silty throughout poorly sorted; intermixed with SILTSTONE 10%, brownish grey, carbonaceous laminations; fresh, moderately strong   |
| 600    | 603    | SANDSTONE, very fine-fine grained, greyish off-white, silty throughout lithic poorly to moderately sorted; fresh, moderately strong   |
| 603    | 606    | SANDSTONE 70%, very fine-fine grained, grey, lithic moderately sorted silty throughout; intermixed with SILTSTONE 30%, brownish grey, micaceous throughout; fresh, moderately strong  |
| 606    | 610    | SILTSTONE 60%, dark grey grey, micaceous; intermixed with SANDSTONE 40%, fine grained, brownish grey, lithic poorly to moderately sorted carbonaceous laminations; fresh, strong  |
| 610    | 612.07 | SANDSTONE 50%, fine grained, brownish grey, lithic moderately sorted low sphericity, sub-rounded; intermixed with SILTSTONE 50%, brownish black, carbonaceous siltstone in part; fresh, moderately strong, XG                                     |
| 612.07 | 612.92 | COAL UNDIFF., black; fresh, weak  |
| 612.92 | 615.32 | CARBONACEOUS SILTSTONE, brownish black, carbonaceous sandy in part; fresh, moderately strong, carbonaceous lamellae   |
| 615.32 | 616.34 | COAL, black, dull, tends to stony in part dull, minor bright bands(>1%); fresh, weak  |
| 616.34 | 617.63 | CARBONACEOUS SILTSTONE, brownish black, carbonaceous sandy in part; fresh, moderately strong, carbonaceous lamellae   |
| 617.63 | 618.38 | COAL UNDIFF., black; fresh, weak  |
| 618.38 | 619.58 | CARBONACEOUS SILTSTONE, brownish black, carbonaceous sandy in part; fresh, moderately strong, carbonaceous lamellae   |
| 619.58 | 620.07 | COAL UNDIFF., black; fresh, weak  |
| 620.07 | 621    | CARBONACEOUS SILTSTONE, brownish black, carbonaceous sandy in part; fresh, moderately strong, carbonaceous lamellae   |
| 621    | 624.87 | SANDSTONE, fine grained, grey, lithic occasional laminations; fresh, moderately strong  |
| 624.87 | 625.14 | COAL, black, dull, tends to stony; fresh, weak  |
| 625.14 | 626.87 | SANDSTONE 80%, fine grained, grey, lithic abundant carbonaceous XF; intermixed with SILTSTONE 20%, brownish black, carbonaceous siltstone in part; fresh, moderately strong   |
| 626.87 | 627.46 | COAL UNDIFF., black; fresh, weak  |

| From   | To     | Description   |
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| 627.46 | 628.03 | SANDSTONE 80%, fine grained, grey, lithic abundant carbonaceous XF; intermixed with SILTSTONE 20%, brownish black, carbonaceous siltstone in part; fresh, moderately strong   |
| 628.03 | 628.88 | COAL UNDIFF., black; fresh, weak  |
| 628.88 | 633    | SANDSTONE 60%, fine grained, brownish off-white, lithic poorly to moderately sorted silty throughout; intermixed with SILTSTONE 40%, brownish grey, carbonaceous siltstone in part laminations; fresh, moderately strong  |
| 633    | 638    | SANDSTONE 60%, fine grained, greyish off-white, lithic poorly to moderately sorted silty in part; intermixed with SILTSTONE 30%, brownish grey, abundant carbonaceous laminations; with CARBONACEOUS SILTSTONE 10%, brownish black, carbonaceous; fresh, moderately strong                        |
| 638    | 641    | SANDSTONE 80%, fine grained, grey, lithic occasional carbonaceous XF; intermixed with SILTSTONE 20%, brownish grey, occasional carbonaceous siltstone; fresh, moderately strong   |
| 641    | 645    | SILTSTONE 60%, brownish grey, sandy in part; intermixed with SANDSTONE 40%, very fine-fine grained, greyish off-white, lithic occasional silty; fresh, strong, carbonaceous fragments   |
| 645    | 648    | SANDSTONE 70%, very fine-fine grained, greyish off-white, lithic poorly to moderately sorted silty; intermixed with SILTSTONE 30%, brownish grey, carbonaceous laminations micaceous in part; fresh, moderately strong  |
| 648    | 652    | SANDSTONE 80%, fine grained, grey, lithic silty in part poorly to moderately sorted; intermixed with SILTSTONE 20%, brownish grey, micaceous throughout; fresh, moderately strong   |
| 652    | 656    | SILTSTONE 70%, greyish brown, micaceous throughout; intermixed with SANDSTONE 30%, fine grained, grey, lithic poorly to moderately sorted low sphericity, sub-rounded to sub-angular; fresh, strong   |
| 656    | 662    | SILTSTONE 60%, brownish grey, abundant carbonaceous XF; intermixed with SANDSTONE 40%, fine grained, grey, lithic silty throughout poorly to moderately sorted; fresh, strong, carbonaceous lamellae  |
| 662    | 665    | SANDSTONE 70%, fine grained, greyish off-white, lithic moderately sorted high sphericity, sub-rounded to sub-angular; intermixed with SILTSTONE 30%, brownish grey, micaceous throughout carbonaceous XF; fresh, moderately strong  |
| 665    | 668    | SILTSTONE 60%, brownish black, carbonaceous XF carbonaceous siltstone in part; intermixed with SANDSTONE 40%, fine grained, grey, lithic moderately sorted high sphericity, sub-rounded to sub-angular silty; fresh, strong, carbonaceous lamellae  |
| 668    | 671    | SILTSTONE 80%, brownish grey, carbonaceous siltstone in part sandy throughout; intermixed with SANDSTONE 20%, very fine-fine grained, greyish off-white, lithic carbonaceous XF silty; fresh, strong, carbonaceous lamellae   |
| 671    | 675    | SANDSTONE 70%, very fine-fine grained, greyish off-white, silty throughout lithic poorly to moderately sorted; intermixed with SILTSTONE 30%, brownish grey, clayey laminations; fresh, moderately strong   |
| 675    | 680    | SANDSTONE 70%, very fine-fine grained, grey, lithic poorly to moderately sorted low sphericity, sub-rounded to sub-angular; intermixed with SILTSTONE 20%, brownish grey, carbonaceous laminations micaceous in part; with CLAYSTONE 10%, brownish black, shaly in part; fresh, moderately strong |
| 680    | 683    | SANDSTONE 80%, very fine-fine grained, brownish grey, carbonaceous laminations; intermixed with SILTSTONE 20%, brownish grey, carbonaceous siltstone in part micaceous; fresh, moderately strong, carbonaceous fragments  |
| 683    | 687    | SILTSTONE 80%, brownish grey, carbonaceous laminations carbonaceous laminations; intermixed with SANDSTONE 20%, fine grained, grey, lithic silty throughout poorly to moderately sorted; fresh, strong  |

| From   | To     | Description  |
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| 687    | 690    | SANDSTONE 60%, fine grained, grey, lithic moderately sorted low sphericity, sub-rounded to sub-angular silty; intermixed with SILTSTONE 30%, brownish grey, carbonaceous in part; with STONY COAL 10%, brownish black, dull, tends to stony; fresh, moderately strong                    |
| 690    | 693    | SANDSTONE 40%, fine grained, grey, lithic silty throughout moderately sorted; intermixed with SILTSTONE 30%, brownish grey, carbonaceous laminations carbonaceous siltstone in part; with STONY COAL 30%, brownish black, dull, tends to stony; fresh, moderately strong                 |
| 693    | 694.07 | SILTSTONE 60%, brownish black, carbonaceous siltstone in part carbonaceous laminations; intermixed with SANDSTONE 30%, fine grained, greyish off-white, lithic moderately sorted low sphericity, sub-rounded to sub-angular; with TUFF 10%, Yellow Brown, carbonaceous XF; fresh, strong |
| 694.07 | 694.61 | COAL UNDIFF., black; fresh, weak   |
| 694.61 | 698    | SILTSTONE 60%, brownish black, carbonaceous siltstone in part carbonaceous laminations; intermixed with SANDSTONE 30%, fine grained, greyish off-white, lithic moderately sorted low sphericity, sub-rounded to sub-angular; with TUFF 10%, Yellow Brown, carbonaceous XF; fresh, strong |
| 698    | 701    | SILTSTONE 50%, brownish black, carbonaceous XF carbonaceous siltstone in part; intermixed with SANDSTONE 30%, fine grained, grey, lithic silty throughout poorly to moderately sorted; with STONY COAL 20%, black, dull, tends to stony dull(<1% bright) coaly; fresh, strong            |
| 701    | 705    | CARBONACEOUS SILTSTONE 60%, brownish black, shaly in part; intermixed with SANDSTONE 40%, very fine-fine grained, grey, lithic poorly to moderately sorted silty in part; fresh, moderately strong, carbonaceous lamellae  |
| 705    | 706.07 | CARBONACEOUS SILTSTONE 70%, brownish black, carbonaceous throughout carbonaceous laminations; intermixed with SANDSTONE 30%, fine grained, greyish off-white, lithic abundant carbonaceous XF; fresh, moderately strong  |
| 706.07 | 706.74 | STONY COAL, black, dull, minor bright bands(>1%); fresh, moderately strong   |
| 706.74 | 706.83 | CARBONACEOUS SILTSTONE 70%, brownish black, carbonaceous throughout carbonaceous laminations; intermixed with SANDSTONE 30%, fine grained, greyish off-white, lithic abundant carbonaceous XF; fresh, moderately strong  |
| 706.83 | 707.08 | COAL UNDIFF., black; fresh, weak   |
| 707.08 | 709    | CARBONACEOUS SILTSTONE 70%, brownish black, carbonaceous throughout carbonaceous laminations; intermixed with SANDSTONE 30%, fine grained, greyish off-white, lithic abundant carbonaceous XF; fresh, moderately strong  |
| 709    | 710.03 | SILTSTONE 50%, brownish black, carbonaceous siltstone in part; intermixed with SANDSTONE 50%, fine grained, brownish off-white, lithic abundant carbonaceous XF; fresh, strong, carbonaceous lamellae  |
| 710.03 | 710.25 | COAL, black, dull, minor bright bands(>1%) dull(<1% bright); fresh, weak   |
| 710.25 | 714    | SILTSTONE 50%, brownish black, carbonaceous siltstone in part; intermixed with SANDSTONE 50%, fine grained, brownish off-white, lithic abundant carbonaceous XF; fresh, strong, carbonaceous lamellae  |
| 714    | 715.14 | SANDSTONE 60%, very fine-fine grained, grey, silty throughout poorly to moderately sorted; intermixed with SILTSTONE 30%, brownish grey, carbonaceous laminations micaceous in part; with CARBONACEOUS SILTSTONE 20%, brownish black, carbonaceous; fresh, moderately strong             |
| 715.14 | 715.5  | COAL UNDIFF., black; fresh, weak   |
| 715.5  | 718    | SANDSTONE 60%, very fine-fine grained, grey, silty throughout poorly to moderately sorted; intermixed with SILTSTONE 30%, brownish grey, carbonaceous laminations micaceous in part; with CARBONACEOUS SILTSTONE 20%, brownish black, carbonaceous; fresh, moderately strong             |

| From   | To     | Description   |
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| 718    | 721    | SANDSTONE 60%, very fine-fine grained, greyish off-white, silty throughout poorly to moderately sorted; intermixed with CARBONACEOUS SILTSTONE 40%, brownish black, carbonaceous; fresh, moderately strong                                |
| 721    | 725    | SILTSTONE 70%, brownish grey, micaceous throughout; intermixed with SANDSTONE 30%, fine grained, grey, lithic moderately sorted low sphericity, sub-rounded to sub-angular; fresh, strong   |
| 725    | 731    | SANDSTONE 90%, fine-medium grained, greyish off-white, lithic poorly sorted low sphericity, sub-angular silty; intermixed with SILTSTONE 10%, brownish grey, occasional carbonaceous XF micaceous; fresh, moderately strong               |
| 731    | 735    | SANDSTONE, fine-medium grained, greyish off-white, lithic poorly sorted low sphericity, sub-angular; fresh, weak, carbonaceous fragments  |
| 735    | 735.77 | SANDSTONE, fine-medium grained, greyish off-white, lithic poorly sorted low sphericity, sub-angular silty; fresh, weak  |
| 735.77 | 736.43 | COAL UNDIFF., black; fresh, weak  |
| 736.43 | 737.98 | SILTSTONE 60%, greyish brown, micaceous throughout; intermixed with SANDSTONE 40%, fine grained, greyish off-white, silty throughout lithic poorly to moderately sorted; fresh, strong  |
| 737.98 | 738.8  | COAL UNDIFF., black; fresh, weak  |
| 738.8  | 742    | SILTSTONE 60%, greyish brown, micaceous throughout; intermixed with SANDSTONE 40%, fine grained, greyish off-white, silty throughout lithic poorly to moderately sorted; fresh, strong  |
| 742    | 745    | SILTSTONE 70%, brownish grey, carbonaceous siltstone in part micaceous; intermixed with SANDSTONE 30%, fine grained, greyish off-white, silty throughout lithic poorly to moderately sorted; fresh, strong, carbonaceous lamellae         |
| 745    | 750    | SILTSTONE 60%, brownish black, carbonaceous siltstone in part; intermixed with SANDSTONE 30%, fine grained, greyish off-white, lithic silty tuffaceous fragments; with TUFF 10%, Yellow Brown, carbonaceous XF laminations; fresh, strong |
| 750    | 756    | SILTSTONE 50%, grey, carbonaceous siltstone in part carbonaceous laminations; intermixed with SANDSTONE 50%, fine grained, greyish off-white, silty throughout lithic poorly to moderately sorted; fresh, strong                          |
| 756    | 760    | SANDSTONE 80%, very fine-fine grained, greyish off-white, lithic poorly to moderately sorted low sphericity, sub-angular silty; intermixed with SILTSTONE 20%, brownish grey, micaceous throughout; fresh, moderately strong              |
| 760    | 763    | SANDSTONE, very fine-fine grained, greyish off-white, lithic silty throughout poorly to moderately sorted; fresh, moderately strong, carbonaceous fragments   |
| 763    | 765.72 | SILTSTONE 60%, brownish grey, sandy in part; intermixed with SANDSTONE 40%, fine grained, greyish off-white, lithic moderately sorted low sphericity, sub-angular to angular; fresh, strong   |
| 765.72 | 766.3  | COAL UNDIFF., black; fresh, weak  |
| 766.3  | 767    | SILTSTONE 60%, brownish grey, sandy in part; intermixed with SANDSTONE 40%, fine grained, greyish off-white, lithic moderately sorted low sphericity, sub-angular to angular; fresh, strong   |
| 767    | 768.48 | SANDSTONE 50%, fine grained, grey, lithic silty throughout; intermixed with SILTSTONE 50%, grey, micaceous in part carbonaceous siltstone in part; fresh, moderately strong   |
| 768.48 | 769.1  | COAL, black, dull, minor bright bands(>1%); fresh, weak   |
| 769.1  | 771    | SANDSTONE 50%, fine grained, grey, lithic silty throughout; intermixed with SILTSTONE 50%, grey, micaceous in part carbonaceous siltstone in part; fresh, moderately strong   |

| From   | To     | Description   |
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| 771    | 775    | CARBONACEOUS SILTSTONE 70%, brownish black, shaly in part; intermixed with SANDSTONE 30%, fine grained, grey, lithic poorly to moderately sorted silty throughout; fresh, moderately strong, carbonaceous lamellae  |
| 775    | 776.52 | CARBONACEOUS SILTSTONE 40%, brownish black, shaly in part; intermixed with SANDSTONE 30%, fine-medium grained, greyish off-white, moderately sorted low sphericity, sub-angular tuffaceous XF; with CARBONACEOUS SILTSTONE 30%, brownish black, carbonaceous XF laminations; fresh, strong, carbonaceous lamellae |
| 776.52 | 777.19 | COAL UNDIFF., black; fresh, weak  |
| 777.19 | 778    | CARBONACEOUS SILTSTONE 40%, brownish black, shaly in part; intermixed with SANDSTONE 30%, fine-medium grained, greyish off-white, moderately sorted low sphericity, sub-angular tuffaceous XF; with CARBONACEOUS SILTSTONE 30%, brownish black, carbonaceous XF laminations; fresh, strong, carbonaceous lamellae |
| 778    | 781    | CARBONACEOUS SILTSTONE 50%, brownish black, carbonaceous XF laminations; intermixed with SILTSTONE 50%, brownish black, sandy throughout; fresh, moderately strong  |
| 781    | 785    | SANDSTONE 40%, fine grained, brownish off-white, lithic poorly to moderately sorted silty throughout; intermixed with STONY COAL 30%, brownish black, dull, minor bright bands(>1%); with CARBONACEOUS SILTSTONE 30%, brownish black, carbonaceous XF laminations; fresh, moderately strong                       |
| 785    | 789    | CARBONACEOUS SILTSTONE 50%, brownish black, shaly in part; intermixed with SANDSTONE 45%, greyish off-white, lithic poorly to moderately sorted tuffaceous XF; with TUFF 5%, Yellow Brown, carbonaceous XF laminations; fresh, moderately strong  |
| 789    | 792    | SILTSTONE 50%, brownish black, carbonaceous XF laminations; intermixed with CARBONACEOUS SILTSTONE 50%, brownish black, shaly in part; fresh, moderately strong   |
| 792    | 795    | SILTSTONE 90%, dark grey black, occasional sandy rare coal,banded; intermixed with SANDSTONE 10%, fine grained, grey brown, feldspathic clayey in part; fresh, strong, carbonaceous fragments   |
| 795    | 801    | SILTSTONE 70%, grey brown, rare tuffaceous rare coal,banded; intermixed with SANDSTONE 30%, fine grained, grey light grey, lithic poorly to moderately sorted clayey; fresh, strong, carbonaceous fragments   |
| 801    | 807    | SANDSTONE 80%, fine grained, GN grey, litho- feldspathic rare tuffaceous; intermixed with SILTSTONE 20%, dark brown black, occasional coal,banded sandy in part; fresh, strong  |
| 807    | 812.21 | SILTSTONE 90%, dark grey brown, rare sandy rare coal,banded; intermixed with SANDSTONE 10%, fine grained, grey, lithic rare clayey; fresh, strong, carbonaceous fragments   |
| 812.21 | 813.37 | COAL UNDIFF., black; fresh, weak  |
| 813.37 | 815.9  | SILTSTONE 90%, dark grey brown, rare sandy rare coal,banded; intermixed with SANDSTONE 10%, fine grained, grey, lithic rare clayey; fresh, strong, carbonaceous fragments   |
| 815.9  | 816.92 | COAL, black, feldspathic occasional silty sandy; fresh, moderately strong   |
| 816.92 | 822    | SILTSTONE 90%, dark grey brown, coal,banded in part; intermixed with SANDSTONE 10%, fine grained, grey light grey, rare tuffaceous lithic; fresh, strong, carbonaceous fragments  |
| 822    | 825.9  | SANDSTONE 80%, fine grained, grey, lithic moderately sorted rare coal,banded; intermixed with SILTSTONE 20%, dark grey brown, occasional coal,banded fragments; fresh, strong   |
| 825.9  | 826.7  | COAL, black, coal,banded silty throughout dull, minor bright bands(>1%); fresh, weak  |

| From   | To     | Description  |
|--------|--------|--|
| 826.7  | 828    | SANDSTONE, fine grained, dark grey white, silty in part lithic clayey; fresh, moderately strong  |
| 828    | 831    | COAL 70%, black, dull, minor bright bands(>1%) coal,banded silty in part; intermixed with CARBONACEOUS SILTSTONE 30%, dark grey brown, sandy in part clayey in part; fresh, weak   |
| 831    | 834    | SANDSTONE 80%, fine grained, black, lithic moderately sorted rare clayey; intermixed with SILTSTONE 20%, dark grey brown, coal,banded in part; fresh, strong   |
| 834    | 837    | SILTSTONE 50%, dark grey brown, coal,banded in part; intermixed with COAL 30%, black, dull, minor bright bands(>1%) coal,banded silty in part; intermixed with SANDSTONE 20%, fine grained, grey dark grey, lithic poorly to moderately sorted; fresh, moderately strong, carbonaceous fragments |
| 837    | 849    | SILTSTONE 90%, dark grey brown, coal,banded rare coaly fragments; intermixed with SANDSTONE 10%, fine grained, dark grey, lithic moderately sorted clayey in part; fresh, strong, carbonaceous fragments   |
| 849    | 858    | SILTSTONE 70%, dark grey brown, rare sandy coal,banded laminations; intermixed with CARBONACEOUS SILTSTONE 30%, dark grey black, coaly fragments; fresh, strong, carbonaceous laminae  |
| 858    | 861    | SILTSTONE, dark grey brown, occasional coal,banded rare sandy; fresh, moderately strong  |
| 861    | 864    | SILTSTONE 60%, dark grey brown, coaly fragments mainly dull, frequent bright bands(>10%) XM; intermixed with SANDSTONE 20%, grey brown, coal,banded fragments lithic; intermixed with CARBONACEOUS SILTSTONE 20%, dark grey black; fresh, moderately strong, carbonaceous laminae                |
| 864    | 867    | SILTSTONE 50%, dark grey brown, rare coal,banded occasional moderately sorted; intermixed with SANDSTONE 50%, dark grey, lithic moderately sorted rare clayey; fresh, moderately strong  |
| 867    | 878.21 | SILTSTONE 60%, dark grey brown, occasional moderately sorted coal,banded in part; intermixed with SANDSTONE 20%, dark grey, lithic occasional clayey; intermixed with CARBONACEOUS SILTSTONE 20%, dark grey black, rare coaly fragments; fresh, moderately strong, carbonaceous fragments        |
| 878.21 | 879.32 | COAL, black, interbanded dull & bright(>40%); fresh, weak  |
| 879.32 | 879.41 | SANDSTONE 80%, fine grained, light grey brown, lithic moderately sorted possibly tuffaceous in part; intermixed with SILTSTONE 20%, dark grey brown, coal,banded in part; fresh, strong  |
| 879.41 | 880.03 | COAL, black, dull, minor bright bands(>1%); fresh, weak  |
| 880.03 | 885    | SANDSTONE 80%, fine grained, light grey brown, lithic moderately sorted possibly tuffaceous in part; intermixed with SILTSTONE 20%, dark grey brown, coal,banded in part; fresh, strong  |
| 885    | 888    | SANDSTONE 80%, grey light grey, quartz-lithic silty in part; intermixed with CARBONACEOUS SILTSTONE 20%, dark grey brown, rare coaly fragments; fresh, very strong   |
| 888    | 895.01 | SANDSTONE 70%, grey brown, litho- feldspathic rare quartzose; intermixed with SILTSTONE 30%, brown, quartzo- feldspathic; fresh, strong  |
| 895.01 | 895.94 | COAL, black, coal,banded silty in part dull, minor bright bands(>1%); fresh, moderately strong, carbonaceous fragments   |
| 895.94 | 897.32 | SANDSTONE, grey brown, lithic moderately sorted stringers of coal; fresh, strong   |
| 897.32 | 897.86 | COAL, black, interbanded dull & bright(>40%); fresh, weak  |



| From   | To     | Description   |
|--------|--------|---|
| 897.86 | 898.66 | COAL 90%, black, bright with dull bands(>60%) rare coal,banded silty; intermixed with SANDSTONE 10%, grey brown, lithic moderately sorted; fresh, weak  |
| 898.66 | 898.97 | COAL, black, dull, minor bright bands(>1%); fresh, weak   |
| 898.97 | 900.92 | SANDSTONE, grey brown, lithic moderately sorted; fresh, strong  |
| 900.92 | 903.01 | COAL, black, dull, minor bright bands(>1%); fresh, weak   |
| 903.01 | 903.28 | SANDSTONE, grey brown, lithic moderately sorted; fresh, strong  |
| 903.28 | 904.39 | COAL, black, bright with dull bands(>60%) rare coal,banded silty; fresh, weak   |
| 904.39 | 904.92 | SANDSTONE, grey brown, lithic moderately sorted; fresh, strong  |
| 904.92 | 905.68 | COAL, black, dull, minor bright bands(>1%); fresh, weak   |
| 905.68 | 906    | COAL 90%, black, bright with dull bands(>60%) rare coal,banded silty; intermixed with SANDSTONE 10%, grey brown, lithic moderately sorted; fresh, weak  |
| 906    | 906.88 | CARBONACEOUS SILTSTONE 10%, brown black, rare sandy occasional silty; fresh, moderately strong  |
| 906.88 | 907.28 | COAL, black, dull, minor bright bands(>1%); fresh, weak   |
| 907.28 | 907.37 | CARBONACEOUS SILTSTONE 10%, brown black, rare sandy occasional silty; fresh, moderately strong  |
| 907.37 | 908.43 | COAL, black, dull, minor bright bands(>1%); fresh, weak   |
| 908.43 | 909    | CARBONACEOUS SILTSTONE 10%, brown black, rare sandy occasional silty; fresh, moderately strong  |
| 909    | 910.74 | CARBONACEOUS SILTSTONE 50%, dark grey black, coaly in part; intermixed with SILTSTONE 50%, brown, occasional sandy tending to inferior laminations; fresh, moderately strong  |
| 910.74 | 911.5  | COAL, black, dull, minor bright bands(>1%); fresh, weak   |
| 911.5  | 914.66 | CARBONACEOUS SILTSTONE 50%, dark grey black, coaly in part; intermixed with SILTSTONE 50%, brown, occasional sandy tending to inferior laminations; fresh, moderately strong  |
| 914.66 | 914.92 | COAL, black, dull, minor bright bands(>1%); fresh, weak   |
| 914.92 | 918    | SANDSTONE, fine grained, brown grey, silty in part rare clayey; fresh, moderately strong  |
| 918    | 921    | CARBONACEOUS SILTSTONE 40%, dark grey black, silty in part; intermixed with COAL 30%, black, dull, minor bright bands(>1%) coal,banded silty in part; intermixed with SANDSTONE 30%, fine grained, grey brown, lithic occasional clayey; fresh, moderately strong |
| 921    | 924    | CARBONACEOUS SILTSTONE 80%, black, coaly in part; intermixed with SILTSTONE 20%, grey black, occasional coal,banded tuffaceous in part; fresh, weak   |
| 924    | 927    | SANDSTONE 90%, fine grained, grey white, litho- feldspathic occasional coal,banded fragments; intermixed with COAL 10%, black, coal,banded silty in part; fresh, strong   |
| 927    | 930    | SANDSTONE, fine grained, grey light grey, coal,banded silty fragments litho- feldspathic; fresh, strong   |
| 930    | 933    | SANDSTONE 90%, fine grained, grey light grey, litho- feldspathic moderately sorted; intermixed with COAL 10%, black, coal,banded in part; fresh, moderately strong  |

| From   | To     | Description   |
|--------|--------|---|
| 933    | 934.21 | SILTSTONE 50%, dark grey brown, coal,banded throughout; intermixed with SANDSTONE 50%, fine grained, dark grey brown, lithic occasional coal,banded laminations; fresh, moderately strong   |
| 934.21 | 934.7  | COAL, black, dull, minor bright bands(>1%); fresh, weak   |
| 934.7  | 936    | SILTSTONE 50%, dark grey brown, coal,banded throughout; intermixed with SANDSTONE 50%, fine grained, dark grey brown, lithic occasional coal,banded laminations; fresh, moderately strong   |
| 936    | 939    | SANDSTONE 60%, fine grained, greyish brown, lithic moderately sorted low sphericity, sub-rounded; intermixed with CARBONACEOUS SILTSTONE 30%, brownish black, partly carbonaceous throughout laminations; with STONY COAL 10%, black, dull, minor bright bands(>1%) laminations; fresh, moderately strong                               |
| 939    | 942    | SILTSTONE 60%, brownish black, partly carbonaceous laminations occasional carbonaceous siltstone; intermixed with SANDSTONE 20%, fine-medium grained, greyish brown, lithic moderately sorted low sphericity, sub-rounded silty; with STONY COAL 20%, black, dull, minor bright bands(>1%) dull(<1% bright); fresh, strong, pelletoidal |
| 942    | 945.19 | SANDSTONE 90%, fine grained, greyish brown, lithic silty carbonaceous XF; intermixed with SILTSTONE 10%, grey, carbonaceous siltstone in part occasional sandy; fresh, moderately strong, carbonaceous fragments  |
| 945.19 | 945.5  | COAL, black, dull, tends to stony dull(<1% bright); fresh, weak   |
| 945.5  | 945.99 | SANDSTONE 50%, fine grained, greyish brown, lithic poorly to moderately sorted; intermixed with CARBONACEOUS SILTSTONE 50%, brownish black, laminations shaly in part; fresh, moderately strong   |
| 945.99 | 946.26 | COAL, black, dull, tends to stony dull(<1% bright); fresh, weak   |
| 946.26 | 951    | SANDSTONE 40%, fine grained, greyish brown, lithic tuffaceous XF poorly to moderately sorted; intermixed with CARBONACEOUS SILTSTONE 30%, brownish black, laminations shaly in part; with STONY COAL 30%, brownish black, dull, tends to stony dull(<1% bright); fresh, moderately strong   |
| 951    | 953    | CARBONACEOUS SILTSTONE 80%, brownish black, dull, tends to stony shaly in part; intermixed with SANDSTONE 20%, very fine-fine grained, brownish grey, tuffaceous XF lithic poorly to moderately sorted; fresh, strong, pelletoidal  |
| 953    | 957    | CARBONACEOUS SILTSTONE 60%, black, partly carbonaceous laminations; intermixed with SANDSTONE 40%, very fine-fine grained, brownish grey, lithic silty poorly sorted; fresh, strong   |
| 957    | 960    | SILTSTONE 60%, grey, micaceous TH sandy in part; intermixed with CARBONACEOUS SILTSTONE 20%, brownish black, shaly in part; with SANDSTONE 20%, very fine-fine grained, grey, silty throughout poorly to moderately sorted low sphericity, sub-rounded to sub-angular; fresh, strong, pelletoidal                                       |
| 960    | 963    | SILTSTONE 70%, brownish grey, carbonaceous siltstone in part laminations; intermixed with SANDSTONE 30%, very fine-fine grained, brownish grey, lithic moderately sorted low sphericity, sub-rounded to sub-angular; fresh, strong  |
| 963    | 966    | SANDSTONE 60%, fine grained, brownish grey, lithic poorly sorted silty throughout; intermixed with SILTSTONE 40%, brownish black, carbonaceous siltstone shaly in part; fresh, weak, carbonaceous lamellae  |
| 966    | 969    | SANDSTONE 50%, very fine-fine grained, grey, lithic poorly to moderately sorted high sphericity, sub-rounded to sub-angular; intermixed with CARBONACEOUS SILTSTONE 50%, brownish grey, sandy in part laminations; fresh, moderately strong   |

