

APPENDIX 1

Results of Rock-Eval and elemental analysis of the Walchia Shale samples

| Borehole code | Sample    | Depth [m b.g.l.] | Lith. complex | Rock-Eval analysis |                       |                       |                       |                                |                                |        |               |               |          | Elemental analysis |      |      |      |     |      |      |      |      |     |      |     |      |          |      |      |       |
|---------------|-----------|------------------|---------------|--------------------|-----------------------|-----------------------|-----------------------|--------------------------------|--------------------------------|--------|---------------|---------------|----------|--------------------|------|------|------|-----|------|------|------|------|-----|------|-----|------|----------|------|------|-------|
|               |           |                  |               | TOC [wt.%]         | T <sub>max</sub> [°C] | S <sub>1</sub> [mg/g] | S <sub>2</sub> [mg/g] | S <sub>1</sub> /S <sub>2</sub> | S <sub>2</sub> /S <sub>3</sub> | PI     | HI [mg/g TOC] | OI [mg/g TOC] | MinC [%] | ppm                |      |      |      |     |      |      |      |      |     | wt.% |     |      | V/(V+Ni) | V/Cr | U/Th | Ni/Co |
|               |           |                  |               |                    |                       |                       |                       |                                |                                |        |               |               |          | U                  | Th   | Cu   | Ni   | V   | Pb   | Zn   | Co   | Mo   | Cr  | P    | S   | Fe   |          |      |      |       |
| W-11          | W-11/1    | 18.5             | II            | 0.22               | 423                   | 0.02                  | 0.04                  | 0.50                           | 0.06                           | 0.28   | 18            | n.app.        | 0.91     | 6.4                | 12.1 | 43   | 62   | 179 | 61   | 372  | 23   | 7.4  | 115 | 0.05 | 1.2 | 4.6  | 0.74     | 1.56 | 0.53 | 2.7   |
| W-11          | W-11/3*   | 30.1             | II            | 0.23               | 433                   | 0.01                  | 0.11                  | 0.09                           | 1.57                           | 0.07   | 48            | 30            | 2.9      | 11.3               | 13.5 | 11.9 | 49   | 160 | 38   | 72   | 12.4 | 1.3  | 99  | 0.05 | 0.1 | 4.8  | 0.77     | 1.62 | 0.84 | 3.9   |
| W-11          | W-11/4    | 36.2             | II            | 0.27               | 431                   | 0.02                  | 0.08                  | 0.25                           | 0.09                           | 0.22   | 30            | n.app.        | 1.98     | 16                 | 19   | 27   | 69   | 160 | 50   | 83   | 24   | 1.3  | 103 | 0.06 | 0.1 | 4.4  | 0.70     | 1.55 | 0.84 | 2.9   |
| W-11          | W-11/5*   | 45.2             | II            | 0.32               | 429                   | 0.02                  | 0.19                  | 0.11                           | 0.23                           | 0.09   | 59            | 259           | 6.1      | 58                 | 9.9  | 38   | 39   | 108 | 1123 | 3288 | 16.3 | 13.2 | 77  | 0.05 | 0.7 | 2.9  | 0.74     | 1.40 | 5.9  | 2.4   |
| W-14          | W-14/1    | 17.5             | II            | 0.14               | 434                   | 0.02                  | 0.04                  | 0.50                           | 0.21                           | 0.31   | 29            | 136           | 1.91     | 7.3                | 16.6 | 69   | 62   | 154 | 25   | 77   | 19.2 | 1.3  | 103 | 0.05 | 0.1 | 4.3  | 0.71     | 1.50 | 0.44 | 3.3   |
| W-15          | W-15/23*  | 240.7            | II            | 3.3                | 436                   | 0.78                  | 21                    | 0.04                           | 110                            | 0.04   | 638           | 6             | 1.42     | 3.2                | 6.1  | 47   | 31   | 98  | 26   | 89   | 11.8 | 34.5 | 65  | 0.03 | 1.6 | 2.3  | 0.76     | 1.51 | 0.52 | 2.7   |
