

## 7.2 Wireline Logs

The limited wireline logging-program included pressure points, fluid sampling, sidewall coring, sonic logg and a zero-offset VSP survey. A summary is given below:

| Run no. | Log Depth Interval<br>m MD RKB                     | Tool             | Comments  |
|---------|--|------------------|---|
| 1A      | 3398 – 3034m (Pressure)<br>3075 – 3034m (Sampling) | MDT/GR           | 33 pressure points, 1 tight.<br>3 fluid samples                                 |
| 1A/1B   | 3398 - 2982 m                                      | CMST/GR          | Hydraulic leak in run1A.<br>27 samples attempted in run 1B and 27<br>recovered. |
| 1A      | 3440 - 2075 m                                      | DSI/GR/ACTS      |   |
| 1A      | 3400 - 2140 m                                      | ZO VSP DUAL CSAT | 127 levels recorded   |

Table 7.2: Wireline logs summary table

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### Formation Pressure Worksheet

### Run 1 A

|                 |  |          |                  |               |                         |
|-----------------|--|----------|------------------|---------------|-------------------------|
| Well:           | 6507/11-6  | Rig:     | Transocean Artic | Date:         | 30. juni -1. juli 2001  |
| Pressure Units: | Bars   | RKB-MSL: | 24m              | MSL-Sbed:     | 291m                    |
| Toolstring:     | PC-HY(Std)-HY-SP(LDP)-OFA-PO-IO-PO-SC1-MS(6x450)-MS(6x450) |          |                  | Witnessed by: | Rokke/Eikefet/Halvorsen |
|                 |  |          |                  | Conveyance:   | Wireline                |

| Test No. | Depth<br>mMD<br>RKB | Depth<br>mTVD<br>RKB | Initial Hydrostatic Pressure |        | Formation Pressure |        | Final Hydrostatic Pressure |        |       | Time  |         | Form.<br>Pressure | Mud<br>Pressure | Test<br>Temp. | Good<br>Data? | Quartz<br>Mobility | Remarks            | Pre<br>Test |
|----------|---------------------|----------------------|------------------------------|--------|--------------------|--------|----------------------------|--------|-------|-------|---------|-------------------|-----------------|---------------|---------------|--------------------|--------------------|-------------|
|          |                     |                      | Quartz                       | Strain | Quartz             | Strain | Quartz                     | Strain | Diff  | Set   | Retract |                   |                 |               |               |                    |                    |             |
|          |                     |                      |                              |        |                    |        |                            |        |       |       |         |                   |                 |               |               |                    |                    |             |
| 1        | 3 398,2             | 3 397,4              | 422,74                       | 422,80 | 342,674            | 342,77 | 422,42                     | 422,44 | 0,32  | 19:09 | 19:12   | 1,028             | 1,268           | 110,0         | Y             | 599,1              | Good perm. in sand | 20          |
| 2        | 3 396,7             | 3 395,8              | 421,64                       | 421,70 | 342,534            | 342,64 | 421,32                     | 421,40 | 0,32  | 19:18 | 19:20   | 1,028             | 1,266           | 110,0         | Y             | 757,2              |                    | 20          |
| 3        | 3 385,6             | 3 384,7              | 419,09                       | 419,15 | 341,449            | 341,55 | 418,79                     | 418,85 | 0,30  | 19:27 | 19:30   | 1,028             | 1,262           | 110,1         | Y             | 48,6               |                    | 20          |
| 4        | 3 382,5             | 3 381,2              | 418,10                       | 418,17 | 341,136            | 341,25 | 417,86                     | 417,93 | 0,24  | 19:34 | 19:37   | 1,028             | 1,260           | 110,5         | Y             | 14,5               |                    | 20          |
| 5        | 3 379,0             | 3 378,2              | 417,41                       | 417,48 | 340,802            | 340,93 | 417,30                     | 417,39 | 0,11  | 19:43 | 19:48   | 1,028             | 1,260           | 110,5         | Y             | 118,7              |                    | 20          |
| 6        | 3 311,0             | 3 310,4              | 409,18                       | 409,28 | 333,767            | 333,90 | 409,17                     | 409,28 | 0,00  | 19:58 | 20:03   | 1,028             | 1,260           | 111,1         | Y             | 51,8               |                    | 20          |
| 7        | 3 309,5             | 3 308,9              | 408,88                       | 408,99 | 333,551            | 333,69 | 408,93                     | 409,03 | -0,05 | 20:06 | 20:10   | 1,028             | 1,260           | 111,1         | Y             | 91,6               |                    | 20          |
| 8        | 3 295,5             | 3 294,9              | 407,21                       | 407,31 | 332,115            | 332,26 | 407,25                     | 407,37 | -0,05 | 20:15 | 20:17   | 1,027             | 1,260           | 111,0         | Y             | 211,7              |                    | 20          |
| 9        | 3 285,0             | 3 284,4              | 405,94                       | 406,05 | 331,063            | 331,21 | 406,01                     | 406,13 | -0,07 | 20:24 | 20:26   | 1,028             | 1,260           | 111,0         | Y             | 1 293,6            |                    | 20          |
| 10       | 3 274,3             | 3 274,7              | 404,64                       | 404,75 | 329,958            | 330,11 | 404,75                     | 404,87 | -0,11 | 20:31 | 20:34   | 1,027             | 1,260           | 110,9         | Y             | 321,0              |                    | 20          |
| 11       | 3 149,0             | 3 148,5              | 389,64                       | 389,81 | 316,059            | 316,26 | 389,62                     | 389,79 | 0,02  | 20:49 | 20:50   | 1,023             | 1,262           | 109,9         | Y             | 271,8              |                    | 20          |
| 12       | 3 141,5             | 3 141,0              | 388,72                       | 388,86 | 315,289            | 315,46 | 388,75                     | 388,88 | -0,03 | 21:00 | 21:04   | 1,023             | 1,262           | 109,2         | Y             | 723,3              |                    | 20          |
| 13       | 3 132,0             | 3 131,4              | 387,47                       | 387,59 | 314,353            | 314,52 | 387,59                     | 387,72 | -0,12 | 21:08 | 21:11   | 1,023             | 1,261           | 109,0         | Y             | 1 551,6            |                    | 20          |
| 14       | 3 124,0             | 3 123,5              | 386,53                       | 386,66 | 313,534            | 313,70 | 386,65                     | 386,78 | -0,12 | 21:00 | 21:19   | 1,023             | 1,261           | 108,9         | Y             | 1 970,9            |                    | 20          |

# E&P Norway

Classific.: INTERNAL E&P

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|-------------|---------|---------|--------|--------|---------|--------|--------|--------|-------|-------|-------|-------|-------|-------|---|---------|---|----|
| 15          | 3 112,5 | 3 112,0 | 385,13 | 385,25 | 312,380 | 312,54 | 385,27 | 385,40 | -0,14 | 21:24 | 21:27 | 1,023 | 1,262 | 108,9 | Y | 27,6    |   | 20 |
| 16          | 3 107,0 | 3 106,5 | 384,56 | 384,68 | 311,826 | 311,99 | 384,59 | 384,73 | -0,04 | 21:33 | 21:35 | 1,023 | 1,262 | 108,6 | Y | 393,9   |   | 20 |
| 17          | 3 098,5 | 3 098,0 | 383,51 | 383,64 | 310,967 | 311,13 | 383,60 | 383,73 | -0,08 | 21:39 | 21:43 | 1,023 | 1,262 | 108,6 | Y | 350,9   |   | 20 |
| 18          | 3 114,5 | 3 114,5 | 386,02 | 386,14 | 312,590 | 312,75 | 385,76 | 385,86 | 0,26  | 21:55 | 21:57 | 1,023 | 1,263 | 108,4 | Y | 542,8   | 2m deep?  | 20 |
| 19          | 3 075,5 | 3 075,0 |        |        |         |        |        |        | 0,00  |       |       | 0,000 | 0,000 |       |   |         | tight, off depth?<br>Correlating show 2m<br>deep. | 2  |
| 20          | 3 075,5 | 3 075,0 | 380,63 | 380,74 | 308,238 | 308,38 | 380,61 | 380,73 | 0,03  | 21:26 | 21:28 | 1,022 | 1,262 | 108,2 | Y | 1 049,3 |   | 20 |
| 21          | 3 072,0 | 3 071,4 | 380,16 | 380,28 | 307,892 | 308,74 | 380,99 | 380,32 | -0,83 | 21:25 | 22:30 | 1,022 | 1,262 | 108,1 | Y | 868,7   |   | 20 |
| 22          | 3 069,0 | 3 068,5 | 379,78 | 379,90 | 307,598 | 307,74 | 379,84 | 379,96 | -0,06 | 22:37 | 22:42 | 1,022 | 1,262 | 108,1 | Y | 905,9   |   | 20 |
| 23          | 3 066,0 | 3 065,5 | 379,42 | 379,66 | 307,293 | 307,44 | 379,48 | 379,60 | -0,06 | 22:45 | 22:48 | 1,022 | 1,262 | 108,1 | Y | 380,6   |   | 20 |
| 24          | 3 064,0 | 3 063,5 | 379,22 | 379,33 | 307,109 | 307,25 | 379,25 | 379,37 | -0,03 | 22:51 | 22:55 | 1,022 | 1,262 | 108,1 | Y | 316,4   |   | 20 |
| 25          | 3 063,0 | 3 062,4 | 379,11 | 379,23 | 307,003 | 307,14 | 379,14 | 379,26 | -0,02 | 22:59 | 23:02 | 1,022 | 1,262 | 108,1 | Y | 1 094,3 |   | 20 |
| 26          | 3 062,0 | 3 061,5 | 379,00 | 379,12 | 306,884 | 307,03 | 379,01 | 379,12 | -0,01 | 23:05 | 23:08 | 1,022 | 1,262 | 108,9 | Y | 1 497,7 | condensate?                                       | 20 |
| 27          | 3 061,0 | 3 060,4 | 378,87 | 378,99 | 306,792 | 306,93 | 378,90 | 379,01 | -0,03 | 23:11 | 23:15 | 1,022 | 1,262 | 108,5 | Y | 1 289,8 |   | 20 |
| 28          | 3 059,0 | 3 058,5 | 378,61 | 378,72 | 306,648 | 306,78 | 378,67 | 378,78 | -0,06 | 23:19 | 23:21 | 1,022 | 1,262 | 108,2 | Y | 9 118,1 | gas?  | 20 |
| 29          | 3 057,0 | 3 056,5 | 378,40 | 378,51 | 306,612 | 306,74 | 378,44 | 378,54 | -0,05 | 23:24 | 23:28 | 1,023 | 1,262 | 108,2 | Y | 11 426, |   | 20 |
| 30          | 3 052,0 | 3 051,5 | 377,78 | 377,88 | 306,511 | 306,63 | 377,88 | 377,98 | -0,09 | 23:33 | 23:36 | 1,024 | 1,262 | 108,2 | Y | 12 807, |   | 20 |
|             | 3 046,5 | 3 046,0 |        |        |         |        |        |        | 0,00  |       |       | 0,000 | 0,000 |       |   |         | skip point  |    |
| 31          | 3 042,0 | 3 041,6 | 376,59 | 376,69 | 306,293 | 306,42 | 376,67 | 376,78 | -0,08 | 23:40 | 23:43 | 1,027 | 1,262 | 108,1 | Y | 1 268,8 |   | 20 |
| 32          | 3 038,0 | 3 037,4 | 376,11 | 376,21 | 306,204 | 306,34 | 376,20 | 376,31 | -0,09 | 23:46 | 23:50 | 1,028 | 1,262 | 108,0 | Y | 7 735,7 |   | 20 |
| 33          | 3 034,0 | 3 033,5 | 375,68 | 375,78 | 306,112 | 306,25 | 375,72 | 375,84 | -0,04 | 23:55 | 00:00 | 1,029 | 1,262 | 107,9 | Y | 13 975, |   | 20 |
| Sampl<br>34 | 3 035,0 | 3 034,5 | 375,90 | 376,20 | 306,181 | 306,51 | 377,35 | 377,70 | -1,48 | 00:26 | 03:30 | 1,029 | 1,263 | 105,3 | N | 3 892,9 | Sampling point for gas                            | 20 |
| Sampl<br>35 | 3 060,0 | 3 059,5 | 379,60 | 379,89 | 306,757 | 307,05 | 381,02 | 381,36 | -1,45 | 03:50 | 07:26 | 1,022 | 1,265 | 107,1 | N | 1 565,1 | Sampling point for<br>oil/condesate               | 20 |

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|-------------|---------|---------|--------|--------|---------|--------|--------|--------|-------|--------|-------|-------|-------|-------|---|---------|--------------------------|----|
| Sampl<br>36 | 3 075,0 | 3 074,5 | 381,10 | 381,38 | 308,282 | 308,58 | 384,41 | 384,70 | -3,34 | 07:44r | 09:15 | 1,022 | 1,263 | 109,4 | N | 1 048,0 | sampling point for water | 20 |
|-------------|---------|---------|--------|--------|---------|--------|--------|--------|-------|--------|-------|-------|-------|-------|---|---------|--------------------------|----|

NB: Fmtn Press sg calculated from RKB

## DAILY MUD PROPERTIES:RHEOLOGY PARAMETERS FOR WELL 6507/11-6 PO: 1

| Hole section : 36"     |           |      | WATER BASED SYSTEM |                   |           |                   |               |     |     |     |    |    |    |    |                  |           |         |           |            |
|------------------------|-----------|------|--------------------|-------------------|-----------|-------------------|---------------|-----|-----|-----|----|----|----|----|------------------|-----------|---------|-----------|------------|
| Date                   | Depth [m] |      | Mud Type           | Funnel Visc [sec] | Dens [sg] | Mudtmp Out [DegC] | Fann Readings |     |     |     |    |    |    |    | Rheo Test [DegC] | PV [mPas] | YP [Pa] | Gel0 [Pa] | Gel10 [Pa] |
|                        | MD        | TVD  |                    |                   |           |                   | 600           | 300 | 200 | 100 | 60 | 30 | 6  | 3  |                  |           |         |           |            |
| 2001-06-14 22:00       | 336       | 336  | BENTONITE MUD      | 110,0             | 1,05      |                   |               |     |     |     | 0  | 0  |    |    |                  |           |         |           |            |
| 2001-06-15 20:00       | 377       | 377  | BENTONITE MUD      | 110,0             | 1,03      |                   |               |     |     |     | 0  | 0  |    |    |                  |           |         |           |            |
| 2001-06-16             | 459       | 459  | BENTONITE MUD      | 90,0              | 1,40      |                   |               |     |     |     | 0  | 0  |    |    |                  |           |         |           |            |
| Hole section : 26"     |           |      | WATER BASED SYSTEM |                   |           |                   |               |     |     |     |    |    |    |    |                  |           |         |           |            |
| Date                   | Depth [m] |      | Mud Type           | Funnel Visc [sec] | Dens [sg] | Mudtmp Out [DegC] | Fann Readings |     |     |     |    |    |    |    | Rheo Test [DegC] | PV [mPas] | YP [Pa] | Gel0 [Pa] | Gel10 [Pa] |
|                        | MD        | TVD  |                    |                   |           |                   | 600           | 300 | 200 | 100 | 60 | 30 | 6  | 3  |                  |           |         |           |            |
| 2001-06-17             | 459       | 459  | BENTONITE MUD      |                   | 1,03      | 0,0               |               |     |     |     | 0  | 0  |    |    |                  |           |         |           |            |
| Hole section : 17 1/2" |           |      | WATER BASED SYSTEM |                   |           |                   |               |     |     |     |    |    |    |    |                  |           |         |           |            |
| Date                   | Depth [m] |      | Mud Type           | Funnel Visc [sec] | Dens [sg] | Mudtmp Out [DegC] | Fann Readings |     |     |     |    |    |    |    | Rheo Test [DegC] | PV [mPas] | YP [Pa] | Gel0 [Pa] | Gel10 [Pa] |
|                        | MD        | TVD  |                    |                   |           |                   | 600           | 300 | 200 | 100 | 60 | 30 | 6  | 3  |                  |           |         |           |            |
| 2001-06-18 23:30       | 489       | 489  | BENTONITE MUD      | 65,0              | 1,40      | 1,3               | 56            | 43  | 34  | 25  | 0  | 0  | 12 | 9  | 50,0             | 13,0      | 15,0    | 5,0       | 7,0        |
| 2001-06-19 22:30       | 1283      | 1283 | KCL/POLYMER        | 64,0              | 1,30      | 27,0              | 61            | 45  | 37  | 28  | 0  | 0  | 11 | 10 | 50,0             | 16,0      | 14,5    | 5,0       | 10,0       |
| 2001-06-20 23:00       | 1591      | 1591 | KCL/POLYMER        | 64,0              | 1,31      | 25,0              | 60            | 45  | 36  | 27  | 0  | 0  | 11 | 10 | 50,0             | 15,0      | 15,0    | 5,0       | 10,0       |
| 2001-06-21 12:00       | 1608      | 1608 | KCL/POLYMER        | 68,0              | 1,30      | 18,0              | 61            | 46  | 36  | 27  | 0  | 0  | 11 | 10 | 50,0             | 15,0      | 15,5    | 5,0       | 10,0       |
| 2001-06-22             | 1608      | 1608 | KCL/POLYMER        | 65,0              | 1,30      |                   | 60            | 45  | 35  | 27  | 0  | 0  | 11 | 10 | 50,0             | 15,0      | 15,0    | 5,0       | 10,0       |
| Hole section : 12 1/4" |           |      | OIL BASED SYSTEM   |                   |           |                   |               |     |     |     |    |    |    |    |                  |           |         |           |            |
| Date                   | Depth [m] |      | Mud Type           | Funnel Visc [sec] | Dens [sg] | Mudtmp Out [DegC] | Fann Readings |     |     |     |    |    |    |    | Rheo Test [DegC] | PV [mPas] | YP [Pa] | Gel0 [Pa] | Gel10 [Pa] |
|                        | MD        | TVD  |                    |                   |           |                   | 600           | 300 | 200 | 100 | 60 | 30 | 6  | 3  |                  |           |         |           |            |
| 2001-06-23             | 2242      | 2242 | VERSAVERT          | 84,0              | 1,60      | 1,6               | 93            | 55  | 40  | 25  | 0  | 0  | 10 | 8  | 50,0             | 38,0      | 8,5     | 4,5       | 10,5       |
| 2001-06-24 22:30       | 2917      | 2917 | VERSAVERT          | 91,0              | 1,60      | 42,0              | 111           | 67  | 49  | 31  | 0  | 0  | 15 | 14 | 50,0             | 44,0      | 11,5    | 10,0      | 17,5       |
| 2001-06-25 22:00       | 2917      | 2917 | VERSAVERT          | 102,0             | 1,60      | 18,0              | 110           | 67  | 50  | 31  | 0  | 0  | 15 | 14 | 50,0             | 43,0      | 12,0    | 9,5       | 18,0       |
| 2001-06-26 23:30       | 2917      | 2917 | VERSAVERT          | 101,0             | 1,60      | 23,0              | 112           | 66  | 50  | 30  | 0  | 0  | 15 | 13 | 50,0             | 46,0      | 10,0    | 10,0      | 19,0       |

## DAILY MUD PROPERTIES:RHEOLOGY PARAMETERS FOR WELL 6507/11-6 PO: 1

| Hole section : 8 1/2" |           | OIL BASED SYSTEM |           |                   |           |                   |               |     |     |     |    |    |    |    |                  |           |         |           |            |
|-----------------------|-----------|------------------|-----------|-------------------|-----------|-------------------|---------------|-----|-----|-----|----|----|----|----|------------------|-----------|---------|-----------|------------|
| Date                  | Depth [m] |                  | Mud Type  | Funnel Visc [sec] | Dens [sg] | Mudtmp Out [DegC] | Fann Readings |     |     |     |    |    |    |    | Rheo Test [DegC] | PV [mPas] | YP [Pa] | Gel0 [Pa] | Gel10 [Pa] |
|                       | MD        | TVD              |           |                   |           |                   | 600           | 300 | 200 | 100 | 60 | 30 | 6  | 3  |                  |           |         |           |            |
| 2001-06-27 22:30      | 2960      | 2960             | VERSAVERT | 84,0              | 1,25      | 1,3               | 70            | 43  | 35  | 25  | 0  | 0  | 10 | 9  | 50,0             | 27,0      | 8,0     | 5,0       | 11,5       |
| 2001-06-28 22:00      | 3063      | 3062             | VERSAVERT | 76,0              | 1,25      | 1,3               | 72            | 46  | 36  | 26  | 0  | 0  | 10 | 9  | 50,0             | 26,0      | 10,0    | 5,0       | 11,5       |
| 2001-06-29 22:30      | 3385      | 3384             | VERSAVERT | 70,0              | 1,25      | 49,0              | 72            | 47  | 37  | 26  | 0  | 0  | 10 | 9  | 50,0             | 25,0      | 11,0    | 5,0       | 12,0       |
| 2001-06-30 22:30      | 3440      | 3439             | VERSAVERT | 80,0              | 1,25      | 28,0              | 75            | 50  | 39  | 28  | 0  | 0  | 11 | 10 | 50,0             | 25,0      | 12,5    | 6,0       | 14,0       |
| 2001-07-01            | 3439      | 3438             | VERSAVERT | 81,0              | 1,25      | 22,0              | 75            | 50  | 39  | 28  | 0  | 0  | 11 | 10 | 50,0             | 25,0      | 12,5    | 6,0       | 14,0       |
| 2001-07-02 22:30      | 3439      | 3438             | VERSAVERT | 81,0              | 1,25      | 21,0              | 75            | 50  | 39  | 28  | 0  | 0  | 11 | 10 | 50,0             | 25,0      | 12,5    | 6,0       | 14,0       |
| 2001-07-03 22:30      | 3439      | 3438             | VERSAVERT | 79,0              | 1,25      | 33,0              | 75            | 50  | 39  | 28  | 0  | 0  | 11 | 10 | 50,0             | 25,0      | 12,5    | 6,0       | 14,0       |
| 2001-07-04            | 3439      | 3438             | VERSAVERT | 76,0              | 1,60      |                   |               |     |     |     | 0  | 0  |    |    | 50,0             | 36,0      | 10,5    | 5,0       | 11,0       |
| 2001-07-05            | 3439      | 3438             | VERSAVERT | 81,0              | 1,60      |                   | 93            | 57  | 40  | 26  | 0  | 0  | 10 | 8  | 50,0             | 36,0      | 10,5    | 5,0       | 11,0       |

## DAILY MUD PROPERTIES : OTHER PARAMETERS FOR WELL 6507/11-6 PO: 1

| Hole section : 36"     |           | WATER BASED SYSTEM |               |              |                    |                    |                            |                          |                            |              |                 |            |         |                    |           |             |             |             |                 |                           |     |     |             |          |             |
|------------------------|-----------|--------------------|---------------|--------------|--------------------|--------------------|----------------------------|--------------------------|----------------------------|--------------|-----------------|------------|---------|--------------------|-----------|-------------|-------------|-------------|-----------------|---------------------------|-----|-----|-------------|----------|-------------|
| Date                   | Depth [m] |                    | Mud Type      | Dens [sg]    | Filtrate           |                    | Filtcake                   |                          | HPHT Press/Temp [bar/DegC] | pH           | Alcalinity      |            |         | Inhib Chem [Kg/m3] | K+ [mg/l] | CL- [mg/l]  | Ca++ [mg/l] | Mg++ [mg/l] | Tot hard [mg/l] | Percentage Solid Oil Sand |     |     | CEC [Kg/m3] | ASG [sg] | LGS [Kg/m3] |
|                        | MD        | TVD                |               |              | API [ml]           | HPHT [ml]          | API [mm]                   | HPHT [mm]                |                            |              | Pm [ml]         | Pf [ml]    | Mf [ml] |                    |           |             |             |             |                 | [%]                       | [%] | [%] |             |          |             |
| 2001-06-14 22:00       | 336       | 336                | BENTONITE MUD | 1,05         |                    |                    |                            |                          | /                          |              |                 |            |         |                    |           |             |             |             |                 |                           |     |     |             |          |             |
| 2001-06-15 20:00       | 377       | 377                | BENTONITE MUD | 1,03         |                    |                    |                            |                          | /                          |              |                 |            |         |                    |           |             |             |             |                 |                           |     |     |             |          |             |
| 2001-06-16             | 459       | 459                | BENTONITE MUD | 1,40         |                    |                    |                            |                          | /                          |              |                 |            |         |                    |           |             |             |             |                 |                           |     |     |             |          |             |
| Hole section : 26"     |           | WATER BASED SYSTEM |               |              |                    |                    |                            |                          |                            |              |                 |            |         |                    |           |             |             |             |                 |                           |     |     |             |          |             |
| Date                   | Depth [m] |                    | Mud Type      | Dens [sg]    | Filtrate           |                    | Filtcake                   |                          | HPHT Press/Temp [bar/DegC] | pH           | Alcalinity      |            |         | Inhib Chem [Kg/m3] | K+ [mg/l] | CL- [mg/l]  | Ca++ [mg/l] | Mg++ [mg/l] | Tot hard [mg/l] | Percentage Solid Oil Sand |     |     | CEC [Kg/m3] | ASG [sg] | LGS [Kg/m3] |
|                        | MD        | TVD                |               |              | API [ml]           | HPHT [ml]          | API [mm]                   | HPHT [mm]                |                            |              | Pm [ml]         | Pf [ml]    | Mf [ml] |                    |           |             |             |             |                 | [%]                       | [%] | [%] |             |          |             |
| 2001-06-17             | 459       | 459                | BENTONITE MUD | 1,03         |                    |                    |                            |                          | /                          |              |                 |            |         |                    |           |             |             |             |                 |                           |     |     |             |          |             |
| Hole section : 17 1/2" |           | WATER BASED SYSTEM |               |              |                    |                    |                            |                          |                            |              |                 |            |         |                    |           |             |             |             |                 |                           |     |     |             |          |             |
| Date                   | Depth [m] |                    | Mud Type      | Dens [sg]    | Filtrate           |                    | Filtcake                   |                          | HPHT Press/Temp [bar/DegC] | pH           | Alcalinity      |            |         | Inhib Chem [Kg/m3] | K+ [mg/l] | CL- [mg/l]  | Ca++ [mg/l] | Mg++ [mg/l] | Tot hard [mg/l] | Percentage Solid Oil Sand |     |     | CEC [Kg/m3] | ASG [sg] | LGS [Kg/m3] |
|                        | MD        | TVD                |               |              | API [ml]           | HPHT [ml]          | API [mm]                   | HPHT [mm]                |                            |              | Pm [ml]         | Pf [ml]    | Mf [ml] |                    |           |             |             |             |                 | [%]                       | [%] | [%] |             |          |             |
| 2001-06-18 23:30       | 489       | 489                | BENTONITE MUD | 1,40         | 2,8                |                    | 2                          |                          | /                          | 8,5          | 0,1             | 0,5        |         | 86                 | 82000     | 600         |             | 600         | 12,0            | 0,2                       |     | 7   | 3,9         | 41       |             |
| 2001-06-19 22:30       | 1283      | 1283               | KCL/POLYMER   | 1,30         | 2,6                |                    | 1                          |                          | /                          | 8,5          | 0,2             | 0,7        |         | 92000              | 88000     | 240         |             | 240         | 16,0            | 4,6                       |     | 14  | 3,6         | 99       |             |
| 2001-06-20 23:00       | 1591      | 1591               | KCL/POLYMER   | 1,31         | 2,6                |                    | 1                          |                          | /                          | 8,2          | 0,1             | 0,6        |         | 92000              | 94000     | 400         |             | 400         | 16,5            | 4,5                       | 0,1 | 14  | 3,5         | 108      |             |
| 2001-06-21 12:00       | 1608      | 1608               | KCL/POLYMER   | 1,30         | 2,6                |                    | 1                          |                          | /                          | 8,2          | 0,1             | 0,6        |         | 92000              | 94000     | 400         |             | 400         | 16,0            | 4,5                       | 0,1 | 14  | 3,6         | 97       |             |
| 2001-06-22             | 1608      | 1608               | KCL/POLYMER   | 1,30         | 2,8                |                    | 1                          |                          | /                          | 4000,0       | 14,9            |            |         |                    |           |             |             |             | 16,0            |                           |     |     |             | 11       |             |
| Hole section : 12 1/4" |           | OIL BASED SYSTEM   |               |              |                    |                    |                            |                          |                            |              |                 |            |         |                    |           |             |             |             |                 |                           |     |     |             |          |             |
| Date                   | Depth [m] |                    | Mud Type      | Density [sg] | Filtrate HPHT [ml] | Filtcake HPHT [mm] | HPHT Press/Temp [bar/DegC] | Electrical stability [V] | Alcalinity Pm [ml]         | CaCl2 [mg/l] | Oil/Water Ratio | Percentage |         |                    | ASG [sg]  | LGS [Kg/m3] |             |             |                 |                           |     |     |             |          |             |
|                        | MD        | TVD                |               |              |                    |                    |                            |                          |                            |              |                 | Solid [%]  | Oil [%] | Sand [%]           |           |             |             |             |                 |                           |     |     |             |          |             |
| 2001-06-23             | 2242      | 2242               | VERSAVERT     | 1,60         | 2,2                | 2                  | 500 / 150                  | 660                      |                            | 126          | 76/ 24          | 26,0       | 56,0    | 0,3                | 3,7       | 131         |             |             |                 |                           |     |     |             |          |             |
| 2001-06-24 22:30       | 2917      | 2917               | VERSAVERT     | 1,60         | 2,2                | 1                  | / 150                      | 816                      |                            | 192          | 75/ 25          | 25,0       | 56,0    | 0,3                | 3,8       | 140         |             |             |                 |                           |     |     |             |          |             |
| 2001-06-25 22:00       | 2917      | 2917               | VERSAVERT     | 1,60         | 2,0                | 1                  | / 150                      |                          |                            | 192          | 75/ 25          | 25,0       | 56,0    |                    | 3,8       | 140         |             |             |                 |                           |     |     |             |          |             |
| 2001-06-26 23:30       | 2917      | 2917               | VERSAVERT     | 1,60         | 2,0                | 1                  | / 150                      | 806                      |                            | 192          | 75/ 25          | 25,0       | 56,0    | 0,3                | 3,8       | 140         |             |             |                 |                           |     |     |             |          |             |
| Hole section : 8 1/2"  |           | OIL BASED SYSTEM   |               |              |                    |                    |                            |                          |                            |              |                 |            |         |                    |           |             |             |             |                 |                           |     |     |             |          |             |
| Date                   | Depth [m] |                    | Mud Type      | Density [sg] | Filtrate HPHT [ml] | Filtcake HPHT [mm] | HPHT Press/Temp [bar/DegC] | Electrical stability [V] | Alcalinity Pm [ml]         | CaCl2 [mg/l] | Oil/Water Ratio | Percentage |         |                    | ASG [sg]  | LGS [Kg/m3] |             |             |                 |                           |     |     |             |          |             |
|                        | MD        | TVD                |               |              |                    |                    |                            |                          |                            |              |                 | Solid [%]  | Oil [%] | Sand [%]           |           |             |             |             |                 |                           |     |     |             |          |             |
| 2001-06-27 22:30       | 2960      | 2960               | VERSAVERT     | 1,25         | 2,4                | 1                  | / 150                      | 630                      |                            | 102          | 75/ 25          | 17,0       | 63,0    |                    | 3,1       | 282         |             |             |                 |                           |     |     |             |          |             |
| 2001-06-28 22:00       | 3063      | 3062               | VERSAVERT     | 1,25         | 2,2                | 1                  | / 150                      | 686                      |                            | 111          | 76/ 24          | 16,0       | 64,0    | 0,2                | 3,3       | 228         |             |             |                 |                           |     |     |             |          |             |

## DAILY MUD PROPERTIES : OTHER PARAMETERS FOR WELL 6507/11-6 PO: 1

| Hole section : 8 1/2" |           |      | OIL BASED SYSTEM |              |                    |                    |                            |                          |                    |              |                 |            |         |          |          |             |
|-----------------------|-----------|------|------------------|--------------|--------------------|--------------------|----------------------------|--------------------------|--------------------|--------------|-----------------|------------|---------|----------|----------|-------------|
| Date                  | Depth [m] |      | Mud Type         | Density [sg] | Filtrate HPHT [ml] | Filtcake HPHT [mm] | HPHT Press/Temp [bar/DegC] | Electrical stability [V] | Alcalinity Pm [ml] | CaCl2 [mg/l] | Oil/Water Ratio | Percentage |         |          | ASG [sg] | LGS [Kg/m3] |
|                       | MD        | TVD  |                  |              |                    |                    |                            |                          |                    |              |                 | Solid [%]  | Oil [%] | Sand [%] |          |             |
| 2001-06-29 22:30      | 3385      | 3384 | VERSAVERT        | 1,25         | 1,9                | 1                  | / 150                      | 765                      |                    | 114          | 76/ 24          | 15,0       | 65,0    | 0,3      | 3,5      | 173         |
| 2001-06-30 22:30      | 3440      | 3439 | VERSAVERT        | 1,25         | 2,0                | 1                  | / 150                      | 750                      |                    | 116          | 77/ 23          | 15,5       | 65,0    | 0,3      | 3,4      | 198         |
| 2001-07-01            | 3439      | 3438 | VERSAVERT        | 1,25         | 2,0                | 1                  | / 150                      | 740                      |                    | 116          | 77/ 23          | 15,5       | 65,0    | 0,3      | 3,4      | 198         |
| 2001-07-02 22:30      | 3439      | 3438 | VERSAVERT        | 1,25         | 2,0                | 1                  | / 150                      | 736                      |                    | 116          | 77/ 23          | 15,5       | 65,0    | 0,3      | 3,4      | 198         |
| 2001-07-03 22:30      | 3439      | 3438 | VERSAVERT        | 1,25         | 2,0                | 1                  | / 150                      | 730                      |                    | 116          | 77/ 23          | 15,5       | 65,0    | 0,3      | 3,4      | 198         |
| 2001-07-04            | 3439      | 3438 | VERSAVERT        | 1,60         | 2,2                | 1                  | /                          | 690                      | 1,4                | 15000        | 76/ 24          | 25,8       | 56,0    | 0,3      | 3,7      | 189         |
| 2001-07-05            | 3439      | 3438 | VERSAVERT        | 1,60         | 2,1                | 1                  | /                          | 680                      | 1,4                | 15000        | 75/ 25          | 25,5       | 56,0    | 0,3      | 3,7      | 189         |



**TOTAL CONSUMPTION OF MUD ADDITIVES ON WELL 6507/11-6 PO: 1**

| <b>Section</b> | <b>Product/ Additive</b> | <b>Unit</b> | <b>Total Amount Used</b> |
|----------------|--------------------------|-------------|--------------------------|
| 36"            | BARITE                   | kg          | 80000,00                 |
|                | BENTONITE                | kg          | 35000,00                 |
|                | POTASSIUM CARBONATE      | kg          | 75,00                    |
|                | SODA ASH                 | kg          | 325,00                   |
| 26"            | BARITE                   | kg          | 20000,00                 |
|                | BENTONITE                | kg          | 10000,00                 |
|                | CMC EHV                  | kg          | 125,00                   |
|                | MICA FINE                | kg          | 250,00                   |
|                | MICA MEDIUM              | kg          | 250,00                   |
|                | NUTPLUG F                | kg          | 250,00                   |
|                | NUTPLUG M                | kg          | 250,00                   |
| 17 1/2"        | BARITE                   | kg          | 47000,00                 |
|                | CELPOL ESL               | kg          | 6450,00                  |
|                | DUOTEC NS                | kg          | 2725,00                  |
|                | GLYCOL                   | l           | 15675,00                 |
|                | GLYDRIL MC               | l           | 180000,00                |
|                | KCL                      | kg          | 27000,00                 |
|                | KCL BRINE                | l           | 445000,00                |
|                | SODA ASH                 | kg          | 500,00                   |
| 12 1/4"        | BARITE                   | kg          | 197000,00                |
|                | BENTONE 128              | kg          | 3275,00                  |
|                | CALCIUM CHLORIDE         | kg          | 4600,00                  |
|                | EDC 95/11                | l           | 86000,00                 |
|                | LIME                     | kg          | 3450,00                  |
|                | VERSAMOD                 | kg          | 900,00                   |
|                | VERSAVERT F              | l           | 2438,00                  |
|                | VERSAVERT P              | l           | 3044,00                  |
| VERSAVERT PE   | l                        | 5625,00     |                          |
| 8 1/2"         | BARITE                   | kg          | 25000,00                 |
|                | BENTONE 128              | kg          | 2075,00                  |
|                | CALCIUM CHLORIDE         | kg          | 6400,00                  |
|                | EDC 95/11                | l           | 38000,00                 |
|                | LIME                     | kg          | 6525,00                  |
|                | VERSAVERT F              | l           | 3437,00                  |
|                | VERSAVERT P              | l           | 2656,00                  |
| VERSAVERT PE   | l                        | 3400,00     |                          |
| 0.0            | CITRIC ACID              | kg          | 625,00                   |
|                | MICA FINE                | kg          | 125,00                   |
|                | MICA MEDIUM              | kg          | 125,00                   |
|                | NUTPLUG F                | kg          | 125,00                   |
|                | NUTPLUG M                | kg          | 125,00                   |
|                | POTASSIUM CARBONATE      | kg          | 125,00                   |
|                | SODA ASH                 | kg          | 50,00                    |
|                | SODIUM BICARBONATE       | kg          | -50,00                   |

**Petroleum Geochemistry Report -  
NOCS well 6507/11-6**



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|  |  |
|--|--|
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| <b>Report number</b><br>APT01-191  | <b>Classification</b><br>Confidential          |
| <b>Report Title</b><br>Petroleum Geochemistry Report - NOCS well 6507/11-6     | <b>Submitted</b><br>3.12.01                    |
| <b>Client</b><br>Norsk Hydro   | <b>Service Order</b><br>NHT-B44-<br>5129237-00 |
| <b>Client Reference</b><br>Geir Mørk/Arne Steen                                | <b>Number of pages</b><br>260                  |
| <b>Distribution</b><br>Norsk Hydro (5)<br>APT (1)                              |  |

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|                    | <b>Name</b>  | <b>Date</b> | <b>Signature</b> |
|--------------------|--------------|-------------|------------------|
| <b>Reviewed by</b> | Nigel Mills  | 2001-11-30  |                  |
| <b>Approved by</b> | Tore Haaland | 2001-11-30  |                  |



## SUMMARY

The Exploration well 6507/11-6, PL 263, was drilled by Norsk Hydro in 2001 using the rig *Transocean Arctic*. The well is located in the *Colette* prospect west of the Midgard Field in a water depth of 315 mRKB. The well was drilled to a TD of 3440 mRKB, into the Lower Jurassic Åre Formation. All depths in this report refer to mRKB. Water based drilling mud was used down to the 13" casing at 1608 mRKB, whilst oil based drilling mud was applied below. One core (27.65 m) was taken from the well between 3036.0 and 3065.65 m, while side wall coring was performed in the interval 3197 to 3299.5 m (27 cores). A preliminary stratigraphy and lithology breakdown was supplied by Norsk Hydro.