| From    | To      | Description   |
|---------|---------|---|
| 969     | 972     | CARBONACEOUS SILTSTONE 40%, brownish black, laminations sandy in part; intermixed with SANDSTONE 40%, very fine-fine grained, greyish off-white, lithic laminations in part poorly to moderately sorted; with STONY COAL 20%, black, dull, minor bright bands(>1%); fresh, moderately strong, pelletoidal |
| 972     | 975     | SILTSTONE 70%, brownish grey, laminations carbonaceous siltstone in part; intermixed with SANDSTONE 30%, fine grained, greyish off-white, lithic poorly to moderately sorted silty throughout; fresh, strong, pelletoidal   |
| 975     | 978     | SANDSTONE 80%, fine grained, greyish off-white, lithic poorly to moderately sorted low sphericity, sub-angular silty; intermixed with SILTSTONE 20%, brownish grey, shaly in part laminations; fresh, moderately strong   |
| 978     | 981     | SANDSTONE 60%, fine grained, greyish off-white, lithic poorly to moderately sorted silty throughout; intermixed with SILTSTONE 40%, brownish grey, shaly in part laminations; fresh, moderately strong  |
| 981     | 984     | SANDSTONE, fine-medium grained, whitish grey, lithic silty poorly to moderately sorted low sphericity, sub-rounded to sub-angular; fresh, weak  |
| 984     | 987     | SANDSTONE 90%, fine-medium grained, whitish grey, lithic silty poorly to moderately sorted low sphericity, sub-rounded to sub-angular; intermixed with SILTSTONE 10%, brownish grey, shaly in part rare micaceous; fresh, weak  |
| 987     | 990     | SANDSTONE 80%, fine grained, whitish grey, lithic poorly to moderately sorted silty; intermixed with SILTSTONE 20%, brownish grey, carbonaceous siltstone in part micaceous in part; fresh, weak  |
| 990     | 993     | SANDSTONE, fine grained, whitish grey, lithic silty throughout poorly sorted; fresh, weak, carbonaceous fragments   |
| 993     | 996     | SANDSTONE 90%, fine grained, whitish grey, lithic silty throughout moderately sorted; intermixed with SILTSTONE 10%, brownish grey, sandy in part; fresh, weak, carbonaceous fragments  |
| 996     | 999     | SANDSTONE 70%, very fine-fine grained, whitish grey, lithic moderately sorted high sphericity, sub-angular; intermixed with SILTSTONE 30%, brownish grey, laminations; fresh, weak, carbonaceous fragments  |
| 999     | 1002    | SILTSTONE 50%, brownish grey, laminations sandy in part; intermixed with SANDSTONE 50%, whitish grey, lithic silty throughout; fresh, strong, sandy   |
| 1002    | 1005    | SANDSTONE 90%, fine grained, whitish grey, lithic moderately sorted low sphericity, sub-rounded to sub-angular; intermixed with SILTSTONE 10%, brownish grey, carbonaceous siltstone in part; fresh, weak   |
| 1005    | 1008    | SANDSTONE 60%, very fine-fine grained, whitish grey, lithic silty throughout; intermixed with SILTSTONE 40%, fine grained, whitish grey, partly carbonaceous XF lithic moderately sorted; fresh, weak, carbonaceous fragments   |
| 1008    | 1011    | SILTSTONE 40%, brownish grey, sandy in part; intermixed with CARBONACEOUS SILTSTONE 30%, black, shaly in part; with SANDSTONE 30%, fine grained, whitish grey, lithic moderately sorted moderately sorted; fresh, strong, sandy, carbonaceous lamellae  |
| 1011    | 1014    | SANDSTONE 70%, very fine-fine grained, whitish grey, lithic poorly to moderately sorted silty in part; intermixed with SILTSTONE 20%, brownish grey, micaceous throughout; with STONY COAL 10%, black, dull, tends to stony dirty; fresh, weak, carbonaceous fragments                                    |
| 1014    | 1017    | SANDSTONE 60%, very fine-fine grained, whitish grey, lithic silty throughout poorly to moderately sorted; intermixed with SILTSTONE 40%, brownish grey, micaceous throughout laminations; fresh, weak, carbonaceous fragments   |
| 1017    | 1022.39 | SANDSTONE 80%, very fine-fine grained, whitish grey, lithic clayey in part; intermixed with SILTSTONE 20%, brownish grey, micaceous throughout; fresh, weak   |
| 1022.39 | 1022.66 | COAL, black, dull, minor bright bands(>1%); fresh, weak   |

| From    | To      | Description   |
|---------|---------|---|
| 1022.66 | 1026    | SILTSTONE 50%, brownish grey, micaceous throughout sandy in part; intermixed with SANDSTONE 30%, very fine-fine grained, whitish grey, clayey throughout lithic; with CARBONACEOUS SILTSTONE 20%, brownish black, partly carbonaceous shaly in part; fresh, strong                              |
| 1026    | 1030    | SILTSTONE 70%, brownish grey, carbonaceous siltstone in part; intermixed with SANDSTONE 30%, very fine-fine grained, greyish off-white, lithic silty in part moderately sorted; fresh, moderately strong, carbonaceous lamellae   |
| 1030    | 1033    | SILTSTONE 60%, brownish grey, carbonaceous siltstone in part; intermixed with SANDSTONE 40%, whitish grey, clayey in part lithic; fresh, strong, carbonaceous lamellae  |
| 1033    | 1036    | SANDSTONE 60%, fine grained, whitish grey, lithic poorly to moderately sorted high sphericity, sub-angular; intermixed with SILTSTONE 30%, brownish grey, carbonaceous siltstone in part micaceous in part; with STONY COAL 10%, black, dull, minor bright bands(>1%); fresh, moderately strong |
| 1036    | 1040    | SILTSTONE 70%, brownish black, occasional shaly carbonaceous siltstone in part; intermixed with SANDSTONE 30%, whitish grey, lithic moderately sorted low sphericity, sub-rounded to sub-angular; fresh, strong, shaly  |
| 1040    | 1043    | SILTSTONE 70%, brownish grey, sandy in part micaceous; intermixed with SANDSTONE 20%, fine grained, whitish grey, lithic occasional silty; with STONY COAL 10%, brownish black, carbonaceous stony; fresh, strong, sandy  |
| 1043    | 1046    | SANDSTONE 70%, fine grained, whitish grey, lithic poorly to moderately sorted low sphericity, sub-rounded to sub-angular; intermixed with SILTSTONE 30%, brownish grey, laminations micaceous; fresh, moderately strong, carbonaceous fragments   |
| 1046    | 1050    | SANDSTONE 40%, fine-medium grained, whitish grey, rare tuffaceous lithic poorly to moderately sorted; intermixed with CARBONACEOUS SILTSTONE 40%, brownish black, partly carbonaceous laminations; with STONY COAL 20%, black, coaly in part; fresh, moderately strong                          |
| 1050    | 1053    | SANDSTONE 80%, fine grained, whitish grey, lithic silty throughout poorly to moderately sorted; intermixed with SILTSTONE 20%, brownish grey, laminations clayey; fresh, moderately strong  |
| 1053    | 1056    | SANDSTONE 50%, fine grained, whitish grey, lithic silty throughout poorly to moderately sorted; intermixed with SILTSTONE 30%, brownish grey, laminations sandy in part; with CARBONACEOUS SILTSTONE 20%, black, shaly in part; fresh, weak   |
| 1056    | 1059.12 | SILTSTONE 60%, brownish grey, laminations; intermixed with CARBONACEOUS SILTSTONE 40%, brownish black, laminations shaly in part; fresh, strong   |
| 1059.12 | 1059.67 | COAL, black, stony in part; fresh, weak   |
| 1059.67 | 1060    | SILTSTONE 60%, brownish grey, laminations; intermixed with CARBONACEOUS SILTSTONE 40%, brownish black, laminations shaly in part; fresh, strong   |
| 1060    | 1063    | SANDSTONE 40%, fine grained, whitish grey, lithic moderately sorted; intermixed with SILTSTONE 30%, brownish grey, sandy in part; with STONY COAL 30%, black, coaly; fresh, moderately strong   |
| 1063    | 1070    | SANDSTONE 40%, fine grained, grey, lithic poorly to moderately sorted low sphericity, sub-rounded to sub-angular; intermixed with SILTSTONE 40%, brownish black, occasional carbonaceous siltstone laminations; with STONY COAL 20%, black, coaly stony; fresh, moderately strong               |
| 1070    | 1073    | SILTSTONE 60%, brownish grey, occasional carbonaceous siltstone; intermixed with SANDSTONE 40%, very fine-fine grained, grey, lithic poorly to moderately sorted low sphericity, sub-rounded to sub-angular silty; fresh, strong  |
| 1073    | 1076    | SANDSTONE 80%, fine grained, whitish grey, lithic poorly to moderately sorted; intermixed with SILTSTONE 20%, brownish grey, RR carbonaceous siltstone sandy; fresh, moderately strong  |

| <b>From</b> | <b>To</b> | <b>Description</b>  |
|-------------|-----------|---|
| 1076        | 1080      | SANDSTONE 60%, fine grained, grey, lithic moderately sorted low sphericity, sub-angular; intermixed with SILTSTONE 40%, brownish grey, laminations in part micaceous; fresh, moderately strong  |
| 1080        | 1084      | SANDSTONE, fine-medium grained, whitish grey, lithic silty throughout; fresh, weak  |
| 1084        | 1088      | SANDSTONE 80%, fine grained, whitish grey, lithic poorly to moderately sorted low sphericity, sub-rounded to sub-angular; intermixed with SILTSTONE 20%, brownish grey, rare carbonaceous siltstone sandy in part; fresh, moderately strong |
| 1088        | 1091      | SANDSTONE, fine-medium grained, whitish grey, lithic poorly to moderately sorted low sphericity, sub-rounded to sub-angular; fresh, weak  |
| 1091        | 1094      | SANDSTONE 90%, fine-medium grained, whitish grey, silty in part lithic; intermixed with SILTSTONE 10%, brownish grey, laminations micaceous in part; fresh, weak, silty   |
| 1094        | 1097      | SANDSTONE 60%, fine grained, grey, lithic poorly to moderately sorted low sphericity, sub-angular; intermixed with SILTSTONE 40%, brownish grey, micaceous in part laminations; fresh, moderately strong                                    |
| 1097        | 1100      | SILTSTONE 70%, brownish grey, rare micaceous; intermixed with SANDSTONE 30%, fine-medium grained, greyish off-white, lithic moderately sorted high sphericity, sub-rounded to sub-angular; fresh, strong                                    |

End of Hole **Waukivory 13**

**GPAC**

**AGL**

**Borehole Number: Waukivory 13**

**Drilling Method:**

**Logged by:**

**Date Drilled: 10/11/2012**

**Sheet: 1 of 55**

**Easting: 402416.74**

**Northing: 6452164.46**

**R.L.: 100.3**

**Dip: 0**

**Dir: 0**

| Formation | Seam | Sample Number | Depth below Collar(m) | Graphic Log | Geophysical Traces |           |             |                   |  |  |
|-----------|------|---------------|-----------------------|-------------|--------------------|-----------|-------------|-------------------|--|--|
|           |      |               |                       |             | DESCRIPTION        | GAMMA api | Compensated | Limestone Neutron |  |  |
|           |      |               | 0                     |             |                    |           |             |                   |  |  |
|           |      |               | 1                     |             |                    |           |             |                   |  |  |
|           |      |               | 2                     |             |                    |           |             |                   |  |  |
|           |      |               | 3                     |             |                    |           |             |                   |  |  |
|           |      |               | 4                     |             |                    |           |             |                   |  |  |
|           |      |               | 5                     |             |                    |           |             |                   |  |  |
|           |      |               | 6                     |             |                    |           |             |                   |  |  |
|           |      |               | 7                     |             |                    |           |             |                   |  |  |
|           |      |               | 8                     |             |                    |           |             |                   |  |  |
|           |      |               | 9                     |             |                    |           |             |                   |  |  |
|           |      |               | 10                    |             |                    |           |             |                   |  |  |
|           |      |               | 11                    |             |                    |           |             |                   |  |  |
|           |      |               | 12                    |             |                    |           |             |                   |  |  |
|           |      |               | 13                    |             |                    |           |             |                   |  |  |
|           |      |               | 14                    |             |                    |           |             |                   |  |  |
|           |      |               | 15                    |             |                    |           |             |                   |  |  |
|           |      |               | 16                    |             |                    |           |             |                   |  |  |
|           |      |               | 17                    |             |                    |           |             |                   |  |  |
|           |      |               | 18                    |             |                    |           |             |                   |  |  |
|           |      |               | 19                    |             |                    |           |             |                   |  |  |
|           |      |               | 20                    |             |                    |           |             |                   |  |  |

**Geophysical Traces**

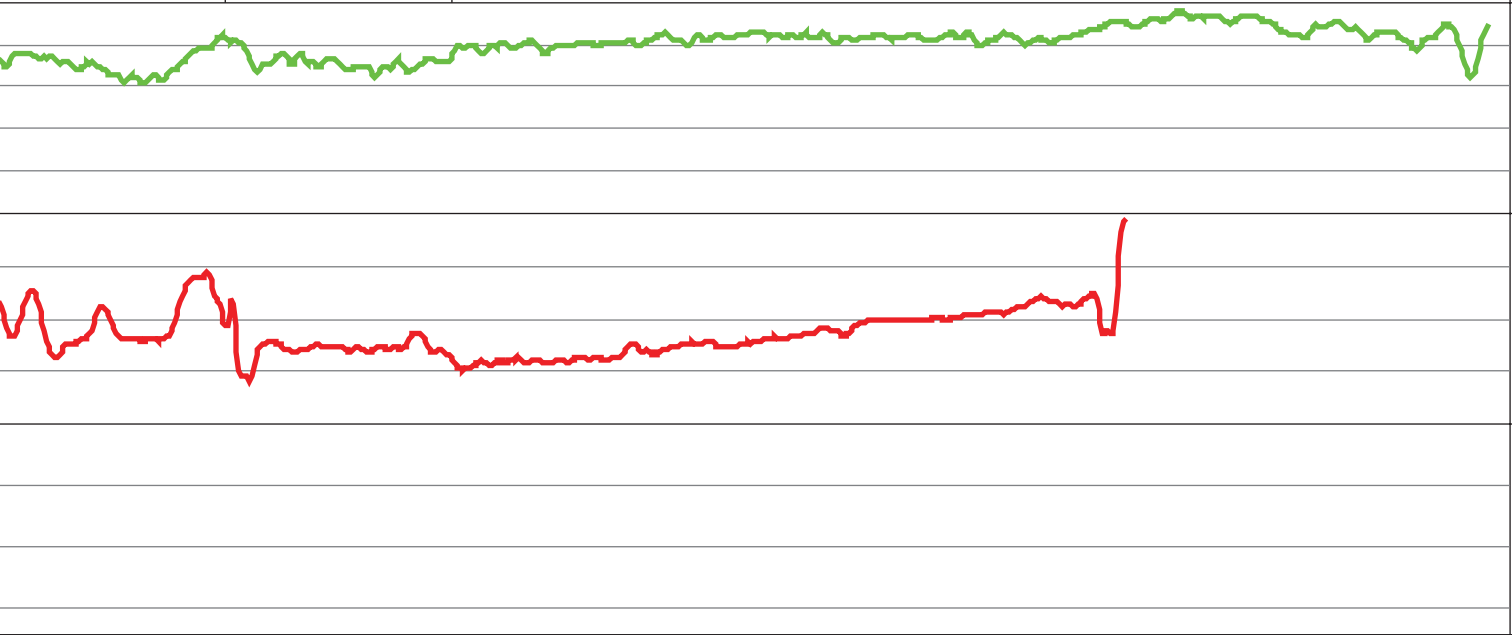
GAMMA api: 50, 100, 150, 200

Compensated: 1.5, 2, 2.5

Limestone Neutron: 30, 60, 90

SANDSTONE 80%, fine grained, light grey, occasional coal banded FR moderately sorted, intermixed with SILTSTONE 20%, grey brown, stringers of coal with stone bands in part, slightly weathered

COAL 50%, black, coal banded sandy throughout mainly dull, frequent bright bands (>10%); intermixed with SANDSTONE 30%, fine grained, dark grey brown, moderately sorted coal banded occasional silty; with TUFF 20%, cream white, silty occasional clayey; fresh





|  |  | Formation | Seam | Sample Number | Depth below Collar(m) | Graphic Log | DESCRIPTION  | Geophysical Traces |             |                   |
|--|--|-----------|------|---------------|-----------------------|-------------|--|--------------------|-------------|-------------------|
|  |  |           |      |               |                       |             |  | GAMMA api          | Compensated | Limestone Neutron |
|  |  |           |      |               | 43                    |             | SILTSTONE 70%, dark grey brown, rare coaly; intermixed with SANDSTONE 30%, fine grained, grey, moderately sorted lithic rare micaceous; fresh                                |                    |             |                   |
|  |  |           |      |               | 44                    |             | CARBONACEOUS SILTSTONE 80%, dark grey black, shaly coaly in part; intermixed with SANDSTONE 20%, fine grained, grey, silty in part moderately sorted; fresh                  |                    |             |                   |
|  |  |           |      |               | 45                    |             |  |                    |             |                   |
|  |  |           |      |               | 46                    |             |  |                    |             |                   |
|  |  |           |      |               | 47                    |             | SANDSTONE 80%, fine grained, dark grey, lithic moderately sorted rare coal banded; intermixed with SILTSTONE 20%, dark grey brown, rare coaly occasional coal banded; fresh  |                    |             |                   |
|  |  |           |      |               | 48                    |             |  |                    |             |                   |
|  |  |           |      |               | 49                    |             |  |                    |             |                   |
|  |  |           |      |               | 50                    |             | SANDSTONE 60%, fine grained, grey, occasional quartzose moderately sorted; intermixed with SILTSTONE 40%, dark grey brown, coal banded throughout; fresh                     |                    |             |                   |
|  |  |           |      |               | 51                    |             |  |                    |             |                   |
|  |  |           |      |               | 52                    |             |  |                    |             |                   |
|  |  |           |      |               | 53                    |             |  |                    |             |                   |
|  |  |           |      |               | 54                    |             |  |                    |             |                   |
|  |  |           |      |               | 55                    |             |  |                    |             |                   |
|  |  |           |      |               | 56                    |             | SANDSTONE 80%, fine grained, grey, moderately sorted lithic possibly tuffaceous in part; intermixed with SILTSTONE 20%, dark grey brown, rare coal banded laminations; fresh |                    |             |                   |
|  |  |           |      |               | 57                    |             |  |                    |             |                   |
|  |  |           |      |               | 58                    |             |  |                    |             |                   |
|  |  |           |      |               | 59                    |             |  |                    |             |                   |
|  |  |           |      |               | 60                    |             |  |                    |             |                   |
|  |  |           |      |               | 61                    |             |  |                    |             |                   |
|  |  |           |      |               | 62                    |             | SANDSTONE 90%, fine grained, green grey, moderately sorted lithic tuffaceous throughout; intermixed with SILTSTONE 10%, grey, sandy; fresh                                   |                    |             |                   |
|  |  |           |      |               | 63                    |             |  |                    |             |                   |
|  |  |           |      |               | 64                    |             |  |                    |             |                   |
|  |  |           |      |               | 65                    |             | TUFF, green grey, sandy occasional lithic; fresh   |                    |             |                   |



| Formation |  | Seam | Sample Number | Depth below Collar(m) | Graphic Log | DESCRIPTION   | Geophysical Traces |  |  |  |  |  |
|-----------|--|------|---------------|-----------------------|-------------|---|--------------------|--|--|--|--|--|
|           |  |      |               | 66                    |             | TUFF, green grey, sandy occasional lithic: fresh  |                    |  |  |  |  |  |
|           |  |      | 67            |                       |             |   |                    |  |  |  |  |  |
|           |  |      | 68            |                       |             |   |                    |  |  |  |  |  |
|           |  |      | 69            |                       |             |   |                    |  |  |  |  |  |
|           |  |      | 70            |                       |             |   |                    |  |  |  |  |  |
|           |  |      | 71            |                       |             |   |                    |  |  |  |  |  |
|           |  |      | 72            |                       |             |   |                    |  |  |  |  |  |
|           |  |      | 73            |                       |             |   |                    |  |  |  |  |  |
|           |  |      | 74            |                       |             |   |                    |  |  | SILTSTONE 60%, grey, occasional sandy rare coal banded; intermixed with TUFF 40%, green grey, silty throughout occasional lithic: fresh  |  |  |
|           |  |      | 75            |                       |             |   |                    |  |  |  |  |  |
|           |  |      | 76            |                       |             |   |                    |  |  |  |  |  |
|           |  |      | 77            |                       |             |   |                    |  |  | SILTSTONE 70%, dark grey brown, rare coal banded; intermixed with TUFF 20%, grey white, sandy; with SANDSTONE 10%, fine grained, grey dark grey, lithic moderately sorted; fresh |  |  |
|           |  |      | 78            |                       |             |   |                    |  |  |  |  |  |
|           |  |      | 79            |                       |             |   |                    |  |  |  |  |  |
|           |  |      | 80            |                       |             | SANDSTONE 60%, fine grained, light grey grey, lithic moderately sorted silty; intermixed with SILTSTONE 40%, dark grey, rare shaly; fresh           |                    |  |  |  |  |  |
|           |  |      | 81            |                       |             |   |                    |  |  |  |  |  |
|           |  |      | 82            |                       |             |   |                    |  |  |  |  |  |
|           |  |      | 83            |                       |             |   |                    |  |  |  |  |  |
|           |  |      | 84            |                       |             |   |                    |  |  |  |  |  |
|           |  |      | 85            |                       |             |   |                    |  |  |  |  |  |
|           |  |      | 86            |                       |             |   |                    |  |  |  |  |  |
|           |  |      | 87            |                       |             | SILTSTONE 80%, dark grey brown, coaly FR throughout coal banded; intermixed with SANDSTONE 20%, fine grained, grey, lithic moderately sorted; fresh |                    |  |  |  |  |  |
|           |  |      | 88            |                       |             |   |                    |  |  |  |  |  |

| Formation |  | Seam |  | Sample Number |  | Depth below Collar(m) |  | Graphic Log |  | DESCRIPTION |  | Geophysical Traces |     |    |
|-----------|--|------|--|---------------|--|-----------------------|--|-------------|--|-------------|--|--------------------|-----|----|
|           |  |      |  |               |  |                       |  |             |  |             |  |                    |     |    |
|           |  |      |  | 88            |  |                       |  |             |  |             |  | 50                 | 1.5 | 30 |
|           |  |      |  | 89            |  |                       |  |             |  |             |  | 100                | 2.0 | 60 |
|           |  |      |  | 90            |  |                       |  |             |  |             |  | 150                | 2.2 | 90 |
|           |  |      |  | 91            |  |                       |  |             |  |             |  | 200                | 2.3 |    |
|           |  |      |  | 92            |  |                       |  |             |  |             |  |                    | 2.4 |    |
|           |  |      |  | 93            |  |                       |  |             |  |             |  |                    | 2.5 |    |
|           |  |      |  | 94            |  |                       |  |             |  |             |  |                    |     |    |
|           |  |      |  | 95            |  |                       |  |             |  |             |  |                    |     |    |
|           |  |      |  | 96            |  |                       |  |             |  |             |  |                    |     |    |
|           |  |      |  | 97            |  |                       |  |             |  |             |  |                    |     |    |
|           |  |      |  | 98            |  |                       |  |             |  |             |  |                    |     |    |
|           |  |      |  | 99            |  |                       |  |             |  |             |  |                    |     |    |
|           |  |      |  | 100           |  |                       |  |             |  |             |  |                    |     |    |
|           |  |      |  | 101           |  |                       |  |             |  |             |  |                    |     |    |
|           |  |      |  | 102           |  |                       |  |             |  |             |  |                    |     |    |
|           |  |      |  | 103           |  |                       |  |             |  |             |  |                    |     |    |
|           |  |      |  | 104           |  |                       |  |             |  |             |  |                    |     |    |
|           |  |      |  | 105           |  |                       |  |             |  |             |  |                    |     |    |
|           |  |      |  | 106           |  |                       |  |             |  |             |  |                    |     |    |
|           |  |      |  | 107           |  |                       |  |             |  |             |  |                    |     |    |
|           |  |      |  | 108           |  |                       |  |             |  |             |  |                    |     |    |
|           |  |      |  | 109           |  |                       |  |             |  |             |  |                    |     |    |
|           |  |      |  | 110           |  |                       |  |             |  |             |  |                    |     |    |

Formation

Seam

Sample Number

Depth below Collar(m)

Graphic Log

DESCRIPTION

Geophysical Traces

GAMMA api

Compensated

Limestone Neutron

SILTSTONE 80%, dark grey brown, coaly FR throughout coal-banded; intermixed with SANDSTONE 20%, fine grained, grey, lithic moderately sorted; fresh

SANDSTONE 70%, fine grained, dark grey grey, lithic moderately to well sorted rare coal-banded; intermixed with SILTSTONE 30%, dark grey brown, occasional coal-banded laminations; fresh

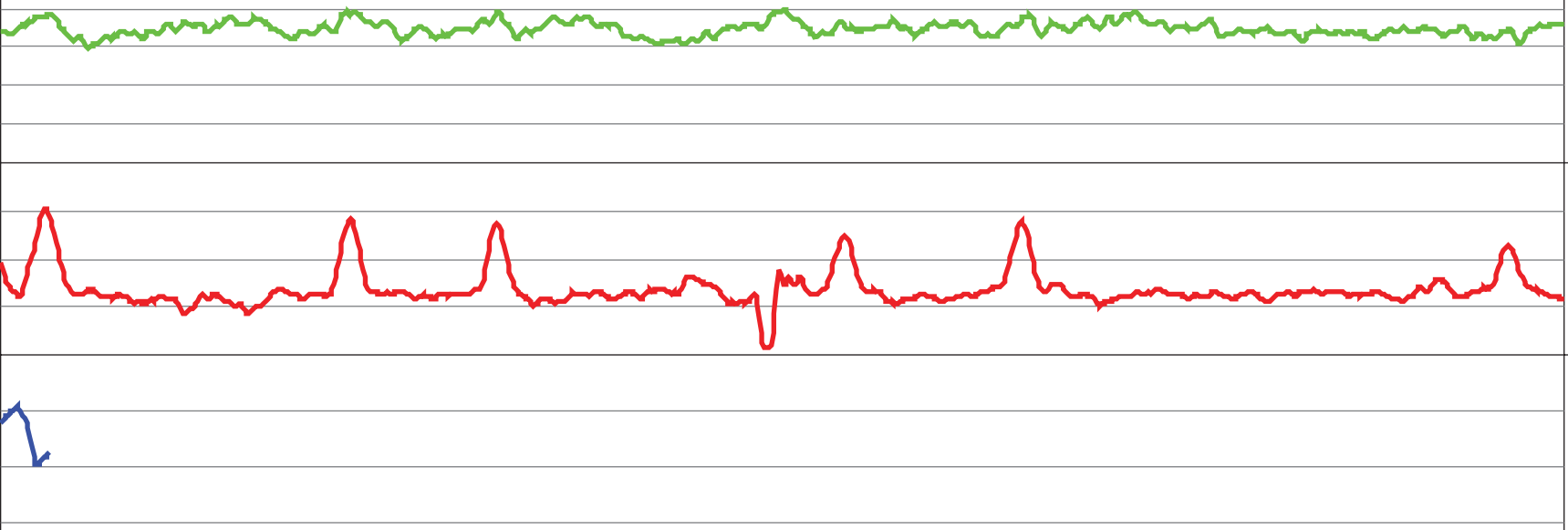
SANDSTONE 90%, fine grained, grey/dark grey, litho-feldspathic moderately to well sorted rare coal-banded; intermixed with SILTSTONE 10%, dark grey, sandy in part; fresh