| W-15          | W-15/25   | 254.1            | II            | 0.79               | 429                   | 0.07                  | 1.42                  | 0.05                           | 2.0                            | 0.05   | 180           | 89            | 4.5      | 47                 | 11.7 | 21   | 54   | 192 | 166  | 189  | 20   | 6    | 90  | 0.06 | 0.3 | 3.7  | 0.78     | 2.1  | 4.0  | 2.7   |
| W-12          | W-12/25   | 136.5            | II            | 0.35               | 419                   | 0.03                  | 0.09                  | 0.33                           | 0.06                           | 0.25   | 26            | n.app.        | 2.3      | 9.6                | 4.2  | 25   | 17.7 | 31  | 23   | 423  | 6.7  | 5.3  | 41  | 0.02 | 0.6 | 1.48 | 0.64     | 0.76 | 2.3  | 2.6   |
| W-12          | W-12/27   | 187.6            | II            | 4.7                | 432                   | 0.33                  | 21                    | 0.02                           | 28                             | 0.02   | 443           | 16            | 0.42     | 2.8                | 6.9  | 82   | 51   | 161 | 34   | 117  | 18.1 | 29   | 104 | 0.06 | 2.1 | 3.5  | 0.76     | 1.55 | 0.41 | 2.8   |
| W-12          | W-12/28b  | 189.8            | II            | 2.4                | 430                   | 0.15                  | 10                    | 0.02                           | 10                             | 0.02   | 415           | 40            | 0.76     | 2.1                | 5.6  | 63   | 39   | 116 | 25   | 103  | 15.1 | 27   | 79  | 0.03 | 1.7 | 3.0  | 0.75     | 1.47 | 0.38 | 2.6   |
| W-12          | W-12/29*  | 190.1            | II            | 3.5                | 428                   | 0.29                  | 13                    | 0.02                           | 10                             | 0.02   | 384           | 37            | 1.97     | 22                 | 14.3 | 97   | 56   | 255 | 103  | 1873 | 25   | 609  | 100 | 0.10 | 2   | 3.6  | 0.82     | 2.55 | 1.55 | 2.2   |
| W-12          | W-12/31   | 210.5            | II            | 0.26               | 422                   | 0.01                  | 0.05                  | 0.20                           | 0.05                           | 0.13   | 19            | n.app.        | 1.56     | 2.3                | 7.2  | 396  | 68   | 156 | 38   | 114  | 18.6 | 14.8 | 112 | 0.06 | 0.1 | 4.7  | 0.70     | 1.39 | 0.32 | 3.6   |
| W-12          | W-12/33*  | 213.2            | II            | 0.45               | 425                   | 0.03                  | 0.16                  | 0.19                           | 0.13                           | 0.16   | 36            | 284           | 2.9      | 44                 | 13.8 | 36   | 83   | 168 | 170  | 129  | 47   | 53   | 100 | 0.05 | 0.1 | 4.7  | 0.67     | 1.68 | 3.2  | 1.76  |
| W-12          | W-12/38   | 218.5            | II            | 0.42               | 423                   | 0.02                  | 0.10                  | 0.20                           | 0.07                           | 0.20   | 24            | 336           | 2.4      | 24                 | 16   | 146  | 69   | 135 | 152  | 215  | 33   | 5.3  | 100 | 0.11 | 1   | 4.8  | 0.66     | 1.35 | 1.48 | 2.1   |
| W-15          | W-15/21   | 121.2            | III           | 1.50               | 427                   | 0.02                  | 1.24                  | 0.02                           | 21                             | 0.02   | 83            | 4             | 0.51     | 3.4                | 18.9 | 168  | 60   | 133 | 13   | 128  | 36   | 0.5  | 132 | 0.10 | 0.1 | 4.8  | 0.69     | 1.01 | 0.18 | 1.67  |
| W-12          | W-12/17*  | 120.2            | III           | 2.3                | 411                   | 0.71                  | 4.5                   | 0.16                           | 7.3                            | 0.14   | 194           | 27            | 0.48     | 13.7               | 6    | 111  | 70   | 150 | 232  | 336  | 26   | 42   | 118 | 0.12 | 2.5 | 5.5  | 0.68     | 1.27 | 2.3  | 2.7   |