The oil based drilling mud used in parts of this well caused significant problems in distinguishing in-situ and migrated hydrocarbons from those derived from the mud. The drilling mud was found to contain mainly aliphatic hydrocarbons in the C<sub>13</sub>-C<sub>23</sub> range, with minor aromatic hydrocarbons. Unfortunately the mud also seems to have influenced the biomarker fraction.

## 1.2 Analytical Programme

The analytical programme follows the Norwegian Industry Guide to Organic Geochemical Analyses (NIGOGA) unless otherwise specified. See also Analytical Procedures for details. Table 1.1 below lists the various analyses performed.

Table 1.1 Summary of analyses performed on well 6507/11-6

| Analysis                   | Cuttings | SWC | Number of samples |                | Gas | Mud | Total |
|----------------------------|----------|-----|-------------------|----------------|-----|-----|-------|
|                            |          |     | Core              | Oil/condensate |     |     |       |
| Headspace Gas              | 10       |     |                   |                |     |     | 10    |
| GC- Gaseous HC             |          |     |                   |                | 12  |     | 12    |
| Isotope analysis of gas    |          |     |                   |                | 12  |     | 12    |
| TOC/Rock-Eval              | 19       |     |                   |                |     |     | 19    |
| Pyrolysis – GC             | 5        |     |                   |                |     |     | 5     |
| Iatroscan                  |          |     | 6                 | 1              |     |     | 7     |
| Extraction/MPLC            | 5        | 7   | 6                 | 0/1            |     | 2   | 20/21 |
| GC-“whole oil”             |          |     |                   | 1              |     |     | 1     |
| GC- Saturated HC           | 5        | 7   |                   | 1              |     | 2   | 15    |
| GC-MS saturated HC         | 5        | 7   |                   | 1              |     | 2   | 15    |
| GC-MS aromatic HC          | 5        | 7   |                   | 1              |     | 2   | 15    |
| Isotope anal. of fractions | 5        | 7   | 6                 | 1              |     |     | 19    |
| Vitrinite reflectance      | 22       | 3   | 1                 |                |     |     | 26    |

## 1.3 Formation Tops and Drilling Information

The rig used for drilling the well was Transocean Arctic. The water depth at the location was 315 mRKB, and the well was drilled to a TD of 3440 mRKB, into the Lower Jurassic Åre Formation. All depths in this report refer to mRKB.

Water based drilling mud was used down to the 13” casing at 1608 mRKB, while oil based drilling mud was used below this. Representative oil based drilling mud samples were supplied from 3070 and 3220 m. One core (27.65 m) was taken from the well between 3036.0 and 3065.65 m, while side wall coring was performed in the interval 3197 to 3299.5 m (27 cores). The following stratigraphy (Table 1.2) as applied in this report, was supplied by Norsk Hydro. This stratigraphy and the general lithology are also presented in Figure 1.2.



## **APPENDIX 1: Tables**



Table 1. Lithology Description

| Well      | Sample type | Upper Depth | Lower Depth | APT ID | %   | Lithology | Attributes         |
|-----------|-------------|-------------|-------------|--------|-----|-----------|--------------------|
| 6507/11-6 | DC          | 2870.00     | 2880.00     | 12497A | 50% | CHK       | red gy wh          |
| 6507/11-6 | DC          | 2870.00     | 2880.00     | 12497B | 50% | CLYST     | gy, calc           |
| 6507/11-6 | DC          | 2880.00     | 2890.00     | 12498  | 100 | CLYST     | gy, calc           |
| 6507/11-6 | DC          | 2890.00     | 2900.00     | 12499  | 100 | CLYST     | med dk-dk gy, calc |
| 6507/11-6 | DC          | 2900.00     | 2910.00     | 12500  | 100 | CLYST     | dy gy, calc        |
| 6507/11-6 | DC          | 2910.00     | 2920.00     | 12501  | 100 | CLYST     | dk gy              |
| 6507/11-6 | DC          | 2920.00     | 2930.00     | 12502  | 100 | CLYST     | dk gy              |
| 6507/11-6 | DC          | 2930.00     | 2940.00     | 12503  | 100 | CLYST     | dk gy              |
| 6507/11-6 | DC          | 2940.00     | 2950.00     | 12504  | 100 | CLYST     | dk gy              |
| 6507/11-6 | DC          | 2950.00     | 2960.00     | 12505  | 100 | CLYST     | dk gy              |
| 6507/11-6 | DC          | 2960.00     | 2970.00     | 12506  | 100 | CLYST     | dk gy              |
| 6507/11-6 | DC          | 2970.00     | 2980.00     | 12507  | 100 | CLYST     | dk gy blk          |
| 6507/11-6 | DC          | 2980.00     | 2990.00     | 12508  | 100 | CLYST     | dk gy              |
| 6507/11-6 | DC          | 2990.00     | 2995.00     | 12509  | 100 | CLYST     | dk gy              |
| 6507/11-6 | DC          | 2995.00     | 3000.00     | 12510  | 100 | CLYST     | dk gy              |
| 6507/11-6 | DC          | 3000.00     | 3005.00     | 12511  | 100 | CLYST     | med dk gy          |
| 6507/11-6 | DC          | 3005.00     | 3010.00     | 12512  | 100 | CLYST     | med dk gy          |
| 6507/11-6 | DC          | 3010.00     | 3015.00     | 12513  | 100 | CLYST     | med dk gy          |
| 6507/11-6 | DC          | 3015.00     | 3020.00     | 12514  | 100 | CLYST     | dk gy              |
| 6507/11-6 | DC          | 3020.00     | 3025.00     | 12515  | 100 | CLYST     | br gy              |
| 6507/11-6 | DC          | 3025.00     | 3030.00     | 12516  | 100 | CLYST     | dk br gy           |



Table 2. Extraction, Asphaltene precipitation and Iatroscan data

| Well      | Sample type | Lower Depth | APT ID | Rock weight (g) | EOM (mg) | EOM (mg/kg Rock) | SAT (mg/kg Rock) | ARO (mg/kg Rock) | POL (mg/kg Rock) | ASP (mg/kg Rock) | SAT (wt% of EOM/Oil) | ARO (wt% of EOM/Oil) | POL (wt% of EOM/Oil) | ASP (wt% of EOM/Oil) | HC (wt% of EOM/Oil) |
|-----------|-------------|-------------|--------|-----------------|----------|------------------|------------------|------------------|------------------|------------------|----------------------|----------------------|----------------------|----------------------|---------------------|
| 6507/11-6 | DC          | 2900        | 12499  | 1.006           | 56       | 55666            |                  |                  |                  | 2187             |                      |                      |                      | 3.9                  |                     |
| 6507/11-6 | DC          | 2930        | 12502  | 1.054           | 81       | 76836            |                  |                  |                  | 4838             |                      |                      |                      | 6.3                  |                     |
| 6507/11-6 | DC          | 2950        | 12504  | 1.012           | 76       | 75114            |                  |                  |                  | 5041             |                      |                      |                      | 6.7                  |                     |
| 6507/11-6 | DC          | 2980        | 12507  | 1.089           | 85       | 78053            |                  |                  |                  | 6152             |                      |                      |                      | 7.9                  |                     |
| 6507/11-6 | DC          | 3010        | 12512  | 1.082           | 51       | 47152            |                  |                  |                  | 1202             |                      |                      |                      | 2.5                  |                     |
| 6507/11-6 | Oil         | 3035        | 12481  |                 |          |                  |                  |                  |                  |                  | 85.1                 | 13.0                 | 1.9                  | 0.0                  | 98.1                |
| 6507/11-6 | COCH        | 3036.50     | 12437  | 17.202          | 785      | 45635            | 44495            | 230              | 520              | 389              | 97.5                 | 0.5                  | 1.1                  | 0.9                  | 98.0                |
| 6507/11-6 | COCH        | 3037.50     | 12438  | 16.155          | 665      | 41163            | 39971            | 77               | 1115             | 0                | 97.1                 | 0.2                  | 2.7                  | 0.0                  | 97.3                |
| 6507/11-6 | COCH        | 3043.40     | 12439  | 20.388          | 364      | 17854            | 17424            | 50               | 325              | 54               | 97.6                 | 0.3                  | 1.8                  | 0.3                  | 97.9                |
| 6507/11-6 | COCH        | 3044.50     | 12440  | 15.509          | 401      | 25856            | 25161            | 141              | 484              | 71               | 97.3                 | 0.5                  | 1.9                  | 0.3                  | 97.9                |
| 6507/11-6 | COCH        | 3059.50     | 12442  | 15.593          | 142      | 9106             | 8731             | 33               | 169              | 173              | 95.9                 | 0.4                  | 1.9                  | 1.9                  | 96.2                |
| 6507/11-6 | COCH        | 3061.50     | 12443  | 15.292          | 107      | 6997             | 6229             | 43               | 157              | 569              | 89.0                 | 0.6                  | 2.2                  | 8.1                  | 89.6                |
| 6507/11-6 | Mud         | 3070        | 12404  |                 |          |                  |                  |                  |                  |                  |                      |                      |                      | 0.0                  |                     |
| 6507/11-6 | SWC         | 3071        | 12418  | 7.156           | 184      | 25714            |                  |                  |                  | 838              |                      |                      |                      | 3.3                  |                     |
| 6507/11-6 | SWC         | 3075        | 12419  | 7.344           | 252      | 34312            |                  |                  |                  | 2274             |                      |                      |                      | 6.6                  |                     |
| 6507/11-6 | SWC         | 3097        | 12420  | 4.668           | 86       | 18423            |                  |                  |                  | 1500             |                      |                      |                      | 8.1                  |                     |
| 6507/11-6 | SWC         | 3137        | 12422  | 9.340           | 339      | 36295            |                  |                  |                  | 5353             |                      |                      |                      | 14.7                 |                     |
| 6507/11-6 | SWC         | 3283        | 12424  | 10.547          | 267      | 25315            |                  |                  |                  | 1365             |                      |                      |                      | 5.4                  |                     |
| 6507/11-6 | SWC         | 3299.50     | 12425  | 8.670           | 283      | 32642            |                  |                  |                  | 1280             |                      |                      |                      | 3.9                  |                     |
| 6507/11-6 | Mud         | 3320        | 12405  |                 |          |                  |                  |                  |                  |                  |                      |                      |                      | 0.0                  |                     |
| 6507/11-6 | SWC         | 3398        | 12426  | 6.152           | 173      | 28121            |                  |                  |                  | 1089             |                      |                      |                      | 3.9                  |                     |





Table 3. TOC and Rock-Eval data

| Well      | Sample type | Lower Depth | APT ID | S1 (mg/g) | S2 (mg/g) | S3 (mg/g) | Tmax (°C) | PP (mg/g) | PI (wt ratio) | HI (mg HC/g TOC) | OI (mg CO <sub>2</sub> /g TOC) | TDC (%) |
|-----------|-------------|-------------|--------|-----------|-----------|-----------|-----------|-----------|---------------|------------------|--------------------------------|---------|
| 6507/11-6 | DC          | 2880        | 12497B | 25.73     | 3.64      | 0.85      | 433       | 29.37     | 0.88          | 73               | 17                             | 5.01    |
| 6507/11-6 | DC          | 2890        | 12498  | 38.41     | 15.22     | 0.99      | 426       | 53.63     | 0.72          | 217              | 14                             | 7.01    |
| 6507/11-6 | DC          | 2900        | 12499  | 38.29     | 16.13     | 0.92      | 424       | 54.42     | 0.70          | 235              | 13                             | 6.86    |
| 6507/11-6 | DC          | 2910        | 12500  | 43.90     | 28.60     | 0.94      | 421       | 72.50     | 0.61          | 266              | 9                              | 10.76   |
| 6507/11-6 | DC          | 2920        | 12501  | 43.87     | 30.42     | 0.97      | 424       | 74.29     | 0.59          | 274              | 9                              | 11.10   |
| 6507/11-6 | DC          | 2930        | 12502  | 48.79     | 37.41     | 0.54      | 422       | 86.20     | 0.57          | 288              | 4                              | 13.00   |
| 6507/11-6 | DC          | 2940        | 12503  | 46.44     | 38.99     | 0.57      | 422       | 85.42     | 0.54          | 288              | 4                              | 13.55   |
| 6507/11-6 | DC          | 2950        | 12504  | 49.79     | 39.62     | 0.74      | 425       | 89.41     | 0.56          | 314              | 6                              | 12.62   |
| 6507/11-6 | DC          | 2960        | 12505  | 48.32     | 31.18     | 0.77      | 419       | 79.50     | 0.61          | 268              | 7                              | 11.63   |
| 6507/11-6 | DC          | 2970        | 12506  | 49.33     | 29.06     | 0.90      | 421       | 78.39     | 0.63          | 223              | 7                              | 13.05   |
| 6507/11-6 | DC          | 2980        | 12507  | 49.15     | 27.31     | 1.11      | 422       | 76.46     | 0.64          | 208              | 8                              | 13.10   |
| 6507/11-6 | DC          | 2990        | 12508  | 38.74     | 19.66     | 0.56      | 423       | 58.40     | 0.66          | 175              | 5                              | 11.23   |
| 6507/11-6 | DC          | 2995        | 12509  | 37.72     | 13.93     | 0.54      | 425       | 51.64     | 0.73          | 136              | 5                              | 10.23   |
| 6507/11-6 | DC          | 3000        | 12510  | 40.82     | 13.70     | 0.74      | 426       | 54.52     | 0.75          | 134              | 7                              | 10.23   |
| 6507/11-6 | DC          | 3005        | 12511  | 38.45     | 8.40      | 0.50      | 433       | 46.86     | 0.82          | 114              | 7                              | 7.39    |
| 6507/11-6 | DC          | 3010        | 12512  | 40.98     | 9.15      | 0.42      | 432       | 50.13     | 0.82          | 119              | 5                              | 7.68    |
| 6507/11-6 | DC          | 3015        | 12513  | 41.63     | 6.73      | 0.91      | 434       | 48.36     | 0.86          | 110              | 15                             | 6.10    |
| 6507/11-6 | DC          | 3025        | 12515  | 37.11     | 5.53      | 0.42      | 436       | 42.65     | 0.87          | 93               | 7                              | 5.97    |
| 6507/11-6 | DC          | 3030        | 12516  | 47.56     | 7.94      | 0.74      | 433       | 55.50     | 0.86          | 120              | 11                             | 6.61    |



Table 4. Gas Composition

| Well      | Sample type | Lower Depth | APT ID | C1%   | C2%   | C3%   | iC4% | nC4%  | iC5% | nC5% | CO2%  | Sum C1-C5 | Wetness | iC4/nC4 | ppm   | C1 #13C | C2 #13C |
|-----------|-------------|-------------|--------|-------|-------|-------|------|-------|------|------|-------|-----------|---------|---------|-------|---------|---------|
| 6507/11-6 | Gas         | 2970        | 12406  | 88.30 | 2.70  | 0.90  | 0.10 | 0.20  | 0.00 | 0.00 | 7.80  | 92.20     | 4.2     | 0.50    | 6062  | -42.4   | -31.4   |
| 6507/11-6 | DCG         | 2970        | 12427  | 72.00 | 12.40 | 10.00 | 1.60 | 3.00  | 0.60 | 0.40 | 0.00  | 100.00    | 27.3    | 0.53    | 33497 |         |         |
| 6507/11-6 | DCG         | 3020        | 12428  | 63.30 | 15.40 | 14.10 | 2.60 | 3.50  | 0.60 | 0.50 | 0.00  | 100.00    | 36.0    | 0.74    | 5069  |         |         |
| 6507/11-6 | Gas         | 3020        | 12407  | 66.50 | 2.80  | 1.20  | 0.10 | 0.40  | 0.10 | 0.10 | 28.80 | 71.20     | 6.3     | 0.25    | 2001  | -41.7   | -31.3   |
| 6507/11-6 | Gas         | 3035        | 12480  | 86.50 | 5.40  | 3.50  | 0.60 | 1.20  | 0.30 | 0.30 | 2.20  | 97.80     | 11.0    | 0.50    |       | -44.7   | -31.9   |
| 6507/11-6 | Gas         | 3060        | 12408  | 90.30 | 3.90  | 1.30  | 0.10 | 0.20  | 0.00 | 0.00 | 4.20  | 95.80     | 5.7     | 0.50    | 13949 | -36.4   | -29.3   |
| 6507/11-6 | Gas         | 3070        | 12409  | 93.80 | 3.00  | 0.90  | 0.10 | 0.10  | 0.00 | 0.00 | 2.00  | 97.90     | 4.2     | 1.00    | 18968 | -43.7   | -32.4   |
| 6507/11-6 | DCG         | 3070        | 12429  | 87.90 | 7.60  | 3.50  | 0.40 | 0.60  | 0.10 | 0.10 | 0.00  | 100.20    | 12.1    | 0.67    | 3341  |         |         |
| 6507/11-6 | DCG         | 3120        | 12430  | 72.80 | 14.60 | 9.70  | 0.90 | 1.70  | 0.20 | 0.20 | 0.00  | 100.00    | 27.0    | 0.53    | 2639  |         |         |
| 6507/11-6 | Gas         | 3120        | 12410  | 86.30 | 4.00  | 1.50  | 0.20 | 0.30  | 0.00 | 0.00 | 7.60  | 92.30     | 6.5     | 0.67    | 6944  | -42.8   | -31.5   |
| 6507/11-6 | Gas         | 3170        | 12411  | 82.30 | 3.60  | 1.50  | 0.20 | 0.40  | 0.10 | 0.00 | 11.90 | 88.10     | 6.5     | 0.50    | 3908  | -43.0   | -30.7   |
| 6507/11-6 | DCG         | 3170        | 12431  | 61.70 | 17.20 | 13.90 | 2.60 | 3.60  | 0.60 | 0.50 | 0.00  | 100.00    | 37.7    | 0.72    | 2422  |         |         |
| 6507/11-6 | Gas         | 3220        | 12412  | 87.50 | 3.20  | 1.10  | 0.10 | 0.30  | 0.00 | 0.00 | 7.80  | 92.20     | 5.1     | 0.33    | 6188  | -46.3   | -32.0   |
| 6507/11-6 | DCG         | 3220        | 12432  | 63.50 | 16.80 | 13.20 | 2.30 | 3.30  | 0.50 | 0.40 | 0.00  | 100.00    | 35.9    | 0.70    | 2773  |         |         |
| 6507/11-6 | Gas         | 3270        | 12413  | 84.00 | 2.80  | 1.00  | 0.10 | 0.30  | 0.00 | 0.00 | 11.70 | 88.20     | 4.8     | 0.33    | 4125  | -44.3   | -30.3   |
| 6507/11-6 | DCG         | 3270        | 12433  | 66.10 | 16.40 | 11.70 | 2.10 | 2.80  | 0.50 | 0.30 | 0.00  | 99.90     | 33.3    | 0.75    | 6447  |         |         |
| 6507/11-6 | Gas         | 3320        | 12414  | 80.20 | 2.80  | 0.90  | 0.10 | 0.30  | 0.00 | 0.00 | 15.70 | 84.30     | 4.9     | 0.33    | 2802  | -44.1   | -30.2   |
| 6507/11-6 | DCG         | 3320        | 12434  | 21.40 | 17.40 | 36.30 | 6.60 | 13.90 | 2.20 | 2.20 | 0.00  | 100.00    | 77.6    | 0.47    | 227   |         |         |
| 6507/11-6 | DCG         | 3370        | 12435  | 58.30 | 15.00 | 17.70 | 2.70 | 4.90  | 0.70 | 0.70 | 0.00  | 100.00    | 40.9    | 0.55    | 810   |         |         |
| 6507/11-6 | Gas         | 3420        | 12415  | 72.50 | 3.10  | 1.10  | 0.10 | 0.30  | 0.00 | 0.00 | 22.80 | 77.10     | 6.0     | 0.33    | 1431  | -28.4   | -29.1   |
| 6507/11-6 | DCG         | 3420        | 12436  | 43.80 | 13.20 | 27.10 | 5.40 | 8.50  | 1.10 | 1.00 | 0.00  | 100.00    | 55.3    | 0.64    | 397   |         |         |
| 6507/11-6 | Gas         | 3440        | 12416  | 47.00 | 1.40  | 0.40  | 0.00 | 0.70  | 0.00 | 0.00 | 50.40 | 49.50     | 5.1     | 0.00    | 1053  | -48.7   | -35.9   |



Table 4. continued, Gas Composition

| Well      | Sample type | Lower Depth | APT ID | C3 d13C | iC4 d13C | nC4 d13C | iC5 d13C | nC5 d13C | CO2 d13C | C1 d1D | CO2 d18O |
|-----------|-------------|-------------|--------|---------|----------|----------|----------|----------|----------|--------|----------|
| 6507/11-6 | Gas         | 2970        | 12406  | -29.1   |          |          |          |          | -19.5    |        |          |
| 6507/11-6 | DCG         | 2970        | 12427  |         |          |          |          |          |          |        |          |
| 6507/11-6 | DCG         | 3020        | 12428  |         |          |          |          |          |          |        |          |
| 6507/11-6 | Gas         | 3020        | 12407  | -31.4   |          | -29.9    |          |          | -19.4    |        |          |
| 6507/11-6 | Gas         | 3035        | 12480  | -31.2   | -30.9    | -31.3    |          |          | -12.7    | -208.0 | -6.8     |
| 6507/11-6 | Gas         | 3060        | 12408  | -29.8   |          | -29.9    |          |          | -20.1    |        |          |
| 6507/11-6 | Gas         | 3070        | 12409  | -30.0   |          |          |          |          | -22.5    |        |          |
| 6507/11-6 | DCG         | 3070        | 12429  |         |          |          |          |          |          |        |          |
| 6507/11-6 | DCG         | 3120        | 12430  |         |          |          |          |          |          |        |          |
| 6507/11-6 | Gas         | 3120        | 12410  | -30.4   | -31.5    | -31.6    |          |          | -19.8    |        |          |
| 6507/11-6 | Gas         | 3170        | 12411  | -30.3   | -25.3    | -27.5    |          |          | -20.2    |        |          |
| 6507/11-6 | DCG         | 3170        | 12431  |         |          |          |          |          |          |        |          |
| 6507/11-6 | Gas         | 3220        | 12412  | -30.6   |          |          |          |          | -19.1    |        |          |
| 6507/11-6 | DCG         | 3220        | 12432  |         |          |          |          |          |          |        |          |
| 6507/11-6 | Gas         | 3270        | 12413  | -30.9   |          | -30.6    |          |          | -17.6    |        |          |
| 6507/11-6 | DCG         | 3270        | 12433  |         |          |          |          |          |          |        |          |
| 6507/11-6 | Gas         | 3320        | 12414  | -31.6   |          |          |          |          | -17.9    |        |          |
| 6507/11-6 | DCG         | 3320        | 12434  |         |          |          |          |          |          |        |          |
| 6507/11-6 | DCG         | 3370        | 12435  |         |          |          |          |          |          |        |          |
| 6507/11-6 | Gas         | 3420        | 12415  | -30.6   |          |          |          |          | -16.6    |        |          |
| 6507/11-6 | DCG         | 3420        | 12436  |         |          |          |          |          |          |        |          |
| 6507/11-6 | Gas         | 3440        | 12416  |         |          |          |          |          | -19.6    |        |          |



Table 5. GC of Whole Oil (peak area)

| Well      | Sample type | Lower Depth | APT ID | IS 2,2,4 TMC5 | n-C3   | i-C4   | n-C4   | i-C5   | n-C5   | 2,2-DMC4 | CyC5   | 2,3-DMC4 | 2-MC5  | 3-MC5  | n-C6   | 2,2-DMC5 | MCyC5  |
|-----------|-------------|-------------|--------|---------------|--------|--------|--------|--------|--------|----------|--------|----------|--------|--------|--------|----------|--------|
| 6507/11-6 | Oil         | 3035        | 12481  | 2.46e5        | 2.87e3 | 6.50e3 | 3.06e4 | 5.60e4 | 8.72e4 | 2.98e3   | 1.70e4 | 1.44e4   | 7.47e4 | 5.11e4 | 1.53e5 | 3.72e3   | 1.79e5 |

Table 5. continued, GC of Whole Oil (peak area)

| Well      | Sample type | Lower Depth | APT ID | 2,4-DMC5 | 2,2,3-TMC4 | Benz   | 3,3-DMC5 | CyC6   | 2-MC6  | 2,3-DMC5 | 1,1-DMCyC5 | 3-MC6  | c-1,3-DMCyC5 | t-1,3-DMCyC5 | 3-EC5  | t-1,2-DMCyC5 | n-C7   |
|-----------|-------------|-------------|--------|----------|------------|--------|----------|--------|--------|----------|------------|--------|--------------|--------------|--------|--------------|--------|
| 6507/11-6 | Oil         | 3035        | 12481  | 8.99e3   | 2.12e3     | 7.50e4 | 2.85e3   | 3.89e5 | 6.38e4 | 2.35e4   | 1.85e4     | 6.94e4 | 4.97e4       | 4.71e4       | 5.34e3 | 7.89e4       | 2.15e5 |

Table 5. continued, GC of Whole Oil (peak area)

| Well      | Sample type | Lower Depth | APT ID | c-1,2-DMCyC5 | MCyC6  | 1,1,3-TMCyC5 | ECyC5  | 2,5-DMC6 | 2,2,3-TMC5/2,4-DMC6 | c-1,2,4-TMCyC5 | 3,3-DMC6 | t-1,2,3-TMCyC5 | 2,3,4-TMC5 | Tol    | 2,3-DMC6 | 2-MC7  | 4-MC7  |
|-----------|-------------|-------------|--------|--------------|--------|--------------|--------|----------|---------------------|----------------|----------|----------------|------------|--------|----------|--------|--------|
| 6507/11-6 | Oil         | 3035        | 12481  | 0.00e0       | 1.04e6 | 2.12e4       | 5.01e4 | 1.02e4   | 1.28e4              | 2.27e4         | 3.23e3   | 2.15e4         | 1.42e3     | 5.37e5 | 1.08e4   | 7.50e4 | 2.19e4 |



Table 5. continued, GC of Whole Oil (peak area)

| Well      | Sample type | Lower Depth | APT ID | 3-MC7  | o-1,3-DMCyC6 | i-1,4-DMCyC6 | 1,1-DMCyC6 | i-1,2-DMCyC6 | n-C8   | E-CyC6 | i-C9   | E-Benz | m-Xyl  | p-Xyl  | 4-MC8  | 2-MC8  | 3-MC8  |
|-----------|-------------|-------------|--------|--------|--------------|--------------|------------|--------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 6507/11-6 | Oil         | 3035        | 12481  | 5.19e4 | 1.81e5       | 8.21e4       | 2.69e4     | 9.15e4       | 2.29e5 | 2.19e5 | 2.41e4 | 1.25e5 | 6.39e5 | 9.19e4 | 2.27e4 | 3.63e4 | 4.00e4 |

Table 5. continued, GC of Whole Oil (peak area)

| Well      | Sample type | Lower Depth | APT ID | o-Xyl  | n-C9   | i-C10  | n-C10  | i-C11  | n-C11  | n-C12  | i-C13  | i-C14  | n-C13  | i-C15  | n-C14  | i-C16  | n-C15  |
|-----------|-------------|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 6507/11-6 | Oil         | 3035        | 12481  | 1.82e5 | 2.00e5 | 2.77e4 | 1.59e5 | 3.41e4 | 1.27e5 | 1.12e5 | 2.24e4 | 1.22e5 | 1.10e5 | 3.92e4 | 1.47e5 | 9.80e4 | 1.83e5 |

Table 5. continued, GC of Whole Oil (peak area)

| Well      | Sample type | Lower Depth | APT ID | n-C16  | i-C18  | n-C17  | i-C19  | n-C18  | i-C20  | n-C19  | n-C20  | n-C21  | n-C22  | n-C23  | n-C24  | n-C25  |
|-----------|-------------|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 6507/11-6 | Oil         | 3035        | 12481  | 1.61e5 | 4.30e4 | 1.16e5 | 5.47e4 | 9.40e4 | 2.74e4 | 7.88e4 | 5.77e4 | 4.30e4 | 3.56e4 | 3.11e4 | 2.80e4 | 2.62e4 |



Table 6. GC of Whole Oil (amounts in ng/g)

| Well      | Sample type | Lower Depth | APT ID | IS 2,2,4-TMC5 | n-C3   | i-C4   | n-C4   | i-C5   | n-C5   | 2,2-DMC4 | CyC5   | 2,3-DMC4 | 2-MC5  | 3-MC5  | n-C6   | 2,2-DMC5 | MCyC5  |
|-----------|-------------|-------------|--------|---------------|--------|--------|--------|--------|--------|----------|--------|----------|--------|--------|--------|----------|--------|
| 6507/11-6 | Oil         | 3035        | 12481  | 1.41e7        | 1.69e5 | 3.79e5 | 1.78e6 | 3.24e6 | 5.05e6 | 1.72e5   | 9.56e5 | 8.32e5   | 4.31e6 | 2.95e6 | 8.80e6 | 2.14e5   | 1.01e7 |

Table 6. continued, GC of Whole Oil (amounts in ng/g)

| Well      | Sample type | Lower Depth | APT ID | 2,4-DMC5 | 2,2,3-TMC4 | Benz   | 3,3-DMC5 | CyC6   | 2-MC6  | 2,3-DMC5 | 1,1-DMCyC5 | 3-MC6  | c-1,3-DMCyC5 | t-1,3-DMCyC5 | 3-EC5  | t-1,2-DMCyC5 | n-C7   |
|-----------|-------------|-------------|--------|----------|------------|--------|----------|--------|--------|----------|------------|--------|--------------|--------------|--------|--------------|--------|
| 6507/11-6 | Oil         | 3035        | 12481  | 5.17e5   | 1.22e5     | 3.92e6 | 1.64e5   | 2.19e7 | 3.66e6 | 1.35e6   | 1.04e6     | 3.99e6 | 2.80e6       | 2.65e6       | 3.07e5 | 4.44e6       | 1.23e7 |

Table 6. continued, GC of Whole Oil (amounts in ng/g)

| Well      | Sample type | Lower Depth | APT ID | c-1,2-DMCyC5 | MCyC6  | 1,1,3-TMCyC5 | ECyC5  | 2,5-DMC6 | 2,2,3-TMC5/2,4-DMC6 | c-1,2,4-TMCyC5 | 3,3-DMC6 | t-1,2,3-TMCyC5 | 2,3,4-TMC5 | Tol    | 2,3-DMC6 | 2-MC7  | 4-MC7  |
|-----------|-------------|-------------|--------|--------------|--------|--------------|--------|----------|---------------------|----------------|----------|----------------|------------|--------|----------|--------|--------|
| 6507/11-6 | Oil         | 3035        | 12481  | 0.00e0       | 5.87e7 | 1.19e6       | 2.82e6 | 5.82e5   | 7.33e5              | 1.28e6         | 1.85e5   | 1.21e6         | 8.12e4     | 2.84e7 | 6.17e5   | 4.30e6 | 1.25e6 |



Table 6. continued, GC of Whole Oil (amounts in ng/g)

| Well      | Sample type | Lower Depth | APT ID | 3-MC7  | o-1,3-DMCyC6 | i-1,4-DMCyC6 | 1,1-DMCyC6 | i-1,2-DMCyC6 | n-C8   | E-CyC6 | i-C9   | E-Benz | m-Xyl  | p-Xyl  | 4-MC8  | 2-MC8  | 3-MC8  |
|-----------|-------------|-------------|--------|--------|--------------|--------------|------------|--------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 6507/11-6 | Oil         | 3035        | 12481  | 2.97e6 | 1.02e7       | 4.62e6       | 1.52e6     | 5.15e6       | 1.31e7 | 1.23e7 | 1.38e6 | 6.67e6 | 3.41e7 | 4.90e6 | 1.30e6 | 2.08e6 | 2.29e6 |

Table 6. continued, GC of Whole Oil (amounts in ng/g)

| Well      | Sample type | Lower Depth | APT ID | o-Xyl  | n-C9   | i-C10  | n-C10  | i-C11  | n-C11  | n-C12  | i-C13  | i-C14  | n-C13  | i-C15  | n-C14  | i-C16  | n-C15  |
|-----------|-------------|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 6507/11-6 | Oil         | 3035        | 12481  | 9.72e6 | 1.14e7 | 1.58e6 | 9.07e6 | 1.95e6 | 7.22e6 | 6.39e6 | 1.28e6 | 6.92e6 | 6.26e6 | 2.23e6 | 8.39e6 | 5.57e6 | 1.04e7 |

Table 6. continued, GC of Whole Oil (amounts in ng/g)

| Well      | Sample type | Lower Depth | APT ID | n-C16  | i-C18  | n-C17  | i-C19  | n-C18  | i-C20  | n-C19  | n-C20  | n-C21  | n-C22  | n-C23  | n-C24  | n-C25  |
|-----------|-------------|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 6507/11-6 | Oil         | 3035        | 12481  | 9.12e6 | 2.44e6 | 6.58e6 | 3.10e6 | 5.33e6 | 1.55e6 | 4.47e6 | 3.27e6 | 2.44e6 | 2.02e6 | 1.76e6 | 1.59e6 | 1.48e6 |