SAND 90%, fine grained, dark grey brown, coal-banded throughout; intermixed with CARBONACEOUS SHALE 10%, dark grey black, occasional coaly FR; fresh

SILTSTONE 80%, dark grey brown, coal-banded throughout; intermixed with SANDSTONE 20%, fine grained, dark grey, lithic moderately sorted high sphericity, sub-rounded to sub-angular; fresh

SAND 50%, fine grained, dark grey grey, coal-banded; intermixed with SILTSTONE 30%, EY brown, coal-banded throughout coaly FR, with COAL 20%, dark grey/black, occasional silty dull, minor bright bands (>1%); fresh

SILTSTONE 80%, dark grey brown, rare coal-banded rare coaly; intermixed with SANDSTONE 20%, fine grained, grey, lithic moderately sorted; fresh



| Formation | Seam | Sample Number | Depth below Collar(m) | Graphic Log | DESCRIPTION   | Geophysical Traces |             |                   |
|-----------|------|---------------|-----------------------|-------------|---|--------------------|-------------|-------------------|
|           |      |               |                       |             |   | GAMMA api          | Compensated | Limestone Neutron |
|           |      |               | 111                   |             | SILTSTONE 80%, dark grey brown, rare coal banded rare coaly; intermixed with SANDSTONE 20%, fine grained, grey, lithic moderately sorted; fresh   | 50                 |             |                   |
|           |      |               | 112                   |             | SILTSTONE 80%, dark grey brown, rare coal banded rare coaly; intermixed with SANDSTONE 20%, fine grained, grey, lithic moderately sorted; fresh   | 100                |             |                   |
|           |      |               | 113                   |             | SANDSTONE 60%, fine grained, dark grey, lithic moderately sorted rare coal banded; intermixed with SILTSTONE 40%, grey, occasional coal banded; fresh   | 150                |             |                   |
|           |      |               | 114                   |             | SANDSTONE 60%, fine grained, dark grey, lithic moderately sorted rare coal banded; intermixed with SILTSTONE 40%, grey, occasional coal banded; fresh   | 200                |             |                   |
|           |      |               | 115                   |             | SANDSTONE 80%, fine grained, greyish off-white, lithic moderately sorted low sphericity; sub-rounded to sub-angular; intermixed with SILTSTONE 20%, brownish grey; fresh  | 250                |             |                   |
|           |      |               | 116                   |             | SILTSTONE 80%, dark grey brown, coaly ferruginous coal banded throughout; intermixed with SANDSTONE 20%, fine grained, dark grey grey, lithic moderately sorted; fresh  | 300                |             |                   |
|           |      |               | 117                   |             | SILTSTONE 80%, dark grey brown, coaly ferruginous coal banded throughout; intermixed with SANDSTONE 20%, fine grained, dark grey grey, lithic moderately sorted; fresh  | 350                |             |                   |
|           |      |               | 118                   |             | SILTSTONE 80%, dark grey brown, coaly ferruginous coal banded throughout; intermixed with SANDSTONE 20%, fine grained, dark grey grey, lithic moderately sorted; fresh  | 400                |             |                   |
|           |      |               | 119                   |             | SILTSTONE 80%, dark grey brown, coaly ferruginous coal banded throughout; intermixed with SANDSTONE 20%, fine grained, dark grey grey, lithic moderately sorted; fresh  | 450                |             |                   |
|           |      |               | 120                   |             | SILTSTONE 80%, dark grey brown, coaly ferruginous coal banded throughout; intermixed with SANDSTONE 20%, fine grained, dark grey grey, lithic moderately sorted; fresh  | 500                |             |                   |
|           |      |               | 121                   |             | SILTSTONE 80%, dark grey brown, coaly ferruginous coal banded throughout; intermixed with SANDSTONE 20%, fine grained, dark grey grey, lithic moderately sorted; fresh  | 550                |             |                   |
|           |      |               | 122                   |             | SANDSTONE 90%, fine grained, dark grey black, lithic moderately sorted coal banded throughout; intermixed with COAL 10%, black brown, silty in part clayey matrix; fresh  | 600                |             |                   |
|           |      |               | 123                   |             | SANDSTONE 90%, fine grained, dark grey black, lithic moderately sorted coal banded throughout; intermixed with COAL 10%, black brown, silty in part clayey matrix; fresh  | 650                |             |                   |
|           |      |               | 124                   |             | SANDSTONE 90%, fine grained, dark grey black, lithic moderately sorted coal banded throughout; intermixed with COAL 10%, black brown, silty in part clayey matrix; fresh  | 700                |             |                   |
|           |      |               | 125                   |             | SANDSTONE 80%, very fine-fine grained, grey, lithic low sphericity, sub-rounded moderately to moderately to well sorted; intermixed with SILTSTONE 20%, brownish grey, occasional carbonaceous FR; fresh  | 750                |             |                   |
|           |      |               | 126                   |             | SANDSTONE 80%, very fine-fine grained, grey, lithic low sphericity, sub-rounded moderately to moderately to well sorted; intermixed with SILTSTONE 20%, brownish grey, occasional carbonaceous FR; fresh  | 800                |             |                   |
|           |      |               | 127                   |             | SANDSTONE 60%, fine grained, grey, lithic low sphericity, sub-rounded moderately to well sorted; intermixed with SILTSTONE 30%, brownish grey, occasional carbonaceous laminations; with COAL 10%, black, stony in part dull, tends to stony; fresh | 850                |             |                   |
|           |      |               | 128                   |             | SANDSTONE 60%, fine grained, grey, lithic low sphericity, sub-rounded moderately to well sorted; intermixed with SILTSTONE 30%, brownish grey, occasional carbonaceous laminations; with COAL 10%, black, stony in part dull, tends to stony; fresh | 900                |             |                   |
|           |      |               | 129                   |             | SANDSTONE 60%, fine grained, grey, lithic low sphericity, sub-rounded moderately to well sorted; intermixed with SILTSTONE 30%, brownish grey, occasional carbonaceous laminations; with COAL 10%, black, stony in part dull, tends to stony; fresh | 950                |             |                   |
|           |      |               | 130                   |             | SANDSTONE 60%, fine grained, grey, lithic low sphericity, sub-rounded moderately to well sorted; intermixed with SILTSTONE 30%, brownish grey, occasional carbonaceous laminations; with COAL 10%, black, stony in part dull, tends to stony; fresh | 1000               |             |                   |
|           |      |               | 131                   |             | SANDSTONE 60%, fine grained, grey, lithic low sphericity, sub-rounded moderately to well sorted; intermixed with SILTSTONE 30%, brownish grey, occasional carbonaceous laminations; with COAL 10%, black, stony in part dull, tends to stony; fresh | 1050               |             |                   |
|           |      |               | 132                   |             | SANDSTONE 60%, fine grained, grey, lithic low sphericity, sub-rounded moderately to well sorted; intermixed with SILTSTONE 30%, brownish grey, occasional carbonaceous laminations; with COAL 10%, black, stony in part dull, tends to stony; fresh | 1100               |             |                   |
|           |      |               | 133                   |             | SANDSTONE 60%, fine grained, grey, lithic low sphericity, sub-rounded moderately to well sorted; intermixed with SILTSTONE 30%, brownish grey, occasional carbonaceous laminations; with COAL 10%, black, stony in part dull, tends to stony; fresh | 1150               |             |                   |

| Formation | Seam | Sample Number | Depth below Collar(m) | Graphic Log | DESCRIPTION  | Geophysical Traces |             |                   |
|-----------|------|---------------|-----------------------|-------------|--|--------------------|-------------|-------------------|
|           |      |               |                       |             |  | GAMMA api          | Compensated | Limestone Neutron |
|           |      |               | 134                   |             | SANDSTONE 80%, fine grained, greyish off-white, lithic moderately sorted low sphericity, sub-rounded to sub-angular; intermixed with SILTSTONE 20%, brownish grey; fresh   | 100                | 2.5         | 30                |
|           |      |               | 135                   |             |  | 100                | 2.5         | 30                |
|           |      |               | 136                   |             | SILTSTONE 60%, dark grey brown, occasional carbonaceous laminations; intermixed with SANDSTONE 40%, fine grained, greyish off-white, lithic moderately sorted low sphericity, sub-rounded to sub-angular; fresh                  | 100                | 2.5         | 30                |
|           |      |               | 137                   |             |  | 100                | 2.5         | 30                |
|           |      |               | 138                   |             |  | 100                | 2.5         | 30                |
|           |      |               | 139                   |             |  | 100                | 2.5         | 30                |
|           |      |               | 140                   |             | SANDSTONE 70%, fine grained, grey, lithic silty in part; intermixed with SILTSTONE 30%, brownish grey, carbonaceous laminations; fresh   | 100                | 2.5         | 30                |
|           |      |               | 141                   |             |  | 100                | 2.5         | 30                |
|           |      |               | 142                   |             |  | 100                | 2.5         | 30                |
|           |      |               | 143                   |             | SANDSTONE 50%, fine-medium grained, greyish off-white, lithic poorly to moderately sorted low sphericity, sub-angular, intermixed with SILTSTONE 50%, brownish grey, sandy in part; fresh  | 100                | 2.5         | 30                |
|           |      |               | 144                   |             |  | 100                | 2.5         | 30                |
|           |      |               | 145                   |             |  | 100                | 2.5         | 30                |
|           |      |               | 146                   |             | SANDSTONE 60%, fine-medium grained, greyish off-white, lithic occasional coaly laminations; intermixed with SILTSTONE 30%, brownish grey, occasional carbonaceous laminations; with COAL 10%, black, dull, tends to stony; fresh | 100                | 2.5         | 30                |
|           |      |               | 147                   |             |  | 100                | 2.5         | 30                |
|           |      |               | 148                   |             |  | 100                | 2.5         | 30                |
|           |      |               | 149                   |             |  | 100                | 2.5         | 30                |
|           |      |               | 150                   |             | SILTSTONE 60%, brownish grey, occasional carbonaceous laminations; intermixed with SANDSTONE 40%, fine-medium grained, greyish off-white, lithic poorly to moderately sorted low sphericity, sub-rounded to sub-angular; fresh   | 100                | 2.5         | 30                |
|           |      |               | 151                   |             |  | 100                | 2.5         | 30                |
|           |      |               | 152                   |             |  | 100                | 2.5         | 30                |
|           |      |               | 153                   |             | SILTSTONE 70%, brownish grey, micaceous in part; intermixed with SANDSTONE 30%, fine-medium grained, greyish off-white, lithic poorly to moderately sorted low sphericity, sub-rounded to sub-angular; fresh                     | 100                | 2.5         | 30                |
|           |      |               | 154                   |             |  | 100                | 2.5         | 30                |
|           |      |               | 155                   |             |  | 100                | 2.5         | 30                |
|           |      |               | 156                   |             |  | 100                | 2.5         | 30                |



| Formation |  | Seam |  | Sample Number |  | Depth below Collar(m) |  | Graphic Log |  | DESCRIPTION |  | Geophysical Traces |     |    |  |
|-----------|--|------|--|---------------|--|-----------------------|--|-------------|--|-------------|--|--------------------|-----|----|--|
|           |  |      |  | 001DA_DB      |  |                       |  |             |  |             |  |                    |     |    |  |
| 179       |  |      |  |               |  |                       |  |             |  |             |  | 50                 |     |    |  |
| 180       |  |      |  |               |  |                       |  |             |  |             |  | 100                |     |    |  |
| 181       |  |      |  |               |  |                       |  |             |  |             |  | 150                |     |    |  |
| 182       |  |      |  |               |  |                       |  |             |  |             |  | 200                |     |    |  |
| 183       |  |      |  |               |  |                       |  |             |  |             |  |                    | 1.5 |    |  |
| 184       |  |      |  |               |  |                       |  |             |  |             |  |                    | 2.0 |    |  |
| 185       |  |      |  |               |  |                       |  |             |  |             |  |                    | 2.5 |    |  |
| 186       |  |      |  |               |  |                       |  |             |  |             |  |                    |     | 30 |  |
| 187       |  |      |  |               |  |                       |  |             |  |             |  |                    |     | 60 |  |
| 188       |  |      |  |               |  |                       |  |             |  |             |  |                    |     | 90 |  |
| 189       |  |      |  |               |  |                       |  |             |  |             |  |                    |     |    |  |
| 190       |  |      |  |               |  |                       |  |             |  |             |  |                    |     |    |  |
| 191       |  |      |  |               |  |                       |  |             |  |             |  |                    |     |    |  |
| 192       |  |      |  |               |  |                       |  |             |  |             |  |                    |     |    |  |
| 193       |  |      |  |               |  |                       |  |             |  |             |  |                    |     |    |  |
| 194       |  |      |  |               |  |                       |  |             |  |             |  |                    |     |    |  |
| 195       |  |      |  |               |  |                       |  |             |  |             |  |                    |     |    |  |
| 196       |  |      |  |               |  |                       |  |             |  |             |  |                    |     |    |  |
| 197       |  |      |  |               |  |                       |  |             |  |             |  |                    |     |    |  |
| 198       |  |      |  |               |  |                       |  |             |  |             |  |                    |     |    |  |
| 199       |  |      |  |               |  |                       |  |             |  |             |  |                    |     |    |  |
| 200       |  |      |  |               |  |                       |  |             |  |             |  |                    |     |    |  |
| 201       |  |      |  |               |  |                       |  |             |  |             |  |                    |     |    |  |

SANDSTONE 70%, fine grained, grey, lithic moderately sorted high sphericity, sub-rounded; intermixed with SILTSTONE 30%, dark grey brown, rare coal banded; fresh

SANDSTONE, grey dark grey, rare coal banded silty; fresh

SANDSTONE 80%, fine grained, grey dark grey, coal banded high sphericity, sub-rounded; intermixed with SILTSTONE 20%, dark grey brown, stringers of coal coal banded throughout; fresh

SANDSTONE 60%, fine grained, light grey grey, lithic occasional micaceous moderately sorted; intermixed with SILTSTONE 40%, dark grey brown, occasional coal banded coaly FR; fresh

SANDSTONE 80%, fine grained, dark grey grey, silty in part lithic; intermixed with SILTSTONE 20%, grey brown, coal banded throughout occasional stringers of coal; fresh

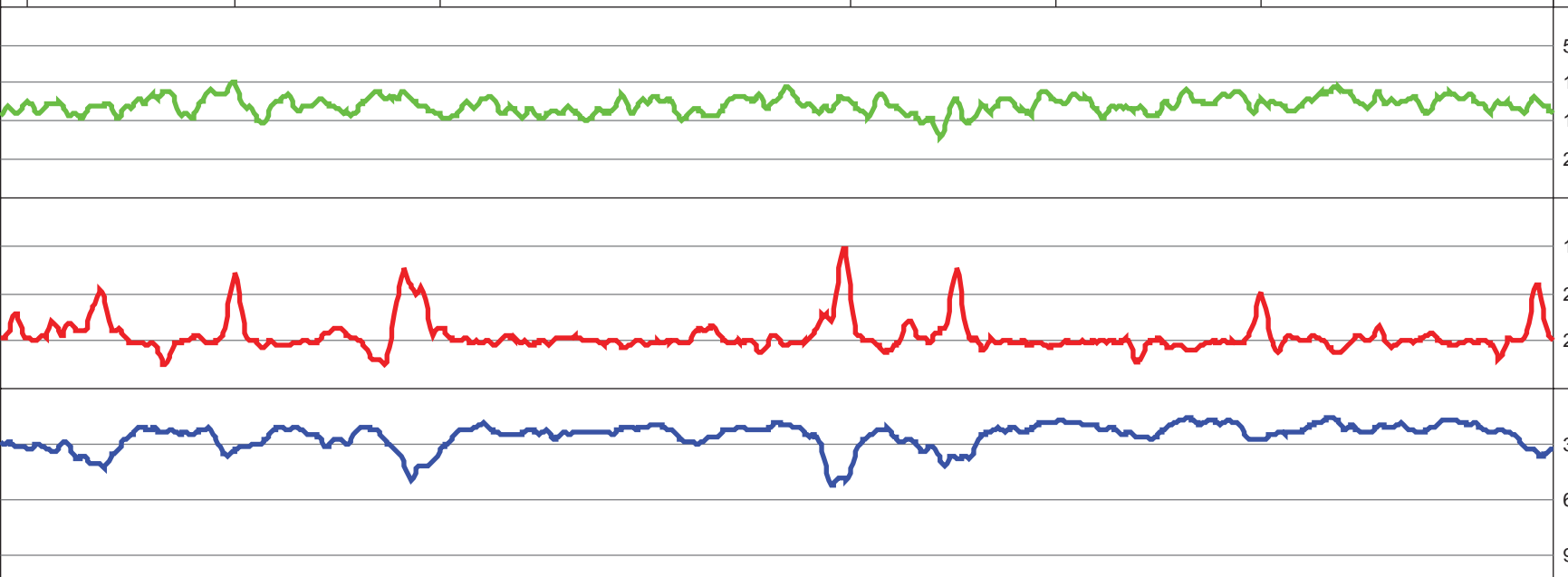
SILTSTONE 70%, brown dark grey, stringers of coal coal banded throughout sandy; intermixed with SANDSTONE 30%, fine grained, dark grey, coal banded lithic; fresh

SANDSTONE 50%, fine grained, grey, lithic moderately sorted coal banded FR; intermixed with SILTSTONE 50%, dark grey brown, occasional coal banded coaly FR; fresh

GAMMA api

Compensated

Limestone Neutron







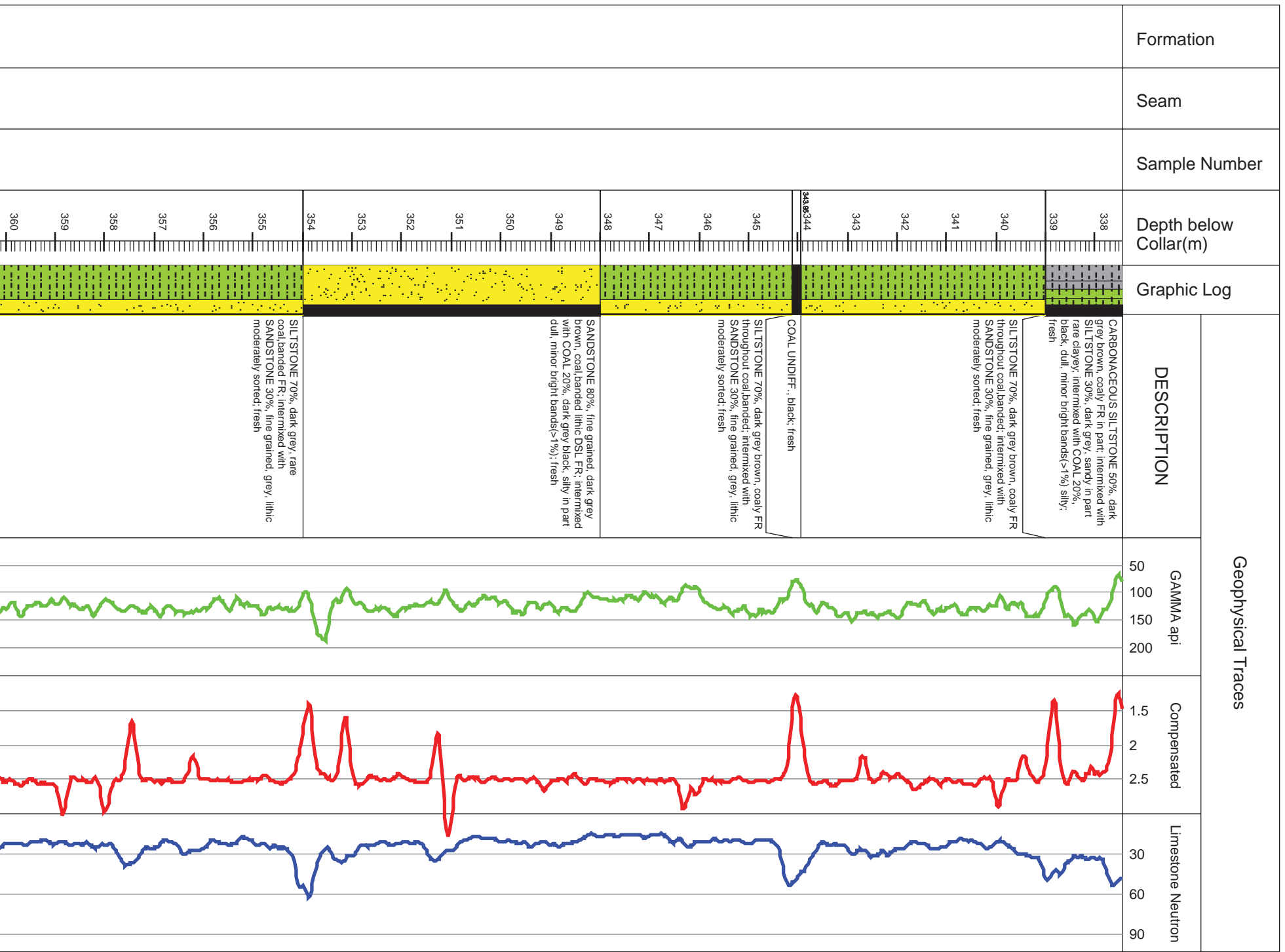


| Formation | Seam | Sample Number | Depth below Collar(m) | Graphic Log | DESCRIPTION   | Geophysical Traces |             |                   |
|-----------|------|---------------|-----------------------|-------------|---|--------------------|-------------|-------------------|
|           |      |               |                       |             |   | GAMMA api          | Compensated | Limestone Neutron |
|           |      |               | 247                   |             | SANDSTONE 70%, fine grained, grey brown, coalbanded in part lithic; intermixed with SILTSTONE 30%, dark grey brown, coalbanded throughout coaly FR; fresh           | 50                 | 1.5         | 30                |
|           |      |               | 248                   |             |   | 100                | 2.0         | 30                |
|           |      |               | 249                   |             | SILTSTONE 80%, dark grey brown, occasional coalbanded coaly FR; intermixed with SANDSTONE 20%, fine grained, grey dark grey, occasional coalbanded lithic; fresh    | 150                | 2.2         | 30                |
|           |      |               | 250                   |             |   | 200                | 2.3         | 30                |
|           |      |               | 251                   |             |   |                    | 2.4         | 30                |
|           |      |               | 252                   |             | SANDSTONE 60%, fine grained, dark grey brown, silty in part coalbanded sandy; intermixed with SILTSTONE 40%, dark grey brown, occasional coalbanded coaly FR; fresh |                    | 2.5         | 30                |
|           |      |               | 253                   |             |   |                    |             | 30                |
|           |      |               | 254                   |             |   |                    |             | 30                |
|           |      |               | 255                   |             |   |                    |             | 30                |
|           |      |               | 256                   |             |   |                    |             | 30                |
|           |      |               | 257                   |             |   |                    |             | 30                |
|           |      |               | 258                   |             | SILTSTONE 80%, grey white, clayey in part coalbanded in part; intermixed with SANDSTONE 20%, fine grained, dark grey brown, coalbanded moderately sorted; fresh     |                    |             | 30                |
|           |      |               | 259                   |             |   |                    |             | 30                |
|           |      |               | 260                   |             |   |                    |             | 30                |
|           |      |               | 261                   |             | SANDSTONE, fine grained, grey dark grey, clayey in part rare stringers of coal; fresh   |                    |             | 30                |
|           |      |               | 262                   |             |   |                    |             | 30                |
|           |      |               | 263                   |             |   |                    |             | 30                |
|           |      |               | 264                   |             |   |                    |             | 30                |
|           |      |               | 265                   |             |   |                    |             | 30                |
|           |      |               | 266                   |             |   |                    |             | 30                |
|           |      |               | 267                   |             | SANDSTONE 90%, fine grained, dark grey, lithic occasional clayey; intermixed with SILTSTONE 10%, grey brown, occasional coalbanded FR; fresh                        |                    |             | 30                |
|           |      |               | 268                   |             |   |                    |             | 30                |
|           |      |               | 269                   |             |   |                    |             | 30                |

| Formation |  | Seam |  | Sample Number |  | Depth below Collar(m) |  | Graphic Log |  | DESCRIPTION  |  | Geophysical Traces                   |  |  |
|-----------|--|------|--|---------------|--|-----------------------|--|-------------|--|--|--|--------------------------------------|--|--|
|           |  |      |  |               |  | 270                   |  |             |  | SANDSTONE 90%, fine grained, dark grey, lithic occasional clayey; Intermixed with SILTSTONE 10%, grey/ brown, occasional coal,banded FR; fresh   |  | GAMMA api<br>50<br>100<br>150<br>200 |  |  |
|           |  |      |  |               |  | 271                   |  |             |  |  |  | Compensated<br>1.5<br>2<br>2.5       |  |  |
|           |  |      |  |               |  | 272                   |  |             |  |  |  | Limestone Neutron<br>30<br>60<br>90  |  |  |
|           |  |      |  |               |  | 273                   |  |             |  | CARBONACEOUS SILTSTONE 50%, dark grey brown, stringers of coal coaly FR; Intermixed with SILTSTONE 30%, dark grey, sandy in part; Intermixed with SANDSTONE 20%, fine grained, dark grey brown, lithic coal,banded throughout; fresh |  |                                      |  |  |
|           |  |      |  |               |  | 274                   |  |             |  |  |  |                                      |  |  |
|           |  |      |  |               |  | 275                   |  |             |  |  |  |                                      |  |  |
|           |  |      |  |               |  | 276                   |  |             |  | SANDSTONE 60%, fine grained, grey, occasional micaceous occasional coal,banded; Intermixed with SILTSTONE 40%, dark grey/ brown, occasional coal,banded occasional coaly; fresh  |  |                                      |  |  |
|           |  |      |  |               |  | 277                   |  |             |  |  |  |                                      |  |  |
|           |  |      |  |               |  | 278                   |  |             |  |  |  |                                      |  |  |
|           |  |      |  |               |  | 279                   |  |             |  |  |  |                                      |  |  |
|           |  |      |  |               |  | 280                   |  |             |  |  |  |                                      |  |  |
|           |  |      |  |               |  | 281                   |  |             |  |  |  |                                      |  |  |
|           |  |      |  |               |  | 282                   |  |             |  |  |  |                                      |  |  |
|           |  |      |  |               |  | 283                   |  |             |  |  |  |                                      |  |  |
|           |  |      |  |               |  | 284                   |  |             |  |  |  |                                      |  |  |
|           |  |      |  |               |  | 285                   |  |             |  |  |  |                                      |  |  |
|           |  |      |  |               |  | 286                   |  |             |  |  |  |                                      |  |  |
|           |  |      |  |               |  | 287.03                |  |             |  | COAL, dark grey/black, sandy mainly dull, frequent bright bands(<10%) occasional silty; fresh  |  |                                      |  |  |
|           |  |      |  |               |  | 287.05                |  |             |  |  |  |                                      |  |  |
|           |  |      |  |               |  | 288                   |  |             |  | SANDSTONE, fine grained, dark grey/ brown, coal,banded throughout moderately sorted;   |  |                                      |  |  |
|           |  |      |  |               |  | 288.26                |  |             |  |  |  |                                      |  |  |
|           |  |      |  |               |  | 288.61                |  |             |  | FRNL, dark grey/black, sandy mainly dull, frequent bright bands(>10%) occasional silty; fresh  |  |                                      |  |  |
|           |  |      |  |               |  | 289                   |  |             |  | SANDSTONE, fine grained, dark grey/ brown, coal,banded throughout moderately sorted; fresh   |  |                                      |  |  |
|           |  |      |  |               |  | 290                   |  |             |  |  |  |                                      |  |  |
|           |  |      |  |               |  | 291                   |  |             |  | SANDSTONE 60%, fine grained, dark grey/black, coal,banded throughout occasional silty; Intermixed with COAL 40%, dark grey/black, coal,banded silty dull, minor bright bands(<1%); fresh   |  |                                      |  |  |
|           |  |      |  |               |  | 292                   |  |             |  |  |  |                                      |  |  |