| W-12          | W-12/19a* | 123.3            | III           | 5.2                | 416                   | 0.57                  | 12                    | 0.05                           | 5.4                            | 0.04   | 238           | 44            | 3.8      | 128                | 46   | 64   | 50   | 157 | 94   | 104  | 16.7 | 25   | 95  | 0.39 | 2.3 | 4.4  | 0.76     | 1.65 | 2.8  | 3.0   |
| W-12          | W-12/19b  | 123.9            | III           | 4.5                | 416                   | 0.31                  | 11                    | 0.03                           | 4.9                            | 0.03   | 240           | 49            | 3.7      | 72                 | 29   | 75   | 46   | 157 | 75   | 124  | 16.1 | 18.8 | 84  | 0.14 | 1.8 | 4.0  | 0.77     | 1.87 | 2.4  | 2.9   |
| W-12          | W-12/20   | 124.2            | III           | 0.36               | 413                   | 0.02                  | 0.07                  | 0.29                           | 0.08                           | 0.25   | 19            | n.app.        | 0.41     | 5.1                | 9.1  | 24   | 70   | 150 | 11   | 85   | 16.6 | 1.2  | 146 | 0.09 | 0.1 | 5.2  | 0.68     | 1.03 | 0.56 | 4.2   |
| W-8           | W-8/4     | 58.1             | IV            | 0.66               | 426                   | 0.02                  | 0.57                  | 0.04                           | 1.24                           | 0.04   | 86            | 70            | 1.58     | 24                 | 25   | 56   | 71   | 245 | 108  | 268  | 26   | 5.4  | 138 | 0.09 | 0.4 | 5.7  | 0.78     | 1.78 | 0.93 | 2.7   |
| W-8           | W-8/6     | 63.8             | IV            | 0.31               | 427                   | 0.01                  | 0.05                  | 0.20                           | 0.24                           | 0.22   | 16            | 68            | 1.01     | 7.3                | 18.3 | 124  | 79   | 208 | 51   | 103  | 28   | 10.4 | 131 | 0.08 | 0.6 | 5.3  | 0.72     | 1.59 | 0.40 | 2.8   |
| W-8           | W-8/8*    | 73.1             | IV            | 0.20               | 427                   | 0.01                  | 0.02                  | 0.50                           | 0.07                           | 0.36   | 10            | 145           | 1.27     | 3.6                | 16.1 | 56   | 71   | 224 | 29   | 81   | 26   | 0.7  | 120 | 0.09 | 0.2 | 5.2  | 0.76     | 1.87 | 0.22 | 2.7   |
| W-8           | W-8/10*   | 80.8             | IV            | 0.89               | n.app.                | 0.01                  | 0.01                  | 1.00                           | 0.02                           | n.app. | 1             | 48            | 1.25     | 2.4                | 9.7  | 40   | 57   | 123 | 14   | 70   | 24   | 0.4  | 110 | 0.05 | 0.1 | 4.7  | 0.68     | 1.12 | 0.25 | 2.4   |
| W-8           | W-8/12*   | 87.1             | IV            | 0.39               | 425                   | 0.04                  | 0.32                  | 0.13                           | 0.74                           | 0.12   | 82            | 110           | 2.5      | 19                 | 11   | 49   | 77   | 158 | 58   | 369  | 26   | 5.2  | 104 | 0.06 | 2.2 | 4.8  | 0.67     | 1.52 | 1.73 | 3.0   |
| W-15          | W-15/1    | 11.9             | IV            | 0.44               | n.app.                | 0.01                  | 0.03                  | 0.33                           | 0.03                           | 0.28   | 7             | n.app.        | 1.50     | 22                 | 13.9 | 145  | 58   | 228 | 38   | 116  | 25   | 6    | 95  | 0.10 | 0.1 | 5.1  | 0.80     | 2.4  | 1.58 | 2.4   |
| W-15          | W-15/2    | 15.9             | IV            | 0.86               | 436                   | 0.02                  | 0.18                  | 0.11                           | 0.17                           | 0.09   | 21            | 123           | 0.92     | 9.6                | 15.3 | 158  | 55   | 193 | 26   | 112  | 20   | 10   | 115 | 0.08 | 0.1 | 4.9  | 0.78     | 1.68 | 0.63 | 2.7   |