Table 7. GC of saturated compounds (peak area)

| Well      | Sample type | Lower Depth | APTID | n-C10  | n-C11  | n-C12  | i-C13  | i-C14  | n-C13  | i-C15  | n-C14  | i-C16  | n-C15  | n-C16  | i-C18  | n-C17  | Pr     |
|-----------|-------------|-------------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 6507/11-6 | DC          | 2900        | 12499 | 3.19e2 | 1.63e3 | 1.05e4 | 5.59e3 | 1.99e4 | 6.93e4 | 9.69e4 | 3.61e5 | 2.68e5 | 6.83e5 | 5.42e5 | 2.16e5 | 5.15e5 | 1.34e5 |
| 6507/11-6 | DC          | 2930        | 12502 | 6.75e2 | 2.67e3 | 1.51e4 | 9.50e3 | 3.45e4 | 1.18e5 | 1.85e5 | 6.99e5 | 5.38e5 | 1.26e6 | 1.09e6 | 4.24e5 | 1.00e6 | 2.00e5 |
| 6507/11-6 | DC          | 2950        | 12504 | 5.31e2 | 2.10e3 | 1.43e4 | 7.92e3 | 3.16e4 | 1.11e5 | 1.83e5 | 6.96e5 | 5.74e5 | 1.35e6 | 1.17e6 | 4.64e5 | 1.10e6 | 2.35e5 |
| 6507/11-6 | DC          | 2980        | 12507 | 4.79e2 | 2.01e3 | 1.37e4 | 9.26e3 | 2.73e4 | 1.12e5 | 1.80e5 | 6.59e5 | 5.47e5 | 1.34e6 | 1.19e6 | 3.97e5 | 1.13e6 | 2.57e5 |
| 6507/11-6 | DC          | 3010        | 12512 | 5.30e2 | 1.19e3 | 7.58e3 | 4.43e3 | 1.88e4 | 6.16e4 | 1.01e5 | 3.72e5 | 3.15e5 | 7.57e5 | 6.72e5 | 2.31e5 | 6.03e5 | 1.59e5 |
| 6507/11-6 | Oil         | 3035        | 12481 | 3.14e5 | 2.64e5 | 2.22e5 | 5.00e4 | 5.12e4 | 2.23e5 | 6.15e4 | 3.13e5 | 1.64e5 | 3.70e5 | 3.12e5 | 6.98e4 | 2.95e5 | 1.45e5 |
| 6507/11-6 | COCH        | 3036.50     | 12437 | 0.00e0 | 1.75e3 | 1.38e4 | 7.48e3 | 2.75e4 | 1.04e5 | 1.63e5 | 6.21e5 | 4.96e5 | 1.25e6 | 9.50e5 | 3.59e5 | 9.61e5 | 2.11e5 |
| 6507/11-6 | COCH        | 3037.50     | 12438 | 0.00e0 | 9.26e2 | 8.45e3 | 4.70e3 | 9.45e3 | 7.20e4 | 6.89e4 | 4.54e5 | 3.88e5 | 8.94e5 | 7.66e5 | 9.57e4 | 6.82e5 | 1.98e5 |
| 6507/11-6 | COCH        | 3043.40     | 12439 | 0.00e0 | 7.38e2 | 7.21e3 | 4.08e3 | 9.78e3 | 7.33e4 | 7.02e4 | 4.82e5 | 4.19e5 | 1.01e6 | 8.37e5 | 1.09e5 | 7.78e5 | 2.31e5 |
| 6507/11-6 | COCH        | 3044.50     | 12440 | 0.00e0 | 1.08e3 | 1.06e4 | 5.18e3 | 1.28e4 | 8.56e4 | 7.66e4 | 5.27e5 | 4.39e5 | 1.10e6 | 8.86e5 | 1.34e5 | 7.97e5 | 2.06e5 |
| 6507/11-6 | COCH        | 3059.50     | 12442 | 0.00e0 | 9.83e2 | 9.09e3 | 4.33e3 | 1.12e4 | 7.60e4 | 6.36e4 | 4.60e5 | 4.01e5 | 9.28e5 | 8.19e5 | 1.15e5 | 7.62e5 | 2.21e5 |
| 6507/11-6 | COCH        | 3061.50     | 12443 | 0.00e0 | 6.36e2 | 4.65e3 | 2.45e3 | 6.50e3 | 4.39e4 | 4.25e4 | 3.09e5 | 3.11e5 | 8.11e5 | 8.00e5 | 1.16e5 | 8.74e5 | 2.31e5 |
| 6507/11-6 | Mud         | 3070        | 12404 | 3.31e3 | 9.18e3 | 4.06e4 | 2.28e4 | 7.25e4 | 2.13e5 | 2.63e5 | 9.81e5 | 7.22e5 | 1.63e6 | 1.32e6 | 4.77e5 | 1.23e6 | 2.45e5 |
| 6507/11-6 | SWC         | 3071        | 12418 | 3.22e2 | 3.82e3 | 2.25e4 | 1.09e4 | 1.44e4 | 1.20e5 | 8.56e4 | 5.95e5 | 4.56e5 | 1.07e6 | 8.39e5 | 1.06e5 | 7.84e5 | 1.95e5 |
| 6507/11-6 | SWC         | 3075        | 12419 | 0.00e0 | 1.56e3 | 1.26e4 | 6.86e3 | 1.20e4 | 7.81e4 | 6.22e4 | 4.13e5 | 3.11e5 | 7.53e5 | 5.90e5 | 8.30e4 | 5.24e5 | 1.44e5 |
| 6507/11-6 | SWC         | 3097        | 12420 | 3.01e2 | 8.73e2 | 7.90e3 | 4.32e3 | 9.64e3 | 6.69e4 | 5.93e4 | 4.13e5 | 3.25e5 | 7.68e5 | 6.50e5 | 9.28e4 | 6.01e5 | 1.68e5 |
| 6507/11-6 | SWC         | 3137        | 12422 | 2.93e2 | 1.59e3 | 1.41e4 | 7.41e3 | 1.27e4 | 8.72e4 | 6.43e4 | 4.39e5 | 3.33e5 | 7.86e5 | 6.24e5 | 6.85e4 | 5.57e5 | 1.62e5 |
| 6507/11-6 | SWC         | 3283        | 12424 | 5.93e2 | 9.83e2 | 5.18e3 | 2.87e3 | 5.32e3 | 3.45e4 | 2.83e4 | 1.73e5 | 1.40e5 | 3.21e5 | 2.73e5 | 3.65e4 | 2.39e5 | 7.14e4 |
| 6507/11-6 | SWC         | 3299.50     | 12425 | 0.00e0 | 9.98e2 | 7.49e3 | 4.08e3 | 6.93e3 | 4.47e4 | 3.58e4 | 2.12e5 | 1.63e5 | 3.76e5 | 3.10e5 | 4.02e4 | 2.70e5 | 8.11e4 |
| 6507/11-6 | Mud         | 3320        | 12405 | 2.22e3 | 8.08e3 | 3.55e4 | 2.12e4 | 5.75e4 | 1.87e5 | 2.52e5 | 8.90e5 | 6.84e5 | 1.64e6 | 1.26e6 | 4.86e5 | 1.12e6 | 2.16e5 |
| 6507/11-6 | SWC         | 3398        | 12426 | 0.00e0 | 1.06e3 | 8.34e3 | 4.44e3 | 8.39e3 | 5.31e4 | 4.10e4 | 2.77e5 | 2.09e5 | 5.12e5 | 4.15e5 | 4.81e4 | 3.66e5 | 1.09e5 |





Table 7. continued, GC of saturated compounds (peak area)

| Well      | Sample type | Lower Depth | APT ID | n-C18  | Ph     | n-C19  | n-C20  | n-C21  | n-C22  | n-C23  | n-C24  | n-C25  | n-C26  | n-C27  | n-C28  | n-C29  | n-C30  |
|-----------|-------------|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 6507/11-6 | DC          | 2900        | 12499  | 3.36e5 | 6.02e4 | 2.50e5 | 1.69e5 | 9.31e4 | 4.25e4 | 1.85e4 | 8.16e3 | 3.07e3 | 1.74e3 | 1.19e3 | 1.07e3 | 8.33e2 | 5.00e2 |
| 6507/11-6 | DC          | 2930        | 12502  | 6.49e5 | 9.00e4 | 4.92e5 | 3.35e5 | 1.77e5 | 7.78e4 | 3.23e4 | 1.36e4 | 4.85e3 | 2.48e3 | 1.27e3 | 1.10e3 | 7.84e2 | 3.55e2 |
| 6507/11-6 | DC          | 2950        | 12504  | 7.44e5 | 1.73e5 | 5.54e5 | 3.78e5 | 2.03e5 | 8.94e4 | 3.80e4 | 1.63e4 | 5.90e3 | 3.12e3 | 1.94e3 | 1.80e3 | 1.32e3 | 0.00e0 |
| 6507/11-6 | DC          | 2980        | 12507  | 7.63e5 | 1.44e5 | 5.82e5 | 3.83e5 | 2.08e5 | 9.17e4 | 3.79e4 | 1.55e4 | 5.83e3 | 2.41e3 | 1.64e3 | 1.73e3 | 1.25e3 | 0.00e0 |
| 6507/11-6 | DC          | 3010        | 12512  | 4.02e5 | 8.32e4 | 3.08e5 | 2.07e5 | 1.09e5 | 5.13e4 | 2.26e4 | 1.04e4 | 4.50e3 | 2.26e3 | 1.66e3 | 9.84e2 | 9.11e2 | 4.71e2 |
| 6507/11-6 | Oil         | 3035        | 12481  | 2.13e5 | 7.72e4 | 1.76e5 | 1.42e5 | 1.04e5 | 8.45e4 | 7.21e4 | 6.24e4 | 5.37e4 | 4.22e4 | 3.72e4 | 2.77e4 | 2.24e4 | 1.38e4 |
| 6507/11-6 | COCH        | 3036.50     | 12437  | 6.47e5 | 1.41e5 | 4.94e5 | 3.36e5 | 1.84e5 | 8.89e4 | 4.37e4 | 2.46e4 | 1.59e4 | 1.20e4 | 1.08e4 | 8.19e3 | 7.11e3 | 4.72e3 |
| 6507/11-6 | COCH        | 3037.50     | 12438  | 4.55e5 | 1.12e5 | 3.37e5 | 2.28e5 | 1.19e5 | 5.40e4 | 2.23e4 | 9.12e3 | 3.47e3 | 1.81e3 | 1.14e3 | 7.91e2 | 6.33e2 | 3.73e2 |
| 6507/11-6 | COCH        | 3043.40     | 12439  | 5.35e5 | 1.83e5 | 4.02e5 | 2.79e5 | 1.47e5 | 6.53e4 | 2.82e4 | 1.24e4 | 5.31e3 | 2.78e3 | 2.07e3 | 1.45e3 | 1.19e3 | 7.18e2 |
| 6507/11-6 | COCH        | 3044.50     | 12440  | 5.19e5 | 1.26e5 | 4.00e5 | 2.63e5 | 1.48e5 | 6.88e4 | 3.24e4 | 1.67e4 | 9.68e3 | 6.45e3 | 5.64e3 | 4.13e3 | 3.41e3 | 2.08e3 |
| 6507/11-6 | COCH        | 3059.50     | 12442  | 5.29e5 | 1.46e5 | 4.24e5 | 2.93e5 | 1.65e5 | 7.98e4 | 4.18e4 | 2.42e4 | 1.67e4 | 1.22e4 | 1.04e4 | 7.42e3 | 6.36e3 | 3.67e3 |
| 6507/11-6 | COCH        | 3061.50     | 12443  | 6.38e5 | 1.29e5 | 4.99e5 | 3.54e5 | 2.11e5 | 1.11e5 | 6.59e4 | 4.44e4 | 3.51e4 | 2.63e4 | 2.53e4 | 1.94e4 | 1.72e4 | 1.04e4 |
| 6507/11-6 | Mud         | 3070        | 12404  | 7.84e5 | 1.24e5 | 6.02e5 | 4.04e5 | 2.11e5 | 9.29e4 | 3.79e4 | 1.45e4 | 4.47e3 | 1.45e3 | 5.77e2 | 3.31e2 | 2.00e2 | 0.00e0 |
| 6507/11-6 | SWC         | 3071        | 12418  | 5.29e5 | 9.92e4 | 3.90e5 | 2.55e5 | 1.40e5 | 5.94e4 | 2.43e4 | 9.32e3 | 3.13e3 | 1.08e3 | 6.32e2 | 4.18e2 | 3.10e2 | 0.00e0 |
| 6507/11-6 | SWC         | 3075        | 12419  | 3.52e5 | 6.95e4 | 2.66e5 | 1.71e5 | 9.36e4 | 4.03e4 | 1.66e4 | 6.32e3 | 2.06e3 | 8.46e2 | 5.75e2 | 3.97e2 | 3.38e2 | 2.18e2 |
| 6507/11-6 | SWC         | 3097        | 12420  | 4.20e5 | 1.13e5 | 3.17e5 | 2.11e5 | 1.11e5 | 4.91e4 | 1.98e4 | 7.76e3 | 2.76e3 | 1.28e3 | 8.39e2 | 8.56e2 | 7.47e2 | 8.34e2 |
| 6507/11-6 | SWC         | 3137        | 12422  | 3.69e5 | 8.68e4 | 2.79e5 | 1.82e5 | 9.75e4 | 4.22e4 | 1.72e4 | 6.52e3 | 2.05e3 | 8.55e2 | 3.76e2 | 3.20e2 | 3.00e2 | 1.67e2 |
| 6507/11-6 | SWC         | 3283        | 12424  | 1.57e5 | 2.68e4 | 1.20e5 | 7.89e4 | 4.12e4 | 1.78e4 | 7.39e3 | 3.02e3 | 1.02e3 | 5.01e2 | 2.93e2 | 1.70e2 | 1.79e2 | 0.00e0 |
| 6507/11-6 | SWC         | 3299.50     | 12425  | 1.75e5 | 3.97e4 | 1.39e5 | 8.87e4 | 4.46e4 | 1.98e4 | 8.01e3 | 3.07e3 | 1.02e3 | 3.61e2 | 2.24e2 | 0.00e0 | 0.00e0 | 0.00e0 |
| 6507/11-6 | Mud         | 3320        | 12405  | 6.91e5 | 1.11e5 | 5.31e5 | 3.62e5 | 2.03e5 | 8.54e4 | 3.46e4 | 1.31e4 | 4.07e3 | 1.46e3 | 7.14e2 | 3.43e2 | 1.96e2 | 0.00e0 |
| 6507/11-6 | SWC         | 3398        | 12426  | 2.38e5 | 6.41e4 | 1.79e5 | 1.20e5 | 6.39e4 | 2.71e4 | 1.10e4 | 4.23e3 | 1.44e3 | 5.93e2 | 3.17e2 | 3.28e2 | 2.71e2 | 1.40e2 |



Table 7. continued, GC of saturated compounds (peak area)

| Well      | Sample type | Lower Depth | APT ID | n-C31   | n-C32  | n-C33  | n-C34  | n-C35  | n-C36   |
|-----------|-------------|-------------|--------|---------|--------|--------|--------|--------|---------|
| 6507/11-6 | DC          | 2900        | 12499  | 0.00e0  | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0  |
| 6507/11-6 | DC          | 2930        | 12502  | 0.00e0  | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0  |
| 6507/11-6 | DC          | 2950        | 12504  | 4.00e-1 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0  |
| 6507/11-6 | DC          | 2980        | 12507  | 0.00e0  | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0  |
| 6507/11-6 | DC          | 3010        | 12512  | 0.00e0  | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0  |
| 6507/11-6 | Oil         | 3035        | 12481  | 9.59e3  | 3.92e3 | 2.34e3 | 1.24e3 | 0.00e0 | 0.00e0  |
| 6507/11-6 | COCH        | 3036.50     | 12437  | 4.16e3  | 1.67e3 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0  |
| 6507/11-6 | COCH        | 3037.50     | 12438  | 0.00e0  | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0  |
| 6507/11-6 | COCH        | 3043.40     | 12439  | 0.00e0  | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0  |
| 6507/11-6 | COCH        | 3044.50     | 12440  | 0.00e0  | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0  |
| 6507/11-6 | COCH        | 3059.50     | 12442  | 3.48e3  | 1.27e3 | 1.01e3 | 0.00e0 | 0.00e0 | 1.00e-1 |
| 6507/11-6 | COCH        | 3061.50     | 12443  | 9.62e3  | 3.98e3 | 2.85e3 | 1.41e3 | 6.14e2 | 0.00e0  |
| 6507/11-6 | Mud         | 3070        | 12404  | 0.00e0  | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0  |
| 6507/11-6 | SWC         | 3071        | 12418  | 0.00e0  | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0  |
| 6507/11-6 | SWC         | 3075        | 12419  | 0.00e0  | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0  |
| 6507/11-6 | SWC         | 3097        | 12420  | 0.00e0  | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0  |
| 6507/11-6 | SWC         | 3137        | 12422  | 0.00e0  | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0  |
| 6507/11-6 | SWC         | 3283        | 12424  | 0.00e0  | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0  |
| 6507/11-6 | SWC         | 3299.50     | 12425  | 0.00e0  | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0  |
| 6507/11-6 | Mud         | 3320        | 12405  | 0.00e0  | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0  |
| 6507/11-6 | SWC         | 3398        | 12426  | 0.00e0  | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0  |



Table 8. GC of saturated compounds (amounts in ng/g)

| Well      | Sample type | Lower Depth | APTID | n-C10  | n-C11  | n-C12  | i-C13  | i-C14  | n-C13  | i-C15  | n-C14  | i-C16  | n-C15  | n-C16  | i-C18  | n-C17  | Pr     |
|-----------|-------------|-------------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 6507/11-6 | DC          | 2900        | 12499 | 6.50e3 | 3.32e4 | 2.14e5 | 1.14e5 | 4.06e5 | 1.41e6 | 1.97e6 | 7.34e6 | 5.46e6 | 1.39e7 | 1.10e7 | 4.41e6 | 1.05e7 | 2.72e6 |
| 6507/11-6 | DC          | 2930        | 12502 | 7.73e3 | 3.06e4 | 1.72e5 | 1.09e5 | 3.95e5 | 1.35e6 | 2.12e6 | 8.00e6 | 6.15e6 | 1.44e7 | 1.25e7 | 4.86e6 | 1.14e7 | 2.28e6 |
| 6507/11-6 | DC          | 2950        | 12504 | 5.19e3 | 2.05e4 | 1.39e5 | 7.74e4 | 3.09e5 | 1.09e6 | 1.79e6 | 6.80e6 | 5.61e6 | 1.32e7 | 1.14e7 | 4.53e6 | 1.08e7 | 2.29e6 |
| 6507/11-6 | DC          | 2980        | 12507 | 4.86e3 | 2.04e4 | 1.39e5 | 9.39e4 | 2.77e5 | 1.13e6 | 1.83e6 | 6.68e6 | 5.55e6 | 1.36e7 | 1.21e7 | 4.02e6 | 1.15e7 | 2.60e6 |
| 6507/11-6 | DC          | 3010        | 12512 | 9.43e3 | 2.12e4 | 1.35e5 | 7.88e4 | 3.34e5 | 1.10e6 | 1.80e6 | 6.61e6 | 5.60e6 | 1.35e7 | 1.20e7 | 4.10e6 | 1.07e7 | 2.83e6 |
| 6507/11-6 | Oil         | 3035        | 12481 | 6.98e6 | 5.87e6 | 4.94e6 | 1.11e6 | 1.14e6 | 4.96e6 | 1.37e6 | 6.96e6 | 3.64e6 | 8.23e6 | 6.93e6 | 1.55e6 | 6.55e6 | 3.23e6 |
| 6507/11-6 | COCH        | 3036.50     | 12437 | 0.00e0 | 1.78e4 | 1.40e5 | 7.58e4 | 2.79e5 | 1.06e6 | 1.65e6 | 6.29e6 | 5.03e6 | 1.27e7 | 9.63e6 | 3.64e6 | 9.74e6 | 2.13e6 |
| 6507/11-6 | COCH        | 3037.50     | 12438 | 0.00e0 | 1.52e4 | 1.38e5 | 7.71e4 | 1.55e5 | 1.18e6 | 1.13e6 | 7.44e6 | 6.36e6 | 1.47e7 | 1.26e7 | 1.57e6 | 1.12e7 | 3.25e6 |
| 6507/11-6 | COCH        | 3043.40     | 12439 | 0.00e0 | 1.11e4 | 1.08e5 | 6.11e4 | 1.47e5 | 1.10e6 | 1.05e6 | 7.23e6 | 6.27e6 | 1.51e7 | 1.25e7 | 1.63e6 | 1.17e7 | 3.46e6 |
| 6507/11-6 | COCH        | 3044.50     | 12440 | 0.00e0 | 1.49e4 | 1.46e5 | 7.11e4 | 1.76e5 | 1.18e6 | 1.05e6 | 7.24e6 | 6.04e6 | 1.51e7 | 1.22e7 | 1.84e6 | 1.09e7 | 2.83e6 |
| 6507/11-6 | COCH        | 3059.50     | 12442 | 0.00e0 | 1.52e4 | 1.41e5 | 6.71e4 | 1.73e5 | 1.18e6 | 9.86e5 | 7.13e6 | 6.22e6 | 1.44e7 | 1.27e7 | 1.78e6 | 1.18e7 | 3.43e6 |
| 6507/11-6 | COCH        | 3061.50     | 12443 | 0.00e0 | 9.19e3 | 6.72e4 | 3.54e4 | 9.40e4 | 6.35e5 | 6.14e5 | 4.47e6 | 4.50e6 | 1.17e7 | 1.16e7 | 1.68e6 | 1.26e7 | 3.34e6 |
| 6507/11-6 | Mud         | 3070        | 12404 | 2.42e4 | 6.72e4 | 2.97e5 | 1.67e5 | 5.31e5 | 1.56e6 | 1.93e6 | 7.18e6 | 5.29e6 | 1.20e7 | 9.68e6 | 3.49e6 | 9.04e6 | 1.79e6 |
| 6507/11-6 | SWC         | 3071        | 12418 | 4.70e3 | 5.58e4 | 3.29e5 | 1.59e5 | 2.11e5 | 1.76e6 | 1.25e6 | 8.69e6 | 6.66e6 | 1.57e7 | 1.23e7 | 1.55e6 | 1.15e7 | 2.85e6 |
| 6507/11-6 | SWC         | 3075        | 12419 | 0.00e0 | 3.62e4 | 2.94e5 | 1.60e5 | 2.80e5 | 1.82e6 | 1.45e6 | 9.61e6 | 7.24e6 | 1.75e7 | 1.37e7 | 1.93e6 | 1.22e7 | 3.36e6 |
| 6507/11-6 | SWC         | 3097        | 12420 | 5.46e3 | 1.58e4 | 1.43e5 | 7.83e4 | 1.75e5 | 1.21e6 | 1.07e6 | 7.48e6 | 5.88e6 | 1.39e7 | 1.18e7 | 1.68e6 | 1.09e7 | 3.04e6 |
| 6507/11-6 | SWC         | 3137        | 12422 | 5.48e3 | 2.98e4 | 2.64e5 | 1.39e5 | 2.37e5 | 1.63e6 | 1.20e6 | 8.22e6 | 6.24e6 | 1.47e7 | 1.17e7 | 1.28e6 | 1.04e7 | 3.03e6 |
| 6507/11-6 | SWC         | 3283        | 12424 | 2.77e4 | 4.60e4 | 2.42e5 | 1.34e5 | 2.49e5 | 1.62e6 | 1.33e6 | 8.09e6 | 6.57e6 | 1.50e7 | 1.28e7 | 1.71e6 | 1.12e7 | 3.34e6 |
| 6507/11-6 | SWC         | 3299.50     | 12425 | 0.00e0 | 4.50e4 | 3.38e5 | 1.84e5 | 3.13e5 | 2.02e6 | 1.62e6 | 9.56e6 | 7.36e6 | 1.69e7 | 1.40e7 | 1.81e6 | 1.22e7 | 3.66e6 |
| 6507/11-6 | Mud         | 3320        | 12405 | 2.44e4 | 8.87e4 | 3.90e5 | 2.33e5 | 6.31e5 | 2.05e6 | 2.77e6 | 9.77e6 | 7.51e6 | 1.80e7 | 1.38e7 | 5.33e6 | 1.23e7 | 2.37e6 |
| 6507/11-6 | SWC         | 3398        | 12426 | 0.00e0 | 3.32e4 | 2.62e5 | 1.39e5 | 2.63e5 | 1.67e6 | 1.29e6 | 8.68e6 | 6.54e6 | 1.61e7 | 1.30e7 | 1.51e6 | 1.15e7 | 3.43e6 |



Table 8. continued, GC of saturated compounds (amounts in ng/g)

| Well      | Sample type | Lower Depth | APT ID | n-C18  | Ph     | n-C19  | n-C20  | n-C21  | n-C22  | n-C23  | n-C24  | n-C25  | n-C26  | n-C27  | n-C28  | n-C29  | n-C30  |
|-----------|-------------|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 6507/11-6 | DC          | 2900        | 12499  | 6.83e6 | 1.22e6 | 5.09e6 | 3.44e6 | 1.89e6 | 8.66e5 | 3.77e5 | 1.66e5 | 6.24e4 | 3.53e4 | 2.42e4 | 2.18e4 | 1.70e4 | 1.02e4 |
| 6507/11-6 | DC          | 2930        | 12502  | 7.43e6 | 1.03e6 | 5.63e6 | 3.83e6 | 2.03e6 | 8.90e5 | 3.70e5 | 1.56e5 | 5.56e4 | 2.84e4 | 1.45e4 | 1.26e4 | 8.97e3 | 4.07e3 |
| 6507/11-6 | DC          | 2950        | 12504  | 7.26e6 | 1.69e6 | 5.41e6 | 3.69e6 | 1.99e6 | 8.74e5 | 3.72e5 | 1.59e5 | 5.76e4 | 3.05e4 | 1.89e4 | 1.75e4 | 1.29e4 | 0.00e0 |
| 6507/11-6 | DC          | 2980        | 12507  | 7.73e6 | 1.46e6 | 5.90e6 | 3.89e6 | 2.11e6 | 9.30e5 | 3.85e5 | 1.57e5 | 5.91e4 | 2.45e4 | 1.67e4 | 1.76e4 | 1.27e4 | 0.00e0 |
| 6507/11-6 | DC          | 3010        | 12512  | 7.15e6 | 1.48e6 | 5.49e6 | 3.67e6 | 1.94e6 | 9.11e5 | 4.01e5 | 1.85e5 | 8.01e4 | 4.03e4 | 2.96e4 | 1.75e4 | 1.62e4 | 8.37e3 |
| 6507/11-6 | Oil         | 3035        | 12481  | 4.73e6 | 1.72e6 | 3.93e6 | 3.15e6 | 2.32e6 | 1.88e6 | 1.60e6 | 1.39e6 | 1.19e6 | 9.38e5 | 8.28e5 | 6.16e5 | 4.99e5 | 3.06e5 |
| 6507/11-6 | COCH        | 3036.50     | 12437  | 6.56e6 | 1.43e6 | 5.01e6 | 3.40e6 | 1.86e6 | 9.01e5 | 4.43e5 | 2.49e5 | 1.61e5 | 1.21e5 | 1.10e5 | 8.30e4 | 7.20e4 | 4.78e4 |
| 6507/11-6 | COCH        | 3037.50     | 12438  | 7.45e6 | 1.83e6 | 5.52e6 | 3.73e6 | 1.95e6 | 8.84e5 | 3.65e5 | 1.49e5 | 5.69e4 | 2.96e4 | 1.87e4 | 1.30e4 | 1.04e4 | 6.11e3 |
| 6507/11-6 | COCH        | 3043.40     | 12439  | 8.02e6 | 2.74e6 | 6.02e6 | 4.19e6 | 2.21e6 | 9.79e5 | 4.23e5 | 1.85e5 | 7.95e4 | 4.16e4 | 3.10e4 | 2.17e4 | 1.78e4 | 1.08e4 |
| 6507/11-6 | COCH        | 3044.50     | 12440  | 7.13e6 | 1.73e6 | 5.50e6 | 3.62e6 | 2.04e6 | 9.45e5 | 4.45e5 | 2.30e5 | 1.33e5 | 8.87e4 | 7.75e4 | 5.67e4 | 4.68e4 | 2.86e4 |
| 6507/11-6 | COCH        | 3059.50     | 12442  | 8.19e6 | 2.25e6 | 6.56e6 | 4.54e6 | 2.56e6 | 1.24e6 | 6.48e5 | 3.75e5 | 2.59e5 | 1.88e5 | 1.62e5 | 1.15e5 | 9.85e4 | 5.68e4 |
| 6507/11-6 | COCH        | 3061.50     | 12443  | 9.22e6 | 1.87e6 | 7.22e6 | 5.12e6 | 3.05e6 | 1.61e6 | 9.53e5 | 6.42e5 | 5.07e5 | 3.81e5 | 3.66e5 | 2.80e5 | 2.48e5 | 1.51e5 |
| 6507/11-6 | Mud         | 3070        | 12404  | 5.74e6 | 9.05e5 | 4.40e6 | 2.96e6 | 1.54e6 | 6.81e5 | 2.78e5 | 1.06e5 | 3.28e4 | 1.06e4 | 4.22e3 | 2.42e3 | 1.46e3 | 0.00e0 |
| 6507/11-6 | SWC         | 3071        | 12418  | 7.73e6 | 1.45e6 | 5.69e6 | 3.73e6 | 2.04e6 | 8.69e5 | 3.56e5 | 1.36e5 | 4.57e4 | 1.57e4 | 9.24e3 | 6.10e3 | 4.52e3 | 0.00e0 |
| 6507/11-6 | SWC         | 3075        | 12419  | 8.20e6 | 1.62e6 | 6.20e6 | 3.97e6 | 2.18e6 | 9.38e5 | 3.86e5 | 1.47e5 | 4.79e4 | 1.97e4 | 1.34e4 | 9.24e3 | 7.85e3 | 5.08e3 |
| 6507/11-6 | SWC         | 3097        | 12420  | 7.61e6 | 2.04e6 | 5.74e6 | 3.82e6 | 2.01e6 | 8.90e5 | 3.59e5 | 1.41e5 | 5.01e4 | 2.31e4 | 1.52e4 | 1.55e4 | 1.35e4 | 1.51e4 |
| 6507/11-6 | SWC         | 3137        | 12422  | 6.91e6 | 1.63e6 | 5.22e6 | 3.41e6 | 1.83e6 | 7.90e5 | 3.21e5 | 1.22e5 | 3.83e4 | 1.60e4 | 7.04e3 | 6.00e3 | 5.62e3 | 3.13e3 |
| 6507/11-6 | SWC         | 3283        | 12424  | 7.35e6 | 1.26e6 | 5.61e6 | 3.69e6 | 1.93e6 | 8.32e5 | 3.46e5 | 1.41e5 | 4.77e4 | 2.34e4 | 1.37e4 | 7.95e3 | 8.36e3 | 0.00e0 |
| 6507/11-6 | SWC         | 3299.50     | 12425  | 7.88e6 | 1.79e6 | 6.26e6 | 4.00e6 | 2.01e6 | 8.96e5 | 3.61e5 | 1.39e5 | 4.61e4 | 1.63e4 | 1.01e4 | 0.00e0 | 0.00e0 | 0.00e0 |
| 6507/11-6 | Mud         | 3320        | 12405  | 7.59e6 | 1.22e6 | 5.82e6 | 3.97e6 | 2.22e6 | 9.37e5 | 3.80e5 | 1.44e5 | 4.47e4 | 1.61e4 | 7.83e3 | 3.76e3 | 2.15e3 | 0.00e0 |
| 6507/11-6 | SWC         | 3398        | 12426  | 7.47e6 | 2.01e6 | 5.63e6 | 3.77e6 | 2.01e6 | 8.50e5 | 3.44e5 | 1.33e5 | 4.53e4 | 1.86e4 | 9.96e3 | 1.03e4 | 8.51e3 | 4.38e3 |



Table 8. continued, GC of saturated compounds (amounts in ng/g)

| Well      | Sample type | Lower Depth | APT ID | n-C31  | n-C32  | n-C33  | n-C34  | n-C35  | n-C36  |
|-----------|-------------|-------------|--------|--------|--------|--------|--------|--------|--------|
| 6507/11-6 | DC          | 2900        | 12499  | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 |
| 6507/11-6 | DC          | 2930        | 12502  | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 |
| 6507/11-6 | DC          | 2950        | 12504  | 3.91e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 |
| 6507/11-6 | DC          | 2980        | 12507  | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 |
| 6507/11-6 | DC          | 3010        | 12512  | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 |
| 6507/11-6 | Oil         | 3035        | 12481  | 2.13e5 | 8.72e4 | 5.20e4 | 2.76e4 | 0.00e0 | 0.00e0 |
| 6507/11-6 | COCH        | 3036.50     | 12437  | 4.21e4 | 1.69e4 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 |
| 6507/11-6 | COCH        | 3037.50     | 12438  | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 |
| 6507/11-6 | COCH        | 3043.40     | 12439  | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 |
| 6507/11-6 | COCH        | 3044.50     | 12440  | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 |
| 6507/11-6 | COCH        | 3059.50     | 12442  | 5.38e4 | 1.97e4 | 1.56e4 | 0.00e0 | 0.00e0 | 1.55e0 |
| 6507/11-6 | COCH        | 3061.50     | 12443  | 1.39e5 | 5.76e4 | 4.12e4 | 2.04e4 | 8.87e3 | 0.00e0 |
| 6507/11-6 | Mud         | 3070        | 12404  | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 |
| 6507/11-6 | SWC         | 3071        | 12418  | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 |
| 6507/11-6 | SWC         | 3075        | 12419  | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 |
| 6507/11-6 | SWC         | 3097        | 12420  | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 |
| 6507/11-6 | SWC         | 3137        | 12422  | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 |
| 6507/11-6 | SWC         | 3283        | 12424  | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 |
| 6507/11-6 | SWC         | 3299.50     | 12425  | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 |
| 6507/11-6 | Mud         | 3320        | 12405  | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 |
| 6507/11-6 | SWC         | 3398        | 12426  | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 | 0.00e0 |