| Formation | Seam | Sample Number | Depth below Collar(m) | Graphic Log | DESCRIPTION  | Geophysical Traces |             |                   |
|-----------|------|---------------|-----------------------|-------------|--|--------------------|-------------|-------------------|
|           |      |               |                       |             |  | GAMMA api          | Compensated | Limestone Neutron |
|           |      |               | 293                   |             | SANDSTONE 60%, fine grained, dark grey black, coal banded throughout occasional silty; intermixed with COAL 40%, dark grey black, coal banded silty dull, minor bright bands(<1%); fresh   | 50                 | 1.5         | 30                |
|           |      |               | 294                   |             | SANDSTONE 70%, fine grained, grey dark grey, litho-feldspathic high sphericity, sub-rounded; intermixed with SILTSTONE 30%, dark grey brown, rare coaly FR coal banded; fresh  | 100                | 2.0         | 50                |
|           |      |               | 295                   |             | SANDSTONE 80%, fine grained, grey dark grey, litho-feldspathic occasional feldspathic OT; intermixed with SILTSTONE 20%, dark grey black, occasional coal banded FR; fresh   | 150                | 2.5         | 60                |
|           |      |               | 296                   |             | SANDSTONE 80%, fine grained, grey dark grey, litho-feldspathic occasional feldspathic OT; intermixed with SILTSTONE 20%, dark grey black, occasional coal banded FR; fresh   | 200                | 2.5         | 60                |
|           |      |               | 297                   |             | SANDSTONE 80%, fine grained, grey dark grey, litho-feldspathic occasional feldspathic OT; intermixed with SILTSTONE 20%, dark grey black, occasional coal banded FR; fresh   | 50                 | 2.5         | 60                |
|           |      |               | 298                   |             | SANDSTONE 80%, fine grained, grey dark grey, litho-feldspathic occasional feldspathic OT; intermixed with SILTSTONE 20%, dark grey black, occasional coal banded FR; fresh   | 100                | 2.5         | 60                |
|           |      |               | 299                   |             | SANDSTONE 80%, fine grained, grey dark grey, litho-feldspathic occasional feldspathic OT; intermixed with SILTSTONE 20%, dark grey black, occasional coal banded FR; fresh   | 150                | 2.5         | 60                |
|           |      |               | 299.45                |             | SANDSTONE 80%, fine grained, grey dark grey, litho-feldspathic occasional feldspathic OT; intermixed with SILTSTONE 20%, dark grey black, occasional coal banded FR; fresh   | 200                | 2.5         | 60                |
|           |      |               | 300                   |             | COAL UNDIFF.: black; fresh   | 50                 | 2.5         | 60                |
|           |      |               | 301                   |             | SANDSTONE 80%, fine grained, grey dark grey, silty in part coal banded; intermixed with SILTSTONE 10%, dark grey brown, coal banded throughout coaly FR; intermixed with COAL 10%, dark grey black, stringers of coal dull, minor bright bands(>1%); fresh | 100                | 2.5         | 60                |
|           |      |               | 302                   |             | SANDSTONE 80%, fine grained, grey dark grey, silty in part coal banded; intermixed with SILTSTONE 10%, dark grey brown, coal banded throughout coaly FR; intermixed with COAL 10%, dark grey black, stringers of coal dull, minor bright bands(>1%); fresh | 150                | 2.5         | 60                |
|           |      |               | 303                   |             | SANDSTONE 80%, fine grained, grey dark grey, silty in part coal banded; intermixed with SILTSTONE 10%, dark grey brown, coal banded throughout coaly FR; intermixed with COAL 10%, dark grey black, stringers of coal dull, minor bright bands(>1%); fresh | 200                | 2.5         | 60                |
|           |      |               | 304                   |             | SANDSTONE 80%, fine grained, grey dark grey, silty in part coal banded; intermixed with SILTSTONE 10%, dark grey brown, coal banded throughout coaly FR; intermixed with COAL 10%, dark grey black, stringers of coal dull, minor bright bands(>1%); fresh | 50                 | 2.5         | 60                |
|           |      |               | 305                   |             | SANDSTONE 80%, fine grained, grey dark grey, silty in part coal banded; intermixed with SILTSTONE 10%, dark grey brown, coal banded throughout coaly FR; intermixed with COAL 10%, dark grey black, stringers of coal dull, minor bright bands(>1%); fresh | 100                | 2.5         | 60                |
|           |      |               | 306                   |             | SANDSTONE 80%, fine grained, grey dark grey, silty in part coal banded; intermixed with SILTSTONE 10%, dark grey brown, coal banded throughout coaly FR; intermixed with COAL 10%, dark grey black, stringers of coal dull, minor bright bands(>1%); fresh | 150                | 2.5         | 60                |
|           |      |               | 307                   |             | SANDSTONE 80%, fine grained, grey dark grey, silty in part coal banded; intermixed with SILTSTONE 10%, dark grey brown, coal banded throughout coaly FR; intermixed with COAL 10%, dark grey black, stringers of coal dull, minor bright bands(>1%); fresh | 200                | 2.5         | 60                |
|           |      |               | 307.41                |             | SANDSTONE 80%, fine grained, grey dark grey, silty in part coal banded; intermixed with SILTSTONE 10%, dark grey brown, coal banded throughout coaly FR; intermixed with COAL 10%, dark grey black, stringers of coal dull, minor bright bands(>1%); fresh | 50                 | 2.5         | 60                |
|           |      |               | 308                   |             | COAL, dark grey black, sandy occasional silty dull, minor bright bands(<1%); fresh   | 100                | 2.5         | 60                |
|           |      |               | 308.48                |             | COAL, dark grey black, sandy occasional silty dull, minor bright bands(<1%); fresh   | 150                | 2.5         | 60                |
|           |      |               | 308.85                |             | SANDSTONE, fine grained, dark grey brown, occasional silty coal banded throughout; fresh   | 200                | 2.5         | 60                |
|           |      |               | 308.89                |             | SANDSTONE, fine grained, dark grey brown, occasional silty coal banded throughout; fresh   | 50                 | 2.5         | 60                |
|           |      |               | 308.95                |             | SANDSTONE, fine grained, dark grey brown, occasional silty coal banded throughout; fresh   | 100                | 2.5         | 60                |
|           |      |               | 308.99                |             | SANDSTONE, fine grained, dark grey brown, occasional silty coal banded throughout; fresh   | 150                | 2.5         | 60                |
|           |      |               | 309.25                |             | SANDSTONE, fine grained, dark grey brown, occasional silty coal banded throughout; fresh   | 200                | 2.5         | 60                |
|           |      |               | 309.40                |             | COAL UNDIFF.: black; fresh   | 50                 | 2.5         | 60                |
|           |      |               | 310.3                 |             | SILTSTONE 20%, dark grey black, coaly FR; fresh  | 100                | 2.5         | 60                |
|           |      |               | 311                   |             | COAL UNDIFF.: black; fresh   | 150                | 2.5         | 60                |
|           |      |               | 312                   |             | SILTSTONE 20%, dark grey black, coaly FR; fresh  | 200                | 2.5         | 60                |
|           |      |               | 313                   |             | SILTSTONE 20%, dark grey black, coaly FR; fresh  | 50                 | 2.5         | 60                |
|           |      |               | 314                   |             | SILTSTONE 20%, dark grey black, coaly FR; fresh  | 100                | 2.5         | 60                |




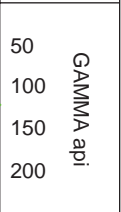

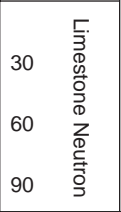

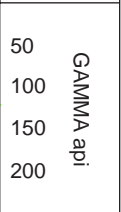

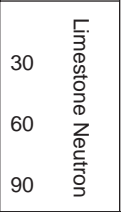

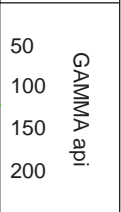

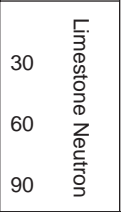

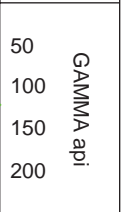

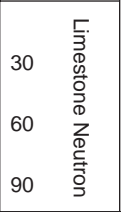

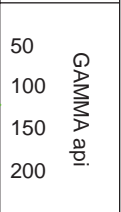

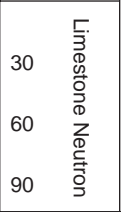

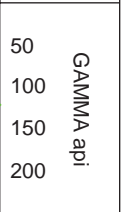

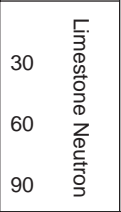
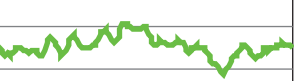
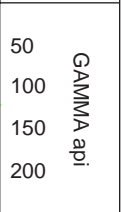

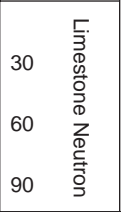
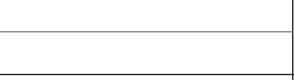
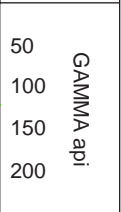

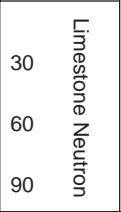

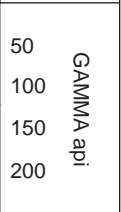

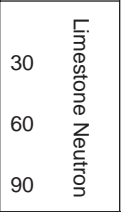

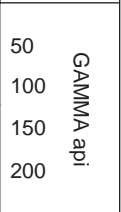

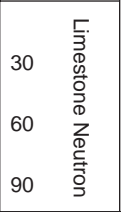

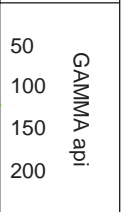

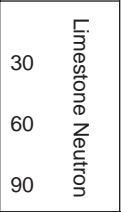

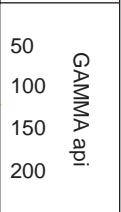

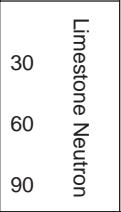

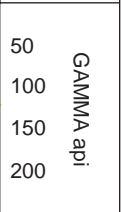

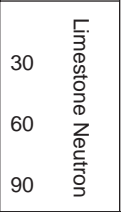

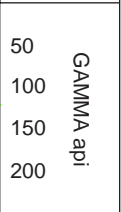

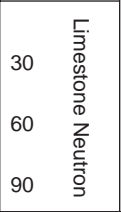

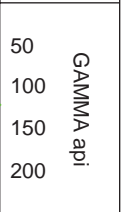

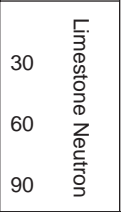
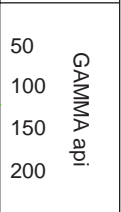

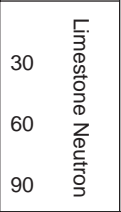
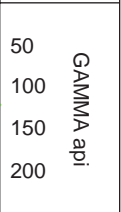

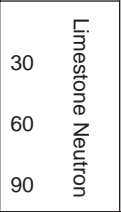
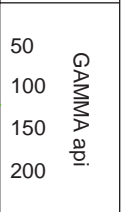

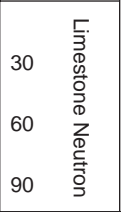
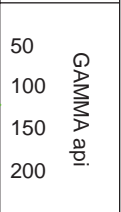

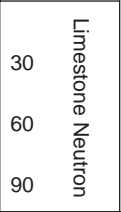
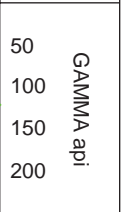

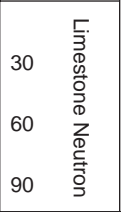
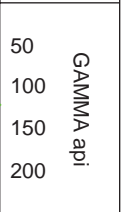

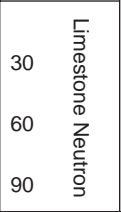
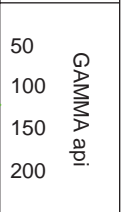

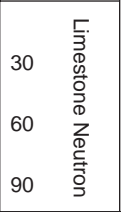


| Formation | Seam | Sample Number | Depth below Collar(m) | Graphic Log | DESCRIPTION   | Geophysical Traces |             |                   |
|-----------|------|---------------|-----------------------|-------------|---|--------------------|-------------|-------------------|
|           |      |               |                       |             |   | GAMMA api          | Compensated | Limestone Neutron |
|           |      |               | 361                   |             | SILTSTONE 70%, dark grey, rare coal banded FR.; intermixed with SANDSTONE 30%, fine grained, grey, lithic moderately sorted; fresh  | 100                | 2.4         | 30                |
|           |      |               | 362                   |             |   | 100                | 2.4         | 30                |
|           |      |               | 363                   |             | SILTSTONE 80%, dark grey brown, sandy in part rare coal banded; intermixed with SANDSTONE 20%, fine grained, light grey, lithic moderately sorted high sphericity, sub-rounded; fresh | 100                | 2.4         | 30                |
|           |      |               | 364                   |             |   | 100                | 2.4         | 30                |
|           |      |               | 365                   |             |   | 100                | 2.4         | 30                |
|           |      |               | 366                   |             | SILTSTONE 80%, dark grey brown, sandy throughout coal banded FR.; intermixed with COAL 20%, dark grey black, dull, minor bright bands(>1%) stringers of coal; fresh                   | 100                | 2.4         | 30                |
|           |      |               | 367                   |             |   | 100                | 2.4         | 30                |
|           |      |               | 368                   |             |   | 100                | 2.4         | 30                |
|           |      |               | 369                   |             |   | 100                | 2.4         | 30                |
|           |      |               | 370                   |             | SILTSTONE 90%, dark grey, rare coal banded; intermixed with SANDSTONE 10%, fine grained, light grey grey, lithic clayey in part; fresh  | 100                | 2.4         | 30                |
|           |      |               | 371                   |             |   | 100                | 2.4         | 30                |
|           |      |               | 372                   |             | SILTSTONE 50%, dark grey, rare coal banded; intermixed with SANDSTONE 50%, fine grained, light grey grey, occasional clayey lithic moderately sorted; fresh                           | 100                | 2.4         | 30                |
|           |      |               | 373                   |             |   | 100                | 2.4         | 30                |
|           |      |               | 374                   |             |   | 100                | 2.4         | 30                |
|           |      |               | 375                   |             |   | 100                | 2.4         | 30                |
|           |      |               | 376                   |             |   | 100                | 2.4         | 30                |
|           |      |               | 377                   |             |   | 100                | 2.4         | 30                |
|           |      |               | 378                   |             | SANDSTONE 70%, fine grained, grey, lithic moderately sorted occasional coal banded; intermixed with SILTSTONE 30%, dark grey brown, occasional coal banded FR.; fresh                 | 100                | 2.4         | 30                |
|           |      |               | 379                   |             |   | 100                | 2.4         | 30                |
|           |      |               | 380                   |             |   | 100                | 2.4         | 30                |
|           |      |               | 381                   |             |   | 100                | 2.4         | 30                |
|           |      |               | 382                   |             |   | 100                | 2.4         | 30                |

| Formation | Seam | Sample Number | Depth below Collar(m) | Graphic Log | DESCRIPTION  | Geophysical Traces |             |                   |
|-----------|------|---------------|-----------------------|-------------|--|--------------------|-------------|-------------------|
|           |      |               |                       |             |  | GAMMA api          | Compensated | Limestone Neutron |
|           |      |               | 389                   |             | SANDSTONE 70%, fine grained, grey, lithic moderately sorted occasional coal banded; intermixed with SILTSTONE 30%, dark grey brown, occasional coal banded FR; fresh   |                    |             |                   |
|           |      |               | 384                   |             |  |                    |             |                   |
|           |      |               | 385                   |             | SANDSTONE 80%, fine grained, grey dark grey, poorly to moderately sorted lithic rare coal banded; intermixed with SILTSTONE 20%, dark grey brown, coaly FR occasional coal banded; fresh   |                    |             |                   |
|           |      |               | 386                   |             |  |                    |             |                   |
|           |      |               | 387                   |             | SILTSTONE 40%, dark grey, rare sandy; intermixed with CARBONACEOUS SILTSTONE 40%, dark grey brown, occasional coaly FR; intermixed with COAL 20%, dark grey black, silty throughout dull, minor bright bands(<1%), fresh   |                    |             |                   |
|           |      |               | 388                   |             |  |                    |             |                   |
|           |      |               | 389                   |             | SANDSTONE 70%, fine grained, grey/light grey, lithic moderately sorted high sphericity, sub-rounded clayey; intermixed with SILTSTONE 30%, dark grey brown, occasional coal banded FR; fresh   |                    |             |                   |
|           |      |               | 390                   |             |  |                    |             |                   |
|           |      |               | 391                   |             | SANDSTONE 80%, dark grey, rare sandy coal banded FR; intermixed with CARBONACEOUS SILTSTONE 20%, grey brown, occasional coaly FR; fresh  |                    |             |                   |
|           |      |               | 392                   |             |  |                    |             |                   |
|           |      |               | 393                   |             | SANDSTONE 40%, fine grained, grey brown, silty in part coal banded; intermixed with SILTSTONE 30%, dark grey, coal banded throughout stringers of coal; intermixed with COAL 30%, dark grey black, dull, minor bright bands(>1%) coal banded silty throughout; fresh |                    |             |                   |
|           |      |               | 394                   |             |  |                    |             |                   |
|           |      |               | 395                   |             | SANDSTONE 80%, dark grey, rare sandy coal banded FR; intermixed with CARBONACEOUS SILTSTONE 20%, grey brown, occasional coaly FR; fresh  |                    |             |                   |
|           |      |               | 396                   |             |  |                    |             |                   |
|           |      |               | 397                   |             | SANDSTONE 40%, fine grained, grey brown, silty in part coal banded; intermixed with SILTSTONE 30%, dark grey, coal banded throughout stringers of coal; intermixed with COAL 30%, dark grey black, dull, minor bright bands(>1%) coal banded silty throughout; fresh |                    |             |                   |
|           |      |               | 398                   |             |  |                    |             |                   |
|           |      |               | 399                   |             | SANDSTONE 40%, fine grained, grey brown, silty in part coal banded; intermixed with SILTSTONE 30%, dark grey, coal banded throughout stringers of coal; intermixed with COAL 30%, dark grey black, dull, minor bright bands(>1%) coal banded silty throughout; fresh |                    |             |                   |
|           |      |               | 400                   |             |  |                    |             |                   |
|           |      |               | 401                   |             | SANDSTONE 40%, fine grained, grey brown, silty in part coal banded; intermixed with SILTSTONE 30%, dark grey, coal banded throughout stringers of coal; intermixed with COAL 30%, dark grey black, dull, minor bright bands(>1%) coal banded silty throughout; fresh |                    |             |                   |
|           |      |               | 402                   |             |  |                    |             |                   |
|           |      |               | 403                   |             | SANDSTONE 40%, fine grained, grey brown, silty in part coal banded; intermixed with SILTSTONE 30%, dark grey, coal banded throughout stringers of coal; intermixed with COAL 30%, dark grey black, dull, minor bright bands(>1%) coal banded silty throughout; fresh |                    |             |                   |
|           |      |               | 404                   |             |  |                    |             |                   |
|           |      |               | 405                   |             | SANDSTONE 40%, fine grained, grey brown, silty in part coal banded; intermixed with SILTSTONE 30%, dark grey, coal banded throughout stringers of coal; intermixed with COAL 30%, dark grey black, dull, minor bright bands(>1%) coal banded silty throughout; fresh |                    |             |                   |
|           |      |               |                       |             |  |                    |             |                   |

| Formation | Seam | Sample Number | Depth below Collar(m) | Graphic Log | DESCRIPTION  | Geophysical Traces |     |    |
|-----------|------|---------------|-----------------------|-------------|--|--------------------|-----|----|
|           |      |               | 406                   |             | SANDSTONE 40%, fine grained, grey brown, silty in part coal banded; intermixed with SILTSTONE 30%, dark grey, coal banded throughout; stringers of coal; intermixed with COAL 30% dark grey/black; dull, minor bright bands(>1%) coal banded silty throughout; fresh | 50                 | 1.5 | 30 |
|           |      |               | 406.66                |             |  | 100                | 2.0 | 60 |
|           |      |               | 406.82-407            |             |  | 150                | 2.2 | 90 |
|           |      |               | 408                   |             | COAL, dark grey/black, coal banded silty throughout; fresh   | 200                | 2.5 |    |
|           |      |               | 409                   |             | SILTSTONE, dark grey brown, sandy in part coal banded; fresh   |                    |     |    |
|           |      |               | 410                   |             | SILTSTONE 50%, dark grey brown, sandy in part coal banded in part; intermixed with CARBONACEOUS SILTSTONE 40%, dark grey/black, coaly FR throughout; intermixed with SANDSTONE 10%, fine grained, dark grey, coal banded occasional lithic; fresh                    |                    |     |    |
|           |      |               | 411                   |             |  |                    |     |    |
|           |      |               | 412                   |             | SANDSTONE 60%, fine grained, light grey grey, litho- feldspathic occasional silty high sphericity, sub-rounded to sub-angular; intermixed with SILTSTONE 40%, dark grey brown, rare coal banded; fresh   |                    |     |    |
|           |      |               | 413                   |             |  |                    |     |    |
|           |      |               | 414                   |             | SANDSTONE 70%, fine grained, grey/ litho- feldspathic carbonaceous stringers of coal; intermixed with CARBONACEOUS SILTSTONE 30%, dark grey brown, rare coaly FR; fresh  |                    |     |    |
|           |      |               | 415                   |             |  |                    |     |    |
|           |      |               | 416                   |             |  |                    |     |    |
|           |      |               | 417                   |             | SILTSTONE 60%, dark grey brown, rare coal banded; intermixed with SANDSTONE 40%, fine grained, grey/ dark grey, litho- feldspathic rare coaly FR; fresh  |                    |     |    |
|           |      |               | 418                   |             |  |                    |     |    |
|           |      |               | 419                   |             |  |                    |     |    |
|           |      |               | 420                   |             | SANDSTONE 80%, fine grained, light grey grey, litho- feldspathic silty in part; intermixed with SILTSTONE 20%, dark grey, rare coaly FR coal banded; fresh   |                    |     |    |
|           |      |               | 421                   |             |  |                    |     |    |
|           |      |               | 422                   |             |  |                    |     |    |
|           |      |               | 423                   |             | SANDSTONE 60%, fine grained, grey/ litho- feldspathic occasional coal banded FR; intermixed with SILTSTONE 40%, dark grey brown, occasional coal banded FR; fresh  |                    |     |    |
|           |      |               | 424                   |             |  |                    |     |    |
|           |      |               | 425                   |             |  |                    |     |    |
|           |      |               | 426                   |             | SANDSTONE 80%, fine grained, grey, lithic moderately sorted, intermixed with SILTSTONE 20%, dark grey brown, coal banded throughout rare coaly; fresh  |                    |     |    |
|           |      |               | 427                   |             |  |                    |     |    |
|           |      |               | 428                   |             |  |                    |     |    |



| Formation | Seam | Sample Number | Depth below Collar(m) | Graphic Log   | DESCRIPTION   | Geophysical Traces   |   |   |
|-----------|------|---------------|-----------------------|---|---|--|---|---|
|           |      |               |                       |   |   | GAMMA api  | Compensated   | Limestone Neutron   |
|           |      |               | 429                   |    | SANDSTONE 80%, fine grained, grey, lithic moderately sorted; intermixed with SILTSTONE 20%, dark grey brown, coal banded throughout rare coaly; fresh                           |  |  |  |
|           |      |               | 430                   |    |   |  |  |  |
|           |      |               | 431                   |    |   |  |  |  |
|           |      |               | 432                   |    | SILTSTONE 70%, dark grey brown, occasional coal banded occasional sandy; intermixed with SANDSTONE 30%, fine grained, grey light grey, lithic clayey in part fresh              |  |  |  |
|           |      |               | 433                   |    |   |  |  |  |
|           |      |               | 434                   |    |   |  |  |  |
|           |      |               | 435                   |    |   |  |  |  |
|           |      |               | 436                   |   |   |  |  |  |
|           |      |               | 437                   |  |   |  |  |  |
|           |      |               | 438                   |  |   |  |  |  |
|           |      |               | 439                   |  |   |  |  |  |
|           |      |               | 440                   |  |   |  |  |  |
|           |      |               | 441                   |  | SANDSTONE 60%, fine grained, grey white, clayey lithic; intermixed with SILTSTONE 40%, dark grey, clayey in part rare coal banded; fresh  |  |  |  |
|           |      |               | 442                   |  |   |  |  |  |
|           |      |               | 443                   |  |   |  |  |  |
|           |      |               | 444                   |  | SANDSTONE 70%, fine grained, dark grey, coal banded throughout occasional micaceous; intermixed with SILTSTONE 30%, dark grey black, coaly FR throughout coal banded; fresh     |  |  |  |
|           |      |               | 445                   |  |   |  |  |  |
|           |      |               | 446                   |  |   |  |  |  |
|           |      |               | 447                   |  | SILTSTONE 80%, dark grey brown, coal banded in part rare moderately sorted; intermixed with SANDSTONE 20%, fine grained, grey white, clayey throughout lithic; fresh            |  |  |  |
|           |      |               | 448                   |  |   |  |  |  |
|           |      |               | 449                   |  |   |  |  |  |
|           |      |               | 450                   |  | SANDSTONE 60%, fine grained, greyish off-white, lithic moderately sorted low sphericity; sub-rounded to sub-angular; intermixed with SILTSTONE 40%, grey, clayey in part; fresh |  |  |  |

| Formation |  | Seam |  | Sample Number |  | Depth below Collar(m) |  | Graphic Log |  | DESCRIPTION |  | Geophysical Traces |  |  |  |  |  |  |  |  |
|-----------|--|------|--|---------------|--|-----------------------|--|-------------|--|-------------|--|--------------------|--|--|--|--|--|--|--|--|
|           |  |      |  |               |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |
|           |  |      |  | 451           |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |
|           |  |      |  | 461.22        |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |
|           |  |      |  | 452           |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |
|           |  |      |  | 453           |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |
|           |  |      |  | 453.9         |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |
|           |  |      |  | 454           |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |
|           |  |      |  | 464.02        |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |
|           |  |      |  | 455           |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |
|           |  |      |  | 456           |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |
|           |  |      |  | 456           |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |
|           |  |      |  | 458           |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |
|           |  |      |  | 459           |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |
|           |  |      |  | 460           |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |
|           |  |      |  | 461           |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |
|           |  |      |  | 462           |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |
|           |  |      |  | 463           |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |
|           |  |      |  | 464           |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |
|           |  |      |  | 465           |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |
|           |  |      |  | 466           |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |
|           |  |      |  | 467           |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |
|           |  |      |  | 468           |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |
|           |  |      |  | 469           |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |
|           |  |      |  | 470           |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |
|           |  |      |  | 471           |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |
|           |  |      |  | 472           |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |
|           |  |      |  | 472.88        |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |
|           |  |      |  | 473           |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |
|           |  |      |  | 473.28        |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |

SANDSTONE 60%, fine grained, greyish off-white, lithic moderately sorted low sphericity, sub-rounded to sub-angular; intermixed with SILTSTONE 40%, grey, clayey in part; fresh

COAL UNDIFF., black; fresh

SANDSTONE 60%, fine grained, greyish off-white, lithic moderately sorted low sphericity, sub-rounded to sub-angular; intermixed with SILTSTONE 40%, grey, clayey in part; fresh

COAL UNDIFF., black; fresh

SANDSTONE 60%, very fine-fine grained, grey, lithic moderately sorted low sphericity, sub-rounded to sub-angular; intermixed with SILTSTONE 20%, brownish grey, carbonaceous laminations; fresh

SANDSTONE 80%, very fine-fine grained, grey, lithic clayey; intermixed with SILTSTONE 20%, brownish grey, carbonaceous laminations; fresh

SANDSTONE 70%, brownish black, coaly in part; intermixed with SANDSTONE 30%, greyish white, lithic poorly to moderately sorted low sphericity, sub-rounded to sub-angular; fresh

SANDSTONE 60%, dark grey brown, clayey in part carbonaceous laminations; intermixed with SANDSTONE 40%, fine grained, greyish white, lithic occasional carbonaceous FR; fresh

COAL, black, dull, tends to stony; fresh

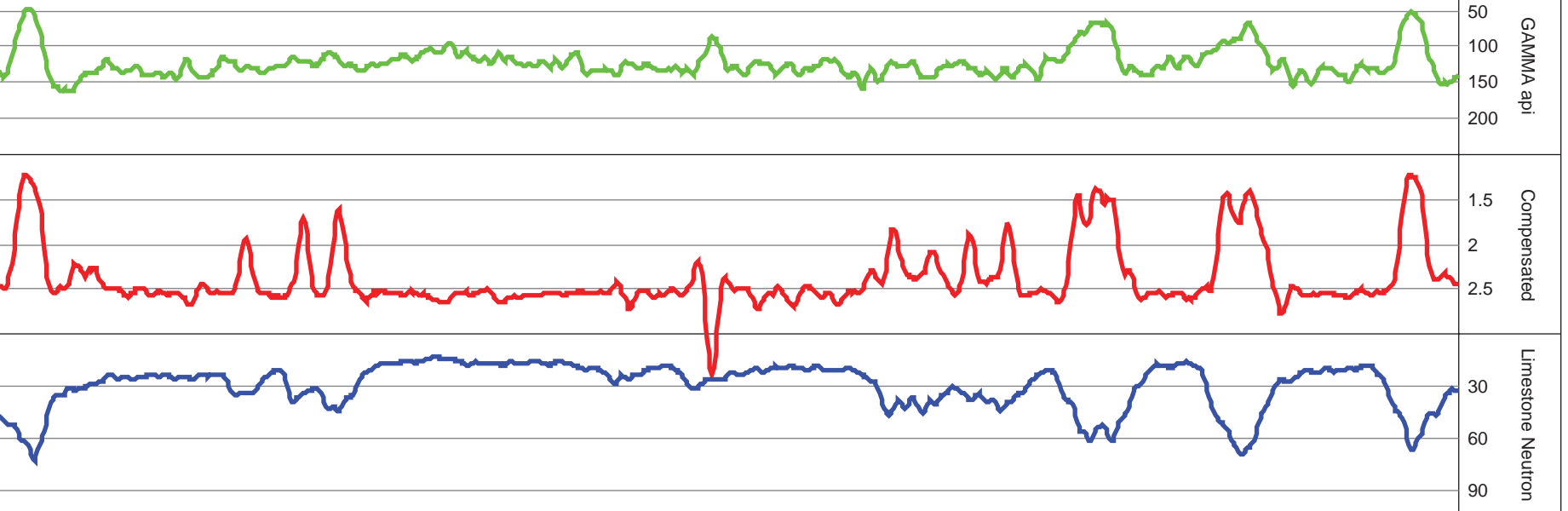
SILTSTONE 60%, dark grey brown, clayey in part carbonaceous laminations; intermixed with SANDSTONE 40%, fine grained, greyish white, lithic occasional carbonaceous FR; fresh