| W-15          | W-15/4    | 19.1             | IV            | 3.5                | 421                   | 1.18                  | 16                    | 0.07                           | 66                             | 0.07   | 450           | 7             | 4.0      | 25                 | 10.6 | 58   | 48   | 154 | 75   | 115  | 19.1 | 67   | 80  | 0.06 | 3.4 | 4.3  | 0.76     | 1.93 | 2.3  | 2.5   |
| W-15          | W-15/10   | 51.1             | IV            | 0.38               | n.app.                | 0.01                  | 0.03                  | 0.33                           | 0.09                           | 0.29   | 8             | 87            | 2.3      | 6.5                | 19.5 | 28   | 55   | 123 | 11   | 71   | 12.3 | 1.2  | 94  | 0.07 | 0.1 | 4.0  | 0.69     | 1.31 | 0.33 | 4.5   |
| W-15          | W-15/11   | 55.5             | IV            | 0.47               | 417                   | 0.06                  | 0.43                  | 0.14                           | 7.17                           | 0.12   | 91            | 13            | 1.87     | 14.6               | 13   | 49   | 63   | 145 | 54   | 111  | 24   | 16.4 | 105 | 0.06 | 1.5 | 4.6  | 0.70     | 1.38 | 1.12 | 2.7   |
| W-15          | W-15/15   | 89.2             | IV            | 0.08               | n.app.                | 0.00                  | 0.00                  | n.app.                         | 0                              | 1.00   | 0             | n.app.        | 1.22     | 2.5                | 19.1 | 41   | 65   | 150 | 28   | 97   | 26   | 0.4  | 123 | 0.07 | 0.1 | 5.6  | 0.70     | 1.22 | 0.13 | 2.5   |
| W-15          | W-15/16   | 92.5             | IV            | 0.22               | 428                   | 0.01                  | 0.01                  | 1.00                           | 0.01                           | 0.68   | 5             | n.app.        | 0.77     | 2.9                | 21   | 294  | 76   | 219 | 35   | 85   | 28   | 0.6  | 131 | 0.08 | 0.4 | 5.6  | 0.74     | 1.67 | 0.14 | 2.7   |
| W-15          | W-15/18*  | 109.1            | IV            | 0.22               | 432                   | 0.02                  | 0.13                  | 0.15                           | 0.33                           | 0.13   | 59            | 177           | 0.89     | 5.8                | 11.3 | 29   | 67   | 184 | 38   | 231  | 21   | 4.7  | 113 | 0.08 | 0.5 | 6.2  | 0.73     | 1.63 | 0.51 | 3.3   |
| W-15          | W-15/20*  | 119.6            | IV            | 2.1                | 430                   | 0.01                  | 0.05                  | 0.20                           | 0.12                           | 0.16   | 2             | 21            | 2.9      | 7.9                | 12.7 | 286  | 71   | 142 | 80   | 77   | 40   | 2.4  | 94  | 0.06 | 1.9 | 4.9  | 0.67     | 1.51 | 0.62 | 1.78  |
| W-12          | W-12/3    | 26.5             | IV            | 1.13               | 424                   | 0.11                  | 0.81                  | 0.14                           | 0.74                           | 0.12   | 72            | 97            | 1.11     | 17.3               | 11.3 | 28   | 41   | 222 | 33   | 156  | 13.7 | 19.3 | 105 | 0.08 | 0.1 | 4.8  | 0.84     | 2.1  | 1.53 | 3.0   |
| W-12          | W-12/4    | 27.7             | IV            | 0.70               | 418                   | 0.05                  | 0.26                  | 0.19                           | 0.3                            | 0.15   | 37            | 126           | 0.79     | 20                 | 14.1 | 33   | 44   | 235 | 18   | 367  | 14.4 | 10.5 | 134 | 0.09 | 0.7 | 5.6  | 0.84     | 1.75 | 1.42 | 3.0   |
| W-12          | W-12/5    | 28.7             | IV            | 0.73               | 419                   | 0.04                  | 0.30                  | 0.13                           | 0.47                           | 0.11   | 41            | 88            | 0.64     | 19.5               | 14.1 | 37   | 43   | 245 | 19   | 491  | 14.1 | 12   | 137 | 0.09 | 0.7 | 5.6  | 0.85     | 1.79 | 1.38 | 3.1   |