Table 9. GCMS SIR of saturated compounds (peak height)

| m/e       |             |             |        | 177       |           | 191    |        |        |        |        |        |        |        |        |        |        |        |
|-----------|-------------|-------------|--------|-----------|-----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Well      | Sample type | Lower Depth | APT ID | 25nor28αβ | 25nor30αβ | 20/3   | 21/3   | 22/3   | 24/3   | 25/3R  | 25/3S  | 24/4   | 26/3R  | 26/3S  | 28/3R  | 28/3S  | 29/3R  |
| 6507/11-6 | DC          | 2900        | 12499  | 6.19e5    | 8.01e4    | 6.18e5 | 7.42e5 | 5.78e5 | 2.27e5 | 9.26e4 | 9.55e4 | 2.09e5 | 7.66e4 | 7.19e4 | 4.04e4 | 4.51e4 | 4.92e4 |
| 6507/11-6 | DC          | 2930        | 12502  | 5.61e6    | 2.77e5    | 1.40e6 | 1.59e6 | 1.01e6 | 3.60e5 | 1.22e5 | 1.15e5 | 3.54e5 | 1.00e5 | 1.01e5 | 6.25e4 | 5.38e4 | 6.00e4 |
| 6507/11-6 | DC          | 2950        | 12504  | 1.37e7    | 5.68e5    | 1.62e6 | 1.84e6 | 1.27e6 | 4.51e5 | 1.67e5 | 1.67e5 | 4.98e5 | 1.33e5 | 1.37e5 | 8.65e4 | 7.27e4 | 9.64e4 |
| 6507/11-6 | DC          | 2980        | 12507  | 7.06e6    | 3.86e5    | 1.67e6 | 1.90e6 | 1.23e6 | 4.00e5 | 1.67e5 | 1.51e5 | 4.92e5 | 1.27e5 | 1.29e5 | 8.86e4 | 6.74e4 | 8.54e4 |
| 6507/11-6 | DC          | 3010        | 12512  | 1.76e5    | 5.56e4    | 8.99e5 | 9.95e5 | 7.36e5 | 2.37e5 | 8.55e4 | 8.70e4 | 2.37e5 | 7.80e4 | 7.55e4 | 6.23e4 | 3.79e4 | 3.75e4 |
| 6507/11-6 | Oil         | 3035        | 12481  | 3.92e5    | 1.00e5    | 5.87e5 | 4.64e5 | 4.62e5 | 3.52e5 | 1.60e5 | 1.55e5 | 4.88e5 | 1.36e5 | 1.31e5 | 1.32e5 | 1.06e5 | 1.59e5 |
| 6507/11-6 | COCH        | 3036.50     | 12437  | 1.26e5    | 7.85e4    | 1.38e6 | 1.43e6 | 9.68e5 | 3.36e5 | 1.13e5 | 1.15e5 | 3.84e5 | 1.11e5 | 1.12e5 | 6.90e4 | 5.94e4 | 6.58e4 |
| 6507/11-6 | COCH        | 3037.50     | 12438  | 2.89e4    | 3.74e4    | 8.40e5 | 9.13e5 | 5.44e5 | 1.75e5 | 6.13e4 | 5.28e4 | 1.91e5 | 5.43e4 | 5.60e4 | 4.63e4 | 3.62e4 | 3.17e4 |
| 6507/11-6 | COCH        | 3043.40     | 12439  | 4.68e4    | 4.51e4    | 9.79e5 | 1.10e6 | 6.57e5 | 1.96e5 | 8.02e4 | 6.06e4 | 2.22e5 | 6.41e4 | 6.34e4 | 4.60e4 | 3.63e4 | 2.93e4 |
| 6507/11-6 | COCH        | 3044.50     | 12440  | 7.71e4    | 6.81e4    | 1.09e6 | 1.17e6 | 7.17e5 | 2.47e5 | 9.25e4 | 8.25e4 | 2.84e5 | 8.43e4 | 8.59e4 | 5.60e4 | 4.94e4 | 4.64e4 |
| 6507/11-6 | COCH        | 3059.50     | 12442  | 9.14e4    | 5.78e4    | 1.10e6 | 1.20e6 | 8.00e5 | 2.58e5 | 8.81e4 | 8.31e4 | 3.07e5 | 9.20e4 | 8.17e4 | 5.14e4 | 4.25e4 | 4.18e4 |
| 6507/11-6 | COCH        | 3061.50     | 12443  | 1.78e5    | 9.15e4    | 1.32e6 | 1.49e6 | 1.05e6 | 3.47e5 | 1.36e5 | 1.21e5 | 4.94e5 | 1.22e5 | 1.18e5 | 7.54e4 | 5.57e4 | 6.43e4 |
| 6507/11-6 | Mud         | 3070        | 12404  | 5.75e4    | 8.59e4    | 1.62e6 | 1.85e6 | 1.18e6 | 3.47e5 | 1.40e5 | 1.26e5 | 3.88e5 | 1.22e5 | 1.08e5 | 7.10e4 | 5.95e4 | 5.39e4 |
| 6507/11-6 | SWC         | 3071        | 12418  | 4.05e4    | 4.73e4    | 1.01e6 | 1.14e6 | 7.16e5 | 2.27e5 | 7.61e4 | 7.61e4 | 2.38e5 | 8.52e4 | 6.83e4 | 4.22e4 | 3.39e4 | 3.00e4 |
| 6507/11-6 | SWC         | 3075        | 12419  | 2.59e4    | 2.94e4    | 6.68e5 | 7.40e5 | 4.82e5 | 1.48e5 | 5.50e4 | 5.57e4 | 1.56e5 | 4.32e4 | 4.00e4 | 2.77e4 | 2.68e4 | 0.00e0 |
| 6507/11-6 | SWC         | 3097        | 12420  | 3.28e4    | 3.58e4    | 8.08e5 | 8.37e5 | 5.50e5 | 1.69e5 | 5.88e4 | 5.58e4 | 1.74e5 | 5.56e4 | 5.93e4 | 3.38e4 | 3.44e4 | 2.49e4 |
| 6507/11-6 | SWC         | 3137        | 12422  | 0.00e0    | 2.92e4    | 7.04e5 | 7.88e5 | 4.63e5 | 1.32e5 | 5.16e4 | 4.74e4 | 1.43e5 | 4.22e4 | 5.00e4 | 2.64e4 | 2.55e4 | 0.00e0 |
| 6507/11-6 | SWC         | 3283        | 12424  | 5.47e4    | 2.31e4    | 5.47e5 | 5.70e5 | 3.46e5 | 1.07e5 | 3.63e4 | 3.66e4 | 1.35e5 | 4.18e4 | 3.62e4 | 2.94e4 | 2.34e4 | 0.00e0 |
| 6507/11-6 | SWC         | 3299.50     | 12425  | 2.81e4    | 3.22e4    | 7.50e5 | 7.94e5 | 4.49e5 | 1.39e5 | 5.01e4 | 4.97e4 | 1.52e5 | 5.10e4 | 5.30e4 | 3.22e4 | 1.82e4 | 0.00e0 |
| 6507/11-6 | Mud         | 3320        | 12405  | 4.83e4    | 7.58e4    | 1.52e6 | 1.69e6 | 1.13e6 | 3.34e5 | 1.09e5 | 1.17e5 | 3.55e5 | 1.14e5 | 1.18e5 | 6.22e4 | 5.14e4 | 4.82e4 |
| 6507/11-6 | SWC         | 3398        | 12426  | 3.69e4    | 4.09e4    | 1.03e6 | 1.07e6 | 7.24e5 | 2.20e5 | 8.29e4 | 7.61e4 | 2.38e5 | 6.76e4 | 7.08e4 | 3.65e4 | 3.47e4 | 3.21e4 |



Table 9. continued, GCMS SIR of saturated compounds (peak height)

| m/e       |             | 191         |        |        |        |        |        |        |        |         |        |        |        |        |        |        |        |
|-----------|-------------|-------------|--------|--------|--------|--------|--------|--------|--------|---------|--------|--------|--------|--------|--------|--------|--------|
| Well      | Sample type | Lower Depth | APT ID | 29/30  | 27/28  | 27/29  | 30/31  | 30/32  | 28/29  | 25nor30 | 29/30  | 29/31  | 30/31  | 29/30  | 30/31  | 30/32  | 30/31  |
| 6507/11-6 | DC          | 2900        | 12499  | 4.22e4 | 1.95e5 | 8.12e5 | 4.58e4 | 4.17e4 | 1.02e6 | 1.15e5  | 1.70e6 | 2.31e5 | 9.20e4 | 2.48e5 | 0.00e0 | 2.67e6 | 6.50e5 |
| 6507/11-6 | DC          | 2930        | 12502  | 5.64e4 | 2.63e5 | 1.67e6 | 6.48e4 | 7.67e4 | 7.77e5 | 3.95e5  | 3.39e6 | 3.37e5 | 1.00e5 | 3.71e5 | 0.00e0 | 5.33e6 | 1.15e6 |
| 6507/11-6 | DC          | 2950        | 12504  | 8.45e4 | 4.25e5 | 2.56e6 | 1.07e5 | 1.14e5 | 3.69e6 | 7.99e5  | 4.88e6 | 5.31e5 | 1.76e5 | 5.43e5 | 0.00e0 | 8.17e6 | 1.63e6 |
| 6507/11-6 | DC          | 2980        | 12507  | 8.58e4 | 3.50e5 | 2.47e6 | 8.97e4 | 1.01e5 | 4.27e6 | 5.78e5  | 4.78e6 | 4.92e5 | 2.22e5 | 6.24e5 | 0.00e0 | 7.35e6 | 1.70e6 |
| 6507/11-6 | DC          | 3010        | 12512  | 3.64e4 | 1.17e5 | 9.42e5 | 0.00e0 | 3.66e4 | 2.77e5 | 7.25e4  | 2.15e6 | 1.43e5 | 5.90e4 | 3.19e5 | 0.00e0 | 3.10e6 | 8.36e5 |
| 6507/11-6 | Oil         | 3035        | 12481  | 1.60e5 | 5.82e5 | 1.08e6 | 1.25e5 | 1.26e5 | 4.55e5 | 1.41e5  | 2.34e6 | 6.06e5 | 3.96e5 | 2.82e5 | 0.00e0 | 3.67e6 | 5.93e5 |
| 6507/11-6 | COCH        | 3036.50     | 12437  | 5.30e4 | 2.28e5 | 1.31e6 | 5.71e4 | 6.19e4 | 1.64e5 | 9.89e4  | 3.51e6 | 2.63e5 | 1.27e5 | 4.26e5 | 0.00e0 | 5.21e6 | 1.23e6 |
| 6507/11-6 | COCH        | 3037.50     | 12438  | 2.66e4 | 7.82e4 | 5.78e5 | 3.09e4 | 3.02e4 | 5.22e4 | 5.01e4  | 1.53e6 | 8.88e4 | 3.06e4 | 1.83e5 | 0.00e0 | 2.20e6 | 5.50e5 |
| 6507/11-6 | COCH        | 3043.40     | 12439  | 2.70e4 | 1.00e5 | 7.34e5 | 0.00e0 | 0.00e0 | 6.15e4 | 6.52e4  | 1.88e6 | 1.14e5 | 3.25e4 | 2.15e5 | 0.00e0 | 2.78e6 | 6.66e5 |
| 6507/11-6 | COCH        | 3044.50     | 12440  | 5.10e4 | 1.50e5 | 9.76e5 | 4.08e4 | 5.20e4 | 1.17e5 | 7.85e4  | 2.66e6 | 1.72e5 | 8.40e4 | 3.38e5 | 0.00e0 | 4.15e6 | 1.04e6 |
| 6507/11-6 | COCH        | 3059.50     | 12442  | 3.88e4 | 1.42e5 | 9.87e5 | 0.00e0 | 5.12e4 | 8.08e4 | 7.38e4  | 2.54e6 | 1.42e5 | 6.49e4 | 3.25e5 | 0.00e0 | 3.87e6 | 9.89e5 |
| 6507/11-6 | COCH        | 3061.50     | 12443  | 5.06e4 | 2.13e5 | 1.53e6 | 0.00e0 | 6.89e4 | 1.42e5 | 1.25e5  | 4.02e6 | 2.68e5 | 1.73e5 | 5.04e5 | 0.00e0 | 5.64e6 | 1.46e6 |
| 6507/11-6 | Mud         | 3070        | 12404  | 4.25e4 | 1.45e5 | 1.42e6 | 0.00e0 | 6.72e4 | 9.66e4 | 1.02e5  | 3.93e6 | 1.69e5 | 5.16e4 | 4.68e5 | 0.00e0 | 6.06e6 | 1.47e6 |
| 6507/11-6 | SWC         | 3071        | 12418  | 2.45e4 | 1.10e5 | 7.10e5 | 3.22e4 | 3.53e4 | 5.23e4 | 6.01e4  | 1.85e6 | 1.00e5 | 3.20e4 | 2.18e5 | 0.00e0 | 2.62e6 | 6.60e5 |
| 6507/11-6 | SWC         | 3075        | 12419  | 0.00e0 | 6.47e4 | 4.42e5 | 0.00e0 | 0.00e0 | 3.64e4 | 3.42e4  | 1.17e6 | 7.26e4 | 2.23e4 | 1.30e5 | 0.00e0 | 1.61e6 | 4.04e5 |
| 6507/11-6 | SWC         | 3097        | 12420  | 2.72e4 | 7.67e4 | 5.48e5 | 0.00e0 | 2.80e4 | 4.81e4 | 4.44e4  | 1.44e6 | 7.87e4 | 2.96e4 | 1.69e5 | 0.00e0 | 2.09e6 | 5.29e5 |
| 6507/11-6 | SWC         | 3137        | 12422  | 0.00e0 | 6.91e4 | 4.67e5 | 0.00e0 | 0.00e0 | 4.31e4 | 3.61e4  | 1.19e6 | 7.20e4 | 0.00e0 | 1.30e5 | 0.00e0 | 1.67e6 | 4.24e5 |
| 6507/11-6 | SWC         | 3283        | 12424  | 0.00e0 | 5.54e4 | 4.03e5 | 0.00e0 | 0.00e0 | 6.06e4 | 3.84e4  | 9.14e5 | 6.23e4 | 2.62e4 | 1.30e5 | 0.00e0 | 1.32e6 | 3.37e5 |
| 6507/11-6 | SWC         | 3299.50     | 12425  | 0.00e0 | 7.06e4 | 4.66e5 | 0.00e0 | 0.00e0 | 4.29e4 | 4.33e4  | 1.15e6 | 7.91e4 | 2.85e4 | 1.44e5 | 0.00e0 | 1.63e6 | 4.10e5 |
| 6507/11-6 | Mud         | 3320        | 12405  | 4.03e4 | 1.51e5 | 1.27e6 | 0.00e0 | 5.81e4 | 7.44e4 | 9.73e4  | 3.45e6 | 1.57e5 | 4.45e4 | 4.06e5 | 0.00e0 | 5.10e6 | 1.25e6 |
| 6507/11-6 | SWC         | 3398        | 12426  | 2.82e4 | 1.03e5 | 6.93e5 | 0.00e0 | 0.00e0 | 5.30e4 | 5.21e4  | 1.70e6 | 1.05e5 | 3.25e4 | 2.03e5 | 0.00e0 | 2.45e6 | 5.90e5 |



Table 9. continued, GCMS SIR of saturated compounds (peak height)

| m/e       |             |             |        | 191                   |                       |        |                       |                       |                       |                       |                       |                       | 217                   |                       |             |            |             |
|-----------|-------------|-------------|--------|-----------------------|-----------------------|--------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-------------|------------|-------------|
| Well      | Sample type | Lower Depth | APT ID | 31 $\alpha$ $\beta$ S | 31 $\alpha$ $\beta$ R | 30G    | 32 $\alpha$ $\beta$ S | 32 $\alpha$ $\beta$ R | 33 $\alpha$ $\beta$ S | 33 $\alpha$ $\beta$ R | 34 $\alpha$ $\beta$ S | 34 $\alpha$ $\beta$ R | 35 $\alpha$ $\beta$ S | 35 $\alpha$ $\beta$ R | 21 $\alpha$ | 21 $\beta$ | 22 $\alpha$ |
| 6507/11-6 | DC          | 2900        | 12499  | 7.32e5                | 5.57e5                | 5.64e5 | 3.09e5                | 2.71e5                | 2.24e5                | 1.81e5                | 1.41e5                | 1.15e5                | 1.48e5                | 1.18e5                | 5.40e5      | 2.12e5     | 1.61e5      |
| 6507/11-6 | DC          | 2930        | 12502  | 1.14e6                | 8.65e5                | 1.36e6 | 5.01e5                | 3.74e5                | 4.02e5                | 2.74e5                | 2.14e5                | 1.43e5                | 2.21e5                | 1.50e5                | 8.68e5      | 3.48e5     | 2.81e5      |
| 6507/11-6 | DC          | 2950        | 12504  | 1.84e6                | 1.33e6                | 1.74e6 | 7.97e5                | 5.59e5                | 6.60e5                | 4.32e5                | 3.58e5                | 2.38e5                | 3.86e5                | 2.36e5                | 1.30e6      | 5.23e5     | 4.14e5      |
| 6507/11-6 | DC          | 2980        | 12507  | 1.63e6                | 1.20e6                | 1.70e6 | 6.18e5                | 4.86e5                | 4.90e5                | 4.03e5                | 2.84e5                | 2.29e5                | 3.14e5                | 2.63e5                | 1.21e6      | 4.77e5     | 3.34e5      |
| 6507/11-6 | DC          | 3010        | 12512  | 6.74e5                | 5.23e5                | 8.31e5 | 2.52e5                | 1.99e5                | 1.33e5                | 1.11e5                | 6.95e4                | 5.72e4                | 5.62e4                | 4.03e4                | 3.30e5      | 1.41e5     | 9.32e4      |
| 6507/11-6 | Oil         | 3035        | 12481  | 1.47e6                | 1.03e6                | 2.43e5 | 8.72e5                | 6.17e5                | 4.63e5                | 3.08e5                | 2.85e5                | 1.84e5                | 2.00e5                | 1.30e5                | 4.87e5      | 2.85e5     | 2.78e5      |
| 6507/11-6 | COCH        | 3036.50     | 12437  | 9.96e5                | 7.76e5                | 1.39e6 | 4.53e5                | 3.15e5                | 2.21e5                | 1.69e5                | 1.22e5                | 8.37e4                | 7.25e4                | 5.48e4                | 4.30e5      | 1.51e5     | 1.23e5      |
| 6507/11-6 | COCH        | 3037.50     | 12438  | 3.64e5                | 2.83e5                | 6.86e5 | 1.40e5                | 1.10e5                | 8.03e4                | 6.12e4                | 4.77e4                | 3.26e4                | 2.84e4                | 2.60e4                | 2.28e5      | 6.32e4     | 5.32e4      |
| 6507/11-6 | COCH        | 3043.40     | 12439  | 4.51e5                | 3.60e5                | 8.35e5 | 1.72e5                | 1.39e5                | 1.01e5                | 7.48e4                | 4.50e4                | 4.48e4                | 3.97e4                | 3.26e4                | 2.79e5      | 9.31e4     | 7.32e4      |
| 6507/11-6 | COCH        | 3044.50     | 12440  | 8.24e5                | 6.03e5                | 1.26e6 | 3.78e5                | 2.87e5                | 2.22e5                | 1.56e5                | 1.19e5                | 9.61e4                | 8.53e4                | 7.60e4                | 3.13e5      | 1.10e5     | 8.62e4      |
| 6507/11-6 | COCH        | 3059.50     | 12442  | 6.87e5                | 5.14e5                | 1.10e6 | 2.78e5                | 2.17e5                | 1.69e5                | 1.12e5                | 7.59e4                | 5.99e4                | 5.32e4                | 0.00e0                | 3.30e5      | 1.17e5     | 8.00e4      |
| 6507/11-6 | COCH        | 3061.50     | 12443  | 1.13e6                | 8.14e5                | 1.45e6 | 5.02e5                | 3.71e5                | 2.51e5                | 1.81e5                | 1.34e5                | 9.49e4                | 7.25e4                | 5.86e4                | 3.87e5      | 1.49e5     | 1.04e5      |
| 6507/11-6 | Mud         | 3070        | 12404  | 9.30e5                | 7.17e5                | 1.87e6 | 3.82e5                | 3.00e5                | 2.25e5                | 1.52e5                | 9.77e4                | 7.99e4                | 7.93e4                | 5.44e4                | 4.84e5      | 1.16e5     | 9.24e4      |
| 6507/11-6 | SWC         | 3071        | 12418  | 4.18e5                | 3.29e5                | 8.31e5 | 1.59e5                | 1.24e5                | 9.47e4                | 6.64e4                | 4.62e4                | 3.52e4                | 4.03e4                | 3.44e4                | 2.90e5      | 9.34e4     | 6.07e4      |
| 6507/11-6 | SWC         | 3075        | 12419  | 2.81e5                | 2.11e5                | 5.05e5 | 1.01e5                | 8.15e4                | 6.32e4                | 4.46e4                | 3.20e4                | 3.30e4                | 2.98e4                | 2.70e4                | 1.74e5      | 6.31e4     | 4.04e4      |
| 6507/11-6 | SWC         | 3097        | 12420  | 3.33e5                | 2.47e5                | 5.95e5 | 1.26e5                | 1.02e5                | 7.42e4                | 5.88e4                | 4.17e4                | 3.61e4                | 0.00e0                | 0.00e0                | 2.30e5      | 6.25e4     | 4.04e4      |
| 6507/11-6 | SWC         | 3137        | 12422  | 2.65e5                | 2.02e5                | 5.46e5 | 1.03e5                | 7.69e4                | 5.70e4                | 4.77e4                | 3.29e4                | 3.34e4                | 0.00e0                | 0.00e0                | 1.86e5      | 6.23e4     | 4.22e4      |
| 6507/11-6 | SWC         | 3283        | 12424  | 2.42e5                | 1.87e5                | 3.82e5 | 1.08e5                | 8.07e4                | 6.29e4                | 4.26e4                | 3.28e4                | 3.08e4                | 0.00e0                | 0.00e0                | 1.59e5      | 5.35e4     | 3.94e4      |
| 6507/11-6 | SWC         | 3299.50     | 12425  | 2.81e5                | 2.03e5                | 5.09e5 | 1.06e5                | 8.27e4                | 5.91e4                | 5.63e4                | 2.77e4                | 2.46e4                | 0.00e0                | 0.00e0                | 1.92e5      | 6.32e4     | 3.57e4      |
| 6507/11-6 | Mud         | 3320        | 12405  | 7.94e5                | 5.91e5                | 1.60e6 | 3.15e5                | 2.31e5                | 1.82e5                | 1.36e5                | 8.68e4                | 7.01e4                | 5.73e4                | 4.79e4                | 4.65e5      | 1.14e5     | 8.98e4      |
| 6507/11-6 | SWC         | 3398        | 12426  | 3.82e5                | 2.81e5                | 7.43e5 | 1.52e5                | 1.17e5                | 8.07e4                | 6.64e4                | 4.07e4                | 3.61e4                | 3.60e4                | 2.63e4                | 2.84e5      | 9.42e4     | 6.18e4      |





Table 9. continued, GCMS SIR of saturated compounds (peak height)

| Well      | Sample type | Lower Depth | APT ID | 27bb   | 27bbS  | 27bbR  | 27bbR  | 27dbS  | 28dbS#1 | 28dbS#2 | 28dbR#1 | 28dbR#2 | 28daR  | 27ccS  | 27bbR+29dbS | 27bbS  | 28dbS  |
|-----------|-------------|-------------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|--------|--------|-------------|--------|--------|
| 6507/11-6 | DC          | 2900        | 12499  | 8.49e4 | 5.07e5 | 3.10e5 | 1.25e5 | 1.56e5 | 1.96e5  | 2.01e5  | 1.24e5  | 1.56e5  | 9.93e4 | 2.02e5 | 2.22e5      | 1.08e5 | 7.35e4 |
| 6507/11-6 | DC          | 2930        | 12502  | 1.50e5 | 6.28e5 | 3.84e5 | 1.49e5 | 1.91e5 | 3.02e5  | 3.02e5  | 1.66e5  | 2.06e5  | 1.40e5 | 2.61e5 | 2.60e5      | 1.79e5 | 1.04e5 |
| 6507/11-6 | DC          | 2950        | 12504  | 2.29e5 | 1.18e6 | 6.85e5 | 2.93e5 | 3.73e5 | 5.44e5  | 5.21e5  | 2.82e5  | 3.53e5  | 2.45e5 | 4.62e5 | 5.02e5      | 3.07e5 | 1.91e5 |
| 6507/11-6 | DC          | 2980        | 12507  | 1.89e5 | 1.11e6 | 6.64e5 | 2.80e5 | 3.37e5 | 4.69e5  | 4.61e5  | 2.61e5  | 3.46e5  | 2.07e5 | 4.43e5 | 5.54e5      | 2.37e5 | 1.71e5 |
| 6507/11-6 | DC          | 3010        | 12512  | 6.19e4 | 1.45e5 | 9.58e4 | 3.77e4 | 4.24e4 | 7.04e4  | 5.55e4  | 3.35e4  | 4.39e4  | 3.21e4 | 6.90e4 | 9.19e4      | 4.68e4 | 2.60e4 |
| 6507/11-6 | Oil         | 3035        | 12481  | 1.26e5 | 8.67e5 | 4.96e5 | 2.06e5 | 2.57e5 | 3.48e5  | 3.34e5  | 1.97e5  | 2.24e5  | 1.73e5 | 2.41e5 | 6.81e5      | 2.78e5 | 1.27e5 |
| 6507/11-6 | COCH        | 3036.50     | 12437  | 6.59e4 | 2.36e5 | 1.31e5 | 5.32e4 | 6.69e4 | 9.59e4  | 1.00e5  | 5.27e4  | 6.94e4  | 4.65e4 | 1.04e5 | 1.72e5      | 8.84e4 | 3.94e4 |
| 6507/11-6 | COCH        | 3037.50     | 12438  | 3.00e4 | 6.00e4 | 3.59e4 | 1.85e4 | 2.11e4 | 2.69e4  | 2.11e4  | 1.95e4  | 2.34e4  | 0.00e0 | 4.08e4 | 3.21e4      | 2.84e4 | 0.00e0 |
| 6507/11-6 | COCH        | 3043.40     | 12439  | 4.44e4 | 8.27e4 | 4.68e4 | 2.34e4 | 2.54e4 | 3.06e4  | 3.43e4  | 1.72e4  | 2.32e4  | 0.00e0 | 4.94e4 | 4.33e4      | 3.00e4 | 0.00e0 |
| 6507/11-6 | COCH        | 3044.50     | 12440  | 5.06e4 | 1.52e5 | 8.48e4 | 3.74e4 | 4.58e4 | 6.26e4  | 6.41e4  | 3.46e4  | 4.64e4  | 3.02e4 | 7.24e4 | 1.02e5      | 6.02e4 | 2.52e4 |
| 6507/11-6 | COCH        | 3059.50     | 12442  | 4.98e4 | 1.05e5 | 6.61e4 | 2.94e4 | 3.40e4 | 4.61e4  | 4.48e4  | 2.85e4  | 3.94e4  | 3.01e4 | 6.37e4 | 8.18e4      | 4.13e4 | 0.00e0 |
| 6507/11-6 | COCH        | 3061.50     | 12443  | 6.02e4 | 1.46e5 | 8.33e4 | 3.88e4 | 4.49e4 | 6.88e4  | 7.57e4  | 3.22e4  | 5.47e4  | 4.49e4 | 1.02e5 | 1.94e5      | 6.57e4 | 3.40e4 |
| 6507/11-6 | Mud         | 3070        | 12404  | 5.40e4 | 1.33e5 | 7.64e4 | 3.15e4 | 3.91e4 | 5.34e4  | 5.07e4  | 2.77e4  | 3.47e4  | 2.78e4 | 9.79e4 | 7.36e4      | 6.28e4 | 0.00e0 |
| 6507/11-6 | SWC         | 3071        | 12418  | 5.41e4 | 8.01e4 | 4.56e4 | 2.02e4 | 2.63e4 | 3.42e4  | 3.44e4  | 1.64e4  | 2.49e4  | 1.45e4 | 5.10e4 | 4.04e4      | 2.95e4 | 1.06e4 |
| 6507/11-6 | SWC         | 3075        | 12419  | 2.89e4 | 5.02e4 | 3.42e4 | 1.50e4 | 2.15e4 | 2.25e4  | 1.97e4  | 1.29e4  | 1.68e4  | 1.43e4 | 3.39e4 | 2.39e4      | 2.64e4 | 1.05e4 |
| 6507/11-6 | SWC         | 3097        | 12420  | 3.44e4 | 6.53e4 | 3.95e4 | 1.38e4 | 1.89e4 | 2.42e4  | 2.28e4  | 1.57e4  | 1.75e4  | 1.72e4 | 3.60e4 | 3.24e4      | 2.84e4 | 1.33e4 |
| 6507/11-6 | SWC         | 3137        | 12422  | 2.47e4 | 4.78e4 | 2.76e4 | 1.09e4 | 1.89e4 | 2.14e4  | 1.76e4  | 1.24e4  | 1.54e4  | 1.11e4 | 2.64e4 | 2.78e4      | 2.38e4 | 0.00e0 |
| 6507/11-6 | SWC         | 3283        | 12424  | 2.69e4 | 4.81e4 | 2.73e4 | 1.32e4 | 0.00e0 | 2.19e4  | 1.67e4  | 1.35e4  | 1.78e4  | 1.72e4 | 2.59e4 | 3.58e4      | 2.15e4 | 1.18e4 |
| 6507/11-6 | SWC         | 3299.50     | 12425  | 3.04e4 | 5.01e4 | 2.95e4 | 1.29e4 | 1.88e4 | 1.95e4  | 1.94e4  | 1.36e4  | 1.25e4  | 1.13e4 | 2.88e4 | 2.60e4      | 2.33e4 | 0.00e0 |
| 6507/11-6 | Mud         | 3320        | 12405  | 5.58e4 | 1.23e5 | 6.97e4 | 3.09e4 | 3.62e4 | 5.10e4  | 4.59e4  | 2.91e4  | 3.74e4  | 2.19e4 | 8.47e4 | 6.17e4      | 5.43e4 | 1.93e4 |
| 6507/11-6 | SWC         | 3398        | 12426  | 4.44e4 | 7.80e4 | 5.10e4 | 1.98e4 | 2.39e4 | 3.30e4  | 2.74e4  | 2.22e4  | 2.46e4  | 1.63e4 | 4.73e4 | 4.42e4      | 3.49e4 | 1.24e4 |



Table 9. continued, GCMS SIR of saturated compounds (peak height)

| Well      | Sample type | Lower Depth | APT ID | 27 $\alpha$ : $\alpha$ R | 29 $\alpha$ b: $\alpha$ R | 29 $\alpha$ d: $\alpha$ R | 28 $\alpha$ : $\alpha$ S | 29 $\alpha$ d: $\alpha$ S | 28 $\beta$ : $\beta$ R | 28 $\beta$ : $\beta$ S | 28 $\alpha$ : $\alpha$ R | 29 $\alpha$ : $\alpha$ S | 29 $\beta$ : $\beta$ R | 29 $\beta$ : $\beta$ S | 29 $\alpha$ : $\alpha$ R | 30 $\alpha$ : $\alpha$ S | 30 $\beta$ : $\beta$ R |
|-----------|-------------|-------------|--------|--------------------------|---------------------------|---------------------------|--------------------------|---------------------------|------------------------|------------------------|--------------------------|--------------------------|------------------------|------------------------|--------------------------|--------------------------|------------------------|
| 6507/11-6 | DC          | 2900        | 12499  | 4.34e5                   | 2.03e5                    | 1.07e5                    | 7.77e4                   | 8.73e4                    | 1.45e5                 | 1.48e5                 | 2.07e5                   | 1.21e5                   | 1.08e5                 | 1.15e5                 | 2.17e5                   | 8.77e4                   | 3.52e4                 |
| 6507/11-6 | DC          | 2930        | 12502  | 6.03e5                   | 2.50e5                    | 1.17e5                    | 1.43e5                   | 1.07e5                    | 2.51e5                 | 2.60e5                 | 2.77e5                   | 1.99e5                   | 1.61e5                 | 1.70e5                 | 2.45e5                   | 0.00e0                   | 5.47e4                 |
| 6507/11-6 | DC          | 2950        | 12504  | 7.95e5                   | 4.68e5                    | 2.41e5                    | 2.32e5                   | 2.16e5                    | 3.89e5                 | 4.83e5                 | 4.28e5                   | 3.52e5                   | 3.14e5                 | 3.15e5                 | 3.79e5                   | 1.89e5                   | 9.77e4                 |
| 6507/11-6 | DC          | 2980        | 12507  | 9.07e5                   | 5.01e5                    | 2.60e5                    | 2.14e5                   | 2.29e5                    | 3.46e5                 | 4.14e5                 | 4.82e5                   | 2.98e5                   | 2.82e5                 | 2.80e5                 | 5.22e5                   | 1.97e5                   | 7.31e4                 |
| 6507/11-6 | DC          | 3010        | 12512  | 2.03e5                   | 7.93e4                    | 4.36e4                    | 4.53e4                   | 3.84e4                    | 7.55e4                 | 5.97e4                 | 1.18e5                   | 7.39e4                   | 5.06e4                 | 4.94e4                 | 1.23e5                   | 0.00e0                   | 0.00e0                 |
| 6507/11-6 | Oil         | 3035        | 12481  | 2.72e5                   | 4.35e5                    | 2.22e5                    | 1.03e5                   | 2.56e5                    | 2.26e5                 | 2.86e5                 | 1.41e5                   | 2.74e5                   | 3.11e5                 | 2.99e5                 | 2.04e5                   | 0.00e0                   | 5.96e4                 |
| 6507/11-6 | COCH        | 3036.50     | 12437  | 2.73e5                   | 1.25e5                    | 7.09e4                    | 7.90e4                   | 6.75e4                    | 1.26e5                 | 1.00e5                 | 1.82e5                   | 1.46e5                   | 1.06e5                 | 1.00e5                 | 1.79e5                   | 0.00e0                   | 2.14e4                 |
| 6507/11-6 | COCH        | 3037.50     | 12438  | 1.45e5                   | 3.07e4                    | 0.00e0                    | 3.30e4                   | 0.00e0                    | 4.55e4                 | 3.65e4                 | 7.58e4                   | 4.68e4                   | 3.10e4                 | 3.50e4                 | 6.98e4                   | 0.00e0                   | 0.00e0                 |
| 6507/11-6 | COCH        | 3043.40     | 12439  | 1.83e5                   | 4.37e4                    | 2.40e4                    | 0.00e0                   | 2.08e4                    | 5.85e4                 | 4.83e4                 | 9.88e4                   | 6.35e4                   | 4.07e4                 | 3.93e4                 | 8.25e4                   | 0.00e0                   | 0.00e0                 |
| 6507/11-6 | COCH        | 3044.50     | 12440  | 2.36e5                   | 8.43e4                    | 4.53e4                    | 5.91e4                   | 4.65e4                    | 8.82e4                 | 8.07e4                 | 1.54e5                   | 1.25e5                   | 8.16e4                 | 7.40e4                 | 1.42e5                   | 0.00e0                   | 0.00e0                 |
| 6507/11-6 | COCH        | 3059.50     | 12442  | 2.22e5                   | 7.03e4                    | 3.64e4                    | 5.85e4                   | 3.37e4                    | 7.90e4                 | 6.55e4                 | 1.35e5                   | 1.14e5                   | 6.28e4                 | 6.16e4                 | 1.35e5                   | 0.00e0                   | 0.00e0                 |
| 6507/11-6 | COCH        | 3061.50     | 12443  | 2.89e5                   | 1.32e5                    | 6.64e4                    | 8.43e4                   | 7.80e4                    | 1.21e5                 | 1.01e5                 | 1.92e5                   | 1.73e5                   | 1.12e5                 | 1.07e5                 | 1.91e5                   | 0.00e0                   | 1.75e4                 |
| 6507/11-6 | Mud         | 3070        | 12404  | 3.24e5                   | 7.51e4                    | 0.00e0                    | 9.00e4                   | 0.00e0                    | 1.22e5                 | 9.97e4                 | 2.22e5                   | 1.32e5                   | 8.08e4                 | 8.08e4                 | 2.01e5                   | 0.00e0                   | 0.00e0                 |
| 6507/11-6 | SWC         | 3071        | 12418  | 1.97e5                   | 3.77e4                    | 2.47e4                    | 3.57e4                   | 1.75e4                    | 5.09e4                 | 4.68e4                 | 9.76e4                   | 6.22e4                   | 3.48e4                 | 4.15e4                 | 7.76e4                   | 0.00e0                   | 0.00e0                 |
| 6507/11-6 | SWC         | 3075        | 12419  | 1.20e5                   | 2.88e4                    | 1.70e4                    | 2.58e4                   | 0.00e0                    | 3.94e4                 | 2.62e4                 | 5.52e4                   | 3.92e4                   | 2.81e4                 | 2.42e4                 | 5.09e4                   | 0.00e0                   | 0.00e0                 |
| 6507/11-6 | SWC         | 3097        | 12420  | 1.53e5                   | 3.06e4                    | 2.21e4                    | 3.09e4                   | 1.78e4                    | 4.55e4                 | 3.26e4                 | 6.95e4                   | 4.82e4                   | 2.98e4                 | 3.12e4                 | 6.78e4                   | 0.00e0                   | 0.00e0                 |
| 6507/11-6 | SWC         | 3137        | 12422  | 1.18e5                   | 2.22e4                    | 1.77e4                    | 0.00e0                   | 1.07e4                    | 3.47e4                 | 2.71e4                 | 5.64e4                   | 3.48e4                   | 2.53e4                 | 2.36e4                 | 5.00e4                   | 0.00e0                   | 0.00e0                 |
| 6507/11-6 | SWC         | 3283        | 12424  | 9.55e4                   | 3.33e4                    | 2.08e4                    | 0.00e0                   | 1.56e4                    | 2.98e4                 | 2.42e4                 | 4.82e4                   | 3.35e4                   | 2.50e4                 | 2.52e4                 | 4.27e4                   | 0.00e0                   | 0.00e0                 |
| 6507/11-6 | SWC         | 3299.50     | 12425  | 1.12e5                   | 2.57e4                    | 1.31e4                    | 2.55e4                   | 0.00e0                    | 3.63e4                 | 2.70e4                 | 5.07e4                   | 3.71e4                   | 2.60e4                 | 2.73e4                 | 4.90e4                   | 0.00e0                   | 0.00e0                 |
| 6507/11-6 | Mud         | 3320        | 12405  | 2.81e5                   | 6.29e4                    | 0.00e0                    | 7.06e4                   | 2.82e4                    | 1.11e5                 | 9.09e4                 | 1.98e5                   | 1.08e5                   | 6.80e4                 | 7.38e4                 | 1.71e5                   | 0.00e0                   | 0.00e0                 |
| 6507/11-6 | SWC         | 3398        | 12426  | 1.87e5                   | 3.77e4                    | 2.13e4                    | 0.00e0                   | 0.00e0                    | 5.47e4                 | 4.69e4                 | 9.14e4                   | 5.25e4                   | 3.29e4                 | 4.02e4                 | 7.71e4                   | 0.00e0                   | 0.00e0                 |