COAL, black, dull, tends to stony; fresh

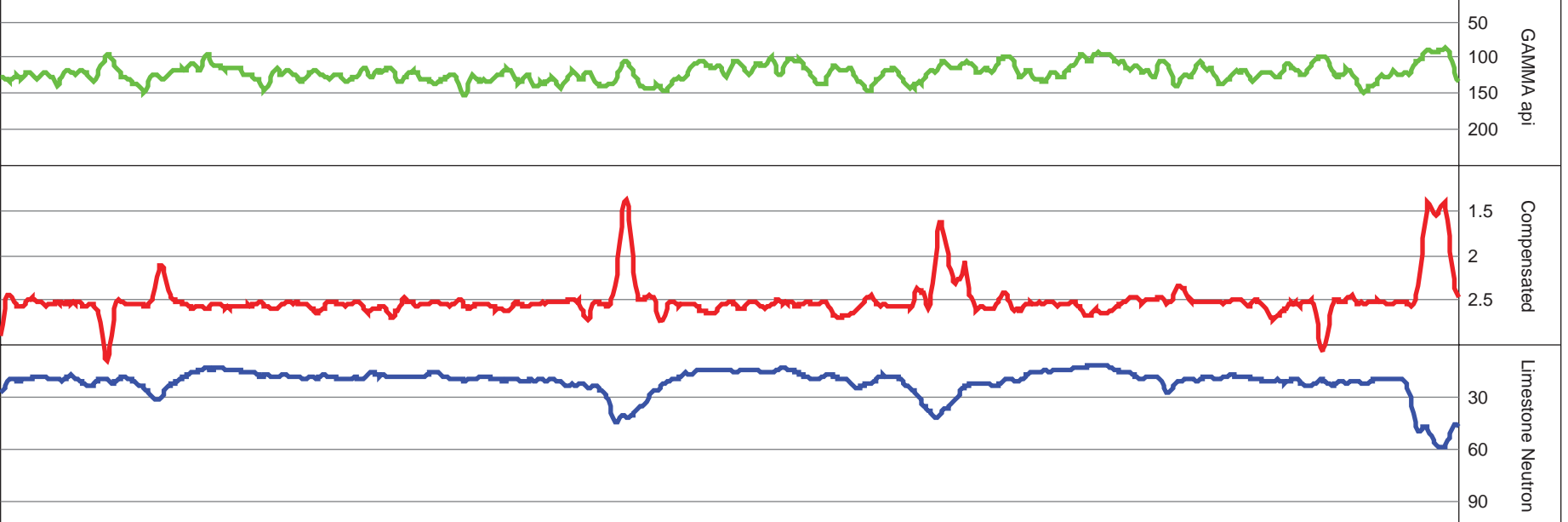
SANDSTONE 50%, fine grained, grey, lithic moderately sorted low sphericity, sub-rounded to sub-angular sily; intermixed with SILTSTONE 50%, greyish grey, rare carbonaceous laminations; fresh

COAL, black, dull, tends to stony; fresh

SANDSTONE 50%, fine grained, grey, lithic moderately sorted low sphericity, sub-rounded to sub-angular sily; intermixed with SILTSTONE 50%, greyish grey, rare carbonaceous laminations; fresh










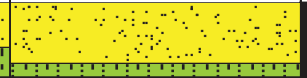
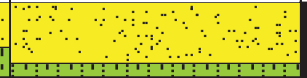
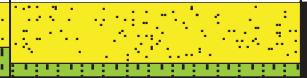













| Formation | Seam | Sample Number | Depth below Collar(m) | Graphic Log | DESCRIPTION   | Geophysical Traces |  |  |
|-----------|------|---------------|-----------------------|-------------|---|--------------------|--|--|
|           |      |               | 473-489               |             |   |                    |  |  |
|           |      |               | 474                   |             | SANDSTONE 50%, fine grained, grey, lithic moderately sorted low sphericity, sub-rounded to sub-angular silty; intermixed with SILTSTONE 50%, greyish grey, rare carbonaceous laminations; fresh |                    |  |  |
|           |      |               | 475                   |             | COAL, black, dull; tends to stony; fresh  |                    |  |  |
|           |      |               | 476                   |             | SANDSTONE 80%, fine grained, greyish off-white, abundant carbonaceous FR silty; intermixed with SILTSTONE 20%, brownish black, occasional XS; fresh   |                    |  |  |
|           |      |               | 477                   |             |   |                    |  |  |
|           |      |               | 478                   |             |   |                    |  |  |
|           |      |               | 479                   |             |   |                    |  |  |
|           |      |               | 480                   |             |   |                    |  |  |
|           |      |               | 481                   |             |   |                    |  |  |
|           |      |               | 482                   |             | SANDSTONE 70%, fine-medium grained, greyish off-white, lithic silty throughout poorly sorted; intermixed with COAL 30%, black, dull; tends to stony; fresh                                      |                    |  |  |
|           |      |               | 483                   |             |   |                    |  |  |
|           |      |               | 484                   |             |   |                    |  |  |
|           |      |               | 485                   |             |   |                    |  |  |
|           |      |               | 486                   |             |   |                    |  |  |
|           |      |               | 487                   |             | SANDSTONE 60%, fine grained, grey, lithic moderately sorted low sphericity, sub-rounded to sub-angular; intermixed with SILTSTONE 40%, brownish grey, sandy in part; fresh                      |                    |  |  |
|           |      |               | 488                   |             |   |                    |  |  |
|           |      |               | 489                   |             |   |                    |  |  |
|           |      |               | 490                   |             |   |                    |  |  |
|           |      |               | 491                   |             | SANDSTONE 60%, very fine-fine grained, grey, clayey throughout lithic; intermixed with SILTSTONE 40%, brownish grey, occasional micaceous; fresh  |                    |  |  |
|           |      |               | 492                   |             |   |                    |  |  |
|           |      |               | 493                   |             |   |                    |  |  |
|           |      |               | 494                   |             |   |                    |  |  |
|           |      |               | 495                   |             | SANDSTONE 80%, fine grained, greyish off-white, lithic silty in part; intermixed with SILTSTONE 20%, brownish grey, occasional sandy; fresh   |                    |  |  |
|           |      |               | 496                   |             |   |                    |  |  |














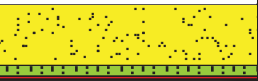
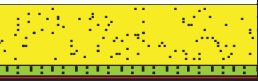
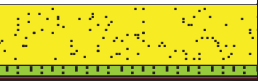
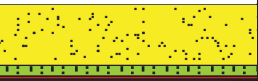
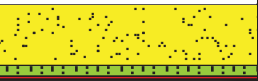
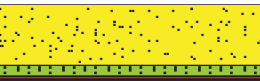
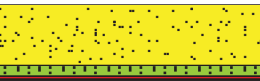
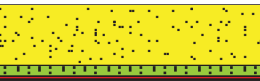



| Formation | Seam | Sample Number | Depth below Collar(m) | Graphic Log | DESCRIPTION  | Geophysical Traces |  |  |
|-----------|------|---------------|-----------------------|-------------|--|--------------------|--|--|
|           |      |               | 497                   |             | SANDSTONE 80%, fine grained, greyish off-white, lithic silty in part; intermixed with SILTSTONE 20%, brownish grey, occasional sandy; fresh  |                    |  |  |
|           |      |               | 498                   |             | SILTSTONE 60%, brownish grey, sandy; intermixed with SANDSTONE 40%, very fine-grained, brownish grey, lithic clayey in part poorly to moderately sorted; fresh   |                    |  |  |
|           |      |               | 499                   |             |  |                    |  |  |
|           |      |               | 500                   |             | SANDSTONE 80%, fine grained, grey, lithic moderately sorted low sphericity, sub-rounded to sub-angular; intermixed with SILTSTONE 20%, brownish grey, occasional carbonaceous laminations in part; fresh |                    |  |  |
|           |      |               | 501                   |             |  |                    |  |  |
|           |      |               | 502                   |             |  |                    |  |  |
|           |      |               | 503                   |             |  |                    |  |  |
|           |      |               | 504                   |             |  |                    |  |  |
|           |      |               | 505                   |             |  |                    |  |  |
|           |      |               | 506                   |             |  |                    |  |  |
|           |      |               | 507                   |             |  |                    |  |  |
|           |      |               | 508                   |             | SANDSTONE 60%, fine grained, greyish off-white, silty in part poorly to moderately sorted; intermixed with SILTSTONE 40%, brownish grey, sandy in part; fresh  |                    |  |  |
|           |      |               | 509                   |             |  |                    |  |  |
|           |      |               | 510                   |             |  |                    |  |  |
|           |      |               | 511                   |             | SANDSTONE 40%, fine grained, greyish off-white, lithic moderately sorted low sphericity, sub-rounded; intermixed with SILTSTONE 60%, brownish black, occasional XS; fresh                                |                    |  |  |
|           |      |               | 512                   |             |  |                    |  |  |
|           |      |               | 513                   |             |  |                    |  |  |
|           |      |               | 514                   |             |  |                    |  |  |
|           |      |               | 514.24                |             |  |                    |  |  |
|           |      |               | 515                   |             | COAL, black, dull, tends to stony; fresh   |                    |  |  |
|           |      |               | 516.49                |             |  |                    |  |  |
|           |      |               | 516                   |             | SANDSTONE 40%, fine grained, greyish off-white, lithic moderately sorted low sphericity, sub-rounded; intermixed with SILTSTONE 60%, brownish black, occasional XS; fresh                                |                    |  |  |
|           |      |               | 517                   |             | STONY COAL, brownish black, carbonaceous; fresh  |                    |  |  |
|           |      |               | 517.518               |             |  |                    |  |  |
|           |      |               | 518                   |             | SANDSTONE 70%, fine-medium grained, greyish off-white, lithic occasional carbonaceous laminations; intermixed with SILTSTONE 20%, brownish black, occasional XS; fresh                                   |                    |  |  |

| Formation | Seam | Sample Number | Depth below Collar(m) | Graphic Log | DESCRIPTION  | Geophysical Traces |             |                   |
|-----------|------|---------------|-----------------------|-------------|--|--------------------|-------------|-------------------|
|           |      |               | 519                   |             | SANDSTONE 70%, fine-medium grained, greyish off-white, lithic occasional carbonaceous laminations; intermixed with SILTSTONE 20%, brownish black, occasional XS; fresh   | GAMMA api          | Compensated | Limestone Neutron |
|           |      |               | 520                   |             | SANDSTONE 70%, fine-medium grained, greyish off-white, lithic occasional carbonaceous laminations; intermixed with SILTSTONE 20%, brownish black, occasional XS; fresh   | 50                 | 1.5         | 30                |
|           |      |               | 521                   |             | SANDSTONE 70%, fine-medium grained, greyish off-white, lithic occasional carbonaceous laminations; intermixed with SILTSTONE 20%, brownish black, occasional XS; fresh   | 100                | 2.0         | 60                |
|           |      |               | 522                   |             | SANDSTONE 70%, brownish black, occasional XS; intermixed with SANDSTONE 30%, fine grained, greyish off-white, lithic moderately sorted silty in part; fresh  | 150                | 2.5         | 90                |
|           |      |               | 523                   |             | SILTSTONE 80%, grey, micaceous in part; intermixed with SANDSTONE 20%, very fine-grained, greyish off-white, lithic moderately to well sorted low sphericity, sub-rounded; fresh   |                    |             |                   |
|           |      |               | 524                   |             | SILTSTONE 70%, brownish black, occasional XS; intermixed with SANDSTONE 30%, fine grained, greyish off-white, lithic moderately sorted silty in part; fresh  |                    |             |                   |
|           |      |               | 525                   |             | COAL UNDIFF., black; fresh   |                    |             |                   |
|           |      |               | 526                   |             | SILTSTONE 80%, grey, micaceous in part; intermixed with SANDSTONE 20%, very fine-grained, greyish off-white, lithic moderately to well sorted low sphericity, sub-rounded; fresh   |                    |             |                   |
|           |      |               | 527                   |             | SANDSTONE 60%, fine grained, greyish off-white, lithic silty in part poorly to moderately sorted; intermixed with SILTSTONE 40%, brownish grey, rare XS; fresh   |                    |             |                   |
|           |      |               | 528                   |             | SILTSTONE 50%, grey, micaceous throughout; intermixed with CARBONACEOUS SILTSTONE 30%, brownish black, carbonaceous; with SANDSTONE 20%, fine grained, greyish off-white, silty throughout lithic poorly to moderately sorted; fresh |                    |             |                   |
|           |      |               | 529                   |             | SANDSTONE 60%, fine grained, greyish off-white, lithic silty in part poorly to moderately sorted; intermixed with SILTSTONE 40%, brownish grey, rare XS; fresh   |                    |             |                   |
|           |      |               | 530                   |             | SILTSTONE 50%, grey, micaceous throughout; intermixed with CARBONACEOUS SILTSTONE 30%, brownish black, carbonaceous; with SANDSTONE 20%, fine grained, greyish off-white, silty throughout lithic poorly to moderately sorted; fresh |                    |             |                   |
|           |      |               | 531                   |             | SANDSTONE 60%, fine grained, greyish off-white, lithic silty in part poorly to moderately sorted; intermixed with SILTSTONE 40%, brownish grey, occasional sandy; fresh  |                    |             |                   |
|           |      |               | 532                   |             | SANDSTONE 60%, fine grained, greyish off-white, silty throughout lithic poorly to moderately sorted; intermixed with SILTSTONE 40%, brownish grey, occasional sandy; fresh   |                    |             |                   |
|           |      |               | 533                   |             | SANDSTONE 70%, fine grained, grey, lithic moderately sorted low sphericity, sub-rounded to sub-angular; intermixed with SILTSTONE 30%, brownish grey, sandy in part carbonaceous laminations; fresh                                  |                    |             |                   |
|           |      |               | 534                   |             | SANDSTONE 70%, fine grained, grey, lithic moderately sorted low sphericity, sub-rounded to sub-angular; intermixed with SILTSTONE 30%, brownish grey, sandy in part carbonaceous laminations; fresh                                  |                    |             |                   |
|           |      |               | 535                   |             | SANDSTONE 70%, fine grained, grey, lithic moderately sorted low sphericity, sub-rounded to sub-angular; intermixed with SILTSTONE 30%, brownish grey, sandy in part carbonaceous laminations; fresh                                  |                    |             |                   |
|           |      |               | 536                   |             | SANDSTONE 70%, fine grained, grey, lithic moderately sorted low sphericity, sub-rounded to sub-angular; intermixed with SILTSTONE 30%, brownish grey, sandy in part carbonaceous laminations; fresh                                  |                    |             |                   |
|           |      |               | 537                   |             | SANDSTONE 70%, fine grained, grey, lithic moderately sorted low sphericity, sub-rounded to sub-angular; intermixed with SILTSTONE 30%, brownish grey, sandy in part carbonaceous laminations; fresh                                  |                    |             |                   |
|           |      |               | 538                   |             | SANDSTONE 70%, fine grained, grey, lithic moderately sorted low sphericity, sub-rounded to sub-angular; intermixed with SILTSTONE 30%, brownish grey, sandy in part carbonaceous laminations; fresh                                  |                    |             |                   |
|           |      |               | 539                   |             | SANDSTONE 70%, fine grained, grey, lithic moderately sorted low sphericity, sub-rounded to sub-angular; intermixed with SILTSTONE 30%, brownish grey, sandy in part carbonaceous laminations; fresh                                  |                    |             |                   |
|           |      |               | 540                   |             | SANDSTONE 70%, fine grained, grey, lithic moderately sorted low sphericity, sub-rounded to sub-angular; intermixed with SILTSTONE 30%, brownish grey, sandy in part carbonaceous laminations; fresh                                  |                    |             |                   |
|           |      |               | 541                   |             | SANDSTONE 70%, fine grained, grey, lithic moderately sorted low sphericity, sub-rounded to sub-angular; intermixed with SILTSTONE 30%, brownish grey, sandy in part carbonaceous laminations; fresh                                  |                    |             |                   |

CARBONACEOUS SILTSTONE 40%, brownish black, abundant carbonaceous laminations; intermixed with SANDSTONE 30%, fine grained, greyish off-white, silty throughout moderately sorted, with COAL 30%, black, dull, tends to stony; fresh

| Formation | Seam | Sample Number | Depth below Collar(m) | Graphic Log   | DESCRIPTION  | Geophysical Traces |             |                   |
|-----------|------|---------------|-----------------------|---|--|--------------------|-------------|-------------------|
|           |      |               |                       |   |  | GAMMA api          | Compensated | Limestone Neutron |
|           |      |               | 542                   |  | CARBONACEOUS SILTSTONE 40%, brownish black, abundant carbonaceous laminae; intermixed with SANDSTONE 30%, fine grained, greyish off-white, silty throughout moderately sorted, with COAL 30%, black, dull, tends to stony, fresh | 100                | 2.0         | 30                |
|           |      |               | 543                   |  |  | 100                | 2.0         | 30                |
|           |      |               | 544                   |  |  | 100                | 2.0         | 30                |
|           |      |               | 545                   |  | SANDSTONE 60%, fine grained, greyish off-white, clayey in part poorly sorted lithic; intermixed with CARBONACEOUS SILTSTONE 40%, brownish black, shaly in part; fresh  | 100                | 2.0         | 30                |
|           |      |               | 546                   |  |  | 100                | 2.0         | 30                |
|           |      |               | 547                   |  |  | 100                | 2.0         | 30                |
|           |      |               | 547.25-549            |  | COAL UNDIFF., black; fresh   | 100                | 1.5         | 50                |
|           |      |               | 549                   |  | SANDSTONE 80%, fine grained, greyish off-white, lithic clayey in part; intermixed with SILTSTONE 20%, brownish black, micaceous XS in part; fresh  | 100                | 2.0         | 30                |
|           |      |               | 550                   |  |  | 100                | 2.0         | 30                |
|           |      |               | 551                   |  |  | 100                | 2.0         | 30                |
|           |      |               | 552                   |  | SANDSTONE 60%, fine grained, greyish off-white, silty throughout lithic; intermixed with SILTSTONE 40%, grey, micaceous throughout; fresh  | 100                | 2.0         | 30                |
|           |      |               | 553                   |  |  | 100                | 2.0         | 30                |
|           |      |               | 554                   |  |  | 100                | 2.0         | 30                |
|           |      |               | 555                   |  |  | 100                | 2.0         | 30                |
|           |      |               | 556                   |   | SANDSTONE 70%, very fine-fine grained, greyish off-white, silty in part lithic moderately sorted; intermixed with SILTSTONE 30%, brownish black, micaceous XS in part; fresh   | 100                | 2.0         | 30                |
|           |      |               | 557                   |   |  | 100                | 2.0         | 30                |
|           |      |               | 558                   |   |  | 100                | 2.0         | 30                |
|           |      |               | 559                   |   |  | 100                | 2.0         | 30                |
|           |      |               | 560                   |    | SANDSTONE 50%, very fine-fine grained, greyish off-white, silty throughout lithic poorly to moderately sorted; intermixed with SILTSTONE 50%, grey, micaceous throughout; fresh  | 100                | 2.0         | 30                |
|           |      |               | 561                   |    |  | 100                | 2.0         | 30                |
|           |      |               | 562                   |    |  | 100                | 2.0         | 30                |
|           |      |               | 563                   |    |  | 100                | 2.0         | 30                |
|           |      |               | 564                   |    |  | 100                | 2.0         | 30                |

| Formation | Seam | Sample Number | Depth below Collar(m) | Graphic Log   | DESCRIPTION  | Geophysical Traces |             |                   |
|-----------|------|---------------|-----------------------|---|--|--------------------|-------------|-------------------|
|           |      |               |                       |   |  | GAMMA api          | Compensated | Limestone Neutron |
|           |      |               | 565                   |  | SANDSTONE 50%, very fine-fine grained, greyish off-white, silty throughout lithic poorly to moderately sorted; intermixed with SILTSTONE 50%, grey, micaceous throughout; fresh                            | 50                 | 1.5         | 30                |
|           |      |               | 566                   |  | SANDSTONE, fine grained, grey, lithic poorly to moderately sorted silty throughout; fresh  | 100                | 2.0         | 30                |
|           |      |               | 567                   |  | SANDSTONE, fine grained, grey, lithic poorly to moderately sorted silty throughout; fresh  | 100                | 2.0         | 30                |
|           |      |               | 568                   |  | SANDSTONE, fine grained, grey, lithic poorly to moderately sorted silty throughout; fresh  | 100                | 2.0         | 30                |
|           |      |               | 569                   |  | COAL, black, dull, minor bright bands(<1%); fresh  | 100                | 2.0         | 30                |
|           |      | 011DA_DB      | 570                   |  | SANDSTONE, fine grained, grey, lithic poorly to moderately sorted silty throughout; fresh  | 100                | 2.0         | 30                |
|           |      |               | 571                   |  | SANDSTONE, fine grained, grey, lithic poorly to moderately sorted silty throughout; fresh  | 100                | 2.0         | 30                |
|           |      |               | 572                   |  | SANDSTONE, fine grained, grey, lithic poorly to moderately sorted silty throughout; fresh  | 100                | 2.0         | 30                |
|           |      |               | 573                   |  | SANDSTONE, fine grained, grey, lithic poorly to moderately sorted silty throughout; fresh  | 100                | 2.0         | 30                |
|           |      |               | 574                   |  | SANDSTONE, fine grained, grey, lithic poorly to moderately sorted silty throughout; fresh  | 100                | 2.0         | 30                |
|           |      |               | 575                   |  | COAL UNDIFF., black; fresh   | 100                | 2.0         | 30                |
|           |      |               | 576                   |  | COAL UNDIFF., black; fresh   | 100                | 2.0         | 30                |
|           |      |               | 577                   |  | COAL UNDIFF., black; fresh   | 100                | 2.0         | 30                |
|           |      |               | 578                   |   | SANDSTONE 80%, fine grained, greyish off-white, lithic carbonaceous wisps; intermixed with SILTSTONE 15%, brownish grey, micaceous throughout; with TUFF 5%, brownish Yellow Brown, carbonaceous XF; fresh | 100                | 2.0         | 30                |
|           |      |               | 579                   |   | SANDSTONE 80%, fine grained, greyish off-white, lithic carbonaceous wisps; intermixed with SILTSTONE 15%, brownish grey, micaceous throughout; with TUFF 5%, brownish Yellow Brown, carbonaceous XF; fresh | 100                | 2.0         | 30                |
|           |      |               | 580                   |   | SANDSTONE 80%, fine grained, greyish off-white, lithic carbonaceous wisps; intermixed with SILTSTONE 15%, brownish grey, micaceous throughout; with TUFF 5%, brownish Yellow Brown, carbonaceous XF; fresh | 100                | 2.0         | 30                |
|           |      |               | 581                   |   | SANDSTONE 80%, fine grained, greyish off-white, lithic carbonaceous wisps; intermixed with SILTSTONE 15%, brownish grey, micaceous throughout; with TUFF 5%, brownish Yellow Brown, carbonaceous XF; fresh | 100                | 2.0         | 30                |
|           |      |               | 582                   |   | SANDSTONE 80%, fine grained, greyish off-white, lithic carbonaceous wisps; intermixed with SILTSTONE 15%, brownish grey, micaceous throughout; with TUFF 5%, brownish Yellow Brown, carbonaceous XF; fresh | 100                | 2.0         | 30                |
|           |      |               | 583                   |    | SILTSTONE 30%, brownish grey, micaceous throughout; fresh  | 100                | 2.0         | 30                |
|           |      |               | 584                   |    | SILTSTONE 30%, brownish grey, micaceous throughout; fresh  | 100                | 2.0         | 30                |
|           |      |               | 585                   |    | SILTSTONE 30%, brownish grey, micaceous throughout; fresh  | 100                | 2.0         | 30                |
|           |      |               | 586                   |    | SILTSTONE 70%, brownish grey, carbonaceous in part; intermixed with SANDSTONE 30%, fine grained, greyish off-white; lithic moderately sorted silty in part; fresh  | 100                | 2.0         | 30                |

| Formation | Seam | Sample Number | Depth below Collar(m) | Graphic Log | DESCRIPTION  | Geophysical Traces |           |             |                   |
|-----------|------|---------------|-----------------------|-------------|--|--------------------|-----------|-------------|-------------------|
|           |      |               | 587                   |             | SILTSTONE 70%, brownish grey, carbonaceous in part; intermixed with SANDSTONE 30%, fine grained, greyish off-white, lithic moderately sorted silty in part; fresh  |                    | GAMMA api | Compensated | Limestone Neutron |
|           |      |               | 588                   |             |  |                    | 50        | 1.5         | 30                |
|           |      |               | 589                   |             |  |                    | 100       | 2           | 60                |
|           |      |               | 590                   |             |  |                    | 150       | 2.5         | 90                |
|           |      |               | 591                   |             | SANDSTONE 80%, fine grained, greyish off-white, lithic poorly to moderately sorted low sphericity, sub-rounded to sub-angular; intermixed with SILTSTONE 20%, brownish grey, carbonaceous laminations micaceous in part; fresh |                    |           |             |                   |
|           |      |               | 592                   |             |  |                    |           |             |                   |
|           |      |               | 593                   |             |  |                    |           |             |                   |
|           |      |               | 594                   |             | SANDSTONE 70%, fine grained, greyish off-white, lithic silty throughout poorly to moderately sorted; intermixed with SILTSTONE 30%, brownish grey, micaceous throughout; fresh   |                    |           |             |                   |
|           |      |               | 595                   |             |  |                    |           |             |                   |
|           |      |               | 596                   |             |  |                    |           |             |                   |
|           |      |               | 597                   |             | SANDSTONE 90%, fine grained, greyish off-white, lithic silty throughout poorly sorted; intermixed with SILTSTONE 10%, brownish grey, carbonaceous laminations; fresh   |                    |           |             |                   |
|           |      |               | 598                   |             |  |                    |           |             |                   |
|           |      |               | 599                   |             |  |                    |           |             |                   |
|           |      |               | 600                   |             | SANDSTONE, very fine-fine grained, greyish off-white, silty throughout lithic poorly to moderately sorted; fresh   |                    |           |             |                   |
|           |      |               | 601                   |             |  |                    |           |             |                   |
|           |      |               | 602                   |             |  |                    |           |             |                   |
|           |      |               | 603                   |             | SANDSTONE 70%, very fine-fine grained, grey, lithic moderately sorted silty throughout; intermixed with SILTSTONE 30%, brownish grey, micaceous throughout; fresh  |                    |           |             |                   |
|           |      |               | 604                   |             |  |                    |           |             |                   |
|           |      |               | 605                   |             |  |                    |           |             |                   |
|           |      |               | 606                   |             |  |                    |           |             |                   |
|           |      |               | 607                   |             | SILTSTONE 60%, dark grey grey, micaceous; intermixed with SANDSTONE 40%, fine grained, brownish grey, lithic poorly to moderately sorted carbonaceous laminations; fresh   |                    |           |             |                   |
|           |      |               | 608                   |             |  |                    |           |             |                   |
|           |      |               | 609                   |             |  |                    |           |             |                   |