| W-12          | W-12/8    | 35.5             | IV            | 1.53               | 423                   | 0.24                  | 3.7                   | 0.07                           | 3.3                            | 0.06   | 239           | 73            | 1.72     | 24                 | 10.3 | 47   | 39   | 185 | 39   | 841  | 16.8 | 59   | 89  | 0.07 | 1.3 | 3.6  | 0.82     | 2.1  | 2.3  | 2.3   |
| W-11          | W-11/6*   | 111.3            | subtuffite    | 0.35               | 437                   | 0.01                  | 0.13                  | 0.08                           | 0.37                           | 0.09   | 37            | 100           | 0.81     | 12.3               | 15.5 | 97   | 45   | 103 | 13   | 67   | 8.5  | 1.2  | 104 | 0.07 | 0.1 | 3.5  | 0.70     | 0.99 | 0.79 | 5.3   |
| W-14          | W-14/6*   | 97.5             | subtuffite    | 0.74               | 421                   | 0.05                  | 0.94                  | 0.05                           | 2.2                            | 0.05   | 127           | 57            | 1.53     | 61                 | 17.1 | 49   | 65   | 120 | 1392 | 3607 | 14.4 | 26   | 113 | 0.12 | 1.1 | 4.2  | 0.65     | 1.06 | 3.6  | 4.5   |
| W-14          | W-14/7    | 100.3            | subtuffite    | 0.39               | 438                   | 0.02                  | 0.20                  | 0.10                           | 0.87                           | 0.09   | 51            | 59            | 0.98     | 6.8                | 13.4 | 31   | 50   | 99  | 56   | 294  | 22   | 1.6  | 99  | 0.09 | 0.2 | 4.0  | 0.66     | 1.00 | 0.51 | 2.3   |
| W-14          | W-14/8    | 106.5            | subtuffite    | 0.97               | 433                   | 0.08                  | 0.36                  | 0.22                           | 0.86                           | 0.18   | 37            | 43            | 0.21     | 6.8                | 21   | 22   | 49   | 115 | 37   | 85   | 30   | 3.5  | 97  | 0.05 | 1.4 | 5.0  | 0.70     | 1.19 | 0.32 | 1.63  |
| W-14          | W-14/11   | 148.3            | subtuffite    | 0.06               | n.app.                | 0.03                  | 0.03                  | 1.00                           | 0.5                            | 0.52   | 50            | 100           | 0.91     | 13.2               | 22   | 18.8 | 64   | 209 | 38   | 113  | 21   | 3.1  | 108 | 0.08 | 0.1 | 5.5  | 0.77     | 1.94 | 0.61 | 3.0   |
| W-15          | W-15/28*  | 322.8            | subtuffite    | 0.69               | 437                   | 0.01                  | 0.44                  | 0.02                           | 1.07                           | 0.03   | 64            | 59            | 0.08     | 23                 | 37   | 15.4 | 51   | 136 | 86   | 202  | 14.8 | 1.4  | 119 | 0.12 | 0.3 | 5.3  | 0.73     | 1.14 | 0.62 | 3.5   |
| W-15          | W-15/29   | 333.2            | subtuffite    | 0.46               | 432                   | 0.04                  | 0.34                  | 0.12                           | 0.89                           | 0.11   | 74            | 83            | 1.05     | 4.7                | 20   | 58   | 69   | 112 | 5166 | 7162 | 30   | 1.8  | 100 | 0.16 | 1.2 | 4.0  | 0.62     | 1.12 | 0.23 | 2.3   |
| W-12          | W-12/43   | 290.3            | subtuffite    | 0.35               | 431                   | 0.04                  | 0.07                  | 0.57                           | 0.09                           | 0.39   | 20            | 229           | 0.86     | 3.2                | 12.3 | 52   | 56   | 107 | 27   | 185  | 14.3 | 4.5  | 113 | 0.09 | 0.1 | 4.3  | 0.66     | 0.95 | 0.26 | 3.9   |
| W-12          | W-12/44   | 291.3            | subtuffite    |                    |                       |                       |                       |                                |                                |        |               |               |          |                    |      |      |      |     |      |      |      |      |     |      |     |      |          |      |      |       |