Table 9. continued, GCMS SIR of saturated compounds (peak height)

| Well      | Sample type | Lower Depth | APT ID | 217     |         | 218     |        |         |        |         |        |         |        |  |
|-----------|-------------|-------------|--------|---------|---------|---------|--------|---------|--------|---------|--------|---------|--------|--|
|           |             |             |        | 30 BBSS | 30 COCZ | 27 BBRR | 27 BS  | 28 BBRR | 28 BS  | 29 BBRR | 29 BS  | 30 BBRR | 30 BS  |  |
| 6507/11-6 | DC          | 2900        | 12499  | 2.38e4  | 7.39e4  | 1.70e5  | 1.33e5 | 1.48e5  | 1.53e5 | 1.30e5  | 1.31e5 | 3.22e4  | 2.31e4 |  |
| 6507/11-6 | DC          | 2930        | 12502  | 3.13e4  | 4.80e4  | 2.73e5  | 2.22e5 | 2.72e5  | 3.01e5 | 1.93e5  | 1.96e5 | 4.30e4  | 3.14e4 |  |
| 6507/11-6 | DC          | 2950        | 12504  | 5.14e4  | 8.81e4  | 5.19e5  | 4.22e5 | 4.44e5  | 5.30e5 | 3.52e5  | 3.87e5 | 6.90e4  | 6.91e4 |  |
| 6507/11-6 | DC          | 2980        | 12507  | 4.15e4  | 1.25e5  | 3.70e5  | 2.96e5 | 3.46e5  | 3.86e5 | 3.07e5  | 3.19e5 | 4.68e4  | 3.86e4 |  |
| 6507/11-6 | DC          | 3010        | 12512  | 0.00e0  | 1.70e4  | 7.07e4  | 5.53e4 | 6.93e4  | 6.99e4 | 6.84e4  | 6.88e4 | 0.00e0  | 0.00e0 |  |
| 6507/11-6 | Oil         | 3035        | 12481  | 4.40e4  | 2.99e4  | 4.48e5  | 3.70e5 | 2.72e5  | 3.39e5 | 4.41e5  | 4.30e5 | 5.85e4  | 5.89e4 |  |
| 6507/11-6 | COCH        | 3036.50     | 12437  | 1.70e4  | 0.00e0  | 1.23e5  | 1.08e5 | 1.22e5  | 1.16e5 | 1.38e5  | 1.31e5 | 1.65e4  | 1.71e4 |  |
| 6507/11-6 | COCH        | 3037.50     | 12438  | 0.00e0  | 0.00e0  | 3.80e4  | 3.35e4 | 4.87e4  | 4.13e4 | 4.71e4  | 4.02e4 | 0.00e0  | 0.00e0 |  |
| 6507/11-6 | COCH        | 3043.40     | 12439  | 0.00e0  | 0.00e0  | 4.95e4  | 4.05e4 | 5.84e4  | 5.10e4 | 5.53e4  | 4.83e4 | 0.00e0  | 0.00e0 |  |
| 6507/11-6 | COCH        | 3044.50     | 12440  | 0.00e0  | 0.00e0  | 7.93e4  | 6.70e4 | 9.63e4  | 9.45e4 | 1.02e5  | 9.72e4 | 0.00e0  | 0.00e0 |  |
| 6507/11-6 | COCH        | 3059.50     | 12442  | 0.00e0  | 0.00e0  | 6.59e4  | 5.26e4 | 7.88e4  | 7.84e4 | 7.75e4  | 7.89e4 | 0.00e0  | 0.00e0 |  |
| 6507/11-6 | COCH        | 3061.50     | 12443  | 1.77e4  | 0.00e0  | 9.76e4  | 7.87e4 | 1.12e5  | 1.13e5 | 1.41e5  | 1.40e5 | 1.33e4  | 1.55e4 |  |
| 6507/11-6 | Mud         | 3070        | 12404  | 0.00e0  | 0.00e0  | 9.34e4  | 7.39e4 | 1.26e5  | 1.21e5 | 1.03e5  | 1.05e5 | 1.90e4  | 1.50e4 |  |
| 6507/11-6 | SWC         | 3071        | 12418  | 0.00e0  | 1.11e4  | 4.91e4  | 4.54e4 | 5.21e4  | 5.41e4 | 4.40e4  | 4.97e4 | 0.00e0  | 0.00e0 |  |
| 6507/11-6 | SWC         | 3075        | 12419  | 0.00e0  | 0.00e0  | 3.26e4  | 2.80e4 | 3.23e4  | 3.62e4 | 3.00e4  | 2.79e4 | 0.00e0  | 0.00e0 |  |
| 6507/11-6 | SWC         | 3097        | 12420  | 0.00e0  | 0.00e0  | 3.85e4  | 3.09e4 | 4.14e4  | 4.30e4 | 3.48e4  | 3.84e4 | 0.00e0  | 0.00e0 |  |
| 6507/11-6 | SWC         | 3137        | 12422  | 0.00e0  | 0.00e0  | 2.96e4  | 2.41e4 | 3.60e4  | 3.20e4 | 2.91e4  | 2.73e4 | 0.00e0  | 0.00e0 |  |
| 6507/11-6 | SWC         | 3283        | 12424  | 0.00e0  | 0.00e0  | 2.44e4  | 2.41e4 | 2.81e4  | 2.66e4 | 3.23e4  | 3.18e4 | 0.00e0  | 0.00e0 |  |
| 6507/11-6 | SWC         | 3299.50     | 12425  | 0.00e0  | 0.00e0  | 3.04e4  | 2.71e4 | 3.44e4  | 3.27e4 | 2.79e4  | 3.00e4 | 0.00e0  | 0.00e0 |  |
| 6507/11-6 | Mud         | 3320        | 12405  | 0.00e0  | 0.00e0  | 8.23e4  | 6.80e4 | 1.09e5  | 1.01e5 | 9.09e4  | 9.61e4 | 0.00e0  | 0.00e0 |  |
| 6507/11-6 | SWC         | 3398        | 12426  | 0.00e0  | 0.00e0  | 4.72e4  | 3.60e4 | 5.09e4  | 5.05e4 | 4.59e4  | 4.51e4 | 0.00e0  | 0.00e0 |  |



Table 10. GCMS SIR of saturated compounds (amounts in ng/g)

| m/e       |             |             |        | 177       |           | 191    |        |        |        |        |        |        |        |        |        |        |        |
|-----------|-------------|-------------|--------|-----------|-----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Well      | Sample type | Lower Depth | APT ID | 25nor28αβ | 25nor30αβ | 20/3   | 21/3   | 22/3   | 24/3   | 25/3R  | 25/3S  | 24/4   | 26/3R  | 26/3S  | 28/3R  | 28/3S  | 29/3R  |
| 6507/11-6 | DC          | 2900        | 12499  | 8.87e3    | 1.15e3    | 8.85e3 | 1.06e4 | 8.28e3 | 3.25e3 | 1.33e3 | 1.37e3 | 3.00e3 | 1.10e3 | 1.03e3 | 5.78e2 | 6.46e2 | 7.05e2 |
| 6507/11-6 | DC          | 2930        | 12502  | 4.58e4    | 2.26e3    | 1.14e4 | 1.29e4 | 8.25e3 | 2.94e3 | 9.92e2 | 9.41e2 | 2.89e3 | 8.19e2 | 8.21e2 | 5.10e2 | 4.39e2 | 4.90e2 |
| 6507/11-6 | DC          | 2950        | 12504  | 8.44e4    | 3.49e3    | 9.96e3 | 1.13e4 | 7.78e3 | 2.78e3 | 1.03e3 | 1.02e3 | 3.06e3 | 8.18e2 | 8.44e2 | 5.32e2 | 4.47e2 | 5.93e2 |
| 6507/11-6 | DC          | 2980        | 12507  | 4.29e4    | 2.34e3    | 1.01e4 | 1.16e4 | 7.48e3 | 2.42e3 | 1.02e3 | 9.15e2 | 2.99e3 | 7.71e2 | 7.84e2 | 5.38e2 | 4.09e2 | 5.18e2 |
| 6507/11-6 | DC          | 3010        | 12512  | 2.34e3    | 7.39e2    | 1.19e4 | 1.32e4 | 9.77e3 | 3.15e3 | 1.14e3 | 1.16e3 | 3.15e3 | 1.04e3 | 1.00e3 | 8.27e2 | 5.03e2 | 4.99e2 |
| 6507/11-6 | Oil         | 3035        | 12481  | 3.74e3    | 9.57e2    | 5.59e3 | 4.42e3 | 4.41e3 | 3.35e3 | 1.53e3 | 1.48e3 | 4.65e3 | 1.30e3 | 1.25e3 | 1.26e3 | 1.01e3 | 1.51e3 |
| 6507/11-6 | COCH        | 3036.50     | 12437  | 9.00e2    | 5.60e2    | 9.87e3 | 1.02e4 | 6.91e3 | 2.40e3 | 8.07e2 | 8.19e2 | 2.74e3 | 7.91e2 | 7.96e2 | 4.92e2 | 4.24e2 | 4.69e2 |
| 6507/11-6 | COCH        | 3037.50     | 12438  | 3.99e2    | 5.17e2    | 1.16e4 | 1.26e4 | 7.52e3 | 2.42e3 | 8.47e2 | 7.30e2 | 2.64e3 | 7.50e2 | 7.75e2 | 6.40e2 | 5.01e2 | 4.38e2 |
| 6507/11-6 | COCH        | 3043.40     | 12439  | 5.49e2    | 5.29e2    | 1.15e4 | 1.29e4 | 7.70e3 | 2.30e3 | 9.41e2 | 7.11e2 | 2.60e3 | 7.52e2 | 7.44e2 | 5.40e2 | 4.26e2 | 3.44e2 |
| 6507/11-6 | COCH        | 3044.50     | 12440  | 5.49e2    | 4.85e2    | 7.78e3 | 8.32e3 | 5.11e3 | 1.76e3 | 6.59e2 | 5.87e2 | 2.03e3 | 6.00e2 | 6.12e2 | 3.99e2 | 3.52e2 | 3.30e2 |
| 6507/11-6 | COCH        | 3059.50     | 12442  | 8.45e2    | 5.35e2    | 1.02e4 | 1.11e4 | 7.40e3 | 2.39e3 | 8.16e2 | 7.69e2 | 2.84e3 | 8.51e2 | 7.56e2 | 4.76e2 | 3.93e2 | 3.87e2 |
| 6507/11-6 | COCH        | 3061.50     | 12443  | 1.51e3    | 7.75e2    | 1.11e4 | 1.26e4 | 8.88e3 | 2.94e3 | 1.15e3 | 1.03e3 | 4.19e3 | 1.03e3 | 9.96e2 | 6.39e2 | 4.72e2 | 5.45e2 |
| 6507/11-6 | Mud         | 3070        | 12404  | 2.72e2    | 4.07e2    | 7.67e3 | 8.75e3 | 5.58e3 | 1.64e3 | 6.62e2 | 5.95e2 | 1.84e3 | 5.79e2 | 5.10e2 | 3.36e2 | 2.82e2 | 2.56e2 |
| 6507/11-6 | SWC         | 3071        | 12418  | 3.58e2    | 4.19e2    | 8.96e3 | 1.01e4 | 6.34e3 | 2.01e3 | 6.73e2 | 6.74e2 | 2.11e3 | 7.54e2 | 6.04e2 | 3.73e2 | 3.01e2 | 2.66e2 |
| 6507/11-6 | SWC         | 3075        | 12419  | 4.07e2    | 4.61e2    | 1.05e4 | 1.16e4 | 7.56e3 | 2.33e3 | 8.62e2 | 8.75e2 | 2.45e3 | 6.78e2 | 6.28e2 | 4.34e2 | 4.20e2 | 0.00e0 |
| 6507/11-6 | SWC         | 3097        | 12420  | 4.32e2    | 4.72e2    | 1.06e4 | 1.10e4 | 7.24e3 | 2.22e3 | 7.74e2 | 7.34e2 | 2.29e3 | 7.32e2 | 7.81e2 | 4.45e2 | 4.53e2 | 3.28e2 |
| 6507/11-6 | SWC         | 3137        | 12422  | 0.00e0    | 3.86e2    | 9.30e3 | 1.04e4 | 6.12e3 | 1.75e3 | 6.82e2 | 6.27e2 | 1.90e3 | 5.57e2 | 6.61e2 | 3.49e2 | 3.37e2 | 0.00e0 |
| 6507/11-6 | SWC         | 3283        | 12424  | 1.13e3    | 4.78e2    | 1.13e4 | 1.18e4 | 7.17e3 | 2.22e3 | 7.51e2 | 7.59e2 | 2.80e3 | 8.67e2 | 7.49e2 | 6.09e2 | 4.84e2 | 0.00e0 |
| 6507/11-6 | SWC         | 3299.50     | 12425  | 4.88e2    | 5.59e2    | 1.30e4 | 1.38e4 | 7.79e3 | 2.42e3 | 8.69e2 | 8.62e2 | 2.64e3 | 8.84e2 | 9.19e2 | 5.58e2 | 3.16e2 | 0.00e0 |
| 6507/11-6 | Mud         | 3320        | 12405  | 2.65e2    | 4.16e2    | 8.31e3 | 9.25e3 | 6.18e3 | 1.83e3 | 5.99e2 | 6.43e2 | 1.95e3 | 6.27e2 | 6.45e2 | 3.41e2 | 2.82e2 | 2.64e2 |
| 6507/11-6 | SWC         | 3398        | 12426  | 4.24e2    | 4.71e2    | 1.19e4 | 1.23e4 | 8.34e3 | 2.53e3 | 9.55e2 | 8.77e2 | 2.74e3 | 7.78e2 | 8.15e2 | 4.21e2 | 3.99e2 | 3.69e2 |



Table 10. continued, GCMS SIR of saturated compounds (amounts in ng/g)

| m/e       |             | 191         |        |        |        |        |        |        |        |           |        |        |        |               |        |        |               |
|-----------|-------------|-------------|--------|--------|--------|--------|--------|--------|--------|-----------|--------|--------|--------|---------------|--------|--------|---------------|
| Well      | Sample type | Lower Depth | APT ID | 29/30  | 27/28  | 27/29  | 30/31  | 30/32  | 28/29  | 25nor30/β | 29/β   | 29/31  | 30/1   | 29/β $\alpha$ | 30/0   | 30/β   | 30/β $\alpha$ |
| 6507/11-6 | DC          | 2900        | 12499  | 6.05e2 | 2.80e3 | 1.16e4 | 6.56e2 | 5.97e2 | 1.46e4 | 1.65e3    | 2.44e4 | 3.31e3 | 1.32e3 | 3.55e3        | 0.00e0 | 3.82e4 | 9.30e3        |
| 6507/11-6 | DC          | 2930        | 12502  | 4.60e2 | 2.15e3 | 1.36e4 | 5.29e2 | 6.26e2 | 6.34e3 | 3.23e3    | 2.77e4 | 2.75e3 | 8.19e2 | 3.03e3        | 0.00e0 | 4.35e4 | 9.36e3        |
| 6507/11-6 | DC          | 2950        | 12504  | 5.20e2 | 2.62e3 | 1.58e4 | 6.56e2 | 7.01e2 | 2.27e4 | 4.91e3    | 3.00e4 | 3.27e3 | 1.09e3 | 3.34e3        | 0.00e0 | 5.03e4 | 1.01e4        |
| 6507/11-6 | DC          | 2980        | 12507  | 5.21e2 | 2.13e3 | 1.50e4 | 5.44e2 | 6.12e2 | 2.59e4 | 3.51e3    | 2.90e4 | 2.99e3 | 1.35e3 | 3.79e3        | 0.00e0 | 4.46e4 | 1.03e4        |
| 6507/11-6 | DC          | 3010        | 12512  | 4.83e2 | 1.56e3 | 1.25e4 | 0.00e0 | 4.86e2 | 3.68e3 | 9.63e2    | 2.86e4 | 1.90e3 | 7.84e2 | 4.24e3        | 0.00e0 | 4.11e4 | 1.11e4        |
| 6507/11-6 | Oil         | 3035        | 12481  | 1.52e3 | 5.55e3 | 1.03e4 | 1.19e3 | 1.20e3 | 4.34e3 | 1.34e3    | 2.23e4 | 5.77e3 | 3.77e3 | 2.69e3        | 0.00e0 | 3.50e4 | 5.65e3        |
| 6507/11-6 | COCH        | 3036.50     | 12437  | 3.78e2 | 1.62e3 | 9.32e3 | 4.08e2 | 4.42e2 | 1.17e3 | 7.06e2    | 2.51e4 | 1.88e3 | 9.08e2 | 3.04e3        | 0.00e0 | 3.72e4 | 8.80e3        |
| 6507/11-6 | COCH        | 3037.50     | 12438  | 3.68e2 | 1.08e3 | 7.98e3 | 4.27e2 | 4.17e2 | 7.22e2 | 6.92e2    | 2.11e4 | 1.23e3 | 4.23e2 | 2.53e3        | 0.00e0 | 3.04e4 | 7.61e3        |
| 6507/11-6 | COCH        | 3043.40     | 12439  | 3.16e2 | 1.18e3 | 8.61e3 | 0.00e0 | 0.00e0 | 7.21e2 | 7.65e2    | 2.21e4 | 1.33e3 | 3.81e2 | 2.52e3        | 0.00e0 | 3.26e4 | 7.81e3        |
| 6507/11-6 | COCH        | 3044.50     | 12440  | 3.63e2 | 1.07e3 | 6.95e3 | 2.91e2 | 3.71e2 | 8.37e2 | 5.59e2    | 1.89e4 | 1.23e3 | 5.99e2 | 2.41e3        | 0.00e0 | 2.95e4 | 7.43e3        |
| 6507/11-6 | COCH        | 3059.50     | 12442  | 3.59e2 | 1.31e3 | 9.13e3 | 0.00e0 | 4.74e2 | 7.48e2 | 6.83e2    | 2.35e4 | 1.31e3 | 6.00e2 | 3.01e3        | 0.00e0 | 3.58e4 | 9.15e3        |
| 6507/11-6 | COCH        | 3061.50     | 12443  | 4.28e2 | 1.81e3 | 1.30e4 | 0.00e0 | 5.83e2 | 1.20e3 | 1.06e3    | 3.41e4 | 2.27e3 | 1.47e3 | 4.27e3        | 0.00e0 | 4.77e4 | 1.23e4        |
| 6507/11-6 | Mud         | 3070        | 12404  | 2.01e2 | 6.88e2 | 6.72e3 | 0.00e0 | 3.18e2 | 4.58e2 | 4.82e2    | 1.86e4 | 7.99e2 | 2.44e2 | 2.22e3        | 0.00e0 | 2.87e4 | 6.95e3        |
| 6507/11-6 | SWC         | 3071        | 12418  | 2.17e2 | 9.78e2 | 6.29e3 | 2.86e2 | 3.12e2 | 4.63e2 | 5.32e2    | 1.64e4 | 8.90e2 | 2.83e2 | 1.93e3        | 0.00e0 | 2.32e4 | 5.85e3        |
| 6507/11-6 | SWC         | 3075        | 12419  | 0.00e0 | 1.01e3 | 6.94e3 | 0.00e0 | 0.00e0 | 5.71e2 | 5.37e2    | 1.83e4 | 1.14e3 | 3.49e2 | 2.04e3        | 0.00e0 | 2.52e4 | 6.33e3        |
| 6507/11-6 | SWC         | 3097        | 12420  | 3.58e2 | 1.01e3 | 7.21e3 | 0.00e0 | 3.68e2 | 6.33e2 | 5.85e2    | 1.90e4 | 1.04e3 | 3.90e2 | 2.22e3        | 0.00e0 | 2.75e4 | 6.97e3        |
| 6507/11-6 | SWC         | 3137        | 12422  | 0.00e0 | 9.13e2 | 6.17e3 | 0.00e0 | 0.00e0 | 5.70e2 | 4.77e2    | 1.57e4 | 9.51e2 | 0.00e0 | 1.72e3        | 0.00e0 | 2.21e4 | 5.60e3        |
| 6507/11-6 | SWC         | 3283        | 12424  | 0.00e0 | 1.15e3 | 8.34e3 | 0.00e0 | 0.00e0 | 1.26e3 | 7.96e2    | 1.89e4 | 1.29e3 | 5.43e2 | 2.70e3        | 0.00e0 | 2.73e4 | 6.98e3        |
| 6507/11-6 | SWC         | 3299.50     | 12425  | 0.00e0 | 1.22e3 | 8.09e3 | 0.00e0 | 0.00e0 | 7.45e2 | 7.51e2    | 2.00e4 | 1.37e3 | 4.94e2 | 2.50e3        | 0.00e0 | 2.84e4 | 7.12e3        |
| 6507/11-6 | Mud         | 3320        | 12405  | 2.21e2 | 8.27e2 | 6.95e3 | 0.00e0 | 3.19e2 | 4.08e2 | 5.33e2    | 1.89e4 | 8.63e2 | 2.44e2 | 2.22e3        | 0.00e0 | 2.80e4 | 6.84e3        |
| 6507/11-6 | SWC         | 3398        | 12426  | 3.24e2 | 1.19e3 | 7.98e3 | 0.00e0 | 0.00e0 | 6.11e2 | 6.00e2    | 1.96e4 | 1.21e3 | 3.75e2 | 2.34e3        | 0.00e0 | 2.82e4 | 6.80e3        |



Table 10. continued, GCMS SIR of saturated compounds (amounts in ng/g)

| m/e       |             |             |        | 191                   |                       |        |                       |                       |                       |                       |                       |                       | 217                   |                       |             |            |             |
|-----------|-------------|-------------|--------|-----------------------|-----------------------|--------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-------------|------------|-------------|
| Well      | Sample type | Lower Depth | APT ID | 31 $\alpha$ $\beta$ S | 31 $\alpha$ $\beta$ R | 30G    | 32 $\alpha$ $\beta$ S | 32 $\alpha$ $\beta$ R | 33 $\alpha$ $\beta$ S | 33 $\alpha$ $\beta$ R | 34 $\alpha$ $\beta$ S | 34 $\alpha$ $\beta$ R | 35 $\alpha$ $\beta$ S | 35 $\alpha$ $\beta$ R | 21 $\alpha$ | 21 $\beta$ | 22 $\alpha$ |
| 6507/11-6 | DC          | 2900        | 12499  | 1.05e4                | 7.97e3                | 8.08e3 | 4.43e3                | 3.89e3                | 3.20e3                | 2.59e3                | 2.02e3                | 1.65e3                | 2.11e3                | 1.70e3                | 7.73e3      | 3.04e3     | 2.31e3      |
| 6507/11-6 | DC          | 2930        | 12502  | 9.33e3                | 7.06e3                | 1.11e4 | 4.09e3                | 3.05e3                | 3.28e3                | 2.24e3                | 1.75e3                | 1.16e3                | 1.80e3                | 1.23e3                | 7.08e3      | 2.84e3     | 2.29e3      |
| 6507/11-6 | DC          | 2950        | 12504  | 1.13e4                | 8.18e3                | 1.07e4 | 4.90e3                | 3.44e3                | 4.06e3                | 2.66e3                | 2.20e3                | 1.47e3                | 2.37e3                | 1.45e3                | 8.01e3      | 3.22e3     | 2.55e3      |
| 6507/11-6 | DC          | 2980        | 12507  | 9.86e3                | 7.31e3                | 1.03e4 | 3.75e3                | 2.95e3                | 2.97e3                | 2.45e3                | 1.73e3                | 1.39e3                | 1.91e3                | 1.60e3                | 7.33e3      | 2.90e3     | 2.03e3      |
| 6507/11-6 | DC          | 3010        | 12512  | 8.96e3                | 6.95e3                | 1.10e4 | 3.35e3                | 2.64e3                | 1.77e3                | 1.47e3                | 9.23e2                | 7.60e2                | 7.47e2                | 5.36e2                | 4.39e3      | 1.87e3     | 1.24e3      |
| 6507/11-6 | Oil         | 3035        | 12481  | 1.40e4                | 9.81e3                | 2.31e3 | 8.31e3                | 5.88e3                | 4.42e3                | 2.93e3                | 2.71e3                | 1.75e3                | 1.90e3                | 1.24e3                | 4.64e3      | 2.72e3     | 2.65e3      |
| 6507/11-6 | COCH        | 3036.50     | 12437  | 7.10e3                | 5.54e3                | 9.91e3 | 3.23e3                | 2.25e3                | 1.58e3                | 1.21e3                | 8.69e2                | 5.97e2                | 5.17e2                | 3.91e2                | 3.07e3      | 1.08e3     | 8.80e2      |
| 6507/11-6 | COCH        | 3037.50     | 12438  | 5.03e3                | 3.92e3                | 9.48e3 | 1.94e3                | 1.51e3                | 1.11e3                | 8.46e2                | 6.60e2                | 4.51e2                | 3.92e2                | 3.59e2                | 3.16e3      | 8.73e2     | 7.35e2      |
| 6507/11-6 | COCH        | 3043.40     | 12439  | 5.29e3                | 4.22e3                | 9.79e3 | 2.02e3                | 1.64e3                | 1.18e3                | 8.77e2                | 5.28e2                | 5.26e2                | 4.65e2                | 3.82e2                | 3.27e3      | 1.09e3     | 8.58e2      |
| 6507/11-6 | COCH        | 3044.50     | 12440  | 5.87e3                | 4.29e3                | 8.96e3 | 2.69e3                | 2.05e3                | 1.58e3                | 1.11e3                | 8.50e2                | 6.84e2                | 6.07e2                | 5.42e2                | 2.23e3      | 7.86e2     | 6.14e2      |
| 6507/11-6 | COCH        | 3059.50     | 12442  | 6.36e3                | 4.76e3                | 1.02e4 | 2.57e3                | 2.01e3                | 1.56e3                | 1.04e3                | 7.02e2                | 5.54e2                | 4.92e2                | 0.00e0                | 3.05e3      | 1.08e3     | 7.40e2      |
| 6507/11-6 | COCH        | 3061.50     | 12443  | 9.53e3                | 6.90e3                | 1.23e4 | 4.25e3                | 3.15e3                | 2.13e3                | 1.53e3                | 1.13e3                | 8.04e2                | 6.14e2                | 4.96e2                | 3.28e3      | 1.26e3     | 8.82e2      |
| 6507/11-6 | Mud         | 3070        | 12404  | 4.41e3                | 3.40e3                | 8.87e3 | 1.81e3                | 1.42e3                | 1.06e3                | 7.19e2                | 4.63e2                | 3.79e2                | 3.76e2                | 2.58e2                | 2.29e3      | 5.49e2     | 4.37e2      |
| 6507/11-6 | SWC         | 3071        | 12418  | 3.70e3                | 2.92e3                | 7.36e3 | 1.41e3                | 1.10e3                | 8.39e2                | 5.88e2                | 4.09e2                | 3.12e2                | 3.57e2                | 3.05e2                | 2.57e3      | 8.27e2     | 5.37e2      |
| 6507/11-6 | SWC         | 3075        | 12419  | 4.41e3                | 3.31e3                | 7.92e3 | 1.59e3                | 1.28e3                | 9.92e2                | 6.99e2                | 5.02e2                | 5.18e2                | 4.68e2                | 4.23e2                | 2.73e3      | 9.90e2     | 6.35e2      |
| 6507/11-6 | SWC         | 3097        | 12420  | 4.38e3                | 3.25e3                | 7.84e3 | 1.65e3                | 1.35e3                | 9.77e2                | 7.74e2                | 5.48e2                | 4.75e2                | 0.00e0                | 0.00e0                | 3.03e3      | 8.22e2     | 5.32e2      |
| 6507/11-6 | SWC         | 3137        | 12422  | 3.50e3                | 2.68e3                | 7.22e3 | 1.36e3                | 1.02e3                | 7.53e2                | 6.31e2                | 4.34e2                | 4.41e2                | 0.00e0                | 0.00e0                | 2.46e3      | 8.23e2     | 5.58e2      |
| 6507/11-6 | SWC         | 3283        | 12424  | 5.02e3                | 3.88e3                | 7.91e3 | 2.23e3                | 1.67e3                | 1.30e3                | 8.83e2                | 6.79e2                | 6.37e2                | 0.00e0                | 0.00e0                | 3.29e3      | 1.11e3     | 8.17e2      |
| 6507/11-6 | SWC         | 3299.50     | 12425  | 4.87e3                | 3.53e3                | 8.83e3 | 1.83e3                | 1.43e3                | 1.03e3                | 9.76e2                | 4.81e2                | 4.26e2                | 0.00e0                | 0.00e0                | 3.33e3      | 1.10e3     | 6.19e2      |
| 6507/11-6 | Mud         | 3320        | 12405  | 4.35e3                | 3.24e3                | 8.76e3 | 1.73e3                | 1.27e3                | 9.98e2                | 7.47e2                | 4.76e2                | 3.85e2                | 3.14e2                | 2.62e2                | 2.55e3      | 6.24e2     | 4.92e2      |
| 6507/11-6 | SWC         | 3398        | 12426  | 4.40e3                | 3.24e3                | 8.55e3 | 1.75e3                | 1.35e3                | 9.30e2                | 7.64e2                | 4.69e2                | 4.15e2                | 4.14e2                | 3.03e2                | 3.27e3      | 1.08e3     | 7.12e2      |



Table 10. continued, GCMS SIR of saturated compounds (amounts in ng/g)

| Well      | Sample type | Lower Depth | APT ID | 27bb   | 27bbS  | 27bbR  | 27bbR  | 27dbS  | 28dbS#1 | 28dbS#2 | 28dbR#1 | 28dbR#2 | 28daR  | 27a.cS | 27bbR+29dbS | 27bbS  | 28dbS  |
|-----------|-------------|-------------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|--------|--------|-------------|--------|--------|
| 6507/11-6 | DC          | 2900        | 12499  | 1.22e3 | 7.26e3 | 4.44e3 | 1.79e3 | 2.23e3 | 2.81e3  | 2.88e3  | 1.77e3  | 2.23e3  | 1.42e3 | 2.90e3 | 3.18e3      | 1.54e3 | 1.05e3 |
| 6507/11-6 | DC          | 2930        | 12502  | 1.23e3 | 5.13e3 | 3.13e3 | 1.21e3 | 1.56e3 | 2.47e3  | 2.47e3  | 1.35e3  | 1.68e3  | 1.14e3 | 2.13e3 | 2.12e3      | 1.46e3 | 8.51e2 |
| 6507/11-6 | DC          | 2950        | 12504  | 1.41e3 | 7.27e3 | 4.21e3 | 1.80e3 | 2.30e3 | 3.35e3  | 3.21e3  | 1.74e3  | 2.17e3  | 1.51e3 | 2.84e3 | 3.09e3      | 1.89e3 | 1.17e3 |
| 6507/11-6 | DC          | 2980        | 12507  | 1.15e3 | 6.74e3 | 4.03e3 | 1.70e3 | 2.05e3 | 2.84e3  | 2.80e3  | 1.58e3  | 2.10e3  | 1.26e3 | 2.69e3 | 3.36e3      | 1.44e3 | 1.04e3 |
| 6507/11-6 | DC          | 3010        | 12512  | 8.23e2 | 1.92e3 | 1.27e3 | 5.00e2 | 5.63e2 | 9.36e2  | 7.38e2  | 4.45e2  | 5.83e2  | 4.27e2 | 9.17e2 | 1.22e3      | 6.22e2 | 3.46e2 |
| 6507/11-6 | Oil         | 3035        | 12481  | 1.21e3 | 8.26e3 | 4.73e3 | 1.97e3 | 2.45e3 | 3.32e3  | 3.18e3  | 1.88e3  | 2.14e3  | 1.65e3 | 2.30e3 | 6.49e3      | 2.66e3 | 1.22e3 |
| 6507/11-6 | COCH        | 3036.50     | 12437  | 4.71e2 | 1.69e3 | 9.38e2 | 3.80e2 | 4.78e2 | 6.84e2  | 7.16e2  | 3.76e2  | 4.95e2  | 3.32e2 | 7.45e2 | 1.22e3      | 6.31e2 | 2.81e2 |
| 6507/11-6 | COCH        | 3037.50     | 12438  | 4.14e2 | 8.29e2 | 4.96e2 | 2.55e2 | 2.91e2 | 3.71e2  | 2.91e2  | 2.70e2  | 3.23e2  | 0.00e0 | 5.64e2 | 4.43e2      | 3.93e2 | 0.00e0 |
| 6507/11-6 | COCH        | 3043.40     | 12439  | 5.21e2 | 9.70e2 | 5.49e2 | 2.75e2 | 2.98e2 | 3.59e2  | 4.02e2  | 2.02e2  | 2.72e2  | 0.00e0 | 5.80e2 | 5.08e2      | 3.52e2 | 0.00e0 |
| 6507/11-6 | COCH        | 3044.50     | 12440  | 3.61e2 | 1.08e3 | 6.04e2 | 2.66e2 | 3.26e2 | 4.46e2  | 4.57e2  | 2.47e2  | 3.30e2  | 2.15e2 | 5.16e2 | 7.30e2      | 4.29e2 | 1.79e2 |
| 6507/11-6 | COCH        | 3059.50     | 12442  | 4.61e2 | 9.73e2 | 6.11e2 | 2.72e2 | 3.14e2 | 4.26e2  | 4.15e2  | 2.64e2  | 3.64e2  | 2.78e2 | 5.89e2 | 7.57e2      | 3.82e2 | 0.00e0 |
| 6507/11-6 | COCH        | 3061.50     | 12443  | 5.10e2 | 1.24e3 | 7.06e2 | 3.29e2 | 3.81e2 | 5.82e2  | 6.41e2  | 2.73e2  | 4.63e2  | 3.80e2 | 8.61e2 | 1.64e3      | 5.56e2 | 2.88e2 |
| 6507/11-6 | Mud         | 3070        | 12404  | 2.56e2 | 6.32e2 | 3.62e2 | 1.49e2 | 1.85e2 | 2.53e2  | 2.40e2  | 1.31e2  | 1.64e2  | 1.32e2 | 4.64e2 | 3.49e2      | 2.98e2 | 0.00e0 |
| 6507/11-6 | SWC         | 3071        | 12418  | 4.79e2 | 7.09e2 | 4.04e2 | 1.79e2 | 2.33e2 | 3.03e2  | 3.05e2  | 1.45e2  | 2.20e2  | 1.28e2 | 4.52e2 | 3.58e2      | 2.61e2 | 9.34e1 |
| 6507/11-6 | SWC         | 3075        | 12419  | 4.53e2 | 7.88e2 | 5.37e2 | 2.35e2 | 3.37e2 | 3.54e2  | 3.09e2  | 2.03e2  | 2.64e2  | 2.25e2 | 5.32e2 | 3.74e2      | 4.15e2 | 1.64e2 |
| 6507/11-6 | SWC         | 3097        | 12420  | 4.53e2 | 8.59e2 | 5.19e2 | 1.81e2 | 2.49e2 | 3.19e2  | 3.00e2  | 2.07e2  | 2.31e2  | 2.27e2 | 4.74e2 | 4.27e2      | 3.74e2 | 1.75e2 |
| 6507/11-6 | SWC         | 3137        | 12422  | 3.26e2 | 6.32e2 | 3.64e2 | 1.44e2 | 2.50e2 | 2.82e2  | 2.32e2  | 1.64e2  | 2.03e2  | 1.47e2 | 3.49e2 | 3.67e2      | 3.15e2 | 0.00e0 |
| 6507/11-6 | SWC         | 3283        | 12424  | 5.58e2 | 9.96e2 | 5.66e2 | 2.73e2 | 0.00e0 | 4.53e2  | 3.46e2  | 2.80e2  | 3.69e2  | 3.56e2 | 5.37e2 | 7.41e2      | 4.46e2 | 2.45e2 |
| 6507/11-6 | SWC         | 3299.50     | 12425  | 5.28e2 | 8.69e2 | 5.11e2 | 2.24e2 | 3.26e2 | 3.37e2  | 3.36e2  | 2.35e2  | 2.17e2  | 1.96e2 | 4.99e2 | 4.50e2      | 4.05e2 | 0.00e0 |
| 6507/11-6 | Mud         | 3320        | 12405  | 3.06e2 | 6.77e2 | 3.82e2 | 1.69e2 | 1.99e2 | 2.79e2  | 2.52e2  | 1.59e2  | 2.05e2  | 1.20e2 | 4.64e2 | 3.39e2      | 2.98e2 | 1.06e2 |
| 6507/11-6 | SWC         | 3398        | 12426  | 5.11e2 | 8.98e2 | 5.87e2 | 2.28e2 | 2.76e2 | 3.80e2  | 3.16e2  | 2.55e2  | 2.83e2  | 1.88e2 | 5.45e2 | 5.09e2      | 4.01e2 | 1.43e2 |