| Formation | Seam | Sample Number | Depth below Collar(m) | Graphic Log | DESCRIPTION  | Geophysical Traces |             |                   |
|-----------|------|---------------|-----------------------|-------------|--|--------------------|-------------|-------------------|
|           |      |               |                       |             |  | GAMMA api          | Compensated | Limestone Neutron |
|           |      |               | 610                   |             | SILTSTONE 60%, dark grey grey, micaceous; intermixed with SANDSTONE 40%, fine grained, brownish grey, illitic poorly to moderately sorted carbonaceous laminations, fresh          | 50                 | 1.5         | 30                |
|           |      |               | 611                   |             | SANDSTONE 50%, fine grained, brownish grey, illitic moderately sorted low sphericity, sub-rounded; intermixed with SILTSTONE 50%, brownish black, XS in part, fresh                | 100                | 2.0         | 60                |
|           |      |               | 612                   |             |  | 150                | 2.5         | 90                |
|           |      |               | 613                   |             | COAL UNDIFF., black; fresh   |                    |             |                   |
|           |      |               | 614                   |             | CARBONACEOUS SILTSTONE, brownish black, carbonaceous sandy in part; fresh  |                    |             |                   |
|           |      |               | 615                   |             |  |                    |             |                   |
|           |      |               | 616                   |             | COAL, black, dull; tends to stony in part dull, minor bright bands(<1%); fresh   |                    |             |                   |
|           |      | 012-          | 616.34                |             | CARBONACEOUS SILTSTONE, brownish black, carbonaceous sandy in part; fresh  |                    |             |                   |
|           |      |               | 617                   |             |  |                    |             |                   |
|           |      |               | 618                   |             | COAL UNDIFF., black; fresh   |                    |             |                   |
|           |      |               | 618.33                |             |  |                    |             |                   |
|           |      |               | 619                   |             | CARBONACEOUS SILTSTONE, brownish black, carbonaceous sandy in part; fresh  |                    |             |                   |
|           |      |               | 620                   |             | COAL UNDIFF., black; fresh   |                    |             |                   |
|           |      |               | 621                   |             | CARBONACEOUS SILTSTONE, brownish black, carbonaceous sandy in part; fresh  |                    |             |                   |
|           |      |               | 622                   |             | SANDSTONE, fine grained, grey, illitic occasional laminations; fresh   |                    |             |                   |
|           |      |               | 623                   |             |  |                    |             |                   |
|           |      |               | 624                   |             |  |                    |             |                   |
|           |      |               | 625                   |             | COAL, black, dull; tends to stony; fresh   |                    |             |                   |
|           |      |               | 626                   |             | SANDSTONE 80%, fine grained, grey, illitic abundant carbonaceous XF; intermixed with SILTSTONE 20%, brownish black, XS in part; fresh  |                    |             |                   |
|           |      |               | 627                   |             | COAL UNDIFF., black; fresh   |                    |             |                   |
|           |      |               | 628                   |             | SANDSTONE 80%, fine grained, grey, illitic abundant carbonaceous XF; intermixed with SILTSTONE 20%, brownish black, XS in part; fresh  |                    |             |                   |
|           |      |               | 629                   |             | COAL UNDIFF., black; fresh   |                    |             |                   |
|           |      |               | 630                   |             | SANDSTONE 60%, fine grained, brownish of -white, illitic poorly to moderately sorted silty throughout; intermixed with SILTSTONE 40%, brownish grey, XS in part laminations; fresh |                    |             |                   |
|           |      |               | 631                   |             |  |                    |             |                   |
|           |      |               | 632                   |             |  |                    |             |                   |



| Formation | Seam | Sample Number | Depth below Collar(m) | Graphic Log | DESCRIPTION  | Geophysical Traces |             |                   |
|-----------|------|---------------|-----------------------|-------------|--|--------------------|-------------|-------------------|
|           |      |               |                       |             |  | GAMMA api          | Compensated | Limestone Neutron |
|           |      |               | 655                   |             | SILTSTONE 70%, greyish brown, micaceous throughout; intermixed with SANDSTONE 30%, fine grained, grey, lithic; poorly to moderately sorted low sphericity, sub-rounded to sub-angular; fresh   |                    |             |                   |
|           |      |               | 656                   |             | SILTSTONE 60%, brownish grey, abundant carbonaceous XF; intermixed with SANDSTONE 40%, fine grained, grey, lithic silty throughout poorly to moderately sorted; fresh  |                    |             |                   |
|           |      |               | 657                   |             | SILTSTONE 60%, brownish grey, abundant carbonaceous XF; intermixed with SANDSTONE 40%, fine grained, grey, lithic silty throughout poorly to moderately sorted; fresh  |                    |             |                   |
|           |      |               | 658                   |             | SILTSTONE 60%, brownish grey, abundant carbonaceous XF; intermixed with SANDSTONE 40%, fine grained, grey, lithic silty throughout poorly to moderately sorted; fresh  |                    |             |                   |
|           |      |               | 659                   |             | SILTSTONE 60%, brownish grey, abundant carbonaceous XF; intermixed with SANDSTONE 40%, fine grained, grey, lithic silty throughout poorly to moderately sorted; fresh  |                    |             |                   |
|           |      |               | 660                   |             | SILTSTONE 60%, brownish grey, abundant carbonaceous XF; intermixed with SANDSTONE 40%, fine grained, grey, lithic silty throughout poorly to moderately sorted; fresh  |                    |             |                   |
|           |      |               | 661                   |             | SILTSTONE 60%, brownish grey, abundant carbonaceous XF; intermixed with SANDSTONE 40%, fine grained, grey, lithic silty throughout poorly to moderately sorted; fresh  |                    |             |                   |
|           |      |               | 662                   |             | SILTSTONE 60%, brownish grey, abundant carbonaceous XF; intermixed with SANDSTONE 40%, fine grained, grey, lithic silty throughout poorly to moderately sorted; fresh  |                    |             |                   |
|           |      |               | 663                   |             | SANDSTONE 70%, fine grained, greyish off-white, lithic moderately sorted high sphericity, sub-rounded to sub-angular, intermixed with SILTSTONE 30%, brownish grey, micaceous throughout carbonaceous XF; fresh  |                    |             |                   |
|           |      |               | 664                   |             | SANDSTONE 70%, fine grained, greyish off-white, lithic moderately sorted high sphericity, sub-rounded to sub-angular, intermixed with SILTSTONE 30%, brownish grey, micaceous throughout carbonaceous XF; fresh  |                    |             |                   |
|           |      |               | 665                   |             | SANDSTONE 70%, fine grained, greyish off-white, lithic moderately sorted high sphericity, sub-rounded to sub-angular, intermixed with SILTSTONE 30%, brownish grey, micaceous throughout carbonaceous XF; fresh  |                    |             |                   |
|           |      |               | 666                   |             | SILTSTONE 80%, brownish black, carbonaceous XF; XS in part; intermixed with SANDSTONE 40%, fine grained, grey, lithic moderately sorted high sphericity, sub-rounded to sub-angular silty; fresh   |                    |             |                   |
|           |      |               | 667                   |             | SILTSTONE 80%, brownish black, carbonaceous XF; XS in part; intermixed with SANDSTONE 40%, fine grained, grey, lithic moderately sorted high sphericity, sub-rounded to sub-angular silty; fresh   |                    |             |                   |
|           |      |               | 668                   |             | SILTSTONE 80%, brownish black, carbonaceous XF; XS in part; intermixed with SANDSTONE 40%, fine grained, grey, lithic moderately sorted high sphericity, sub-rounded to sub-angular silty; fresh   |                    |             |                   |
|           |      |               | 669                   |             | SILTSTONE 80%, brownish grey, XS in part sandy throughout; intermixed with SANDSTONE 20%, very fine-fine grained, greyish off-white, lithic carbonaceous XF; fresh   |                    |             |                   |
|           |      |               | 670                   |             | SILTSTONE 80%, brownish grey, XS in part sandy throughout; intermixed with SANDSTONE 20%, very fine-fine grained, greyish off-white, lithic carbonaceous XF; fresh   |                    |             |                   |
|           |      |               | 671                   |             | SILTSTONE 80%, brownish grey, XS in part sandy throughout; intermixed with SANDSTONE 20%, very fine-fine grained, greyish off-white, lithic carbonaceous XF; fresh   |                    |             |                   |
|           |      |               | 672                   |             | SANDSTONE 70%, very fine-fine grained, greyish off-white, silty throughout lithic poorly to moderately sorted; intermixed with SILTSTONE 30%, brownish grey, clayey laminations; fresh   |                    |             |                   |
|           |      |               | 673                   |             | SANDSTONE 70%, very fine-fine grained, greyish off-white, silty throughout lithic poorly to moderately sorted; intermixed with SILTSTONE 30%, brownish grey, clayey laminations; fresh   |                    |             |                   |
|           |      |               | 674                   |             | SANDSTONE 70%, very fine-fine grained, greyish off-white, silty throughout lithic poorly to moderately sorted; intermixed with SILTSTONE 30%, brownish grey, clayey laminations; fresh   |                    |             |                   |
|           |      |               | 675                   |             | SANDSTONE 70%, very fine-fine grained, grey, lithic poorly to moderately sorted low sphericity, sub-rounded to sub-angular; intermixed with SILTSTONE 20%, brownish grey, carbonaceous laminations micaceous in part; with CLAYSTONE 10%, brownish black, shaly in part; fresh |                    |             |                   |
|           |      |               | 676                   |             | SANDSTONE 70%, very fine-fine grained, grey, lithic poorly to moderately sorted low sphericity, sub-rounded to sub-angular; intermixed with SILTSTONE 20%, brownish grey, carbonaceous laminations micaceous in part; with CLAYSTONE 10%, brownish black, shaly in part; fresh |                    |             |                   |
|           |      |               | 677                   |             | SANDSTONE 70%, very fine-fine grained, grey, lithic poorly to moderately sorted low sphericity, sub-rounded to sub-angular; intermixed with SILTSTONE 20%, brownish grey, carbonaceous laminations micaceous in part; with CLAYSTONE 10%, brownish black, shaly in part; fresh |                    |             |                   |

| Formation | Seam | Sample Number | Depth below Collar(m) | Graphic Log | DESCRIPTION   | Geophysical Traces |             |                   |
|-----------|------|---------------|-----------------------|-------------|---|--------------------|-------------|-------------------|
|           |      |               |                       |             |   | GAMMA api          | Compensated | Limestone Neutron |
|           |      |               | 678                   |             | SANDSTONE 70%, very fine-fine grained, grey, lithic poorly to moderately sorted low sphericity, sub-rounded to sub-angular, intermixed with SILTSTONE 20%, brownish grey, carbonaceous laminations micaceous in part, with CLASTONE 10%, brownish black, shaly in part, fresh | 50                 | 1.5         | 30                |
|           |      |               | 680                   |             | SANDSTONE 80%, very fine-fine grained, brownish grey, carbonaceous laminations, intermixed with SILTSTONE 20%, brownish grey, XS in part micaceous, fresh   | 100                | 2.5         | 60                |
|           |      |               | 681                   |             |   | 150                | 2.5         | 60                |
|           |      |               | 682                   |             |   | 150                | 2.5         | 60                |
|           |      |               | 683                   |             | SILTSTONE 80%, brownish grey, carbonaceous laminations, carbonaceous laminations, intermixed with SANDSTONE 20%, fine grained, grey, lithic silty throughout poorly to moderately sorted, fresh   | 150                | 2.5         | 60                |
|           |      |               | 684                   |             |   | 150                | 2.5         | 60                |
|           |      |               | 685                   |             |   | 150                | 2.5         | 60                |
|           |      |               | 686                   |             |   | 150                | 2.5         | 60                |
|           |      |               | 687                   |             | SANDSTONE 60%, fine grained, grey, lithic moderately sorted low sphericity, sub-rounded to sub-angular silty, intermixed with SILTSTONE 30%, brownish grey, carbonaceous in part, with STONY COAL 10%, brownish black, dull, tends to stony; fresh                            | 150                | 2.5         | 60                |
|           |      |               | 688                   |             |   | 150                | 2.5         | 60                |
|           |      |               | 689                   |             |   | 150                | 2.5         | 60                |
|           |      |               | 690                   |             | SANDSTONE 40%, fine grained, grey, lithic silty throughout moderately sorted, intermixed with SILTSTONE 30%, brownish grey, carbonaceous laminations XS in part, with STONY COAL 30%, brownish black, dull, tends to stony; fresh   | 150                | 2.5         | 60                |
|           |      |               | 691                   |             |   | 150                | 2.5         | 60                |
|           |      |               | 692                   |             |   | 150                | 2.5         | 60                |
|           |      |               | 693                   |             | SILTSTONE 60%, brownish black, XS in part carbonaceous laminations, intermixed with SANDSTONE 30%, fine grained, greyish off-white, lithic moderately sorted low sphericity, sub-rounded to sub-angular, with TUFF 10%, Yellow Brown, carbonaceous XF, fresh                  | 150                | 2.5         | 60                |
|           |      |               | 694                   |             |   | 150                | 2.5         | 60                |
|           |      |               | 695                   |             |   | 150                | 2.5         | 60                |
|           |      |               | 696                   |             | COAL UNDIFF., black, fresh  | 150                | 2.5         | 60                |
|           |      |               | 697                   |             | SILTSTONE 60%, brownish black, XS in part carbonaceous laminations, intermixed with SANDSTONE 30%, fine grained, greyish off-white, lithic moderately sorted low sphericity, sub-rounded to sub-angular, with TUFF 10%, Yellow Brown, carbonaceous XF, fresh                  | 150                | 2.5         | 60                |
|           |      |               | 698                   |             |   | 150                | 2.5         | 60                |
|           |      |               | 699                   |             | SILTSTONE 50%, brownish black, carbonaceous XF XS in part, intermixed with SANDSTONE 30%, fine grained, grey, lithic silty throughout poorly to moderately sorted, with STONY COAL 20%, black, dull, tends to stony dull (<1% bright) coaly, fresh                            | 150                | 2.5         | 60                |
|           |      |               | 700                   |             |   | 150                | 2.5         | 60                |

| Formation |  | Seam |  | Sample Number |     | Depth below Collar(m) |  | Graphic Log |  | DESCRIPTION |     | Geophysical Traces |  |  |
|-----------|--|------|--|---------------|-----|-----------------------|--|-------------|--|-------------|-----|--------------------|--|--|
|           |  |      |  |               |     |                       |  |             |  |             |     | GAMMA api          |  |  |
|           |  |      |  |               |     |                       |  |             |  |             |     | Compensated        |  |  |
|           |  |      |  |               |     |                       |  |             |  |             |     | Limestone Neutron  |  |  |
|           |  |      |  |               | 701 |                       |  |             | SILTSTONE 50%, brownish black, carbonaceous XF XS in part; intermixed with SANDSTONE 30%, fine grained, grey, lithic silty throughout; poorly to moderately sorted; with STONY COAL 20%, black, dull, tends to stony dull (<1% bright) coaly, fresh        | 50          |     |                    |  |  |
|           |  |      |  |               | 702 |                       |  |             | CARBONACEOUS SILTSTONE 60%, brownish black, shaly in part; intermixed with SANDSTONE 40%, very fine-fine grained, grey, lithic poorly to moderately sorted silty in part; fresh  | 100         |     |                    |  |  |
|           |  |      |  |               | 703 |                       |  |             | CARBONACEOUS SILTSTONE 70%, brownish black, carbonaceous throughout carbonaceous laminations; intermixed with SANDSTONE 30%, fine grained, greyish off-white, lithic abundant carbonaceous XF; fresh   | 150         |     |                    |  |  |
|           |  |      |  |               | 704 |                       |  |             | CARBONACEOUS SILTSTONE 70%, brownish black, carbonaceous throughout carbonaceous laminaitions; intermixed with SANDSTONE 30%, fine grained, greyish off-white, lithic abundant carbonaceous XF; fresh  | 200         |     |                    |  |  |
|           |  |      |  |               | 705 |                       |  |             | CARBONACEOUS SILTSTONE 70%, brownish black, carbonaceous throughout carbonaceous laminaitions; intermixed with SANDSTONE 30%, fine grained, greyish off-white, lithic abundant carbonaceous XF; fresh  |             | 1.5 |                    |  |  |
|           |  |      |  |               | 706 |                       |  |             | CARBONACEOUS SILTSTONE 70%, brownish black, carbonaceous throughout carbonaceous laminaitions; intermixed with SANDSTONE 30%, fine grained, greyish off-white, lithic abundant carbonaceous XF; fresh  |             | 2.0 |                    |  |  |
|           |  |      |  |               | 707 |                       |  |             | STONY COAL, black, dull, minor bright bands (<1%); fresh   |             | 2.5 |                    |  |  |
|           |  |      |  |               | 708 |                       |  |             | CARBONACEOUS SILTSTONE 70%, brownish black, carbonaceous throughout carbonaceous laminaitions; intermixed with SANDSTONE 30%, fine grained, greyish off-white, lithic abundant carbonaceous XF; fresh  |             |     | 30                 |  |  |
|           |  |      |  |               | 709 |                       |  |             | CARBONACEOUS SILTSTONE 70%, brownish black, carbonaceous throughout carbonaceous laminaitions; intermixed with SANDSTONE 30%, fine grained, greyish off-white, lithic abundant carbonaceous XF; fresh  |             |     | 60                 |  |  |
|           |  |      |  |               | 710 |                       |  |             | COAL UNDIFF., black; fresh   |             |     | 90                 |  |  |
|           |  |      |  |               | 711 |                       |  |             | CARBONACEOUS SILTSTONE 70%, brownish black, carbonaceous throughout carbonaceous laminaitions; intermixed with SANDSTONE 30%, fine grained, greyish off-white, lithic abundant carbonaceous XF; fresh  |             |     |                    |  |  |
|           |  |      |  |               | 712 |                       |  |             | SILTSTONE 50%, brownish black, XS in part; intermixed with SANDSTONE 50%, fine grained, brownish off-white, lithic abundant carbonaceous XF; fresh   |             |     |                    |  |  |
|           |  |      |  |               | 713 |                       |  |             | SILTSTONE 50%, brownish black, XS in part; intermixed with SANDSTONE 50%, fine grained, brownish off-white, lithic abundant carbonaceous XF; fresh   |             |     |                    |  |  |
|           |  |      |  |               | 714 |                       |  |             | COAL, black, dull, minor bright bands(<1%) dull (<1% bright); fresh  |             |     |                    |  |  |
|           |  |      |  |               | 715 |                       |  |             | SILTSTONE 50%, brownish black, XS in part; intermixed with SANDSTONE 50%, fine grained, brownish off-white, lithic abundant carbonaceous XF; fresh   |             |     |                    |  |  |
|           |  |      |  |               | 716 |                       |  |             | SANDSTONE 60%, very fine-fine grained, grey, silty throughout poorly to moderately sorted; intermixed with SILTSTONE 30%, brownish grey, carbonaceous laminaitions micaceous in part; with CARBONACEOUS SILTSTONE 20%, brownish black, carbonaceous; fresh |             |     |                    |  |  |
|           |  |      |  |               | 717 |                       |  |             | SANDSTONE 60%, very fine-fine grained, grey, silty throughout poorly to moderately sorted; intermixed with SILTSTONE 30%, brownish grey, carbonaceous laminaitions micaceous in part; with CARBONACEOUS SILTSTONE 20%, brownish black, carbonaceous; fresh |             |     |                    |  |  |
|           |  |      |  |               | 718 |                       |  |             | COAL UNDIFF., black; fresh   |             |     |                    |  |  |
|           |  |      |  |               | 719 |                       |  |             | SANDSTONE 60%, very fine-fine grained, grey, silty throughout poorly to moderately sorted; intermixed with SILTSTONE 30%, brownish grey, carbonaceous laminaitions micaceous in part; with CARBONACEOUS SILTSTONE 20%, brownish black, carbonaceous; fresh |             |     |                    |  |  |
|           |  |      |  |               | 720 |                       |  |             | SANDSTONE 60%, very fine-fine grained, greyish off-white, silty throughout poorly to moderately sorted, intermixed with CARBONACEOUS SILTSTONE 40% brownish black, carbonaceous; fresh   |             |     |                    |  |  |
|           |  |      |  |               | 721 |                       |  |             | SANDSTONE 60%, very fine-fine grained, grey, silty throughout poorly to moderately sorted; intermixed with SILTSTONE 30%, brownish grey, carbonaceous laminaitions micaceous in part; with CARBONACEOUS SILTSTONE 20%, brownish black, carbonaceous; fresh |             |     |                    |  |  |
|           |  |      |  |               | 722 |                       |  |             | SILTSTONE 70%, brownish grey, micaceous throughout; intermixed with SANDSTONE 30%, fine grained, grey, lithic moderately sorted low sphericity, sub-rounded to sub-angular; fresh  |             |     |                    |  |  |

| Formation |  | Seam |  | Sample Number |  | Depth below Collar(m) |  | Graphic Log |  | DESCRIPTION |  | Geophysical Traces |             |                   |
|-----------|--|------|--|---------------|--|-----------------------|--|-------------|--|-------------|--|--------------------|-------------|-------------------|
|           |  |      |  |               |  | 723                   |  |             |  |             |  | GAMMA api          | Compensated | Limestone Neutron |
|           |  |      |  |               |  | 724                   |  |             |  |             | SILTSTONE 70%, brownish grey, micaceous throughout; intermixed with SANDSTONE 30%, fine grained, grey, lithic moderately sorted low sphericity, sub-rounded to sub-angular; fresh                        |                    |             |                   |
|           |  |      |  |               |  | 725                   |  |             |  |             | SANDSTONE 90%, fine-medium grained, greyish off-white, lithic poorly sorted low sphericity, sub-angular silty; intermixed with SILTSTONE 10%, brownish grey, occasional carbonaceous XF micaceous; fresh |                    |             |                   |
|           |  |      |  |               |  | 726                   |  |             |  |             |  |                    |             |                   |
|           |  |      |  |               |  | 727                   |  |             |  |             |  |                    |             |                   |
|           |  |      |  |               |  | 728                   |  |             |  |             |  |                    |             |                   |
|           |  |      |  |               |  | 729                   |  |             |  |             |  |                    |             |                   |
|           |  |      |  |               |  | 730                   |  |             |  |             |  |                    |             |                   |
|           |  |      |  |               |  | 731                   |  |             |  |             | SANDSTONE, fine-medium grained, greyish off-white, lithic poorly sorted low sphericity, sub-angular; fresh   |                    |             |                   |
|           |  |      |  |               |  | 732                   |  |             |  |             |  |                    |             |                   |
|           |  |      |  |               |  | 733                   |  |             |  |             |  |                    |             |                   |
|           |  |      |  |               |  | 734                   |  |             |  |             |  |                    |             |                   |
|           |  |      |  |               |  | 735                   |  |             |  |             | SANDSTONE, fine-medium grained, greyish off-white, lithic poorly sorted low sphericity, sub-angular silty; fresh   |                    |             |                   |
|           |  |      |  |               |  | 736                   |  |             |  |             |  |                    |             |                   |
|           |  |      |  |               |  | 736.43                |  |             |  |             | COAL UNDIFF., black; fresh   |                    |             |                   |
|           |  |      |  |               |  | 737                   |  |             |  |             | SILTSTONE 60%, greyish brown, micaceous throughout; intermixed with SANDSTONE 40%, fine grained, greyish off-white, silty throughout lithic poorly to moderately sorted; fresh                           |                    |             |                   |
|           |  |      |  |               |  | 738.8                 |  |             |  |             | COAL UNDIFF., black; fresh   |                    |             |                   |
|           |  |      |  |               |  | 739                   |  |             |  |             |  |                    |             |                   |
|           |  |      |  |               |  | 740                   |  |             |  |             | SILTSTONE 60%, greyish brown, micaceous throughout; intermixed with SANDSTONE 40%, fine grained, greyish off-white, silty throughout lithic poorly to moderately sorted; fresh                           |                    |             |                   |
|           |  |      |  |               |  | 741                   |  |             |  |             |  |                    |             |                   |
|           |  |      |  |               |  | 742                   |  |             |  |             | SILTSTONE 70%, brownish grey, XS in part micaceous; intermixed with SANDSTONE 30%, fine grained, greyish off-white, silty throughout lithic poorly to moderately sorted; fresh                           |                    |             |                   |
|           |  |      |  |               |  | 743                   |  |             |  |             |  |                    |             |                   |
|           |  |      |  |               |  | 744                   |  |             |  |             |  |                    |             |                   |
|           |  |      |  |               |  | 745                   |  |             |  |             | SILTSTONE 60%, brownish black, XS in part; intermixed with SANDSTONE 30%, fine grained, greyish off-white, lithic silty micaceous FR; with TUFF 10%, Yellow Brown, carbonaceous XF laminations; fresh    |                    |             |                   |

| Formation |  | Seam |  | Sample Number |  | Depth below Collar(m) |  | Graphic Log |  | DESCRIPTION   |  | Geophysical Traces |             |                   |
|-----------|--|------|--|---------------|--|-----------------------|--|-------------|--|---|--|--------------------|-------------|-------------------|
|           |  |      |  |               |  |                       |  |             |  |   |  | GAMMA api          | Compensated | Limestone Neutron |
|           |  |      |  |               |  | 746                   |  |             |  | SILTSTONE 60%, brownish black, XS in part; intermixed with SANDSTONE 30%, fine grained, greyish off-white, lithic silty tuffaceous FR; with TUFF 10%, Yellow Brown, carbonaceous XF laminations; fresh    |  | 50                 | 1.5         | 30                |
|           |  |      |  |               |  | 747                   |  |             |  |   |  | 100                | 2.0         | 45                |
|           |  |      |  |               |  | 748                   |  |             |  |   |  | 150                | 2.2         | 55                |
|           |  |      |  |               |  | 749                   |  |             |  |   |  | 200                | 2.4         | 65                |
|           |  |      |  |               |  | 750                   |  |             |  | SILTSTONE 50%, grey, XS in part carbonaceous laminations; intermixed with SANDSTONE 50%, fine grained, greyish off-white, silty throughout lithic poorly to moderately sorted; fresh                      |  |                    |             |                   |
|           |  |      |  |               |  | 751                   |  |             |  |   |  |                    |             |                   |
|           |  |      |  |               |  | 752                   |  |             |  |   |  |                    |             |                   |
|           |  |      |  |               |  | 753                   |  |             |  |   |  |                    |             |                   |
|           |  |      |  |               |  | 754                   |  |             |  |   |  |                    |             |                   |
|           |  |      |  |               |  | 755                   |  |             |  |   |  |                    |             |                   |
|           |  |      |  |               |  | 756                   |  |             |  | SANDSTONE 80%, very fine-fine grained, greyish off-white, lithic poorly to moderately sorted low sphericity, sub-angular silty; intermixed with SILTSTONE 20%, brownish grey, micaceous throughout; fresh |  |                    |             |                   |
|           |  |      |  |               |  | 757                   |  |             |  |   |  |                    |             |                   |
|           |  |      |  |               |  | 758                   |  |             |  |   |  |                    |             |                   |
|           |  |      |  |               |  | 759                   |  |             |  |   |  |                    |             |                   |
|           |  |      |  |               |  | 760                   |  |             |  | SANDSTONE, very fine-fine grained, greyish off-white, lithic silty throughout poorly to moderately sorted; fresh  |  |                    |             |                   |
|           |  |      |  |               |  | 761                   |  |             |  |   |  |                    |             |                   |
|           |  |      |  |               |  | 762                   |  |             |  |   |  |                    |             |                   |
|           |  |      |  |               |  | 763                   |  |             |  | SILTSTONE 60%, brownish grey, sandy in part; intermixed with SANDSTONE 40%, fine grained, greyish off-white, lithic moderately sorted low sphericity, sub-angular to angular; fresh                       |  |                    |             |                   |
|           |  |      |  |               |  | 764                   |  |             |  |   |  |                    |             |                   |
|           |  |      |  |               |  | 765                   |  |             |  |   |  |                    |             |                   |
|           |  |      |  |               |  | 766                   |  |             |  | COAL UNDIFF., black; fresh  |  |                    |             |                   |
|           |  |      |  |               |  | 767                   |  |             |  | SILTSTONE 60%, brownish grey, sandy in part; intermixed with SANDSTONE 40%, fine grained, greyish off-white, lithic moderately sorted low sphericity, sub-angular to angular; fresh                       |  |                    |             |                   |
|           |  |      |  |               |  | 768                   |  |             |  | SANDSTONE 50%, fine grained, grey, lithic silty throughout; intermixed with SILTSTONE 50%, grey, micaceous in part XS in part; fresh  |  |                    |             |                   |