Table 10. continued, GCMS SIR of saturated compounds (amounts in ng/g)

| Well      | Sample type | Lower Depth | APT ID | 27 $\alpha$ : $\alpha$ R | 29 $\alpha$ b: $\alpha$ R | 29 $\alpha$ d: $\alpha$ R | 28 $\alpha$ : $\alpha$ S | 29 $\alpha$ d: $\alpha$ S | 28 $\beta$ : $\beta$ R | 28 $\beta$ : $\beta$ S | 28 $\alpha$ : $\alpha$ R | 29 $\alpha$ : $\alpha$ S | 29 $\beta$ : $\beta$ R | 29 $\beta$ : $\beta$ S | 29 $\alpha$ : $\alpha$ R | 30 $\alpha$ : $\alpha$ S | 30 $\beta$ : $\beta$ R |
|-----------|-------------|-------------|--------|--------------------------|---------------------------|---------------------------|--------------------------|---------------------------|------------------------|------------------------|--------------------------|--------------------------|------------------------|------------------------|--------------------------|--------------------------|------------------------|
| 6507/11-6 | DC          | 2900        | 12499  | 6.21e3                   | 2.91e3                    | 1.53e3                    | 1.11e3                   | 1.25e3                    | 2.08e3                 | 2.12e3                 | 2.96e3                   | 1.73e3                   | 1.54e3                 | 1.65e3                 | 3.11e3                   | 1.26e3                   | 5.04e2                 |
| 6507/11-6 | DC          | 2930        | 12502  | 4.92e3                   | 2.04e3                    | 9.53e2                    | 1.17e3                   | 8.77e2                    | 2.05e3                 | 2.12e3                 | 2.26e3                   | 1.63e3                   | 1.31e3                 | 1.39e3                 | 2.00e3                   | 0.00e0                   | 4.46e2                 |
| 6507/11-6 | DC          | 2950        | 12504  | 4.89e3                   | 2.88e3                    | 1.48e3                    | 1.43e3                   | 1.33e3                    | 2.39e3                 | 2.97e3                 | 2.63e3                   | 2.17e3                   | 1.93e3                 | 1.94e3                 | 2.33e3                   | 1.16e3                   | 6.01e2                 |
| 6507/11-6 | DC          | 2980        | 12507  | 5.50e3                   | 3.04e3                    | 1.58e3                    | 1.30e3                   | 1.39e3                    | 2.10e3                 | 2.51e3                 | 2.92e3                   | 1.81e3                   | 1.71e3                 | 1.70e3                 | 3.17e3                   | 1.20e3                   | 4.44e2                 |
| 6507/11-6 | DC          | 3010        | 12512  | 2.69e3                   | 1.05e3                    | 5.79e2                    | 6.02e2                   | 5.10e2                    | 1.00e3                 | 7.93e2                 | 1.56e3                   | 9.82e2                   | 6.72e2                 | 6.56e2                 | 1.63e3                   | 0.00e0                   | 0.00e0                 |
| 6507/11-6 | Oil         | 3035        | 12481  | 2.59e3                   | 4.15e3                    | 2.12e3                    | 9.87e2                   | 2.44e3                    | 2.16e3                 | 2.72e3                 | 1.35e3                   | 2.61e3                   | 2.97e3                 | 2.85e3                 | 1.95e3                   | 0.00e0                   | 5.68e2                 |
| 6507/11-6 | COCH        | 3036.50     | 12437  | 1.95e3                   | 8.95e2                    | 5.06e2                    | 5.63e2                   | 4.81e2                    | 8.96e2                 | 7.15e2                 | 1.30e3                   | 1.04e3                   | 7.56e2                 | 7.15e2                 | 1.28e3                   | 0.00e0                   | 1.52e2                 |
| 6507/11-6 | COCH        | 3037.50     | 12438  | 2.00e3                   | 4.24e2                    | 0.00e0                    | 4.55e2                   | 0.00e0                    | 6.29e2                 | 5.05e2                 | 1.05e3                   | 6.47e2                   | 4.28e2                 | 4.84e2                 | 9.65e2                   | 0.00e0                   | 0.00e0                 |
| 6507/11-6 | COCH        | 3043.40     | 12439  | 2.14e3                   | 5.12e2                    | 2.82e2                    | 0.00e0                   | 2.44e2                    | 6.86e2                 | 5.67e2                 | 1.16e3                   | 7.45e2                   | 4.77e2                 | 4.61e2                 | 9.67e2                   | 0.00e0                   | 0.00e0                 |
| 6507/11-6 | COCH        | 3044.50     | 12440  | 1.68e3                   | 6.01e2                    | 3.23e2                    | 4.21e2                   | 3.31e2                    | 6.28e2                 | 5.75e2                 | 1.10e3                   | 8.89e2                   | 5.81e2                 | 5.27e2                 | 1.01e3                   | 0.00e0                   | 0.00e0                 |
| 6507/11-6 | COCH        | 3059.50     | 12442  | 2.05e3                   | 6.50e2                    | 3.37e2                    | 5.41e2                   | 3.12e2                    | 7.31e2                 | 6.06e2                 | 1.25e3                   | 1.05e3                   | 5.81e2                 | 5.70e2                 | 1.25e3                   | 0.00e0                   | 0.00e0                 |
| 6507/11-6 | COCH        | 3061.50     | 12443  | 2.45e3                   | 1.12e3                    | 5.62e2                    | 7.14e2                   | 6.61e2                    | 1.03e3                 | 8.56e2                 | 1.63e3                   | 1.46e3                   | 9.52e2                 | 9.02e2                 | 1.62e3                   | 0.00e0                   | 1.48e2                 |
| 6507/11-6 | Mud         | 3070        | 12404  | 1.53e3                   | 3.56e2                    | 0.00e0                    | 4.26e2                   | 0.00e0                    | 5.77e2                 | 4.72e2                 | 1.05e3                   | 6.25e2                   | 3.83e2                 | 3.83e2                 | 9.52e2                   | 0.00e0                   | 0.00e0                 |
| 6507/11-6 | SWC         | 3071        | 12418  | 1.75e3                   | 3.34e2                    | 2.19e2                    | 3.16e2                   | 1.55e2                    | 4.50e2                 | 4.14e2                 | 8.64e2                   | 5.50e2                   | 3.08e2                 | 3.67e2                 | 6.87e2                   | 0.00e0                   | 0.00e0                 |
| 6507/11-6 | SWC         | 3075        | 12419  | 1.88e3                   | 4.51e2                    | 2.66e2                    | 4.04e2                   | 0.00e0                    | 6.18e2                 | 4.12e2                 | 8.66e2                   | 6.15e2                   | 4.41e2                 | 3.80e2                 | 7.99e2                   | 0.00e0                   | 0.00e0                 |
| 6507/11-6 | SWC         | 3097        | 12420  | 2.02e3                   | 4.03e2                    | 2.91e2                    | 4.06e2                   | 2.34e2                    | 5.99e2                 | 4.29e2                 | 9.15e2                   | 6.34e2                   | 3.93e2                 | 4.11e2                 | 8.92e2                   | 0.00e0                   | 0.00e0                 |
| 6507/11-6 | SWC         | 3137        | 12422  | 1.56e3                   | 2.93e2                    | 2.33e2                    | 0.00e0                   | 1.41e2                    | 4.58e2                 | 3.58e2                 | 7.45e2                   | 4.60e2                   | 3.34e2                 | 3.12e2                 | 6.61e2                   | 0.00e0                   | 0.00e0                 |
| 6507/11-6 | SWC         | 3283        | 12424  | 1.98e3                   | 6.90e2                    | 4.31e2                    | 0.00e0                   | 3.24e2                    | 6.18e2                 | 5.01e2                 | 9.99e2                   | 6.95e2                   | 5.18e2                 | 5.22e2                 | 8.85e2                   | 0.00e0                   | 0.00e0                 |
| 6507/11-6 | SWC         | 3299.50     | 12425  | 1.94e3                   | 4.46e2                    | 2.27e2                    | 4.41e2                   | 0.00e0                    | 6.29e2                 | 4.68e2                 | 8.79e2                   | 6.44e2                   | 4.51e2                 | 4.73e2                 | 8.51e2                   | 0.00e0                   | 0.00e0                 |
| 6507/11-6 | Mud         | 3320        | 12405  | 1.54e3                   | 3.45e2                    | 0.00e0                    | 3.87e2                   | 1.54e2                    | 6.08e2                 | 4.99e2                 | 1.08e3                   | 5.92e2                   | 3.73e2                 | 4.05e2                 | 9.37e2                   | 0.00e0                   | 0.00e0                 |
| 6507/11-6 | SWC         | 3398        | 12426  | 2.15e3                   | 4.34e2                    | 2.45e2                    | 0.00e0                   | 0.00e0                    | 6.29e2                 | 5.41e2                 | 1.05e3                   | 6.04e2                   | 3.79e2                 | 4.63e2                 | 8.87e2                   | 0.00e0                   | 0.00e0                 |





Table 10. continued, GCMS SIR of saturated compounds (amounts in ng/g)

| Well      | Sample type | Lower Depth | APT ID | 217     |         | 218    |        |        |        |        |        |        |        |  |
|-----------|-------------|-------------|--------|---------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--|
|           |             |             |        | 30 BBSS | 30 COCZ | 27 BBZ | 27 BS  | 28 BBZ | 28 BS  | 29 BBZ | 29 BS  | 30 BBZ | 30 BS  |  |
| 6507/11-6 | DC          | 2900        | 12499  | 3.41e2  | 1.06e3  | 2.44e3 | 1.90e3 | 2.12e3 | 2.19e3 | 1.87e3 | 1.87e3 | 4.61e2 | 3.31e2 |  |
| 6507/11-6 | DC          | 2930        | 12502  | 2.56e2  | 3.92e2  | 2.23e3 | 1.82e3 | 2.22e3 | 2.45e3 | 1.58e3 | 1.60e3 | 3.51e2 | 2.56e2 |  |
| 6507/11-6 | DC          | 2950        | 12504  | 3.16e2  | 5.42e2  | 3.19e3 | 2.59e3 | 2.73e3 | 3.26e3 | 2.17e3 | 2.38e3 | 4.24e2 | 4.25e2 |  |
| 6507/11-6 | DC          | 2980        | 12507  | 2.52e2  | 7.58e2  | 2.25e3 | 1.80e3 | 2.10e3 | 2.34e3 | 1.86e3 | 1.94e3 | 2.84e2 | 2.34e2 |  |
| 6507/11-6 | DC          | 3010        | 12512  | 0.00e0  | 2.26e2  | 9.40e2 | 7.35e2 | 9.20e2 | 9.28e2 | 9.08e2 | 9.15e2 | 0.00e0 | 0.00e0 |  |
| 6507/11-6 | Oil         | 3035        | 12481  | 4.19e2  | 2.85e2  | 4.27e3 | 3.53e3 | 2.60e3 | 3.23e3 | 4.21e3 | 4.10e3 | 5.57e2 | 5.61e2 |  |
| 6507/11-6 | COCH        | 3036.50     | 12437  | 1.21e2  | 0.00e0  | 8.77e2 | 7.68e2 | 8.71e2 | 8.31e2 | 9.85e2 | 9.33e2 | 1.18e2 | 1.22e2 |  |
| 6507/11-6 | COCH        | 3037.50     | 12438  | 0.00e0  | 0.00e0  | 5.26e2 | 4.63e2 | 6.73e2 | 5.71e2 | 6.51e2 | 5.55e2 | 0.00e0 | 0.00e0 |  |
| 6507/11-6 | COCH        | 3043.40     | 12439  | 0.00e0  | 0.00e0  | 5.81e2 | 4.76e2 | 6.85e2 | 5.98e2 | 6.49e2 | 5.66e2 | 0.00e0 | 0.00e0 |  |
| 6507/11-6 | COCH        | 3044.50     | 12440  | 0.00e0  | 0.00e0  | 5.65e2 | 4.77e2 | 6.86e2 | 6.73e2 | 7.25e2 | 6.92e2 | 0.00e0 | 0.00e0 |  |
| 6507/11-6 | COCH        | 3059.50     | 12442  | 0.00e0  | 0.00e0  | 6.10e2 | 4.87e2 | 7.29e2 | 7.26e2 | 7.17e2 | 7.30e2 | 0.00e0 | 0.00e0 |  |
| 6507/11-6 | COCH        | 3061.50     | 12443  | 1.50e2  | 0.00e0  | 8.27e2 | 6.67e2 | 9.53e2 | 9.61e2 | 1.20e3 | 1.18e3 | 1.13e2 | 1.32e2 |  |
| 6507/11-6 | Mud         | 3070        | 12404  | 0.00e0  | 0.00e0  | 4.42e2 | 3.50e2 | 5.98e2 | 5.74e2 | 4.87e2 | 4.99e2 | 8.99e1 | 7.11e1 |  |
| 6507/11-6 | SWC         | 3071        | 12418  | 0.00e0  | 9.84e1  | 4.34e2 | 4.02e2 | 4.61e2 | 4.79e2 | 3.90e2 | 4.40e2 | 0.00e0 | 0.00e0 |  |
| 6507/11-6 | SWC         | 3075        | 12419  | 0.00e0  | 0.00e0  | 5.12e2 | 4.39e2 | 5.06e2 | 5.68e2 | 4.70e2 | 4.38e2 | 0.00e0 | 0.00e0 |  |
| 6507/11-6 | SWC         | 3097        | 12420  | 0.00e0  | 0.00e0  | 5.07e2 | 4.07e2 | 5.45e2 | 5.66e2 | 4.58e2 | 5.05e2 | 0.00e0 | 0.00e0 |  |
| 6507/11-6 | SWC         | 3137        | 12422  | 0.00e0  | 0.00e0  | 3.91e2 | 3.19e2 | 4.75e2 | 4.23e2 | 3.85e2 | 3.61e2 | 0.00e0 | 0.00e0 |  |
| 6507/11-6 | SWC         | 3283        | 12424  | 0.00e0  | 0.00e0  | 5.06e2 | 4.99e2 | 5.82e2 | 5.52e2 | 6.69e2 | 6.60e2 | 0.00e0 | 0.00e0 |  |
| 6507/11-6 | SWC         | 3299.50     | 12425  | 0.00e0  | 0.00e0  | 5.28e2 | 4.70e2 | 5.97e2 | 5.68e2 | 4.84e2 | 5.21e2 | 0.00e0 | 0.00e0 |  |
| 6507/11-6 | Mud         | 3320        | 12405  | 0.00e0  | 0.00e0  | 4.51e2 | 3.73e2 | 5.99e2 | 5.55e2 | 4.98e2 | 5.27e2 | 0.00e0 | 0.00e0 |  |
| 6507/11-6 | SWC         | 3398        | 12426  | 0.00e0  | 0.00e0  | 5.43e2 | 4.14e2 | 5.86e2 | 5.82e2 | 5.28e2 | 5.19e2 | 0.00e0 | 0.00e0 |  |



Table 11. GCMS SIR of aromatic compounds (peak height)

| M/e       |             |             |        | 142    |        |        |        | 156     |         |               |         | 170           |         |         |         |           |           |
|-----------|-------------|-------------|--------|--------|--------|--------|--------|---------|---------|---------------|---------|---------------|---------|---------|---------|-----------|-----------|
| Well      | Sample type | Lower Depth | APT ID | 2-MN   | 1-MN   | 2-EN   | 1-EN   | 2,6-DMN | 2,7-DMN | 1,3 + 1,7-DMN | 1,6-DMN | 2,3 + 1,4-DMN | 1,5-DMN | 1,2-DMN | 1,8-DMN | 1,3,7-IMN | 1,3,6-IMN |
| 6507/11-6 | DC          | 2900        | 12499  | 1.83e7 | 1.55e7 | 2.23e6 | 2.21e6 | 2.41e6  | 2.82e6  | 6.39e6        | 5.11e6  | 3.11e6        | 1.87e6  | 2.28e6  | 1.05e5  | 1.27e6    | 1.82e6    |
| 6507/11-6 | DC          | 2930        | 12502  | 2.94e7 | 2.78e7 | 3.85e6 | 4.07e6 | 4.07e6  | 4.52e6  | 1.08e7        | 8.85e6  | 5.24e6        | 3.26e6  | 4.93e6  | 2.51e5  | 2.26e6    | 3.49e6    |
| 6507/11-6 | DC          | 2950        | 12504  | 3.09e7 | 2.87e7 | 3.98e6 | 4.07e6 | 4.14e6  | 4.50e6  | 1.13e7        | 9.13e6  | 5.51e6        | 3.41e6  | 4.93e6  | 2.60e5  | 2.35e6    | 3.50e6    |
| 6507/11-6 | DC          | 2980        | 12507  | 1.91e7 | 1.62e7 | 2.46e6 | 2.36e6 | 2.40e6  | 2.84e6  | 7.10e6        | 5.72e6  | 3.50e6        | 2.11e6  | 2.36e6  | 1.38e5  | 1.45e6    | 2.17e6    |
| 6507/11-6 | DC          | 3010        | 12512  | 6.99e6 | 5.01e6 | 6.37e5 | 5.01e5 | 7.03e5  | 9.53e5  | 1.96e6        | 1.81e6  | 8.40e5        | 5.81e5  | 4.92e5  | 3.77e4  | 3.92e5    | 6.11e5    |
| 6507/11-6 | Oil         | 3035        | 12481  | 1.57e9 | 9.55e8 | 1.34e8 | 8.92e7 | 2.34e8  | 2.67e8  | 5.40e8        | 3.68e8  | 1.75e8        | 7.45e7  | 9.43e7  | 9.19e5  | 1.20e8    | 1.34e8    |
| 6507/11-6 | COCH        | 3036.50     | 12437  | 1.44e7 | 1.28e7 | 3.00e6 | 2.48e6 | 5.62e6  | 6.98e6  | 1.58e7        | 1.09e7  | 5.28e6        | 3.03e6  | 2.96e6  | 4.54e4  | 5.31e6    | 6.30e6    |
| 6507/11-6 | COCH        | 3037.50     | 12438  | 8.11e6 | 7.45e6 | 1.75e6 | 1.45e6 | 3.31e6  | 4.06e6  | 8.84e6        | 6.27e6  | 2.87e6        | 1.88e6  | 1.63e6  | 2.74e4  | 2.65e6    | 3.10e6    |
| 6507/11-6 | COCH        | 3043.40     | 12439  | 5.45e6 | 5.61e6 | 1.64e6 | 1.48e6 | 3.24e6  | 4.17e6  | 9.23e6        | 6.50e6  | 3.07e6        | 1.92e6  | 1.74e6  | 2.35e4  | 3.18e6    | 3.62e6    |
| 6507/11-6 | COCH        | 3044.50     | 12440  | 1.05e7 | 1.01e7 | 3.01e6 | 2.48e6 | 6.04e6  | 7.38e6  | 1.70e7        | 1.16e7  | 5.69e6        | 3.15e6  | 3.34e6  | 4.44e4  | 6.41e6    | 7.25e6    |
| 6507/11-6 | COCH        | 3059.50     | 12442  | 9.90e6 | 9.17e6 | 2.25e6 | 1.91e6 | 4.27e6  | 5.39e6  | 1.21e7        | 8.34e6  | 3.93e6        | 2.34e6  | 2.22e6  | 2.88e4  | 3.97e6    | 4.69e6    |
| 6507/11-6 | COCH        | 3061.50     | 12443  | 1.19e7 | 8.93e6 | 1.59e6 | 1.39e6 | 3.16e6  | 4.10e6  | 8.55e6        | 6.13e6  | 3.10e6        | 1.82e6  | 1.81e6  | 2.33e4  | 3.69e6    | 4.36e6    |
| 6507/11-6 | Mud         | 3070        | 12404  | 5.55e6 | 3.95e6 | 5.42e5 | 3.23e5 | 1.21e6  | 1.37e6  | 2.55e6        | 2.20e6  | 8.24e5        | 5.97e5  | 3.60e5  | 0.00e0  | 6.89e5    | 1.00e6    |
| 6507/11-6 | SWC         | 3071        | 12418  | 3.86e6 | 3.43e6 | 4.00e5 | 2.92e5 | 8.06e5  | 1.01e6  | 2.01e6        | 1.64e6  | 5.80e5        | 4.44e5  | 2.68e5  | 0.00e0  | 4.47e5    | 6.02e5    |
| 6507/11-6 | SWC         | 3075        | 12419  | 1.61e6 | 1.56e6 | 1.60e5 | 1.38e5 | 3.40e5  | 4.42e5  | 8.79e5        | 7.66e5  | 2.42e5        | 2.15e5  | 1.12e5  | 0.00e0  | 2.11e5    | 2.87e5    |
| 6507/11-6 | SWC         | 3097        | 12420  | 1.92e7 | 1.38e7 | 1.33e6 | 1.21e6 | 2.03e6  | 2.71e6  | 4.95e6        | 3.79e6  | 1.95e6        | 1.23e6  | 1.03e6  | 2.98e4  | 9.60e5    | 1.24e6    |
| 6507/11-6 | SWC         | 3137        | 12422  | 3.38e6 | 2.95e6 | 2.62e5 | 2.04e5 | 5.88e5  | 7.36e5  | 1.46e6        | 1.24e6  | 3.75e5        | 3.23e5  | 1.52e5  | 0.00e0  | 2.32e5    | 3.36e5    |
| 6507/11-6 | SWC         | 3283        | 12424  | 1.19e8 | 7.23e7 | 1.01e7 | 7.41e6 | 1.20e7  | 1.50e7  | 3.54e7        | 3.06e7  | 1.60e7        | 6.80e6  | 8.36e6  | 3.81e5  | 5.89e6    | 7.27e6    |
| 6507/11-6 | SWC         | 3299.50     | 12425  | 2.56e6 | 2.33e6 | 2.44e5 | 1.91e5 | 4.43e5  | 6.23e5  | 1.18e6        | 1.03e6  | 3.48e5        | 3.04e5  | 1.48e5  | 0.00e0  | 2.30e5    | 3.05e5    |
| 6507/11-6 | Mud         | 3320        | 12405  | 6.20e6 | 4.49e6 | 5.86e5 | 3.43e5 | 1.25e6  | 1.45e6  | 2.72e6        | 2.37e6  | 8.79e5        | 6.35e5  | 4.12e5  | 0.00e0  | 7.28e5    | 1.06e6    |
| 6507/11-6 | SWC         | 3398        | 12426  | 1.92e6 | 1.92e6 | 2.05e5 | 1.64e5 | 4.39e5  | 5.72e5  | 1.15e6        | 9.89e5  | 3.12e5        | 2.82e5  | 1.33e5  | 0.00e0  | 2.39e5    | 3.42e5    |



Table 11. continued, GCMS SIR of aromatic compounds (peak height)

| m/e       |             |             |        | 170                  |           |           |                       |           |           | 178    |        | 192    |        | 206    |                       |        |                        |  |
|-----------|-------------|-------------|--------|----------------------|-----------|-----------|-----------------------|-----------|-----------|--------|--------|--------|--------|--------|-----------------------|--------|------------------------|--|
| Well      | Sample type | Lower Depth | APT ID | 1,3,5 + 1,4,6<br>TMN | 2,3,6-TMN | 1,2,7-TMN | 1,6,7 + 1,2,6-<br>TMN | 1,2,4-TMN | 1,2,5-TMN | P      | 3-MP   | 2-MP   | 9-MP   | 1-MP   | 2-EP+9-<br>EP+3,6-DMP | 1-EP   | 2,6 + 2,7 +<br>3,5-DMP |  |
| 6507/11-6 | DC          | 2900        | 12499  | 1.61e6               | 9.97e5    | 8.18e5    | 1.40e6                | 4.93e5    | 1.53e6    | 5.56e6 | 1.62e6 | 1.57e6 | 2.95e6 | 2.21e6 | 3.91e5                | 3.60e5 | 1.93e5                 |  |
| 6507/11-6 | DC          | 2930        | 12502  | 2.98e6               | 1.89e6    | 1.87e6    | 2.71e6                | 1.28e6    | 3.44e6    | 1.18e7 | 3.97e6 | 4.33e6 | 8.66e6 | 6.34e6 | 1.16e6                | 9.67e5 | 4.74e5                 |  |
| 6507/11-6 | DC          | 2950        | 12504  | 3.18e6               | 1.78e6    | 1.83e6    | 2.78e6                | 1.31e6    | 3.63e6    | 1.30e7 | 4.47e6 | 4.67e6 | 9.97e6 | 7.23e6 | 1.36e6                | 1.15e6 | 5.25e5                 |  |
| 6507/11-6 | DC          | 2980        | 12507  | 1.98e6               | 1.11e6    | 1.02e6    | 1.67e6                | 6.35e5    | 1.86e6    | 7.99e6 | 2.73e6 | 2.75e6 | 6.28e6 | 4.12e6 | 8.91e5                | 8.99e5 | 3.85e5                 |  |
| 6507/11-6 | DC          | 3010        | 12512  | 5.08e5               | 3.40e5    | 1.86e5    | 4.62e5                | 1.11e5    | 4.81e5    | 3.13e6 | 7.59e5 | 7.62e5 | 1.14e6 | 9.01e5 | 1.50e5                | 2.27e5 | 1.35e5                 |  |
| 6507/11-6 | Oil         | 3035        | 12481  | 9.74e7               | 8.98e7    | 2.91e7    | 7.52e7                | 1.49e7    | 5.41e7    | 1.30e8 | 3.46e7 | 3.35e7 | 3.80e7 | 2.20e7 | 7.55e6                | 1.11e7 | 5.62e6                 |  |
| 6507/11-6 | COCH        | 3036.50     | 12437  | 5.08e6               | 3.90e6    | 1.55e6    | 3.97e6                | 8.24e5    | 2.87e6    | 1.17e7 | 3.19e6 | 3.09e6 | 3.86e6 | 2.36e6 | 9.07e5                | 1.22e6 | 6.49e5                 |  |
| 6507/11-6 | COCH        | 3037.50     | 12438  | 2.47e6               | 1.91e6    | 7.24e5    | 1.87e6                | 3.78e5    | 1.27e6    | 6.10e6 | 1.14e6 | 1.14e6 | 1.34e6 | 9.68e5 | 2.26e5                | 3.09e5 | 1.93e5                 |  |
| 6507/11-6 | COCH        | 3043.40     | 12439  | 2.84e6               | 2.20e6    | 8.70e5    | 2.28e6                | 4.34e5    | 1.60e6    | 5.74e6 | 1.32e6 | 1.27e6 | 1.64e6 | 1.02e6 | 2.81e5                | 3.97e5 | 2.29e5                 |  |
| 6507/11-6 | COCH        | 3044.50     | 12440  | 5.74e6               | 4.56e6    | 1.75e6    | 4.53e6                | 9.25e5    | 3.25e6    | 1.09e7 | 2.90e6 | 2.59e6 | 3.28e6 | 1.92e6 | 6.97e5                | 9.47e5 | 4.92e5                 |  |
| 6507/11-6 | COCH        | 3059.50     | 12442  | 3.75e6               | 2.88e6    | 1.12e6    | 2.88e6                | 5.89e5    | 2.07e6    | 7.57e6 | 2.67e6 | 2.51e6 | 3.33e6 | 1.96e6 | 8.41e5                | 1.20e6 | 6.57e5                 |  |
| 6507/11-6 | COCH        | 3061.50     | 12443  | 3.53e6               | 2.93e6    | 1.09e6    | 3.02e6                | 5.99e5    | 2.30e6    | 1.37e7 | 4.48e6 | 4.32e6 | 5.71e6 | 3.32e6 | 1.31e6                | 1.92e6 | 1.02e6                 |  |
| 6507/11-6 | Mud         | 3070        | 12404  | 8.68e5               | 5.35e5    | 1.86e5    | 5.48e5                | 8.81e4    | 2.96e5    | 2.27e6 | 4.87e5 | 5.72e5 | 7.13e5 | 5.26e5 | 1.06e5                | 1.38e5 | 1.02e5                 |  |
| 6507/11-6 | SWC         | 3071        | 12418  | 5.01e5               | 3.36e5    | 1.20e5    | 3.56e5                | 5.28e4    | 1.94e5    | 1.55e6 | 4.00e5 | 4.17e5 | 4.99e5 | 3.63e5 | 1.01e5                | 1.49e5 | 1.05e5                 |  |
| 6507/11-6 | SWC         | 3075        | 12419  | 2.29e5               | 1.47e5    | 5.75e4    | 1.58e5                | 2.78e4    | 8.18e4    | 6.95e5 | 1.65e5 | 1.80e5 | 2.28e5 | 1.60e5 | 4.77e4                | 7.08e4 | 5.14e4                 |  |
| 6507/11-6 | SWC         | 3097        | 12420  | 1.05e6               | 8.50e5    | 3.11e5    | 8.95e5                | 1.96e5    | 6.92e5    | 8.94e6 | 1.42e6 | 1.70e6 | 2.40e6 | 1.53e6 | 2.40e5                | 2.40e5 | 1.71e5                 |  |
| 6507/11-6 | SWC         | 3137        | 12422  | 2.99e5               | 1.77e5    | 5.91e4    | 1.97e5                | 2.84e4    | 1.02e5    | 8.85e5 | 1.93e5 | 2.10e5 | 2.54e5 | 2.04e5 | 5.30e4                | 7.61e4 | 6.02e4                 |  |
| 6507/11-6 | SWC         | 3283        | 12424  | 7.58e6               | 5.03e6    | 2.67e6    | 6.67e6                | 1.83e6    | 5.87e6    | 7.33e7 | 1.43e7 | 2.05e7 | 2.74e7 | 1.72e7 | 2.58e6                | 3.41e6 | 1.85e6                 |  |
| 6507/11-6 | SWC         | 3299.50     | 12425  | 2.71e5               | 1.81e5    | 6.72e4    | 2.08e5                | 3.40e4    | 1.15e5    | 1.27e6 | 2.44e5 | 2.92e5 | 4.08e5 | 3.08e5 | 6.59e4                | 7.71e4 | 5.94e4                 |  |
| 6507/11-6 | Mud         | 3320        | 12405  | 8.70e5               | 5.79e5    | 2.03e5    | 5.82e5                | 9.00e4    | 3.12e5    | 2.35e6 | 5.42e5 | 6.19e5 | 7.46e5 | 5.73e5 | 1.12e5                | 1.47e5 | 1.15e5                 |  |
| 6507/11-6 | SWC         | 3398        | 12426  | 2.95e5               | 1.86e5    | 6.64e4    | 2.14e5                | 3.18e4    | 1.03e5    | 1.03e6 | 2.15e5 | 2.62e5 | 3.40e5 | 2.53e5 | 5.29e4                | 6.58e4 | 5.93e4                 |  |



Table 11. continued, GCMS SIR of aromatic compounds (peak height)

| m/e       |             |             | 206    |                                |                       |         |         |                        |         |         | 219    |        | 184    | 198        |        | 253    |        |
|-----------|-------------|-------------|--------|--------------------------------|-----------------------|---------|---------|------------------------|---------|---------|--------|--------|--------|------------|--------|--------|--------|
| Well      | Sample type | Lower Depth | APT ID | 1,3- + 2,10- + 3,9- + 3,10-DMP | 1,6- + 2,5- + 2,9-DMP | 1,7-DMP | 2,3-DMP | 1,9- + 4,9- + 4,10-DMP | 1,8-DMP | 1,2-DMP | Retene | DBT    | 4-MDBT | (3+2)-MDBT | 1-MDBT | C21MA  | C22MA  |
| 6507/11-6 | DC          | 2900        | 12499  | 1.20e6                         | 5.90e5                | 6.08e5  | 2.30e5  | 4.50e5                 | 2.11e5  | 1.86e5  | 7.32e5 | 2.56e6 | 1.32e6 | 8.57e5     | 1.89e6 | 2.77e5 | 3.20e5 |
| 6507/11-6 | DC          | 2930        | 12502  | 3.73e6                         | 1.83e6                | 2.03e6  | 6.59e5  | 1.32e6                 | 7.19e5  | 7.97e5  | 4.70e6 | 9.40e6 | 5.09e6 | 3.39e6     | 8.59e6 | 1.25e6 | 1.26e6 |
| 6507/11-6 | DC          | 2950        | 12504  | 4.57e6                         | 2.22e6                | 2.32e6  | 7.82e5  | 1.64e6                 | 9.42e5  | 1.01e6  | 1.09e7 | 9.51e6 | 4.88e6 | 3.50e6     | 8.84e6 | 1.35e6 | 1.43e6 |
| 6507/11-6 | DC          | 2980        | 12507  | 3.12e6                         | 1.53e6                | 1.47e6  | 6.12e5  | 1.20e6                 | 5.86e5  | 5.86e5  | 7.39e6 | 2.74e6 | 1.75e6 | 1.21e6     | 2.36e6 | 6.15e5 | 5.26e5 |
| 6507/11-6 | DC          | 3010        | 12512  | 6.64e5                         | 3.73e5                | 3.41e5  | 1.53e5  | 2.27e5                 | 9.10e4  | 9.01e4  | 4.77e5 | 1.88e5 | 1.65e5 | 8.11e4     | 1.14e5 | 5.33e4 | 4.45e4 |
| 6507/11-6 | Oil         | 3035        | 12481  | 2.01e7                         | 8.39e6                | 5.71e6  | 3.68e6  | 4.42e6                 | 1.62e6  | 1.25e6  | 6.91e6 | 6.44e6 | 3.53e6 | 2.90e6     | 9.18e5 | 5.61e5 | 3.42e5 |
| 6507/11-6 | COCH        | 3036.50     | 12437  | 2.65e6                         | 1.16e6                | 8.07e5  | 4.91e5  | 6.73e5                 | 2.25e5  | 1.63e5  | 1.10e6 | 4.89e5 | 3.72e5 | 2.59e5     | 1.13e5 | 8.82e4 | 7.43e4 |
| 6507/11-6 | COCH        | 3037.50     | 12438  | 7.96e5                         | 3.62e5                | 2.86e5  | 1.32e5  | 2.12e5                 | 6.99e4  | 4.87e4  | 2.04e5 | 2.78e5 | 1.99e5 | 1.06e5     | 6.35e4 | 2.20e4 | 1.67e4 |
| 6507/11-6 | COCH        | 3043.40     | 12439  | 9.19e5                         | 4.12e5                | 2.98e5  | 1.53e5  | 2.26e5                 | 6.99e4  | 4.61e4  | 2.17e5 | 2.75e5 | 2.02e5 | 1.12e5     | 5.40e4 | 2.68e4 | 1.70e4 |
| 6507/11-6 | COCH        | 3044.50     | 12440  | 1.97e6                         | 8.49e5                | 5.98e5  | 3.55e5  | 4.98e5                 | 1.52e5  | 1.06e5  | 6.40e5 | 5.48e5 | 3.66e5 | 2.44e5     | 1.05e5 | 5.40e4 | 3.53e4 |
| 6507/11-6 | COCH        | 3059.50     | 12442  | 2.57e6                         | 1.09e6                | 7.33e5  | 4.50e5  | 6.33e5                 | 1.89e5  | 1.32e5  | 8.93e5 | 3.67e5 | 3.47e5 | 2.33e5     | 1.04e5 | 5.31e4 | 4.06e4 |
| 6507/11-6 | COCH        | 3061.50     | 12443  | 3.91e6                         | 1.71e6                | 1.19e6  | 7.28e5  | 9.27e5                 | 3.12e5  | 2.46e5  | 1.41e6 | 6.36e5 | 5.12e5 | 4.03e5     | 1.61e5 | 9.31e4 | 6.05e4 |
| 6507/11-6 | Mud         | 3070        | 12404  | 4.71e5                         | 2.22e5                | 2.19e5  | 8.96e4  | 1.38e5                 | 4.79e4  | 2.74e4  | 1.26e5 | 1.94e5 | 2.37e5 | 8.38e4     | 6.96e4 | 2.27e4 | 2.12e4 |
| 6507/11-6 | SWC         | 3071        | 12418  | 4.00e5                         | 1.87e5                | 1.77e5  | 8.37e4  | 1.14e5                 | 3.73e4  | 2.29e4  | 8.21e4 | 1.09e5 | 1.76e5 | 7.29e4     | 4.75e4 | 1.72e4 | 1.52e4 |
| 6507/11-6 | SWC         | 3075        | 12419  | 1.97e5                         | 9.67e4                | 9.51e4  | 4.47e4  | 6.64e4                 | 2.13e4  | 1.22e4  | 4.67e4 | 4.78e4 | 7.41e4 | 3.00e4     | 2.16e4 | 1.23e4 | 9.89e3 |
| 6507/11-6 | SWC         | 3097        | 12420  | 8.41e5                         | 4.59e5                | 3.37e5  | 1.76e5  | 3.70e5                 | 1.09e5  | 1.05e5  | 2.55e5 | 2.82e5 | 1.81e5 | 1.15e5     | 5.27e4 | 1.93e4 | 1.24e4 |
| 6507/11-6 | SWC         | 3137        | 12422  | 2.11e5                         | 1.07e5                | 1.04e5  | 5.09e4  | 7.46e4                 | 2.31e4  | 1.53e4  | 4.85e4 | 5.99e4 | 9.71e4 | 3.47e4     | 3.08e4 | 1.63e4 | 1.90e4 |
| 6507/11-6 | SWC         | 3283        | 12424  | 1.00e7                         | 5.56e6                | 3.45e6  | 2.37e6  | 4.34e6                 | 1.67e6  | 1.49e6  | 2.35e6 | 2.08e6 | 9.77e5 | 1.09e6     | 4.54e5 | 9.25e4 | 6.06e4 |
| 6507/11-6 | SWC         | 3299.50     | 12425  | 2.86e5                         | 1.40e5                | 1.21e5  | 5.67e4  | 9.96e4                 | 2.84e4  | 1.86e4  | 5.74e4 | 6.61e4 | 9.25e4 | 3.77e4     | 3.00e4 | 0.00e0 | 1.10e4 |
| 6507/11-6 | Mud         | 3320        | 12405  | 5.07e5                         | 2.58e5                | 2.47e5  | 7.96e4  | 1.39e5                 | 4.67e4  | 3.24e4  | 1.34e5 | 2.02e5 | 2.45e5 | 9.06e4     | 7.40e4 | 2.79e4 | 2.17e4 |
| 6507/11-6 | SWC         | 3398        | 12426  | 2.50e5                         | 1.33e5                | 1.14e5  | 5.37e4  | 8.91e4                 | 2.57e4  | 1.80e4  | 6.28e4 | 6.65e4 | 1.00e5 | 3.07e4     | 3.31e4 | 1.55e4 | 1.48e4 |