| Formation | Seam | Sample Number | Depth below Collar(m) | Graphic Log | DESCRIPTION  | Geophysical Traces |     |    |
|-----------|------|---------------|-----------------------|-------------|--|--------------------|-----|----|
|           |      |               | 789.8                 |             | SANDSTONE 50%, fine grained, grey, lithic silty throughout; intermixed with SILTSTONE 50%, grey, micaceous in part XS in part; fresh   | 50                 | 1.5 | 30 |
|           |      |               | 769                   |             | COAL, black, dull, minor bright bands(<1%); fresh  | 100                | 2.5 | 60 |
|           |      |               | 770                   |             | SANDSTONE 50%, fine grained, grey, lithic silty throughout; intermixed with SILTSTONE 50%, grey, micaceous in part XS in part; fresh   | 150                | 2.5 | 90 |
|           |      |               | 771                   |             | SANDSTONE 50%, fine grained, grey, lithic silty throughout; intermixed with SILTSTONE 50%, grey, micaceous in part XS in part; fresh   | 200                | 2.5 | 90 |
|           |      |               | 772                   |             | CARBONACEOUS SILTSTONE 70%, brownish black, shaly in part; intermixed with SANDSTONE 30%, fine grained, grey, lithic poorly to moderately sorted silty throughout; fresh   | 250                | 2.5 | 90 |
|           |      |               | 773                   |             | CARBONACEOUS SILTSTONE 40%, brownish black, shaly in part; intermixed with SANDSTONE 30%, fine-medium grained, greyish off-white, moderately sorted low sphericity, sub-angular tuffaceous XF; with CARBONACEOUS SILTSTONE 30%; brownish black, carbonaceous XF laminations; fresh | 300                | 2.5 | 90 |
|           |      |               | 774                   |             | CARBONACEOUS SILTSTONE 40%, brownish black, shaly in part; intermixed with SANDSTONE 30%, fine-medium grained, greyish off-white, moderately sorted low sphericity, sub-angular tuffaceous XF; with CARBONACEOUS SILTSTONE 30%; brownish black, carbonaceous XF laminations; fresh | 350                | 2.5 | 90 |
|           |      |               | 775                   |             | CARBONACEOUS SILTSTONE 40%, brownish black, shaly in part; intermixed with SANDSTONE 30%, fine-medium grained, greyish off-white, moderately sorted low sphericity, sub-angular tuffaceous XF; with CARBONACEOUS SILTSTONE 30%; brownish black, carbonaceous XF laminations; fresh | 400                | 2.5 | 90 |
|           |      |               | 776                   |             | CARBONACEOUS SILTSTONE 40%, brownish black, shaly in part; intermixed with SANDSTONE 30%, fine-medium grained, greyish off-white, moderately sorted low sphericity, sub-angular tuffaceous XF; with CARBONACEOUS SILTSTONE 30%; brownish black, carbonaceous XF laminations; fresh | 450                | 2.5 | 90 |
|           |      |               | 777                   |             | COAL UNDIFF., black; fresh   | 500                | 1.5 | 90 |
|           |      |               | 778                   |             | CARBONACEOUS SILTSTONE 40%, brownish black, shaly in part; intermixed with SANDSTONE 30%, fine-medium grained, greyish off-white, moderately sorted low sphericity, sub-angular tuffaceous XF; with CARBONACEOUS SILTSTONE 30%; brownish black, carbonaceous XF laminations; fresh | 550                | 2.5 | 90 |
|           |      |               | 779                   |             | CARBONACEOUS SILTSTONE 40%, brownish black, shaly in part; intermixed with SANDSTONE 30%, fine-medium grained, greyish off-white, moderately sorted low sphericity, sub-angular tuffaceous XF; with CARBONACEOUS SILTSTONE 30%; brownish black, carbonaceous XF laminations; fresh | 600                | 2.5 | 90 |
|           |      |               | 780                   |             | CARBONACEOUS SILTSTONE 50%, brownish black, carbonaceous XF laminations; intermixed with SILTSTONE 50%, brownish black, sandy throughout; fresh  | 650                | 2.5 | 90 |
|           |      |               | 781                   |             | CARBONACEOUS SILTSTONE 50%, brownish black, carbonaceous XF laminations; intermixed with SILTSTONE 50%, brownish black, sandy throughout; fresh  | 700                | 2.5 | 90 |
|           |      |               | 782                   |             | CARBONACEOUS SILTSTONE 50%, brownish black, carbonaceous XF laminations; intermixed with SILTSTONE 50%, brownish black, sandy throughout; fresh  | 750                | 2.5 | 90 |
|           |      |               | 783                   |             | SANDSTONE 40%, fine grained, brownish off-white, lithic poorly to moderately sorted silty throughout; intermixed with STONY COAL 30%, brownish black, dull, minor bright bands (<1%); with CARBONACEOUS SILTSTONE 30%; brownish black, carbonaceous XF laminations; fresh          | 800                | 2.5 | 90 |
|           |      |               | 784                   |             | SANDSTONE 40%, fine grained, brownish off-white, lithic poorly to moderately sorted silty throughout; intermixed with STONY COAL 30%, brownish black, dull, minor bright bands (<1%); with CARBONACEOUS SILTSTONE 30%; brownish black, carbonaceous XF laminations; fresh          | 850                | 2.5 | 90 |
|           |      |               | 785                   |             | CARBONACEOUS SILTSTONE 50%, brownish black, shaly in part; intermixed with SANDSTONE 45%, greyish off-white, lithic poorly to moderately sorted tuffaceous XF; with TUFF 5%, Yellow Brown, carbonaceous XF laminations; fresh  | 900                | 2.5 | 90 |
|           |      |               | 786                   |             | CARBONACEOUS SILTSTONE 50%, brownish black, shaly in part; intermixed with SANDSTONE 45%, greyish off-white, lithic poorly to moderately sorted tuffaceous XF; with TUFF 5%, Yellow Brown, carbonaceous XF laminations; fresh  | 950                | 2.5 | 90 |
|           |      |               | 787                   |             | CARBONACEOUS SILTSTONE 50%, brownish black, shaly in part; intermixed with SANDSTONE 45%, greyish off-white, lithic poorly to moderately sorted tuffaceous XF; with TUFF 5%, Yellow Brown, carbonaceous XF laminations; fresh  | 1000               | 2.5 | 90 |
|           |      |               | 788                   |             | CARBONACEOUS SILTSTONE 50%, brownish black, shaly in part; intermixed with SANDSTONE 45%, greyish off-white, lithic poorly to moderately sorted tuffaceous XF; with TUFF 5%, Yellow Brown, carbonaceous XF laminations; fresh  | 1050               | 2.5 | 90 |
|           |      |               | 789                   |             | CARBONACEOUS SILTSTONE 50%, brownish black, shaly in part; intermixed with SANDSTONE 45%, greyish off-white, lithic poorly to moderately sorted tuffaceous XF; with TUFF 5%, Yellow Brown, carbonaceous XF laminations; fresh  | 1100               | 2.5 | 90 |
|           |      |               | 790                   |             | SILTSTONE 50%, brownish black, carbonaceous XF laminations; intermixed with CARBONACEOUS SILTSTONE 50%, brownish black, shaly in part; fresh   | 1150               | 2.5 | 90 |



| Formation |  | Seam |  | Sample Number |  | Depth below Collar(m) |  | Graphic Log |  | DESCRIPTION |  | Geophysical Traces |     |    |
|-----------|--|------|--|---------------|--|-----------------------|--|-------------|--|-------------|--|--------------------|-----|----|
|           |  |      |  |               |  | 791                   |  |             |  |             |  | 50                 | 1.5 | 30 |
|           |  |      |  |               |  | 791                   |  |             |  |             |  | 100                | 1.5 | 30 |
|           |  |      |  |               |  | 792                   |  |             |  |             |  | 150                | 1.5 | 30 |
|           |  |      |  |               |  | 793                   |  |             |  |             |  | 200                | 1.5 | 30 |
|           |  |      |  |               |  | 794                   |  |             |  |             |  | 250                | 1.5 | 30 |
|           |  |      |  |               |  | 795                   |  |             |  |             |  | 300                | 1.5 | 30 |
|           |  |      |  |               |  | 796                   |  |             |  |             |  | 350                | 1.5 | 30 |
|           |  |      |  |               |  | 797                   |  |             |  |             |  | 400                | 1.5 | 30 |
|           |  |      |  |               |  | 798                   |  |             |  |             |  | 450                | 1.5 | 30 |
|           |  |      |  |               |  | 799                   |  |             |  |             |  | 500                | 1.5 | 30 |
|           |  |      |  |               |  | 800                   |  |             |  |             |  | 550                | 1.5 | 30 |
|           |  |      |  |               |  | 801                   |  |             |  |             |  | 600                | 1.5 | 30 |
|           |  |      |  |               |  | 802                   |  |             |  |             |  | 650                | 1.5 | 30 |
|           |  |      |  |               |  | 803                   |  |             |  |             |  | 700                | 1.5 | 30 |
|           |  |      |  |               |  | 804                   |  |             |  |             |  | 750                | 1.5 | 30 |
|           |  |      |  |               |  | 805                   |  |             |  |             |  | 800                | 1.5 | 30 |
|           |  |      |  |               |  | 806                   |  |             |  |             |  | 850                | 1.5 | 30 |
|           |  |      |  |               |  | 807                   |  |             |  |             |  | 900                | 1.5 | 30 |
|           |  |      |  |               |  | 808                   |  |             |  |             |  | 950                | 1.5 | 30 |
|           |  |      |  |               |  | 809                   |  |             |  |             |  | 1000               | 1.5 | 30 |
|           |  |      |  |               |  | 810                   |  |             |  |             |  | 1050               | 1.5 | 30 |
|           |  |      |  |               |  | 811                   |  |             |  |             |  | 1100               | 1.5 | 30 |
|           |  |      |  |               |  | 812                   |  |             |  |             |  | 1150               | 1.5 | 30 |
|           |  |      |  |               |  | 813                   |  |             |  |             |  | 1200               | 1.5 | 30 |
|           |  |      |  |               |  | 813.5                 |  |             |  |             |  | 1250               | 1.5 | 30 |

SILTSTONE 50%, brownish black, carbonaceous Xf laminations; intermixed with CARBONACEOUS SILTSTONE 50%, brownish black, shaly in part; fresh

SILTSTONE 90%, dark grey black, occasional sandy rare coal banded; intermixed with SANDSTONE 10%, fine grained, grey brown, feldspathic clayey in part; fresh

SILTSTONE 70%, grey brown, rare tuffaceous rare coal banded; intermixed with SANDSTONE 30%, fine grained, grey light grey, lithic poorly to moderately sorted clayey; fresh

SANDSTONE 80%, fine grained, GN grey, litho- feldspathic rare tuffaceous; intermixed with SILTSTONE 20%, dark brown black, occasional coal banded sandy in part; fresh

SILTSTONE 90%, dark grey brown, rare sandy rare coal banded; intermixed with SANDSTONE 10%, fine grained, grey lithic rare clayey; fresh

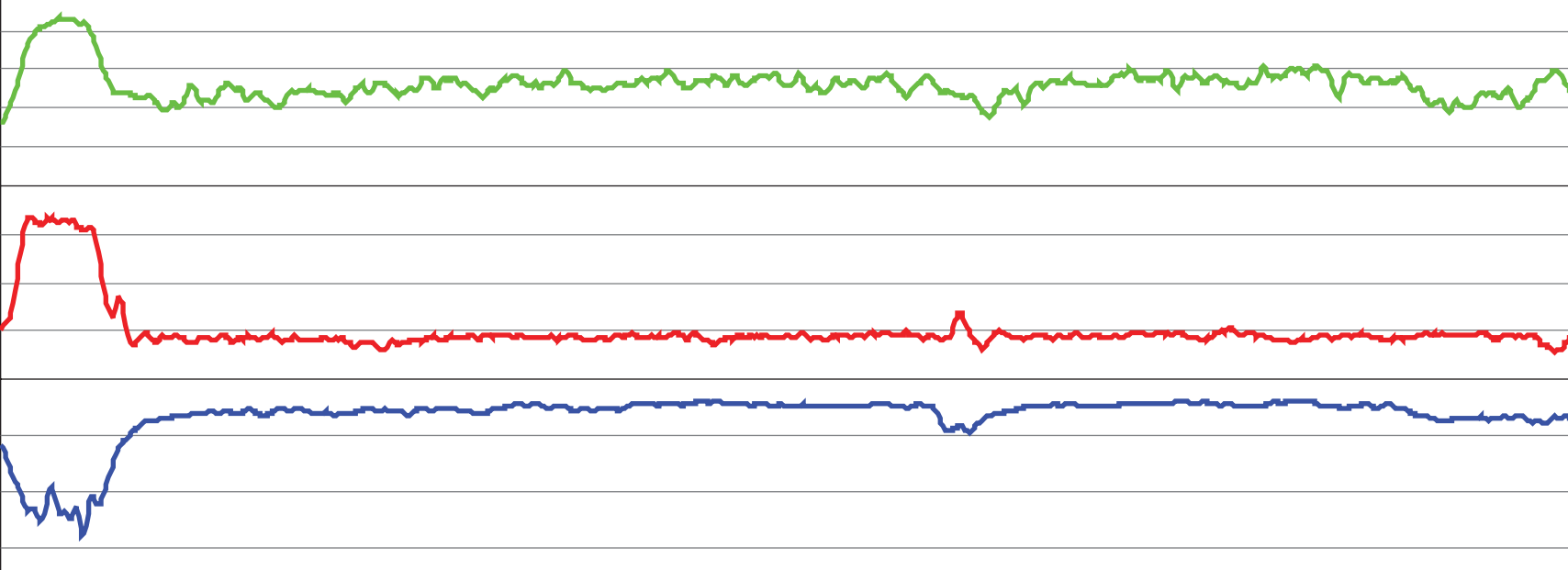
COAL UNDIFF., black; fresh

SILTSTONE 90%, dark grey brown, rare sandy rare coal banded; intermixed with SANDSTONE 10%, fine grained, grey lithic rare clayey; fresh

GAMMA api

Compensated

Limestone Neutron



| Formation | Seam | Sample Number | Depth below Collar(m) | Graphic Log | DESCRIPTION   | Geophysical Traces |             |                   |
|-----------|------|---------------|-----------------------|-------------|---|--------------------|-------------|-------------------|
|           |      |               |                       |             |   | GAMMA api          | Compensated | Limestone Neutron |
|           |      |               | 814                   |             | SILTSTONE 90%, dark grey brown, rare sandy/rare coal banded; intermixed with SANDSTONE 10%, fine grained, grey/ lithic rare clayey; fresh   | 50                 | 1.5         | 30                |
|           |      |               | 815                   |             | SILTSTONE 90%, dark grey brown, rare sandy/rare coal banded; intermixed with SANDSTONE 10%, fine grained, grey/ lithic rare clayey; fresh   | 100                | 2.0         | 30                |
|           |      | 017DA_DB      | 816                   |             | COAL, black, feldspathic occasional silty sandy; fresh  | 150                | 2.2         | 60                |
|           |      |               | 817                   |             | COAL, black, feldspathic occasional silty sandy; fresh  | 200                | 2.2         | 60                |
|           |      |               | 818                   |             | SILTSTONE 90%, dark grey brown, coal banded in part; intermixed with SANDSTONE 10%, fine grained, grey/ light grey, rare tuffaceous lithic; fresh   | 100                | 2.2         | 30                |
|           |      |               | 819                   |             | SILTSTONE 90%, dark grey brown, coal banded in part; intermixed with SANDSTONE 10%, fine grained, grey/ light grey, rare tuffaceous lithic; fresh   | 150                | 2.2         | 30                |
|           |      |               | 820                   |             | SILTSTONE 90%, dark grey brown, coal banded in part; intermixed with SANDSTONE 10%, fine grained, grey/ light grey, rare tuffaceous lithic; fresh   | 200                | 2.2         | 30                |
|           |      |               | 821                   |             | SILTSTONE 90%, dark grey brown, coal banded in part; intermixed with SANDSTONE 10%, fine grained, grey/ light grey, rare tuffaceous lithic; fresh   | 250                | 2.2         | 30                |
|           |      |               | 822                   |             | SANDSTONE 80%, fine grained, grey/ lithic moderately sorted rare coal banded; intermixed with SILTSTONE 20%, dark grey brown, occasional coal banded FR; fresh  | 100                | 2.2         | 30                |
|           |      |               | 823                   |             | SANDSTONE 80%, fine grained, grey/ lithic moderately sorted rare coal banded; intermixed with SILTSTONE 20%, dark grey brown, occasional coal banded FR; fresh  | 150                | 2.2         | 30                |
|           |      |               | 824                   |             | SANDSTONE 80%, fine grained, grey/ lithic moderately sorted rare coal banded; intermixed with SILTSTONE 20%, dark grey brown, occasional coal banded FR; fresh  | 200                | 2.2         | 30                |
|           |      |               | 825                   |             | SANDSTONE 80%, fine grained, grey/ lithic moderately sorted rare coal banded; intermixed with SILTSTONE 20%, dark grey brown, occasional coal banded FR; fresh  | 250                | 2.2         | 30                |
|           |      |               | 826                   |             | COAL, black, coal banded silty throughout dull, minor bright bands(<1%); fresh  | 100                | 2.2         | 30                |
|           |      |               | 827                   |             | SANDSTONE, fine grained, dark grey white, silty in part lithic clayey; fresh  | 150                | 2.2         | 30                |
|           |      |               | 828                   |             | COAL 70%, black, dull, minor bright bands (<1%) coal banded silty in part; intermixed with CARBONACEOUS SILTSTONE 30%, dark grey brown, sandy in part clayey in part; fresh   | 100                | 2.2         | 30                |
|           |      |               | 829                   |             | COAL 70%, black, dull, minor bright bands (<1%) coal banded silty in part; intermixed with CARBONACEOUS SILTSTONE 30%, dark grey brown, sandy in part clayey in part; fresh   | 150                | 2.2         | 30                |
|           |      |               | 830                   |             | SANDSTONE 80%, fine grained, black, lithic moderately sorted rare clayey; intermixed with SILTSTONE 20%, dark grey brown, coal banded in part; fresh  | 100                | 2.2         | 30                |
|           |      |               | 831                   |             | SANDSTONE 80%, fine grained, black, lithic moderately sorted rare clayey; intermixed with SILTSTONE 20%, dark grey brown, coal banded in part; fresh  | 150                | 2.2         | 30                |
|           |      |               | 832                   |             | SANDSTONE 80%, fine grained, black, lithic moderately sorted rare clayey; intermixed with SILTSTONE 20%, dark grey brown, coal banded in part; fresh  | 200                | 2.2         | 30                |
|           |      |               | 833                   |             | SANDSTONE 80%, fine grained, black, lithic moderately sorted rare clayey; intermixed with SILTSTONE 20%, dark grey brown, coal banded in part; fresh  | 250                | 2.2         | 30                |
|           |      |               | 834                   |             | SILTSTONE 50%, dark grey brown, coal banded in part; intermixed with COAL 30%, black, dull, minor bright bands(<1%) coal banded silty in part; intermixed with SANDSTONE 20%, fine grained, grey/ dark grey, lithic poorly to moderately sorted fresh | 100                | 2.2         | 30                |
|           |      |               | 835                   |             | SILTSTONE 50%, dark grey brown, coal banded in part; intermixed with COAL 30%, black, dull, minor bright bands(<1%) coal banded silty in part; intermixed with SANDSTONE 20%, fine grained, grey/ dark grey, lithic poorly to moderately sorted fresh | 150                | 2.2         | 30                |
|           |      |               | 836                   |             | SILTSTONE 50%, dark grey brown, coal banded in part; intermixed with COAL 30%, black, dull, minor bright bands(<1%) coal banded silty in part; intermixed with SANDSTONE 20%, fine grained, grey/ dark grey, lithic poorly to moderately sorted fresh | 200                | 2.2         | 30                |



| Formation | Seam | Sample Number | Depth below Collar(m) | Graphic Log | DESCRIPTION   | Geophysical Traces |             |                   |
|-----------|------|---------------|-----------------------|-------------|---|--------------------|-------------|-------------------|
|           |      |               |                       |             |   | GAMMA api          | Compensated | Limestone Neutron |
|           |      |               | 859                   |             | SILTSTONE, dark grey brown, occasional coal banded rare sandy; fresh  | 50                 | 1.5         | 30                |
|           |      |               | 860                   |             | SILTSTONE, dark grey brown, occasional coal banded rare sandy; fresh  | 100                | 2.0         | 60                |
|           |      |               | 861                   |             | SILTSTONE 80%, dark grey brown, coaly FR mainly dull, frequent bright bands(>10% XM); intermixed with SANDSTONE 20%, grey brown, coal banded FR lithic; intermixed with CARBONACEOUS SILTSTONE 20%, dark grey black; fresh              | 150                | 2.5         | 90                |
|           |      |               | 862                   |             | SILTSTONE 80%, dark grey brown, coaly FR mainly dull, frequent bright bands(>10% XM); intermixed with SANDSTONE 20%, grey brown, coal banded FR lithic; intermixed with CARBONACEOUS SILTSTONE 20%, dark grey black; fresh              |                    |             |                   |
|           |      |               | 863                   |             | SILTSTONE 50%, dark grey brown, rare coal banded occasional moderately sorted; intermixed with SANDSTONE 50%, dark grey, lithic moderately sorted rare clayey; fresh  |                    |             |                   |
|           |      |               | 864                   |             | SILTSTONE 50%, dark grey brown, rare coal banded occasional moderately sorted; intermixed with SANDSTONE 50%, dark grey, lithic moderately sorted rare clayey; fresh  |                    |             |                   |
|           |      |               | 865                   |             | SILTSTONE 50%, dark grey brown, rare coal banded occasional moderately sorted; intermixed with SANDSTONE 50%, dark grey, lithic moderately sorted rare clayey; fresh  |                    |             |                   |
|           |      |               | 866                   |             | SILTSTONE 50%, dark grey brown, rare coal banded occasional moderately sorted; intermixed with SANDSTONE 50%, dark grey, lithic moderately sorted rare clayey; fresh  |                    |             |                   |
|           |      |               | 867                   |             | SILTSTONE 50%, dark grey brown, rare coal banded occasional moderately sorted; intermixed with SANDSTONE 50%, dark grey, lithic moderately sorted rare clayey; fresh  |                    |             |                   |
|           |      |               | 868                   |             | SILTSTONE 60%, dark grey brown, occasional moderately sorted coal banded in part; intermixed with SANDSTONE 20%, dark grey, lithic occasional clayey; intermixed with CARBONACEOUS SILTSTONE 20%, dark grey black, rare coaly FR; fresh |                    |             |                   |
|           |      |               | 869                   |             | SILTSTONE 60%, dark grey brown, occasional moderately sorted coal banded in part; intermixed with SANDSTONE 20%, dark grey, lithic occasional clayey; intermixed with CARBONACEOUS SILTSTONE 20%, dark grey black, rare coaly FR; fresh |                    |             |                   |
|           |      |               | 870                   |             | SILTSTONE 60%, dark grey brown, occasional moderately sorted coal banded in part; intermixed with SANDSTONE 20%, dark grey, lithic occasional clayey; intermixed with CARBONACEOUS SILTSTONE 20%, dark grey black, rare coaly FR; fresh |                    |             |                   |
|           |      |               | 871                   |             | SILTSTONE 60%, dark grey brown, occasional moderately sorted coal banded in part; intermixed with SANDSTONE 20%, dark grey, lithic occasional clayey; intermixed with CARBONACEOUS SILTSTONE 20%, dark grey black, rare coaly FR; fresh |                    |             |                   |
|           |      |               | 872                   |             | SILTSTONE 60%, dark grey brown, occasional moderately sorted coal banded in part; intermixed with SANDSTONE 20%, dark grey, lithic occasional clayey; intermixed with CARBONACEOUS SILTSTONE 20%, dark grey black, rare coaly FR; fresh |                    |             |                   |
|           |      |               | 873                   |             | SILTSTONE 60%, dark grey brown, occasional moderately sorted coal banded in part; intermixed with SANDSTONE 20%, dark grey, lithic occasional clayey; intermixed with CARBONACEOUS SILTSTONE 20%, dark grey black, rare coaly FR; fresh |                    |             |                   |
|           |      |               | 874                   |             | SILTSTONE 60%, dark grey brown, occasional moderately sorted coal banded in part; intermixed with SANDSTONE 20%, dark grey, lithic occasional clayey; intermixed with CARBONACEOUS SILTSTONE 20%, dark grey black, rare coaly FR; fresh |                    |             |                   |
|           |      |               | 875                   |             | SILTSTONE 60%, dark grey brown, occasional moderately sorted coal banded in part; intermixed with SANDSTONE 20%, dark grey, lithic occasional clayey; intermixed with CARBONACEOUS SILTSTONE 20%, dark grey black, rare coaly FR; fresh |                    |             |                   |
|           |      |               | 876                   |             | SILTSTONE 60%, dark grey brown, occasional moderately sorted coal banded in part; intermixed with SANDSTONE 20%, dark grey, lithic occasional clayey; intermixed with CARBONACEOUS SILTSTONE 20%, dark grey black, rare coaly FR; fresh |                    |             |                   |
|           |      |               | 877                   |             | SILTSTONE 60%, dark grey brown, occasional moderately sorted coal banded in part; intermixed with SANDSTONE 20%, dark grey, lithic occasional clayey; intermixed with CARBONACEOUS SILTSTONE 20%, dark grey black, rare coaly FR; fresh |                    |             |                   |
|           |      |               | 878                   |             | SILTSTONE 60%, dark grey brown, occasional moderately sorted coal banded in part; intermixed with SANDSTONE 20%, dark grey, lithic occasional clayey; intermixed with CARBONACEOUS SILTSTONE 20%, dark grey black, rare coaly FR; fresh |                    |             |                   |
|           |      |               | 878.21                |             | COAL, black, interbanded dull & bright (>40%); fresh  |                    |             |                   |
|           |      |               | 879                   |             | COAL, black, interbanded dull & bright (>40%); fresh  |                    |             |                   |
|           |      |               | 879.21                |             | SANDSTONE 80%, fine grained, light grey brown, lithic moderately sorted possibly tuffaceous in part; intermixed with SILTSTONE 20%, dark grey brown, coal banded in part; fresh   |                    |             |                   |
|           |      |               | 880                   |             | SANDSTONE 80%, fine grained, light grey brown, lithic moderately sorted possibly tuffaceous in part; intermixed with SILTSTONE 20%, dark grey brown, coal banded in part; fresh   |                    |             |                   |
|           |      |               | 881                   |             | SANDSTONE 80%, fine grained, light grey brown, lithic moderately sorted possibly tuffaceous in part; intermixed with SILTSTONE 20%, dark grey brown, coal banded in part; fresh   |                    |             |                   |

SANDSTONE 80%, fine grained, light grey brown, lithic moderately sorted possibly tuffaceous in part; intermixed with SILTSTONE 20%, dark grey brown, coal banded in part; fresh