Table 11. continued, GCMS SIR of aromatic compounds (peak height)

| Well      | Sample type | Lower Depth | APT ID | m/e | 253     |          |                      |         |                                   |          |         |         |                      |                      |         |                                  | 231     |        |
|-----------|-------------|-------------|--------|-----|---------|----------|----------------------|---------|-----------------------------------|----------|---------|---------|----------------------|----------------------|---------|----------------------------------|---------|--------|
|           |             |             |        |     | bSC27MA | bSC27DMA | bRC27MA+b<br>RC27DMA | aSC27MA | bSC28MA+bS<br>C28DMA+aR<br>C27DMA | aSC27DMA | aRC27MA | aSC28MA | bRC28MA+b<br>RC28DMA | bSC29MA+bS<br>C29DMA | aSC29MA | aRC28MA+b<br>RC29MA+bR<br>C29DMA | aRC29MA | C20TA  |
| 6507/11-6 | DC          | 2900        | 12499  |     | 4.37e5  | 4.49e5   | 5.90e5               | 2.60e5  | 1.21e6                            | 8.43e4   | 2.14e5  | 5.25e5  | 7.86e5               | 6.11e5               | 1.37e5  | 3.93e5                           | 1.64e5  | 1.11e5 |
| 6507/11-6 | DC          | 2930        | 12502  |     | 2.27e6  | 2.43e6   | 3.06e6               | 1.14e6  | 7.69e6                            | 6.95e5   | 8.81e5  | 2.45e6  | 4.91e6               | 2.89e6               | 5.49e5  | 1.94e6                           | 6.37e5  | 8.06e5 |
| 6507/11-6 | DC          | 2950        | 12504  |     | 2.80e6  | 3.06e6   | 4.01e6               | 1.44e6  | 9.18e6                            | 7.68e5   | 1.16e6  | 2.92e6  | 5.84e6               | 3.87e6               | 7.23e5  | 2.33e6                           | 8.66e5  | 9.46e5 |
| 6507/11-6 | DC          | 2980        | 12507  |     | 9.08e5  | 1.43e6   | 1.49e6               | 4.57e5  | 3.04e6                            | 2.87e5   | 3.81e5  | 9.14e5  | 1.86e6               | 1.58e6               | 2.88e5  | 9.35e5                           | 2.84e5  | 3.58e5 |
| 6507/11-6 | DC          | 3010        | 12512  |     | 3.06e4  | 8.30e4   | 7.21e4               | 2.20e4  | 1.64e5                            | 2.11e4   | 1.35e4  | 3.88e4  | 9.81e4               | 1.23e5               | 2.33e4  | 9.21e4                           | 1.98e4  | 4.07e4 |
| 6507/11-6 | Oil         | 3035        | 12481  |     | 5.14e4  | 4.05e5   | 2.97e5               | 4.49e4  | 6.62e5                            | 1.06e5   | 4.00e4  | 6.69e4  | 3.97e5               | 5.95e5               | 5.95e4  | 3.33e5                           | 3.29e4  | 2.52e5 |
| 6507/11-6 | COCH        | 3036.50     | 12437  |     | 1.87e4  | 1.01e5   | 8.06e4               | 1.83e4  | 1.73e5                            | 4.04e4   | 1.26e4  | 3.18e4  | 1.04e5               | 1.34e5               | 2.22e4  | 8.62e4                           | 1.32e4  | 5.27e4 |
| 6507/11-6 | COCH        | 3037.50     | 12438  |     | 8.22e3  | 1.88e4   | 1.79e4               | 5.85e3  | 3.43e4                            | 0.00e0   | 6.39e3  | 1.09e4  | 2.26e4               | 2.15e4               | 7.80e3  | 1.92e4                           | 1.03e4  | 1.93e4 |
| 6507/11-6 | COCH        | 3043.40     | 12439  |     | 0.00e0  | 1.99e4   | 1.50e4               | 0.00e0  | 3.60e4                            | 0.00e0   | 0.00e0  | 1.04e4  | 2.01e4               | 2.30e4               | 9.67e3  | 1.43e4                           | 8.53e3  | 1.08e4 |
| 6507/11-6 | COCH        | 3044.50     | 12440  |     | 1.23e4  | 4.14e4   | 3.40e4               | 9.93e3  | 6.81e4                            | 1.39e4   | 9.41e3  | 1.81e4  | 4.26e4               | 5.75e4               | 0.00e0  | 3.90e4                           | 0.00e0  | 2.02e4 |
| 6507/11-6 | COCH        | 3059.50     | 12442  |     | 1.01e4  | 2.89e4   | 2.43e4               | 1.15e4  | 4.78e4                            | 0.00e0   | 6.42e3  | 1.92e4  | 2.42e4               | 4.64e4               | 1.39e4  | 3.01e4                           | 0.00e0  | 3.22e4 |
| 6507/11-6 | COCH        | 3061.50     | 12443  |     | 1.86e4  | 3.97e4   | 3.12e4               | 1.64e4  | 8.08e4                            | 1.94e4   | 0.00e0  | 2.10e4  | 5.05e4               | 1.02e5               | 2.51e4  | 6.51e4                           | 1.73e4  | 6.11e4 |
| 6507/11-6 | Mud         | 3070        | 12404  |     | 1.54e4  | 3.37e4   | 2.82e4               | 1.56e4  | 6.48e4                            | 0.00e0   | 7.61e3  | 2.30e4  | 3.52e4               | 3.66e4               | 1.76e4  | 2.73e4                           | 1.33e4  | 1.71e4 |
| 6507/11-6 | SWC         | 3071        | 12418  |     | 1.05e4  | 2.32e4   | 1.84e4               | 7.88e3  | 3.62e4                            | 0.00e0   | 0.00e0  | 1.32e4  | 2.93e4               | 2.36e4               | 0.00e0  | 1.91e4                           | 0.00e0  | 1.13e4 |
| 6507/11-6 | SWC         | 3075        | 12419  |     | 8.21e3  | 1.36e4   | 1.35e4               | 0.00e0  | 2.40e4                            | 0.00e0   | 0.00e0  | 7.83e3  | 1.79e4               | 1.65e4               | 0.00e0  | 1.19e4                           | 0.00e0  | 0.00e0 |
| 6507/11-6 | SWC         | 3097        | 12420  |     | 0.00e0  | 1.04e4   | 1.31e4               | 0.00e0  | 2.35e4                            | 0.00e0   | 0.00e0  | 9.25e3  | 1.67e4               | 1.96e4               | 0.00e0  | 1.29e4                           | 8.91e3  | 0.00e0 |
| 6507/11-6 | SWC         | 3137        | 12422  |     | 1.11e4  | 1.80e4   | 2.05e4               | 0.00e0  | 4.22e4                            | 0.00e0   | 7.50e3  | 1.23e4  | 1.78e4               | 2.12e4               | 1.17e4  | 1.70e4                           | 0.00e0  | 0.00e0 |
| 6507/11-6 | SWC         | 3283        | 12424  |     | 1.24e4  | 3.08e4   | 2.25e4               | 9.49e3  | 6.12e4                            | 1.89e4   | 9.84e3  | 1.55e4  | 4.18e4               | 9.28e4               | 2.21e4  | 6.31e4                           | 1.46e4  | 1.31e5 |
| 6507/11-6 | SWC         | 3299.50     | 12425  |     | 7.18e3  | 1.63e4   | 8.84e3               | 0.00e0  | 2.38e4                            | 0.00e0   | 0.00e0  | 7.03e3  | 1.43e4               | 1.66e4               | 7.43e3  | 1.02e4                           | 6.88e3  | 0.00e0 |
| 6507/11-6 | Mud         | 3320        | 12405  |     | 1.72e4  | 4.08e4   | 3.28e4               | 1.61e4  | 7.95e4                            | 1.34e4   | 1.38e4  | 3.12e4  | 4.97e4               | 4.68e4               | 2.05e4  | 3.24e4                           | 1.50e4  | 1.70e4 |
| 6507/11-6 | SWC         | 3398        | 12426  |     | 7.29e3  | 1.49e4   | 1.40e4               | 0.00e0  | 3.11e4                            | 0.00e0   | 0.00e0  | 1.13e4  | 1.84e4               | 1.87e4               | 0.00e0  | 1.27e4                           | 0.00e0  | 0.00e0 |



Table 11. continued, GCMS SIR of aromatic compounds (peak height)

| Well      | Sample type | Lower Depth | APT ID | C2H7A  | SC267A | RC267A+SC277A | SC287A | RC277A | RC287A |
|-----------|-------------|-------------|--------|--------|--------|---------------|--------|--------|--------|
| 6507/11-6 | DC          | 2900        | 12499  | 8.43e4 | 1.70e5 | 4.17e5        | 8.50e4 | 1.58e5 | 9.76e4 |
| 6507/11-6 | DC          | 2930        | 12502  | 7.30e5 | 1.75e6 | 4.76e6        | 7.55e5 | 1.93e6 | 8.23e5 |
| 6507/11-6 | DC          | 2950        | 12504  | 8.29e5 | 2.23e6 | 5.82e6        | 1.03e6 | 2.31e6 | 1.07e6 |
| 6507/11-6 | DC          | 2980        | 12507  | 2.56e5 | 6.31e5 | 1.60e6        | 3.56e5 | 5.95e5 | 3.79e5 |
| 6507/11-6 | DC          | 3010        | 12512  | 2.85e4 | 2.81e4 | 7.39e4        | 3.66e4 | 3.44e4 | 4.34e4 |
| 6507/11-6 | Oil         | 3035        | 12481  | 1.70e5 | 4.77e4 | 1.53e5        | 1.18e5 | 6.43e4 | 9.87e4 |
| 6507/11-6 | COCH        | 3036.50     | 12437  | 4.78e4 | 1.82e4 | 6.11e4        | 5.13e4 | 2.87e4 | 3.63e4 |
| 6507/11-6 | COCH        | 3037.50     | 12438  | 1.57e4 | 9.38e3 | 2.34e4        | 1.93e4 | 1.52e4 | 1.67e4 |
| 6507/11-6 | COCH        | 3043.40     | 12439  | 1.06e4 | 0.00e0 | 1.64e4        | 1.28e4 | 7.59e3 | 9.93e3 |
| 6507/11-6 | COCH        | 3044.50     | 12440  | 2.14e4 | 8.63e3 | 3.11e4        | 2.63e4 | 1.63e4 | 2.32e4 |
| 6507/11-6 | COCH        | 3059.50     | 12442  | 2.83e4 | 9.99e3 | 3.38e4        | 1.81e4 | 1.58e4 | 2.20e4 |
| 6507/11-6 | COCH        | 3061.50     | 12443  | 4.25e4 | 1.42e4 | 4.60e4        | 4.23e4 | 2.65e4 | 4.08e4 |
| 6507/11-6 | Mud         | 3070        | 12404  | 1.45e4 | 9.05e3 | 3.85e4        | 2.82e4 | 2.11e4 | 2.97e4 |
| 6507/11-6 | SWC         | 3071        | 12418  | 8.87e3 | 6.70e3 | 1.61e4        | 1.32e4 | 8.26e3 | 1.19e4 |
| 6507/11-6 | SWC         | 3075        | 12419  | 0.00e0 | 0.00e0 | 9.28e3        | 7.83e3 | 6.77e3 | 8.31e3 |
| 6507/11-6 | SWC         | 3097        | 12420  | 0.00e0 | 0.00e0 | 1.21e4        | 1.06e4 | 7.66e3 | 8.43e3 |
| 6507/11-6 | SWC         | 3137        | 12422  | 8.15e3 | 0.00e0 | 1.52e4        | 1.11e4 | 1.02e4 | 1.03e4 |
| 6507/11-6 | SWC         | 3283        | 12424  | 1.23e5 | 2.23e4 | 4.71e4        | 3.64e4 | 2.29e4 | 3.63e4 |
| 6507/11-6 | SWC         | 3299.50     | 12425  | 0.00e0 | 0.00e0 | 1.25e4        | 1.10e4 | 7.35e3 | 7.81e3 |
| 6507/11-6 | Mud         | 3320        | 12405  | 1.63e4 | 1.24e4 | 4.15e4        | 2.82e4 | 2.35e4 | 3.06e4 |
| 6507/11-6 | SWC         | 3398        | 12426  | 0.00e0 | 0.00e0 | 9.79e3        | 9.91e3 | 6.39e3 | 8.82e3 |



Table 12. GCMS SIR of aromatic compounds (amounts in ng/g)

| m/e       |             |             |        | 142    |        |        |        | 156     |         |               |         | 170           |         |         |         |           |           |
|-----------|-------------|-------------|--------|--------|--------|--------|--------|---------|---------|---------------|---------|---------------|---------|---------|---------|-----------|-----------|
| Well      | Sample type | Lower Depth | APT ID | 2-MN   | 1-MN   | 2-EN   | 1-EN   | 2,6-DMN | 2,7-DMN | 1,3 + 1,7-DMN | 1,6-DMN | 2,3 + 1,4-DMN | 1,5-DMN | 1,2-DMN | 1,8-DMN | 1,3,7-IMN | 1,3,6-IMN |
| 6507/11-6 | DC          | 2900        | 12499  | 9.35e3 | 7.60e3 | 1.03e3 | 1.31e3 | 8.25e2  | 1.94e3  | 3.30e3        | 3.20e3  | 1.72e3        | 1.18e3  | 1.40e3  | 7.00e1  | 9.88e2    | 1.40e3    |
| 6507/11-6 | DC          | 2930        | 12502  | 8.55e3 | 7.88e3 | 1.07e3 | 1.29e3 | 1.10e3  | 1.50e3  | 3.31e3        | 3.09e3  | 1.76e3        | 1.10e3  | 1.66e3  | 8.95e1  | 1.02e3    | 1.47e3    |
| 6507/11-6 | DC          | 2950        | 12504  | 8.32e3 | 7.72e3 | 1.04e3 | 1.32e3 | 1.01e3  | 1.44e3  | 3.28e3        | 3.06e3  | 1.74e3        | 1.11e3  | 1.65e3  | 9.33e1  | 1.02e3    | 1.45e3    |
| 6507/11-6 | DC          | 2980        | 12507  | 5.57e3 | 4.57e3 | 6.53e2 | 7.38e2 | 5.14e2  | 1.05e3  | 2.07e3        | 2.03e3  | 1.11e3        | 6.65e2  | 8.19e2  | 5.14e1  | 6.02e2    | 8.96e2    |
| 6507/11-6 | DC          | 3010        | 12512  | 4.51e3 | 3.09e3 | 3.36e2 | 3.62e2 | 2.85e2  | 7.97e2  | 1.18e3        | 1.44e3  | 5.31e2        | 4.21e2  | 3.64e2  | 2.60e1  | 3.18e2    | 5.52e2    |
| 6507/11-6 | Oil         | 3035        | 12481  | 5.24e5 | 3.57e5 | 4.72e4 | 3.44e4 | 8.38e4  | 9.65e4  | 2.08e5        | 1.45e5  | 7.23e4        | 3.00e4  | 4.05e4  | 5.25e2  | 5.37e4    | 6.36e4    |
| 6507/11-6 | COCH        | 3036.50     | 12437  | 4.91e3 | 4.33e3 | 9.54e2 | 9.01e2 | 1.46e3  | 2.81e3  | 5.39e3        | 4.20e3  | 1.83e3        | 1.22e3  | 1.23e3  | 2.12e1  | 2.23e3    | 2.79e3    |
| 6507/11-6 | COCH        | 3037.50     | 12438  | 3.08e3 | 2.70e3 | 5.56e2 | 5.50e2 | 8.65e2  | 1.78e3  | 3.14e3        | 2.67e3  | 1.03e3        | 7.95e2  | 7.09e2  | 9.60e0  | 1.17e3    | 1.47e3    |
| 6507/11-6 | COCH        | 3043.40     | 12439  | 2.76e3 | 2.53e3 | 6.15e2 | 7.46e2 | 8.96e2  | 2.38e3  | 4.08e3        | 3.24e3  | 1.38e3        | 9.65e2  | 9.40e2  | 1.91e1  | 1.72e3    | 2.11e3    |
| 6507/11-6 | COCH        | 3044.50     | 12440  | 3.64e3 | 3.31e3 | 8.73e2 | 9.28e2 | 1.31e3  | 3.07e3  | 5.70e3        | 4.25e3  | 1.99e3        | 1.19e3  | 1.31e3  | 2.13e1  | 2.51e3    | 3.09e3    |
| 6507/11-6 | COCH        | 3059.50     | 12442  | 4.18e3 | 3.63e3 | 8.13e2 | 7.95e2 | 1.28e3  | 2.49e3  | 4.66e3        | 3.67e3  | 1.56e3        | 1.07e3  | 1.06e3  | 1.82e1  | 1.88e3    | 2.34e3    |
| 6507/11-6 | COCH        | 3061.50     | 12443  | 4.98e3 | 3.63e3 | 5.72e2 | 6.46e2 | 8.36e2  | 2.13e3  | 3.56e3        | 2.89e3  | 1.29e3        | 8.42e2  | 8.82e2  | 1.09e1  | 1.79e3    | 2.22e3    |
| 6507/11-6 | Mud         | 3070        | 12404  | 1.86e3 | 1.29e3 | 1.62e2 | 1.15e2 | 2.84e2  | 5.39e2  | 8.13e2        | 8.59e2  | 2.70e2        | 2.34e2  | 1.49e2  | 0.00e0  | 2.77e2    | 4.43e2    |
| 6507/11-6 | SWC         | 3071        | 12418  | 1.83e3 | 1.50e3 | 1.55e2 | 1.44e2 | 2.57e2  | 5.89e2  | 8.68e2        | 8.99e2  | 2.52e2        | 2.37e2  | 1.46e2  | 0.00e0  | 2.55e2    | 3.81e2    |
| 6507/11-6 | SWC         | 3075        | 12419  | 1.06e3 | 8.85e2 | 8.57e1 | 8.22e1 | 1.13e2  | 3.38e2  | 4.68e2        | 5.98e2  | 1.24e2        | 1.59e2  | 8.74e1  | 0.00e0  | 1.47e2    | 2.35e2    |
| 6507/11-6 | SWC         | 3097        | 12420  | 7.96e3 | 5.52e3 | 4.58e2 | 6.29e2 | 6.33e2  | 1.47e3  | 2.13e3        | 2.08e3  | 8.18e2        | 6.72e2  | 5.60e2  | 1.34e1  | 5.35e2    | 7.63e2    |
| 6507/11-6 | SWC         | 3137        | 12422  | 1.37e3 | 1.17e3 | 9.34e1 | 8.68e1 | 1.66e2  | 3.66e2  | 5.51e2        | 6.18e2  | 1.28e2        | 1.81e2  | 8.58e1  | 0.00e0  | 1.18e2    | 2.14e2    |
| 6507/11-6 | SWC         | 3283        | 12424  | 4.40e4 | 2.73e4 | 3.78e3 | 3.55e3 | 4.27e3  | 7.11e3  | 1.50e4        | 1.36e4  | 7.42e3        | 2.80e3  | 4.07e3  | 1.90e2  | 3.19e3    | 4.47e3    |
| 6507/11-6 | SWC         | 3299.50     | 12425  | 1.64e3 | 1.38e3 | 1.14e2 | 1.31e2 | 7.95e1  | 6.67e2  | 6.58e2        | 8.45e2  | 1.80e2        | 2.48e2  | 1.23e2  | 0.00e0  | 1.80e2    | 2.69e2    |
| 6507/11-6 | Mud         | 3320        | 12405  | 2.00e3 | 1.41e3 | 1.78e2 | 1.20e2 | 3.18e2  | 5.61e2  | 8.80e2        | 9.06e2  | 2.99e2        | 2.45e2  | 1.62e2  | 0.00e0  | 2.89e2    | 4.65e2    |
| 6507/11-6 | SWC         | 3398        | 12426  | 1.31e3 | 1.11e3 | 1.05e2 | 1.14e2 | 1.28e2  | 5.23e2  | 6.38e2        | 7.84e2  | 1.75e2        | 2.05e2  | 1.02e2  | 0.00e0  | 1.87e2    | 3.05e2    |



Table 12. continued, GCMS SIR of aromatic compounds (amounts in ng/g)

| m/e       |             |             |        | 170                  |           |           |                       |           |           | 178    |        | 192    |        | 206    |                       |        |                        |  |
|-----------|-------------|-------------|--------|----------------------|-----------|-----------|-----------------------|-----------|-----------|--------|--------|--------|--------|--------|-----------------------|--------|------------------------|--|
| Well      | Sample type | Lower Depth | APT ID | 1,3,5 + 1,4,6<br>TMN | 2,3,6-TMN | 1,2,7-TMN | 1,6,7 + 1,2,6-<br>TMN | 1,2,4-TMN | 1,2,5-TMN | P      | 3-MP   | 2-MP   | 9-MP   | 1-MP   | 2-EP+9-<br>EP+3,6-DMP | 1-EP   | 2,6 + 2,7 +<br>3,5-DMP |  |
| 6507/11-6 | DC          | 2900        | 12499  | 1.04e3               | 7.69e2    | 4.48e2    | 1.38e3                | 2.94e2    | 9.65e2    | 5.96e3 | 1.72e3 | 1.95e3 | 3.11e3 | 2.79e3 | 4.73e2                | 4.12e2 | 2.19e2                 |  |
| 6507/11-6 | DC          | 2930        | 12502  | 1.08e3               | 7.62e2    | 5.79e2    | 1.40e3                | 4.35e2    | 1.24e3    | 7.15e3 | 2.36e3 | 2.76e3 | 4.88e3 | 4.17e3 | 7.39e2                | 5.60e2 | 3.11e2                 |  |
| 6507/11-6 | DC          | 2950        | 12504  | 1.11e3               | 7.05e2    | 5.52e2    | 1.39e3                | 4.17e2    | 1.24e3    | 7.07e3 | 2.40e3 | 2.76e3 | 5.24e3 | 4.62e3 | 8.33e2                | 6.80e2 | 3.07e2                 |  |
| 6507/11-6 | DC          | 2980        | 12507  | 6.75e2               | 4.87e2    | 2.70e2    | 8.98e2                | 1.98e2    | 6.51e2    | 4.47e3 | 1.56e3 | 1.75e3 | 3.50e3 | 2.88e3 | 5.61e2                | 4.94e2 | 2.34e2                 |  |
| 6507/11-6 | DC          | 3010        | 12512  | 3.74e2               | 3.33e2    | 8.25e1    | 5.43e2                | 6.80e1    | 3.82e2    | 3.59e3 | 9.08e2 | 1.14e3 | 1.39e3 | 1.55e3 | 2.06e2                | 2.55e2 | 1.91e2                 |  |
| 6507/11-6 | Oil         | 3035        | 12481  | 4.56e4               | 3.86e4    | 1.16e4    | 5.11e4                | 8.69e3    | 2.39e4    | 8.90e4 | 2.36e4 | 2.38e4 | 2.66e4 | 1.60e4 | 5.52e3                | 7.93e3 | 4.08e3                 |  |
| 6507/11-6 | COCH        | 3036.50     | 12437  | 2.05e3               | 1.75e3    | 4.52e2    | 2.43e3                | 4.11e2    | 1.13e3    | 7.89e3 | 2.18e3 | 2.37e3 | 2.68e3 | 1.80e3 | 6.37e2                | 7.94e2 | 4.64e2                 |  |
| 6507/11-6 | COCH        | 3037.50     | 12438  | 1.05e3               | 9.32e2    | 2.12e2    | 1.25e3                | 1.38e2    | 5.35e2    | 4.39e3 | 8.66e2 | 1.01e3 | 1.06e3 | 8.73e2 | 2.03e2                | 2.16e2 | 1.72e2                 |  |
| 6507/11-6 | COCH        | 3043.40     | 12439  | 1.51e3               | 1.34e3    | 3.46e2    | 1.07e3                | 1.98e2    | 8.10e2    | 5.19e3 | 1.22e3 | 1.47e3 | 1.54e3 | 1.06e3 | 3.08e2                | 3.28e2 | 2.56e2                 |  |
| 6507/11-6 | COCH        | 3044.50     | 12440  | 2.24e3               | 1.93e3    | 5.52e2    | 2.66e3                | 4.56e2    | 1.26e3    | 7.04e3 | 1.79e3 | 1.97e3 | 2.14e3 | 1.43e3 | 4.85e2                | 5.80e2 | 3.72e2                 |  |
| 6507/11-6 | COCH        | 3059.50     | 12442  | 1.72e3               | 1.46e3    | 3.80e2    | 2.03e3                | 2.33e2    | 9.37e2    | 5.68e3 | 2.00e3 | 2.14e3 | 2.54e3 | 1.64e3 | 6.85e2                | 8.98e2 | 5.12e2                 |  |
| 6507/11-6 | COCH        | 3061.50     | 12443  | 1.65e3               | 1.55e3    | 4.19e2    | 2.13e3                | 3.73e2    | 1.05e3    | 1.03e4 | 3.28e3 | 3.63e3 | 4.18e3 | 2.71e3 | 1.08e3                | 1.43e3 | 8.42e2                 |  |
| 6507/11-6 | Mud         | 3070        | 12404  | 3.18e2               | 2.57e2    | 5.24e1    | 3.40e2                | 2.82e1    | 1.15e2    | 1.38e3 | 3.48e2 | 5.27e2 | 4.93e2 | 4.37e2 | 8.49e1                | 9.78e1 | 8.32e1                 |  |
| 6507/11-6 | SWC         | 3071        | 12418  | 2.64e2               | 1.82e2    | 4.42e1    | 1.99e2                | 2.30e1    | 1.02e2    | 1.27e3 | 3.68e2 | 4.97e2 | 4.62e2 | 4.23e2 | 1.09e2                | 1.17e2 | 1.39e2                 |  |
| 6507/11-6 | SWC         | 3075        | 12419  | 1.52e2               | 1.35e2    | 2.06e1    | 1.78e2                | 1.13e1    | 6.56e1    | 7.20e2 | 2.04e2 | 3.07e2 | 2.74e2 | 2.54e2 | 5.63e1                | 8.07e1 | 2.82e1                 |  |
| 6507/11-6 | SWC         | 3097        | 12420  | 5.31e2               | 5.51e2    | 1.08e2    | 7.37e2                | 8.64e1    | 3.77e2    | 7.32e3 | 1.27e3 | 1.82e3 | 2.14e3 | 1.60e3 | 2.59e2                | 2.12e2 | 1.74e2                 |  |
| 6507/11-6 | SWC         | 3137        | 12422  | 1.34e2               | 9.39e1    | 1.93e1    | 1.48e2                | 3.38e0    | 4.98e1    | 6.39e2 | 9.71e1 | 2.47e2 | 2.16e2 | 1.89e2 | 5.62e1                | 5.84e1 | 2.36e1                 |  |
| 6507/11-6 | SWC         | 3283        | 12424  | 3.89e3               | 3.20e3    | 1.07e3    | 5.09e3                | 8.86e2    | 2.87e3    | 5.55e4 | 1.10e4 | 1.68e4 | 2.08e4 | 1.56e4 | 2.29e3                | 2.82e3 | 1.52e3                 |  |
| 6507/11-6 | SWC         | 3299.50     | 12425  | 1.93e2               | 1.85e2    | 3.44e1    | 2.40e2                | 1.64e1    | 8.83e1    | 1.29e3 | 2.93e2 | 4.62e2 | 4.68e2 | 4.29e2 | 8.35e1                | 8.27e1 | 8.45e1                 |  |
| 6507/11-6 | Mud         | 3320        | 12405  | 3.31e2               | 2.72e2    | 5.86e1    | 3.57e2                | 3.07e1    | 1.26e2    | 1.42e3 | 3.75e2 | 5.30e2 | 5.05e2 | 4.70e2 | 9.18e1                | 9.51e1 | 9.56e1                 |  |
| 6507/11-6 | SWC         | 3398        | 12426  | 1.96e2               | 1.78e2    | 2.85e1    | 2.32e2                | 2.52e1    | 7.15e1    | 1.14e3 | 2.67e2 | 4.39e2 | 4.05e2 | 3.50e2 | 7.27e1                | 7.85e1 | 8.58e1                 |  |





Table 12. continued, GCMS SIR of aromatic compounds (amounts in ng/g)

| m/e       |             |             | 206    |                                |                       |         |         |                        |         |         | 219    |        | 184    | 198        |        | 253    |        |
|-----------|-------------|-------------|--------|--------------------------------|-----------------------|---------|---------|------------------------|---------|---------|--------|--------|--------|------------|--------|--------|--------|
| Well      | Sample type | Lower Depth | APT ID | 1,3- + 2,10- + 3,9- + 3,10-DMP | 1,6- + 2,5- + 2,9-DMP | 1,7-DMP | 2,3-DMP | 1,9- + 4,9- + 4,10-DMP | 1,8-DMP | 1,2-DMP | Retene | DBT    | 4-MDBT | (3+2)-MDBT | 1-MDBT | C21MA  | C22MA  |
| 6507/11-6 | DC          | 2900        | 12499  | 1.61e3                         | 9.13e2                | 7.92e2  | 2.78e2  | 5.32e2                 | 2.45e2  | 2.13e2  | 7.53e2 | 2.93e3 | 1.43e3 | 1.04e3     | 1.91e3 | 2.38e2 | 4.10e2 |
| 6507/11-6 | DC          | 2930        | 12502  | 2.63e3                         | 1.80e3                | 1.34e3  | 4.71e2  | 1.08e3                 | 4.36e2  | 4.47e2  | 2.60e3 | 5.67e3 | 2.90e3 | 2.07e3     | 4.78e3 | 6.23e2 | 9.41e2 |
| 6507/11-6 | DC          | 2950        | 12504  | 3.01e3                         | 2.02e3                | 1.49e3  | 3.84e2  | 1.43e3                 | 5.28e2  | 5.39e2  | 5.58e3 | 5.41e3 | 2.66e3 | 1.98e3     | 4.45e3 | 7.00e2 | 1.00e3 |
| 6507/11-6 | DC          | 2980        | 12507  | 2.07e3                         | 7.13e2                | 9.58e2  | 3.79e2  | 9.43e2                 | 3.47e2  | 3.43e2  | 3.88e3 | 1.69e3 | 9.94e2 | 7.34e2     | 1.24e3 | 3.07e2 | 3.76e2 |
| 6507/11-6 | DC          | 3010        | 12512  | 9.22e2                         | 7.63e2                | 4.86e2  | 2.00e2  | 3.55e2                 | 1.37e2  | 7.82e1  | 5.54e2 | 2.73e2 | 2.22e2 | 1.13e2     | 1.30e2 | 5.30e1 | 4.63e1 |
| 6507/11-6 | Oil         | 3035        | 12481  | 1.78e4                         | 8.69e3                | 4.50e3  | 2.92e3  | 3.68e3                 | 1.41e3  | 1.07e3  | 4.99e3 | 4.52e3 | 2.40e3 | 2.06e3     | 6.15e2 | 4.22e2 | 3.14e2 |
| 6507/11-6 | COCH        | 3036.50     | 12437  | 2.16e3                         | 1.08e3                | 6.02e2  | 3.63e2  | 4.82e2                 | 1.66e2  | 1.24e2  | 7.28e2 | 3.65e2 | 2.49e2 | 1.79e2     | 7.20e1 | 5.44e1 | 4.71e1 |
| 6507/11-6 | COCH        | 3037.50     | 12438  | 7.15e2                         | 3.80e2                | 2.41e2  | 1.02e2  | 1.88e2                 | 6.01e1  | 2.56e1  | 1.63e2 | 2.39e2 | 1.50e2 | 8.75e1     | 4.86e1 | 1.03e1 | 6.82e0 |
| 6507/11-6 | COCH        | 3043.40     | 12439  | 1.03e3                         | 5.22e2                | 3.21e2  | 1.52e2  | 2.46e2                 | 8.49e1  | 3.83e1  | 2.21e2 | 2.76e2 | 1.91e2 | 1.20e2     | 3.30e1 | 1.82e1 | 1.07e1 |
| 6507/11-6 | COCH        | 3044.50     | 12440  | 1.58e3                         | 8.03e2                | 4.59e2  | 2.43e2  | 3.60e2                 | 1.10e2  | 8.44e1  | 3.89e2 | 3.85e2 | 2.29e2 | 1.66e2     | 6.38e1 | 3.30e1 | 1.48e1 |
| 6507/11-6 | COCH        | 3059.50     | 12442  | 2.32e3                         | 1.14e3                | 6.49e2  | 3.53e2  | 4.93e2                 | 1.63e2  | 1.17e2  | 6.40e2 | 3.10e2 | 2.70e2 | 1.88e2     | 7.20e1 | 4.84e1 | 2.96e1 |
| 6507/11-6 | COCH        | 3061.50     | 12443  | 3.50e3                         | 1.78e3                | 1.02e3  | 5.95e2  | 8.00e2                 | 2.75e2  | 2.17e2  | 1.09e3 | 5.14e2 | 3.84e2 | 3.00e2     | 1.05e2 | 6.12e1 | 4.28e1 |
| 6507/11-6 | Mud         | 3070        | 12404  | 3.91e2                         | 2.07e2                | 1.69e2  | 5.83e1  | 1.02e2                 | 3.20e1  | 1.82e1  | 8.43e1 | 1.46e2 | 1.63e2 | 6.54e1     | 4.48e1 | 1.54e1 | 7.01e0 |
| 6507/11-6 | SWC         | 3071        | 12418  | 4.33e2                         | 2.25e2                | 2.12e2  | 7.43e1  | 6.87e1                 | 3.55e1  | 1.86e1  | 7.27e1 | 1.13e2 | 1.67e2 | 7.90e1     | 4.70e1 | 1.07e1 | 9.11e0 |
| 6507/11-6 | SWC         | 3075        | 12419  | 2.89e2                         | 1.53e2                | 1.08e2  | 4.53e1  | 8.52e1                 | 2.01e1  | 8.84e0  | 5.49e1 | 5.72e1 | 1.01e2 | 3.54e1     | 1.88e1 | 7.37e0 | 4.53e0 |
| 6507/11-6 | SWC         | 3097        | 12420  | 9.09e2                         | 5.57e2                | 3.46e2  | 1.53e2  | 3.91e2                 | 1.02e2  | 1.01e2  | 2.10e2 | 2.70e2 | 1.66e2 | 1.23e2     | 4.97e1 | 1.31e1 | 7.72e0 |
| 6507/11-6 | SWC         | 3137        | 12422  | 2.16e2                         | 1.22e2                | 1.00e2  | 2.08e1  | 5.29e1                 | 1.36e1  | 1.15e1  | 4.24e1 | 5.67e1 | 8.50e1 | 3.78e1     | 2.58e1 | 9.25e0 | 1.40e1 |
| 6507/11-6 | SWC         | 3283        | 12424  | 9.35e3                         | 7.31e3                | 3.07e3  | 1.93e3  | 4.62e3                 | 1.52e3  | 1.16e3  | 1.78e3 | 1.67e3 | 7.58e2 | 8.80e2     | 3.20e2 | 8.26e1 | 3.80e1 |
| 6507/11-6 | SWC         | 3299.50     | 12425  | 3.82e2                         | 2.14e2                | 1.57e2  | 5.82e1  | 1.14e2                 | 4.48e1  | 1.36e1  | 6.57e1 | 8.91e1 | 1.11e2 | 4.91e1     | 3.02e1 | 0.00e0 | 7.11e0 |
| 6507/11-6 | Mud         | 3320        | 12405  | 4.12e2                         | 2.17e2                | 2.03e2  | 5.65e1  | 5.15e1                 | 3.57e1  | 2.33e1  | 8.46e1 | 1.50e2 | 1.69e2 | 7.08e1     | 5.17e1 | 1.45e1 | 1.03e1 |
| 6507/11-6 | SWC         | 3398        | 12426  | 3.59e2                         | 2.06e2                | 1.88e2  | 5.69e1  | 1.03e2                 | 3.00e1  | 1.81e1  | 7.65e1 | 8.72e1 | 1.32e2 | 2.08e1     | 3.77e1 | 7.38e0 | 1.18e1 |