COAL, black, dull, minor bright bands(<1%); fresh





| Formation | Seam | Sample Number | Depth below Collar(m) | Graphic Log | DESCRIPTION   | Geophysical Traces |             |                   |
|-----------|------|---------------|-----------------------|-------------|---|--------------------|-------------|-------------------|
|           |      |               |                       |             |   | GAMMA api          | Compensated | Limestone Neutron |
|           |      |               | 927                   |             | SANDSTONE, fine grained, grey light grey, coal banded silty FR litho- feldspathic; fresh  | 50                 | 1.5         | 30                |
|           |      |               | 928                   |             |   | 100                | 2.0         | 60                |
|           |      |               | 929                   |             |   | 150                | 2.2         | 90                |
|           |      |               | 930                   |             | SANDSTONE 90%, fine grained, grey light grey, litho- feldspathic moderately sorted; intermixed with COAL 10%, black, coal banded in part; fresh   |                    |             |                   |
|           |      |               | 931                   |             |   |                    |             |                   |
|           |      |               | 932                   |             |   |                    |             |                   |
|           |      |               | 933                   |             | SILTSTONE 50%, dark grey brown, coal banded throughout; intermixed with SANDSTONE 50%, fine grained, dark grey brown, lithic occasional coal/banded laminations; fresh  |                    |             |                   |
|           |      |               | 934                   |             |   |                    |             |                   |
|           |      |               | 934.21                |             | COAL, black, dull, minor bright bands (>1%); fresh  |                    |             |                   |
|           |      |               | 935                   |             | SILTSTONE 50%, dark grey brown, coal banded throughout; intermixed with SANDSTONE 50%, fine grained, dark grey brown, lithic occasional coal/banded laminations; fresh  |                    |             |                   |
|           |      |               | 936                   |             | SANDSTONE 60%, fine grained, greyish brown, lithic moderately sorted low sphericity, sub-rounded; intermixed with CARBONACEOUS SILTSTONE 30%, brownish black, partly carbonaceous throughout laminations; with STONY COAL 10%, black, dull, minor bright bands(>1%) laminations; fresh          |                    |             |                   |
|           |      |               | 937                   |             |   |                    |             |                   |
|           |      |               | 938                   |             |   |                    |             |                   |
|           |      |               | 939                   |             | SILTSTONE 80%, brownish black, partly carbonaceous laminations occasional XS; intermixed with SANDSTONE 20%, fine-medium grained, greyish brown, lithic moderately sorted low sphericity, sub-rounded silty; with STONY COAL 20%, black, dull, minor bright bands(>1%); dull(<1% bright); fresh |                    |             |                   |
|           |      |               | 940                   |             |   |                    |             |                   |
|           |      |               | 941                   |             |   |                    |             |                   |
|           |      |               | 942                   |             | SANDSTONE 90%, fine grained, greyish brown, lithic silty carbonaceous XF; intermixed with SILTSTONE 10%, grey, XS in part occasional sandy; fresh   |                    |             |                   |
|           |      |               | 943                   |             |   |                    |             |                   |
|           |      |               | 944                   |             |   |                    |             |                   |
|           |      |               | 945                   |             |   |                    |             |                   |
|           |      |               | 945.5                 |             | COAL, black, dull; tends to stony dull(<1% bright); fresh   |                    |             |                   |
|           |      |               | 946                   |             |   |                    |             |                   |
|           |      |               | 946.25                |             | SANDSTONE 50%, fine grained, greyish brown, lithic poorly to moderately sorted; intermixed with CARBONACEOUS SILTSTONE 50%, brownish black, laminations shaly in part; fresh  |                    |             |                   |
|           |      |               | 947                   |             |   |                    |             |                   |
|           |      |               | 948                   |             | COAL, black, dull; tends to stony dull(<1% bright); fresh   |                    |             |                   |
|           |      |               | 949                   |             | SANDSTONE 40%, fine grained, greyish brown, lithic tuffaceous XF poorly to moderately sorted; intermixed with CARBONACEOUS SILTSTONE 30%, brownish black, laminations shaly in part; with STONY COAL 30%, brownish black, dull; tends to stony dull(<1% bright); fresh                          |                    |             |                   |

| Formation | Seam | Sample Number | Depth below Collar(m) | Graphic Log | DESCRIPTION   | Geophysical Traces |             |                   |
|-----------|------|---------------|-----------------------|-------------|---|--------------------|-------------|-------------------|
|           |      |               |                       |             |   | GAMMA api          | Compensated | Limestone Neutron |
|           |      |               | 950                   |             | SANDSTONE 40%, fine grained, greyish brown, lithic tuffaceous XF poorly to moderately sorted; intermixed with CARBONACEOUS SILTSTONE 30% brownish black, laminations shaly in part; with STONY COAL 30%, brownish black, dull, tends to stony dull (<1% bright); fresh  | 100                | 1.5         | 30                |
|           |      |               | 951                   |             | SANDSTONE 40%, fine grained, greyish brown, lithic tuffaceous XF poorly to moderately sorted; intermixed with CARBONACEOUS SILTSTONE 30% brownish black, laminations shaly in part; with STONY COAL 30%, brownish black, dull, tends to stony dull (<1% bright); fresh  | 100                | 1.5         | 30                |
|           |      |               | 952                   |             | CARBONACEOUS SILTSTONE 80% brownish black, dull, tends to stony shaly in part; intermixed with SANDSTONE 20%, very fine-grained, brownish grey, tuffaceous XF lithic poorly to moderately sorted; fresh   | 100                | 1.5         | 30                |
|           |      |               | 953                   |             | CARBONACEOUS SILTSTONE 60%, black, partly carbonaceous laminations; intermixed with SANDSTONE 40%, very fine-grained, brownish grey, lithic silty poorly sorted; fresh  | 100                | 1.5         | 30                |
|           |      |               | 954                   |             | CARBONACEOUS SILTSTONE 60%, black, partly carbonaceous laminations; intermixed with SANDSTONE 40%, very fine-grained, brownish grey, lithic silty poorly sorted; fresh  | 100                | 1.5         | 30                |
|           |      |               | 955                   |             | CARBONACEOUS SILTSTONE 60%, black, partly carbonaceous laminations; intermixed with SANDSTONE 40%, very fine-grained, brownish grey, lithic silty poorly sorted; fresh  | 100                | 1.5         | 30                |
|           |      |               | 956                   |             | CARBONACEOUS SILTSTONE 60%, black, partly carbonaceous laminations; intermixed with SANDSTONE 40%, very fine-grained, brownish grey, lithic silty poorly sorted; fresh  | 100                | 1.5         | 30                |
|           |      |               | 957                   |             | SILTSTONE 60%, grey, micaceous TH sandy in part; intermixed with CARBONACEOUS SILTSTONE 20%, brownish black, shaly in part; with SANDSTONE 20%, very fine-grained, grey, silty throughout poorly to moderately sorted low sphericity, sub-rounded to sub-angular; fresh | 100                | 1.5         | 30                |
|           |      |               | 958                   |             | SILTSTONE 60%, grey, micaceous TH sandy in part; intermixed with CARBONACEOUS SILTSTONE 20%, brownish black, shaly in part; with SANDSTONE 20%, very fine-grained, grey, silty throughout poorly to moderately sorted low sphericity, sub-rounded to sub-angular; fresh | 100                | 1.5         | 30                |
|           |      |               | 959                   |             | SILTSTONE 60%, grey, micaceous TH sandy in part; intermixed with CARBONACEOUS SILTSTONE 20%, brownish black, shaly in part; with SANDSTONE 20%, very fine-grained, grey, silty throughout poorly to moderately sorted low sphericity, sub-rounded to sub-angular; fresh | 100                | 1.5         | 30                |
|           |      |               | 960                   |             | SILTSTONE 70%, brownish grey, XS in part laminations; intermixed with SANDSTONE 30%, very fine-grained, brownish grey, lithic moderately sorted low sphericity, sub-rounded to sub-angular; fresh   | 100                | 1.5         | 30                |
|           |      |               | 961                   |             | SILTSTONE 70%, brownish grey, XS in part laminations; intermixed with SANDSTONE 30%, very fine-grained, brownish grey, lithic moderately sorted low sphericity, sub-rounded to sub-angular; fresh   | 100                | 1.5         | 30                |
|           |      |               | 962                   |             | SILTSTONE 70%, brownish grey, XS in part laminations; intermixed with SANDSTONE 30%, very fine-grained, brownish grey, lithic moderately sorted low sphericity, sub-rounded to sub-angular; fresh   | 100                | 1.5         | 30                |
|           |      |               | 963                   |             | SANDSTONE 60%, fine grained, brownish grey, lithic poorly sorted silty throughout; intermixed with SILTSTONE 40%, brownish black, XS shaly in part; fresh   | 100                | 1.5         | 30                |
|           |      |               | 964                   |             | SANDSTONE 60%, fine grained, brownish grey, lithic poorly sorted silty throughout; intermixed with SILTSTONE 40%, brownish black, XS shaly in part; fresh   | 100                | 1.5         | 30                |
|           |      |               | 965                   |             | SANDSTONE 60%, fine grained, brownish grey, lithic poorly sorted silty throughout; intermixed with SILTSTONE 40%, brownish black, XS shaly in part; fresh   | 100                | 1.5         | 30                |
|           |      |               | 966                   |             | SANDSTONE 50%, very fine-grained, grey, lithic poorly to moderately sorted high sphericity, sub-rounded to sub-angular; intermixed with CARBONACEOUS SILTSTONE 50%, brownish grey, sandy in part laminations; fresh   | 100                | 1.5         | 30                |
|           |      |               | 967                   |             | SANDSTONE 50%, very fine-grained, grey, lithic poorly to moderately sorted high sphericity, sub-rounded to sub-angular; intermixed with CARBONACEOUS SILTSTONE 50%, brownish grey, sandy in part laminations; fresh   | 100                | 1.5         | 30                |
|           |      |               | 968                   |             | SANDSTONE 50%, very fine-grained, grey, lithic poorly to moderately sorted high sphericity, sub-rounded to sub-angular; intermixed with CARBONACEOUS SILTSTONE 50%, brownish grey, sandy in part laminations; fresh   | 100                | 1.5         | 30                |
|           |      |               | 969                   |             | CARBONACEOUS SILTSTONE 40%, brownish black, laminations sandy in part; intermixed with SANDSTONE 40%, very fine-grained, greyish off-white, lithic laminations in part poorly to moderately sorted; with STONY COAL 20%, black, dull, minor bright bands (>1%); fresh   | 100                | 1.5         | 30                |
|           |      |               | 970                   |             | CARBONACEOUS SILTSTONE 40%, brownish black, laminations sandy in part; intermixed with SANDSTONE 40%, very fine-grained, greyish off-white, lithic laminations in part poorly to moderately sorted; with STONY COAL 20%, black, dull, minor bright bands (>1%); fresh   | 100                | 1.5         | 30                |
|           |      |               | 971                   |             | CARBONACEOUS SILTSTONE 40%, brownish black, laminations sandy in part; intermixed with SANDSTONE 40%, very fine-grained, greyish off-white, lithic laminations in part poorly to moderately sorted; with STONY COAL 20%, black, dull, minor bright bands (>1%); fresh   | 100                | 1.5         | 30                |
|           |      |               | 972                   |             | SILTSTONE 70%, brownish grey, laminations XS in part; intermixed with SANDSTONE 30%, fine grained, greyish off-white, lithic poorly to moderately sorted silty throughout; fresh  | 100                | 1.5         | 30                |



| Formation | Seam | Sample Number | Depth below Collar(m) | Graphic Log | DESCRIPTION  | Geophysical Traces |             |                   |
|-----------|------|---------------|-----------------------|-------------|--|--------------------|-------------|-------------------|
|           |      |               |                       |             |  | GAMMA api          | Compensated | Limestone Neutron |
|           |      |               | 973                   |             | SILTSTONE 70%, brownish grey, laminations XS in part; intermixed with SANDSTONE 30%, fine grained, greyish off-white, lithic poorly to moderately sorted silty throughout;   | 50                 | 1.5         | 30                |
|           |      |               | 974                   |             | poorly to moderately sorted silty throughout; fresh  | 100                | 2.5         | 30                |
|           |      |               | 975                   |             | SANDSTONE 80%, fine grained, greyish off-white, lithic poorly to moderately sorted low sphericity, sub-angular silty, intermixed with SILTSTONE 20%, brownish grey, shaly in part laminations; fresh                     | 150                | 2.5         | 30                |
|           |      |               | 976                   |             |  | 200                | 2.5         | 30                |
|           |      |               | 977                   |             |  |                    | 2.5         | 30                |
|           |      |               | 978                   |             | SANDSTONE 60%, fine grained, greyish off-white, lithic poorly to moderately sorted silty throughout; intermixed with SILTSTONE 40%, brownish grey, shaly in part laminations; fresh                                      |                    | 2.5         | 30                |
|           |      |               | 979                   |             |  |                    | 2.5         | 30                |
|           |      |               | 980                   |             |  |                    | 2.5         | 30                |
|           |      |               | 981                   |             | SANDSTONE, fine-medium grained, whitish grey, lithic silty poorly to moderately sorted low sphericity, sub-rounded to sub-angular; fresh   |                    | 2.5         | 30                |
|           |      |               | 982                   |             |  |                    | 2.5         | 30                |
|           |      |               | 983                   |             |  |                    | 2.5         | 30                |
|           |      |               | 984                   |             | SANDSTONE 90%, fine-medium grained, whitish grey, lithic silty poorly to moderately sorted low sphericity, sub-rounded to sub-angular; intermixed with SILTSTONE 10%, brownish grey, shaly in part rare micaceous; fresh |                    | 2.5         | 30                |
|           |      |               | 985                   |             |  |                    | 2.5         | 30                |
|           |      |               | 986                   |             |  |                    | 2.5         | 30                |
|           |      |               | 987                   |             | SANDSTONE 80%, fine grained, whitish grey, lithic poorly to moderately sorted silty; intermixed with SILTSTONE 20%, brownish grey, XS in part micaceous in part; fresh   |                    | 2.5         | 30                |
|           |      |               | 988                   |             |  |                    | 2.5         | 30                |
|           |      |               | 989                   |             |  |                    | 2.5         | 30                |
|           |      |               | 990                   |             | SANDSTONE, fine grained, whitish grey, lithic silty throughout poorly sorted; fresh  |                    | 2.5         | 30                |
|           |      |               | 991                   |             |  |                    | 2.5         | 30                |
|           |      |               | 992                   |             |  |                    | 2.5         | 30                |
|           |      |               | 993                   |             | SANDSTONE 90%, fine grained, whitish grey, lithic silty throughout moderately sorted; intermixed with SILTSTONE 10%, brownish grey, sandy in part; fresh   |                    | 2.5         | 30                |
|           |      |               | 994                   |             |  |                    | 2.5         | 30                |
|           |      |               | 995                   |             |  |                    | 2.5         | 30                |



| Formation | Seam | Sample Number | Depth below Collar(m) | Graphic Log | DESCRIPTION  | Geophysical Traces |             |                   |
|-----------|------|---------------|-----------------------|-------------|--|--------------------|-------------|-------------------|
|           |      |               | 1018                  |             | SANDSTONE 80%, very fine-fine grained, whitish grey, lithic clayey in part; intermixed with SILTSTONE 20%, brownish grey, micaceous throughout; fresh  | GAMMA api          | Compensated | Limestone Neutron |
|           |      |               | 1019                  |             |  | 50                 | 1.5         | 30                |
|           |      |               | 1020                  |             |  | 100                | 2.0         | 60                |
|           |      |               | 1021                  |             |  | 150                | 2.5         | 90                |
|           |      |               | 1022                  |             |  |                    |             |                   |
|           |      |               | 1022.8                |             | COAL, black, dull, minor bright bands(<1%); fresh  |                    |             |                   |
|           |      |               | 1023                  |             |  |                    |             |                   |
|           |      |               | 1024                  |             | SILTSTONE 50%, brownish grey, micaceous throughout sandy in part; intermixed with SANDSTONE 30%, very fine-fine grained, whitish grey, clayey throughout lithic; with CARBONACEOUS SILTSTONE 20%, brownish black, partly carbonaceous shaly in part; fresh |                    |             |                   |
|           |      |               | 1025                  |             |  |                    |             |                   |
|           |      |               | 1026                  |             |  |                    |             |                   |
|           |      |               | 1027                  |             | SILTSTONE 70%, brownish grey, XS in part; intermixed with SANDSTONE 30%, very fine-fine grained, greyish off-white, lithic silty in part moderately sorted; fresh  |                    |             |                   |
|           |      |               | 1028                  |             |  |                    |             |                   |
|           |      |               | 1029                  |             |  |                    |             |                   |
|           |      |               | 1030                  |             |  |                    |             |                   |
|           |      |               | 1031                  |             | SILTSTONE 60%, brownish grey, XS in part; intermixed with SANDSTONE 40%, whitish grey, clayey in part lithic; fresh  |                    |             |                   |
|           |      |               | 1032                  |             |  |                    |             |                   |
|           |      |               | 1033                  |             | SANDSTONE 60%, fine grained, whitish grey, lithic poorly to moderately sorted high sphericity, sub-angular; intermixed with SILTSTONE 30%, brownish grey, XS in part micaceous in part; with STONY COAL 10%, black, dull, minor bright bands(>1%); fresh   |                    |             |                   |
|           |      |               | 1034                  |             |  |                    |             |                   |
|           |      |               | 1035                  |             |  |                    |             |                   |
|           |      |               | 1036                  |             | SILTSTONE 70%, brownish black, occasional shaly XS in part; intermixed with SANDSTONE 30%, whitish grey, lithic moderately sorted low sphericity, sub-rounded to sub-angular; fresh  |                    |             |                   |
|           |      |               | 1037                  |             |  |                    |             |                   |
|           |      |               | 1038                  |             |  |                    |             |                   |
|           |      |               | 1039                  |             |  |                    |             |                   |
|           |      |               | 1040                  |             | SILTSTONE 70%, brownish grey, sandy in part micaceous; intermixed with SANDSTONE 20%, fine grained, whitish grey, lithic occasional silty; with STONY COAL 10%, brownish black, carbonaceous stony; fresh  |                    |             |                   |

| Formation | Seam | Sample Number | Depth below Collar(m) | Graphic Log | DESCRIPTION  | Geophysical Traces |             |                   |
|-----------|------|---------------|-----------------------|-------------|--|--------------------|-------------|-------------------|
|           |      |               |                       |             |  | GAMMA api          | Compensated | Limestone Neutron |
|           |      |               | 1041                  |             | SILTSTONE 70%, brownish grey, sandy in part micaceous; intermixed with SANDSTONE 20%, fine grained, whitish grey, lithic occasional silty; with STONY COAL 10%, brownish black, carbonaceous stony; fresh  | 50                 | 1.5         | 30                |
|           |      |               | 1042                  |             | SANDSTONE 70%, fine grained, whitish grey, lithic poorly to moderately sorted low sphericity, sub-rounded to sub-angular; intermixed with SILTSTONE 30%, brownish grey, laminations micaceous; fresh   | 100                | 2.0         | 40                |
|           |      |               | 1043                  |             | SANDSTONE 70%, fine grained, whitish grey, lithic poorly to moderately sorted low sphericity, sub-rounded to sub-angular; intermixed with SILTSTONE 30%, brownish grey, laminations micaceous; fresh   | 150                | 2.2         | 50                |
|           |      |               | 1044                  |             | SANDSTONE 40%, fine-medium grained, whitish grey, rare lutefaceous lithic poorly to moderately sorted; intermixed with CARBONACEOUS SILTSTONE 40%, brownish black, partly carbonaceous laminations; with STONY COAL 20%, black, coaly in part; fresh | 200                | 2.4         | 60                |
|           |      |               | 1045                  |             | SANDSTONE 40%, fine-medium grained, whitish grey, rare lutefaceous lithic poorly to moderately sorted; intermixed with CARBONACEOUS SILTSTONE 40%, brownish black, partly carbonaceous laminations; with STONY COAL 20%, black, coaly in part; fresh |                    | 2.5         | 70                |
|           |      |               | 1046                  |             | SANDSTONE 40%, fine-medium grained, whitish grey, rare lutefaceous lithic poorly to moderately sorted; intermixed with CARBONACEOUS SILTSTONE 40%, brownish black, partly carbonaceous laminations; with STONY COAL 20%, black, coaly in part; fresh |                    | 2.5         | 80                |
|           |      |               | 1047                  |             | SANDSTONE 40%, fine-medium grained, whitish grey, rare lutefaceous lithic poorly to moderately sorted; intermixed with CARBONACEOUS SILTSTONE 40%, brownish black, partly carbonaceous laminations; with STONY COAL 20%, black, coaly in part; fresh |                    | 2.5         | 90                |
|           |      |               | 1048                  |             | SANDSTONE 40%, fine-medium grained, whitish grey, rare lutefaceous lithic poorly to moderately sorted; intermixed with CARBONACEOUS SILTSTONE 40%, brownish black, partly carbonaceous laminations; with STONY COAL 20%, black, coaly in part; fresh |                    | 2.5         |                   |
|           |      |               | 1049                  |             | SANDSTONE 40%, fine-medium grained, whitish grey, rare lutefaceous lithic poorly to moderately sorted; intermixed with CARBONACEOUS SILTSTONE 40%, brownish black, partly carbonaceous laminations; with STONY COAL 20%, black, coaly in part; fresh |                    | 2.5         |                   |
|           |      |               | 1050                  |             | SANDSTONE 80%, fine grained, whitish grey, lithic silty throughout poorly to moderately sorted; intermixed with SILTSTONE 20%, brownish grey, laminations clayey; fresh  |                    | 2.5         |                   |
|           |      |               | 1051                  |             | SANDSTONE 80%, fine grained, whitish grey, lithic silty throughout poorly to moderately sorted; intermixed with SILTSTONE 20%, brownish grey, laminations clayey; fresh  |                    | 2.5         |                   |
|           |      |               | 1052                  |             | SANDSTONE 80%, fine grained, whitish grey, lithic silty throughout poorly to moderately sorted; intermixed with SILTSTONE 20%, brownish grey, laminations clayey; fresh  |                    | 2.5         |                   |
|           |      |               | 1053                  |             | SANDSTONE 50%, fine grained, whitish grey, lithic silty throughout poorly to moderately sorted; intermixed with SILTSTONE 30%, brownish grey, laminations sandy in part; with CARBONACEOUS SILTSTONE 20%, black, shaly in part; fresh                |                    | 2.5         |                   |
|           |      |               | 1054                  |             | SANDSTONE 50%, fine grained, whitish grey, lithic silty throughout poorly to moderately sorted; intermixed with SILTSTONE 30%, brownish grey, laminations sandy in part; with CARBONACEOUS SILTSTONE 20%, black, shaly in part; fresh                |                    | 2.5         |                   |
|           |      |               | 1055                  |             | SANDSTONE 50%, fine grained, whitish grey, lithic silty throughout poorly to moderately sorted; intermixed with SILTSTONE 30%, brownish grey, laminations sandy in part; with CARBONACEOUS SILTSTONE 20%, black, shaly in part; fresh                |                    | 2.5         |                   |
|           |      |               | 1056                  |             | SILTSTONE 60%, brownish grey, laminations; intermixed with CARBONACEOUS SILTSTONE 40%, brownish black, laminations shaly in part; fresh  |                    | 2.5         |                   |
|           |      |               | 1057                  |             | SILTSTONE 60%, brownish grey, laminations; intermixed with CARBONACEOUS SILTSTONE 40%, brownish black, laminations shaly in part; fresh  |                    | 2.5         |                   |
|           |      |               | 1058                  |             | SILTSTONE 60%, brownish grey, laminations; intermixed with CARBONACEOUS SILTSTONE 40%, brownish black, laminations shaly in part; fresh  |                    | 2.5         |                   |
|           |      |               | 1059                  |             | SILTSTONE 60%, brownish grey, laminations; intermixed with CARBONACEOUS SILTSTONE 40%, brownish black, laminations shaly in part; fresh  |                    | 2.5         |                   |
|           |      |               | 1060                  |             | COAL, black, stony in part; fresh  |                    | 2.5         |                   |
|           |      |               | 1061                  |             | SILTSTONE 60%, brownish grey, laminations; intermixed with CARBONACEOUS SILTSTONE 40%, brownish black, laminations shaly in part; fresh  |                    | 2.5         |                   |
|           |      |               | 1062                  |             | SANDSTONE 40%, fine grained, whitish grey, lithic moderately sorted; intermixed with SILTSTONE 30%, brownish grey, sandy in part; with STONY COAL 30%, black, coaly; fresh   |                    | 2.5         |                   |
|           |      |               | 1063                  |             | SANDSTONE 40%, fine grained, grey, lithic poorly to moderately sorted low sphericity, sub-rounded to sub-angular; intermixed with SILTSTONE 40%, brownish black, occasional XS laminations; with STONY COAL 20%, black, coaly stony; fresh           |                    | 2.5         |                   |

| Formation |  | Seam | Sample Number | Depth below Collar(m) | Graphic Log | DESCRIPTION  | Geophysical Traces |             |                   |
|-----------|--|------|---------------|-----------------------|-------------|--|--------------------|-------------|-------------------|
|           |  |      |               |                       |             |  | GAMMA api          | Compensated | Limestone Neutron |
|           |  |      | 1064          |                       |             | SANDSTONE 40%, fine grained, grey, lithic poorly to moderately sorted low sphericity, sub-rounded to sub-angular; intermixed with SILTSTONE 40%, brownish black, occasional XS laminations; with STONY COAL 20%, black, coaly stony, fresh | 50                 | 1.5         | 30                |
|           |  |      | 1065          |                       |             |  | 100                | 2.0         | 30                |
|           |  |      | 1066          |                       |             |  | 150                | 2.2         | 30                |
|           |  |      | 1067          |                       |             |  | 200                | 2.3         | 30                |
|           |  |      | 1068          |                       |             |  |                    | 2.4         | 30                |
|           |  |      | 1069          |                       |             |  |                    | 2.4         | 30                |
|           |  |      | 1070          |                       |             |  |                    | 2.4         | 30                |
|           |  |      | 1071          |                       |             |  |                    | 2.4         | 30                |
|           |  |      | 1072          |                       |             |  |                    | 2.4         | 30                |
|           |  |      | 1073          |                       |             |  |                    | 2.4         | 30                |
|           |  |      | 1074          |                       |             | SANDSTONE 80%, fine grained, whitish grey, lithic poorly to moderately sorted; intermixed with SILTSTONE 20%, brownish grey, RR XS sandy; fresh  | 50                 | 2.4         | 30                |
|           |  |      | 1075          |                       |             |  | 100                | 2.4         | 30                |
|           |  |      | 1076          |                       |             |  | 2.4                | 30          |                   |
|           |  |      | 1077          |                       |             | SANDSTONE 60%, fine grained, grey, lithic moderately sorted low sphericity, sub-angular; intermixed with SILTSTONE 40%, brownish grey, laminations in part micaceous; fresh  | 50                 | 2.4         | 30                |
|           |  |      | 1078          |                       |             |  | 100                | 2.4         | 30                |
|           |  |      | 1079          |                       |             |  | 2.4                | 30          |                   |
|           |  |      | 1080          |                       |             | SANDSTONE, fine-medium grained, whitish grey, lithic silty throughout; fresh   | 50                 | 2.4         | 30                |
|           |  |      | 1081          |                       |             |  | 100                | 2.4         | 30                |
|           |  |      | 1082          |                       |             |  | 2.4                | 30          |                   |
|           |  |      | 1083          |                       |             |  | 2.4                | 30          |                   |
|           |  |      | 1084          |                       |             | SANDSTONE 80%, fine grained, whitish grey, lithic poorly to moderately sorted low sphericity, sub-rounded to sub-angular; intermixed with SILTSTONE 20%, brownish grey, rare XS sandy in part; fresh                                       | 50                 | 2.4         | 30                |
|           |  |      | 1085          |                       |             |  | 100                | 2.4         | 30                |

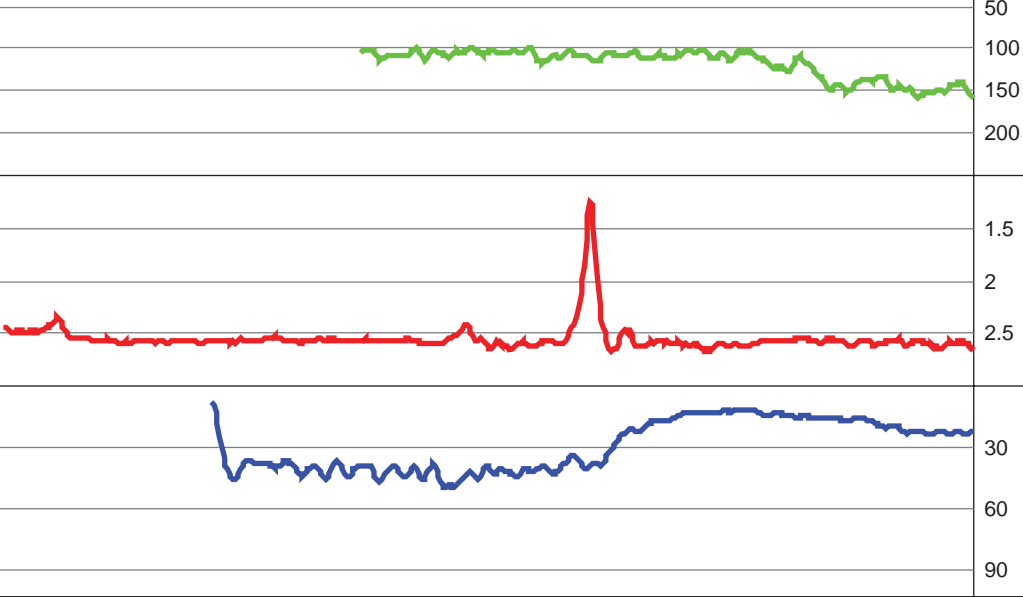
| Formation |  | Seam |  | Sample Number |  | Depth below Collar(m) |  | Graphic Log |  | DESCRIPTION |  | Geophysical Traces |  |  |  |  |  |  |  |  |  |
|-----------|--|------|--|---------------|--|-----------------------|--|-------------|--|-------------|--|--------------------|--|--|--|--|--|--|--|--|--|
|           |  |      |  |               |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |  |
|           |  |      |  | 1086          |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |  |
|           |  |      |  | 1087          |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |  |
|           |  |      |  | 1088          |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |  |
|           |  |      |  | 1089          |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |  |
|           |  |      |  | 1090          |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |  |
|           |  |      |  | 1091          |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |  |
|           |  |      |  | 1092          |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |  |
|           |  |      |  | 1093          |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |  |
|           |  |      |  | 1094          |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |  |
|           |  |      |  | 1095          |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |  |
|           |  |      |  | 1096          |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |  |
|           |  |      |  | 1097          |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |  |
|           |  |      |  | 1098          |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |  |
|           |  |      |  | 1099          |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |  |
|           |  |      |  | 1100          |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |  |
|           |  |      |  | 1101          |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |  |
|           |  |      |  | 1102          |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |  |
|           |  |      |  | 1103          |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |  |
|           |  |      |  | 1104          |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |  |
|           |  |      |  | 1105          |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |  |
|           |  |      |  | 1106          |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |  |
|           |  |      |  | 1107          |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |  |
|           |  |      |  | 1108          |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |  |
|           |  |      |  |               |  |                       |  |             |  |             |  |                    |  |  |  |  |  |  |  |  |  |

Geophysical Traces

GAMMA api

Compensated

Limestone Neutron



1086 SANDSTONE 80%, fine grained, whitish grey, lithic poorly to moderately sorted low sphericity, sub-rounded to sub-angular, intermixed with SILTSTONE 20%, brownish grey, rare XS sandy in part; fresh

1087 SANDSTONE, fine-medium grained, whitish grey, lithic poorly to moderately sorted low sphericity, sub-rounded to sub-angular; fresh

1088 SANDSTONE 90%, fine-medium grained, whitish grey, silty in part lithic, intermixed with SILTSTONE 10%, brownish grey, laminations micaceous in part; fresh

1091 SANDSTONE 60%, fine grained, grey, lithic poorly to moderately sorted low sphericity, sub-angular, intermixed with SILTSTONE 40%, brownish grey, micaceous in part laminations; fresh

1092 SANDSTONE 70%, brownish grey, rare micaceous; intermixed with SANDSTONE 30%, fine-medium grained, greyish off-white, lithic moderately sorted high sphericity, sub-rounded to sub-angular; fresh