Table 12. continued, GCMS SIR of aromatic compounds (amounts in ng/g)

| Well      | Sample type | Lower Depth | APT ID | 253     |          |                      |         |                                   |          |         |         |                      |                      |         |                                  |         | 231    |  |
|-----------|-------------|-------------|--------|---------|----------|----------------------|---------|-----------------------------------|----------|---------|---------|----------------------|----------------------|---------|----------------------------------|---------|--------|--|
|           |             |             |        | bSC27MA | bSC27DMA | bRC27MA+b<br>RC27DMA | aSC27MA | bSC28MA+bS<br>C28DMA+aR<br>C27DMA | aSC27DMA | aRC27MA | aSC28MA | bRC28MA+b<br>RC28DMA | bSC29MA+bS<br>C29DMA | aSC29MA | aRC28MA+b<br>RC29MA+bR<br>C29DMA | aRC29MA | C20TA  |  |
| 6507/11-6 | DC          | 2900        | 12499  | 4.24e2  | 4.48e2   | 7.15e2               | 2.63e2  | 1.51e3                            | 9.38e1   | 1.95e2  | 5.22e2  | 1.30e3               | 7.06e2               | 1.67e2  | 8.37e2                           | 2.29e2  | 1.16e2 |  |
| 6507/11-6 | DC          | 2930        | 12502  | 1.28e3  | 1.54e3   | 2.16e3               | 7.08e2  | 5.78e3                            | 6.34e2   | 4.71e2  | 1.42e3  | 4.59e3               | 2.01e3               | 3.68e2  | 1.72e3                           | 4.93e2  | 4.81e2 |  |
| 6507/11-6 | DC          | 2950        | 12504  | 1.47e3  | 1.89e3   | 2.61e3               | 8.55e2  | 6.42e3                            | 7.01e2   | 6.17e2  | 1.58e3  | 5.48e3               | 2.31e3               | 4.74e2  | 2.04e3                           | 7.53e2  | 5.55e2 |  |
| 6507/11-6 | DC          | 2980        | 12507  | 4.53e2  | 7.88e2   | 9.76e2               | 2.70e2  | 2.07e3                            | 2.54e2   | 1.97e2  | 4.89e2  | 1.13e3               | 8.51e2               | 1.96e2  | 1.19e3                           | 1.75e2  | 2.16e2 |  |
| 6507/11-6 | DC          | 3010        | 12512  | 3.26e1  | 8.56e1   | 9.32e1               | 1.79e1  | 2.08e2                            | 1.21e1   | 1.21e1  | 3.98e1  | 2.98e1               | 2.12e2               | 1.65e1  | 8.21e1                           | 2.48e1  | 5.10e1 |  |
| 6507/11-6 | Oil         | 3035        | 12481  | 2.16e1  | 3.21e2   | 2.59e2               | 2.46e1  | 5.33e2                            | 1.30e2   | 3.27e1  | 5.48e1  | 2.90e2               | 6.07e2               | 4.85e1  | 4.00e2                           | 2.20e1  | 1.98e2 |  |
| 6507/11-6 | COCH        | 3036.50     | 12437  | 1.10e1  | 6.35e1   | 5.71e1               | 7.43e0  | 1.23e2                            | 1.76e1   | 6.98e0  | 1.62e1  | 6.52e1               | 1.39e2               | 1.08e1  | 4.62e1                           | 3.64e0  | 4.04e1 |  |
| 6507/11-6 | COCH        | 3037.50     | 12438  | 5.14e0  | 1.42e1   | 1.31e1               | 3.05e0  | 2.59e1                            | 0.00e0   | 3.03e0  | 4.76e0  | 1.49e1               | 6.63e0               | 4.64e0  | 5.99e0                           | 4.08e0  | 1.17e1 |  |
| 6507/11-6 | COCH        | 3043.40     | 12439  | 0.00e0  | 1.80e1   | 1.13e1               | 0.00e0  | 2.50e1                            | 0.00e0   | 0.00e0  | 8.15e0  | 4.48e0               | 2.18e1               | 4.21e0  | 2.03e1                           | 3.07e0  | 5.93e0 |  |
| 6507/11-6 | COCH        | 3044.50     | 12440  | 4.52e0  | 2.78e1   | 2.67e1               | 3.01e0  | 3.25e1                            | 6.61e0   | 3.83e0  | 9.52e0  | 2.87e1               | 4.94e1               | 0.00e0  | 3.57e1                           | 0.00e0  | 7.78e0 |  |
| 6507/11-6 | COCH        | 3059.50     | 12442  | 5.64e0  | 2.18e1   | 8.67e0               | 6.33e0  | 3.92e1                            | 0.00e0   | 3.29e0  | 8.54e0  | 2.36e1               | 3.19e1               | 7.75e0  | 1.70e1                           | 0.00e0  | 2.51e1 |  |
| 6507/11-6 | COCH        | 3061.50     | 12443  | 9.08e0  | 3.09e1   | 2.33e1               | 1.07e1  | 6.09e1                            | 6.68e0   | 0.00e0  | 1.16e1  | 3.89e1               | 1.20e2               | 1.72e1  | 3.78e1                           | 1.98e1  | 2.12e1 |  |
| 6507/11-6 | Mud         | 3070        | 12404  | 5.28e0  | 1.72e1   | 1.85e1               | 6.85e0  | 4.69e1                            | 0.00e0   | 4.10e0  | 1.28e1  | 9.45e0               | 2.24e1               | 1.44e1  | 9.33e0                           | 1.20e1  | 9.74e0 |  |
| 6507/11-6 | SWC         | 3071        | 12418  | 6.62e0  | 9.99e0   | 9.95e0               | 2.98e0  | 3.44e1                            | 0.00e0   | 0.00e0  | 7.43e0  | 1.05e1               | 1.47e1               | 0.00e0  | 9.28e0                           | 0.00e0  | 7.52e0 |  |
| 6507/11-6 | SWC         | 3075        | 12419  | 7.59e0  | 1.06e1   | 1.01e1               | 0.00e0  | 2.46e1                            | 0.00e0   | 0.00e0  | 2.61e0  | 4.12e0               | 1.39e1               | 0.00e0  | 9.00e0                           | 0.00e0  | 0.00e0 |  |
| 6507/11-6 | SWC         | 3097        | 12420  | 0.00e0  | 6.10e0   | 4.61e0               | 0.00e0  | 1.03e1                            | 0.00e0   | 0.00e0  | 2.55e0  | 1.08e1               | 1.38e1               | 0.00e0  | 5.66e0                           | 2.52e0  | 0.00e0 |  |
| 6507/11-6 | SWC         | 3137        | 12422  | 6.54e0  | 1.41e1   | 1.26e1               | 0.00e0  | 1.90e1                            | 0.00e0   | 2.98e0  | 8.26e0  | 7.28e0               | 9.30e0               | 7.02e0  | 5.19e0                           | 0.00e0  | 0.00e0 |  |
| 6507/11-6 | SWC         | 3283        | 12424  | 6.18e0  | 1.51e1   | 2.33e1               | 3.73e0  | 5.53e1                            | 1.72e1   | 8.35e0  | 9.91e0  | 1.79e1               | 1.14e2               | 1.24e1  | 6.90e1                           | 8.30e0  | 8.69e1 |  |
| 6507/11-6 | SWC         | 3299.50     | 12425  | 6.55e0  | 1.01e1   | 3.42e0               | 0.00e0  | 2.68e1                            | 0.00e0   | 0.00e0  | 7.51e0  | 2.05e1               | 1.33e1               | 3.27e0  | 3.68e0                           | 3.97e0  | 0.00e0 |  |
| 6507/11-6 | Mud         | 3320        | 12405  | 5.97e0  | 2.52e1   | 2.28e1               | 6.18e0  | 5.83e1                            | 7.36e0   | 7.24e0  | 9.13e0  | 3.46e1               | 3.40e1               | 1.44e1  | 3.93e1                           | 9.85e0  | 5.78e0 |  |
| 6507/11-6 | SWC         | 3398        | 12426  | 2.18e0  | 9.69e0   | 8.59e0               | 0.00e0  | 3.37e1                            | 0.00e0   | 0.00e0  | 1.03e1  | 1.96e1               | 1.38e1               | 0.00e0  | 1.18e1                           | 0.00e0  | 0.00e0 |  |



Table 12. continued, GCMS SIR of aromatic compounds (amounts in ng/g)

| Well      | Sample type | Lower Depth | APT ID | C2H7A  | SC26TA | RC26TA+SC27TA | SC28TA | RC27TA | RC28TA |
|-----------|-------------|-------------|--------|--------|--------|---------------|--------|--------|--------|
| 6507/11-6 | DC          | 2900        | 12499  | 8.63e1 | 1.70e2 | 4.75e2        | 9.09e1 | 2.36e2 | 1.27e2 |
| 6507/11-6 | DC          | 2930        | 12502  | 4.22e2 | 1.13e3 | 3.33e3        | 7.90e2 | 1.72e3 | 6.39e2 |
| 6507/11-6 | DC          | 2950        | 12504  | 4.54e2 | 1.33e3 | 3.84e3        | 1.05e3 | 1.88e3 | 7.57e2 |
| 6507/11-6 | DC          | 2980        | 12507  | 1.53e2 | 3.77e2 | 1.02e3        | 3.41e2 | 4.74e2 | 2.62e2 |
| 6507/11-6 | DC          | 3010        | 12512  | 3.40e1 | 3.26e1 | 9.17e1        | 3.13e1 | 2.66e1 | 5.47e1 |
| 6507/11-6 | Oil         | 3035        | 12481  | 1.62e2 | 4.23e1 | 1.32e2        | 8.91e1 | 3.52e1 | 9.33e1 |
| 6507/11-6 | COCH        | 3036.50     | 12437  | 3.86e1 | 9.29e0 | 5.08e1        | 1.96e1 | 2.12e1 | 3.32e1 |
| 6507/11-6 | COCH        | 3037.50     | 12438  | 1.20e1 | 2.75e0 | 1.84e1        | 1.69e1 | 4.78e0 | 1.22e1 |
| 6507/11-6 | COCH        | 3043.40     | 12439  | 7.39e0 | 0.00e0 | 1.23e1        | 7.26e0 | 4.42e0 | 4.26e0 |
| 6507/11-6 | COCH        | 3044.50     | 12440  | 9.82e0 | 4.73e0 | 2.42e1        | 1.75e1 | 1.18e1 | 1.34e1 |
| 6507/11-6 | COCH        | 3059.50     | 12442  | 1.88e1 | 7.55e0 | 2.59e1        | 1.48e1 | 1.47e1 | 1.33e1 |
| 6507/11-6 | COCH        | 3061.50     | 12443  | 1.66e1 | 1.02e1 | 4.63e1        | 2.63e1 | 2.55e1 | 3.08e1 |
| 6507/11-6 | Mud         | 3070        | 12404  | 9.08e0 | 2.44e0 | 2.20e1        | 1.58e1 | 6.12e0 | 1.57e1 |
| 6507/11-6 | SWC         | 3071        | 12418  | 5.89e0 | 5.37e0 | 1.29e1        | 8.15e0 | 4.25e0 | 6.36e0 |
| 6507/11-6 | SWC         | 3075        | 12419  | 0.00e0 | 0.00e0 | 9.86e0        | 4.55e0 | 6.58e0 | 4.67e0 |
| 6507/11-6 | SWC         | 3097        | 12420  | 0.00e0 | 0.00e0 | 1.06e1        | 4.91e0 | 2.42e0 | 4.23e0 |
| 6507/11-6 | SWC         | 3137        | 12422  | 6.08e0 | 0.00e0 | 7.90e0        | 5.36e0 | 2.77e0 | 7.20e0 |
| 6507/11-6 | SWC         | 3283        | 12424  | 1.16e2 | 2.21e1 | 4.54e1        | 4.46e1 | 1.88e1 | 2.48e1 |
| 6507/11-6 | SWC         | 3299.50     | 12425  | 0.00e0 | 0.00e0 | 7.81e0        | 5.09e0 | 4.97e0 | 4.09e0 |
| 6507/11-6 | Mud         | 3320        | 12405  | 9.93e0 | 7.43e0 | 2.89e1        | 1.29e1 | 1.17e1 | 2.50e1 |
| 6507/11-6 | SWC         | 3398        | 12426  | 0.00e0 | 0.00e0 | 1.22e1        | 4.55e0 | 5.66e0 | 1.01e1 |



Table 13. Pyrolysis GC (peak area)

| Well      | Sample type | Lower Depth | APT ID | %C1(UCM) | %C2-C5 (UCM) | %C6-C14 (UCM) | %C15+ (UCM) | %C1 (X-UCM) | %C2-C5 (X-UCM) | %C6-C14 (X-UCM) | %C15+ (X-UCM) | C1     | C2-C5  | C6-C14 | C15+   | C6-C14 (UCM) | C15+ (UCM) |
|-----------|-------------|-------------|--------|----------|--------------|---------------|-------------|-------------|----------------|-----------------|---------------|--------|--------|--------|--------|--------------|------------|
| 6507/11-6 | DC          | 2900        | 12499  | 1.65     | 5.95         | 25.14         | 67.25       | 4.33        | 15.57          | 44.97           | 35.13         | 5.35e6 | 1.92e7 | 5.56e7 | 4.34e7 | 8.13e7       | 2.17e8     |
| 6507/11-6 | DC          | 2930        | 12502  | 1.51     | 5.68         | 22.90         | 69.92       | 4.30        | 16.15          | 45.35           | 34.20         | 4.15e6 | 1.56e7 | 4.37e7 | 3.30e7 | 6.28e7       | 1.92e8     |
| 6507/11-6 | DC          | 2950        | 12504  | 1.78     | 5.56         | 22.98         | 69.68       | 4.69        | 14.63          | 41.81           | 38.88         | 3.80e6 | 1.19e7 | 3.39e7 | 3.15e7 | 4.91e7       | 1.49e8     |
| 6507/11-6 | DC          | 2980        | 12507  | 1.61     | 4.90         | 20.26         | 73.24       | 3.93        | 11.96          | 34.34           | 49.77         | 4.41e6 | 1.34e7 | 3.86e7 | 5.59e7 | 5.56e7       | 2.01e8     |
| 6507/11-6 | DC          | 3010        | 12512  | 0.86     | 3.30         | 12.01         | 83.82       | 2.19        | 8.40           | 20.96           | 68.45         | 1.37e6 | 5.27e6 | 1.31e7 | 4.29e7 | 1.92e7       | 1.34e8     |

Table 13. continued, Pyrolysis GC (peak area)

| Well      | Sample type | Lower Depth | APT ID | n-Heptene | Tol    | n-Octene | mp-Xyl | Weight (mg) | Comment |
|-----------|-------------|-------------|--------|-----------|--------|----------|--------|-------------|---------|
| 6507/11-6 | DC          | 2900        | 12499  | 9.96e5    | 1.03e6 | 8.95e5   | 1.24e6 | 11.2        |         |
| 6507/11-6 | DC          | 2930        | 12502  | 8.13e5    | 1.63e6 | 7.39e5   | 9.59e5 | 9.3         |         |
| 6507/11-6 | DC          | 2950        | 12504  | 6.30e5    | 8.08e5 | 5.63e5   | 7.97e5 | 8.5         |         |
| 6507/11-6 | DC          | 2980        | 12507  | 6.32e5    | 1.00e6 | 5.83e5   | 8.06e5 | 10.5        |         |
| 6507/11-6 | DC          | 3010        | 12512  | 2.52e5    | 4.45e5 | 1.92e5   | 2.05e5 | 10.7        |         |



Table 14. Gas Isotopes

| Well      | Sample type | Lower Depth | APT ID | C1 d13C | C2 d13C | C3 d13C | iC4 d13C | nC4 d13C | iC5 d13C | nC5 d13C | CO2 d13C | C1 dD  | CO2 d18O |
|-----------|-------------|-------------|--------|---------|---------|---------|----------|----------|----------|----------|----------|--------|----------|
| 6507/11-6 | Gas         | 2970        | 12406  | -42.4   | -31.4   | -29.1   |          |          |          |          | -19.5    |        |          |
| 6507/11-6 | DCG         | 2970        | 12427  |         |         |         |          |          |          |          |          |        |          |
| 6507/11-6 | DCG         | 3020        | 12428  |         |         |         |          |          |          |          |          |        |          |
| 6507/11-6 | Gas         | 3020        | 12407  | -41.7   | -31.3   | -31.4   |          | -29.9    |          |          | -19.4    |        |          |
| 6507/11-6 | Gas         | 3035        | 12480  | -44.7   | -31.9   | -31.2   | -30.9    | -31.3    |          |          | -12.7    | -208.0 | -6.8     |
| 6507/11-6 | Gas         | 3060        | 12408  | -36.4   | -29.3   | -29.8   |          | -29.9    |          |          | -20.1    |        |          |
| 6507/11-6 | Gas         | 3070        | 12409  | -43.7   | -32.4   | -30.0   |          |          |          |          | -22.5    |        |          |
| 6507/11-6 | DCG         | 3070        | 12429  |         |         |         |          |          |          |          |          |        |          |
| 6507/11-6 | DCG         | 3120        | 12430  |         |         |         |          |          |          |          |          |        |          |
| 6507/11-6 | Gas         | 3120        | 12410  | -42.8   | -31.5   | -30.4   | -31.5    | -31.6    |          |          | -19.8    |        |          |
| 6507/11-6 | Gas         | 3170        | 12411  | -43.0   | -30.7   | -30.3   | -25.3    | -27.5    |          |          | -20.2    |        |          |
| 6507/11-6 | DCG         | 3170        | 12431  |         |         |         |          |          |          |          |          |        |          |
| 6507/11-6 | Gas         | 3220        | 12412  | -46.3   | -32.0   | -30.6   |          |          |          |          | -19.1    |        |          |
| 6507/11-6 | DCG         | 3220        | 12432  |         |         |         |          |          |          |          |          |        |          |
| 6507/11-6 | Gas         | 3270        | 12413  | -44.3   | -30.3   | -30.9   |          | -30.6    |          |          | -17.6    |        |          |
| 6507/11-6 | DCG         | 3270        | 12433  |         |         |         |          |          |          |          |          |        |          |
| 6507/11-6 | Gas         | 3320        | 12414  | -44.1   | -30.2   | -31.6   |          |          |          |          | -17.9    |        |          |
| 6507/11-6 | DCG         | 3320        | 12434  |         |         |         |          |          |          |          |          |        |          |
| 6507/11-6 | DCG         | 3370        | 12435  |         |         |         |          |          |          |          |          |        |          |
| 6507/11-6 | Gas         | 3420        | 12415  | -28.4   | -29.1   | -30.6   |          |          |          |          | -16.6    |        |          |
| 6507/11-6 | DCG         | 3420        | 12436  |         |         |         |          |          |          |          |          |        |          |
| 6507/11-6 | Gas         | 3440        | 12416  | -48.7   | -35.9   |         |          |          |          |          | -19.6    |        |          |



Table 15. Isotopes of fractions, d13C (‰ PDB)

| Well      | Sample type | Lower Depth | APT ID | Oil/EOM | Sat   | Aro   | Pol | ASP |
|-----------|-------------|-------------|--------|---------|-------|-------|-----|-----|
| 6507/11-6 | DC          | 2900        | 12499  |         | -28.4 |       |     |     |
| 6507/11-6 | DC          | 2930        | 12502  |         | -28.4 | -30.9 |     |     |
| 6507/11-6 | DC          | 2950        | 12504  |         | -28.4 | -30.7 |     |     |
| 6507/11-6 | DC          | 2980        | 12507  |         | -28.5 | -29.1 |     |     |
| 6507/11-6 | DC          | 3010        | 12512  |         | -28.4 | -27.7 |     |     |
| 6507/11-6 | Oil         | 3035        | 12481  |         | -28.2 | -25.9 |     |     |
| 6507/11-6 | COCH        | 3036.50     | 12437  |         | -28.5 | -26.9 |     |     |
| 6507/11-6 | COCH        | 3037.50     | 12438  |         | -28.4 | -27.4 |     |     |
| 6507/11-6 | COCH        | 3043.40     | 12439  |         | -28.4 |       |     |     |
| 6507/11-6 | COCH        | 3044.50     | 12440  |         | -28.5 | -27.0 |     |     |
| 6507/11-6 | COCH        | 3059.50     | 12442  |         | -28.5 | -26.8 |     |     |
| 6507/11-6 | COCH        | 3061.50     | 12443  |         | -28.5 | -27.0 |     |     |
| 6507/11-6 | SWC         | 3071        | 12418  |         | -28.4 | -28.1 |     |     |
| 6507/11-6 | SWC         | 3075        | 12419  |         | -28.5 |       |     |     |
| 6507/11-6 | SWC         | 3097        | 12420  |         | -28.5 |       |     |     |
| 6507/11-6 | SWC         | 3137        | 12422  |         | -28.5 |       |     |     |
| 6507/11-6 | SWC         | 3283        | 12424  |         | -28.5 |       |     |     |
| 6507/11-6 | SWC         | 3299.50     | 12425  |         | -28.5 |       |     |     |
| 6507/11-6 | SWC         | 3398        | 12426  |         | -28.6 |       |     |     |



Table 16. Vitrinite Reflectance

| Well      | Sample type | Lower Depth | API ID | Lithology | %R <sub>o</sub> | Std. dev. | No. of measure-ments | Quality rating | Overall quality | Comment                |
|-----------|-------------|-------------|--------|-----------|-----------------|-----------|----------------------|----------------|-----------------|------------------------|
| 6507/11-6 | DC          | 1000        | 12482  | sst/clyst | 0.21            | 0.03      | 14                   | -oo-o          | M               |                        |
| 6507/11-6 | DC          | 1140        | 12483  | sst/clyst | 0.22            | 0.00      | 1                    | -oo-oo         | P               |                        |
| 6507/11-6 | DC          | 1280        | 12484  | sst/clyst | 0.22            | 0.03      | 10                   | -oo-+          | M/P             |                        |
| 6507/11-6 | DC          | 1420        | 12485  | clyst/sst | 0.24            | 0.05      | 22                   | ooo-oo         | M               |                        |
| 6507/11-6 | DC          | 1560        | 12486  | clyst/sst | 0.25            | 0.03      | 21                   | ooo-o          | M               |                        |
| 6507/11-6 | DC          | 1700        | 12487  | clyst/sst | 0.24            | 0.03      | 13                   | -oo-+          | M               |                        |
| 6507/11-6 | DC          | 1840        | 12488  |           | barren          |           |                      |                |                 |                        |
| 6507/11-6 | DC          | 1980        | 12489  | sst/clyst | 0.30            | 0.02      | 5                    | -+--o          | P               |                        |
| 6507/11-6 | DC          | 2230        | 12490  | sst/clyst | 0.31            | 0.04      | 5                    | -oo-o          | P               |                        |
| 6507/11-6 | DC          | 2320        | 12491  | clyst/sst | 0.41            | 0.06      | 9                    | -+o-o          | P               |                        |
| 6507/11-6 | DC          | 2420        | 12492  | clyst/sst | 0.36            | 0.04      | 4                    | -+o-o          | P               |                        |
| 6507/11-6 | DC          | 2520        | 12493  | clyst/sst | 0.36            | 0.02      | 5                    | -+o-o          | P               |                        |
| 6507/11-6 | DC          | 2620        | 12494  | clyst     | 0.38            | 0.02      | 4                    | -++-o          | P               |                        |
|           |             |             |        |           | 0.55            | 0.02      | 4                    |                |                 | Alternative population |
| 6507/11-6 | DC          | 2720        | 12495  |           | barren          |           |                      |                |                 |                        |
| 6507/11-6 | DC          | 2820        | 12496  | clyst     | 1.11            | 0.07      | 15                   |                |                 | Reworked               |
| 6507/11-6 | DC          | 2920        | 12501  | clyst/sst | 0.35            | 0.01      | 4                    | -o---o         | P               |                        |
|           |             |             |        |           | 0.55            | 0.05      | 8                    |                |                 | Alternative population |
| 6507/11-6 | DC          | 2970        | 12506  | clyst     | 0.48            | 0.07      | 13                   | -++-+          | P               |                        |
| 6507/11-6 | SWC         | 3002.50     | 12417  | clyst     | 0.47            | 0.08      | 20                   | oooo-o         | M/P             |                        |
| 6507/11-6 | DC          | 3025        | 12515  | clyst/sst | 0.53            | 0.07      | 17                   | -++-o          | P               |                        |
| 6507/11-6 | COCH        | 3050        | 12441  |           | barren          |           |                      |                |                 |                        |
| 6507/11-6 | DC          | 3120        | 12517  | clyst/sst | 0.56            | 0.04      | 6                    | -o+-o          | P               |                        |
| 6507/11-6 | SWC         | 3128        | 12421  | sst       | 0.58            | 0.09      | 8                    | -++-o          | P               |                        |
| 6507/11-6 | SWC         | 3197        | 12423  | sst/clyst | 0.56            | 0.02      | 4                    | -oo-o          | P               |                        |
| 6507/11-6 | DC          | 3220        | 12518  | clyst     | 0.57            | 0.06      | 14                   | -oo-o          | M               |                        |
| 6507/11-6 | DC          | 3320        | 12519  | clyst     | 0.45            | 0.06      | 20                   | oooo+          | M/P             |                        |
| 6507/11-6 | DC          | 3420        | 12520  | clyst     | 0.51            | 0.05      | 15                   | -oo-o          | M               |                        |



## Legend to vitrinite reflectance data table

| Lithology code  |       | Sample quality |  | Sample preparation |   |
|---|-------|----------------|--|--------------------|---|
| Sandstone   | sst   | G              | good   | HF                 | sample treated with hydrofluoric acid prior to analysis |
| Siltstone   | slst  | M              | moderate   |                    |   |
| Claystone   | clyst | P              | poor   | bulk               | sample treated as bulk rock                             |
| Shale   | sh    | st             | hydrocarbon staining                                 |                    |   |
| Limestone   | lst   |                |  |                    |   |
| Coal  | coal  |                |  |                    |   |
| Sample description and measurement evaluation (- o +) |       |                |  | Options            |   |
| 000000  |       | 1              | Abundance of vitrinite                               | -                  | o   |
| 123456  |       | 2              | Identification of vitrinite                          | -                  | o +   |
|   |       | 3              | Type of vitrinite                                    | -                  | o +   |
|   |       | 4              | Vitrinite fragment size                              | -                  | o   |
|   |       | 5              | Vitrinite surface quality                            | -                  | o   |
|   |       | 6              | Abundance of pyrite                                  | o                  | +   |
| Options legend:                                       |       | -              | may give too low vitrinite reflectance sample value  |                    |   |
|   |       | o              | reliable vitrinite reflectance sample value          |                    |   |
|   |       | +              | may give too high vitrinite reflectance sample value |                    |   |





## **APPENDIX 4: Experimental procedures**

## **Experimental procedures**

All procedures follow NIGOGA, 4<sup>th</sup> Edition. Below are brief descriptions of procedures/analytical conditions.

### **Sample preparation**

Cuttings samples are washed in water to remove mud. When oil based mud is used, soap (Zalo) is added to the sample and the sample is washed thoroughly in warm water to remove mud and soap.

### **Extraction**

A Soxtec Tecator instrument is used. Thimbles are pre extracted in dichloromethane with 7% (vol/vol) methanol, 10 min boiling and 20 min rinsing. The crushed sample is weighed accurately in the pre extracted thimbles and boiled for 1 hour and rinsed for 2 hours in approximately 80 cc of dichloromethane with 7% (vol/vol) methanol. Copper blades activated in concentrated hydrochloric acid are added to the extraction cups to cause free sulphur to react with the copper. An aliquot of 10% of the extract is transferred to a pre weighed bottle and evaporated to dryness. The amount of extractable organic matter is calculated from the weight of this 10% aliquot.

### **Deasphalting**

The extract is evaporated almost to dryness before a small amount of dichloromethane (3 times the amount of EOM) is added. Then pentane is added in excess (40 times the volume of EOM and dichloromethane). The solution is stored for at least 12 hours in a dark place before the solution is filtered or centrifuged and the weight of the asphaltenes measured.

### **MPLC**

The MPLC is constructed as described by Radke et al. (1980). The system includes two HPLC pumps, sample injector, sample collector, RI-detector, UV-detector and two packed columns. The pre column is filled with Kieselgel 100, which is heated at 600 °C for 2 hours to deactivate it. The main column is a LiChroprep Si60, which is heated at 120 °C for 2 hours to make it water free.

Approximately 30 mg of deasphalted oil or EOM diluted in 1 ml hexane is injected and separated into a saturated, an aromatic and a polar fraction.

### **TOC and Rock-Eval**

A Rock-Eval 6 instrument is used. The analysis is performed in two steps, pyrolysis and oxidation, when TOC is measured. Jet-Rock 1 was run as every tenth sample and checked against the acceptable range given in NIGOGA.

#### *Temperature programme*

Pyrolysis: 300 °C (3 min.) - 25 °C/min. - 650 °C (0 min.)

Oxidation: 400 °C (3 min.) - 25 °C/min. - 850 °C (5 min.)

### **Iatroscan**

An Iatroscan MK-5 (TLC/FID Analyser) instrument is used. 2  $\mu$ l of extract or diluted oil is spotted on Chromarod S-III rods before elution in hexane (25 min), toluene (8 min) and dichloromethane with 7 % methanol (vol/vol). The solvent is allowed to evaporate before the rods are placed into the next elution chamber. Before running the rods in the analyser, the rods are heated for 90 sec. in a heating chamber at 60 °C.

### **GC of whole oil**

A HP5890 II instrument is used. The column is a HP PONA, length 50 m, i.d. 0.2 mm, film thickness 0.5  $\mu$ m. 2,2,4-tri-methane-pentane is used as an internal standard.

#### *Temperature programme*

30 °C (10 min.) - 2 °C/min. - 60 °C (10 min.) - 2 °C/min - 240 °C (60 min.)

### **GC of saturated fraction**

A HP5890 II instrument is used. The column is a CP-Sil-5 CB-MS, length 25 m, i.d. 0.25 mm, film thickness 0.25  $\mu$ m. C12D26, C20D42, C24D50 and C30D62 are used as internal standards.

#### *Temperature programme*

50 °C (1 min.) - 4 °C/min. - 310 °C (25 min.)

### **GC of aromatic fraction**

A HP5890 instrument is used. The column is a CP-Sil-8 CB, length 50 m, i.d. 0.25 mm, film thickness 0.25  $\mu$ m.

#### *Temperature programme*

50 °C (1 min.) - 4 °C/min. - 310 °C (25 min.)

### **PyGC**

A HP5890 II instrument with a MSSV injector and a FID is used. The column is a CP-Sil-5 CB-MS, length 25 m, i.d. 0.25 mm, film thickness 0.25  $\mu$ m.

During the run the pyrolysis oven starts at 330 °C. The tube is then broken and the temperature increased to 600 °C at a rate of 25 °C/min. The pyrolysis products are collected in the cold trap for fourteen minutes.

#### *Temperature programme*

30 °C (15 min.) - 5 °C/min. - 310 °C (23 min.)

### **GCMS of saturated and aromatic fractions**

A Micromass ProSpec high resolution instrument is used. The instrument is tuned to a resolution of 3000 and data is acquired in Selected Ion Recording (SIR) mode. The column used is a 60 m CP-Sil-5 CB-MS with an i.d. of 0.25 mm and a film thickness 0.25  $\mu$ m.

d4-27a aR is used as internal standard when quantitative results are requested for the saturated compounds. The aromatic and aliphatic fractions may be analysed together or separately.

*Temperature programme*

50 °C (1 min.) - 20 °C/min. - 120 °C - 2 °C/min - 320 °C (20 min.)

**Stable isotope analysis of gas compounds**

5-10 ml of the gas is sampled with a syringe and then separated into the different gas components by a Carlo Erba 4200 gas chromatograph. The hydrocarbon gas components are oxidised in separate CuO-ovens in order to prevent cross contamination. The combustion products CO<sub>2</sub> and H<sub>2</sub>O are frozen into collection vessels and separated.

The combustion water is reduced with zinc metal in sealed quartz tubes to prepare hydrogen for isotopic analysis. The isotopic measurements are performed on a Finnigan MAT 251 and a Finnigan Delta mass spectrometer.

The value for the NBS 22 standard is  $-29.77 \pm 0.06$  ‰ PDB. The analytical procedures are tested with a laboratory gas standard mixture. Based on repeated analysis of the gas standard, the reproducibility in the d<sup>13</sup>C value is better than 0.5 ‰ PDB for all components. The reproducibility in the dD value is likewise better than 10 ‰.

**Stable carbon isotope analysis of oil, EOM and kerogen**

The samples are dissolved in a known amount of dichloromethane, and 1-2 mg of the sample (or as much as possible) is then transferred to a glass container. The solvent is evaporated in an oven at 50 °C. CuO and some silver wires are added to the containers, which are then sealed by melting in a vacuum. The samples are then combusted in an oven at 550 °C for 1 hour (Sofer, 1980). The combustion products CO<sub>2</sub> and H<sub>2</sub>O are separated at -80°C before the isotopic ratio is determined on a Finnigan MAT 251 mass spectrometer.

A standard (NGS NSO-1, topped oil) is analysed for each 10<sup>th</sup> sample. The d<sup>13</sup>C value obtained for this standard is  $-28.73$  ‰ PDB. The variation in the isotopic values for the standard by repeated analysis over a period of four years is  $\pm 0.16$  ‰.

**GC analysis of gas components**

Aliquots of 0.2 ml are sampled with a syringe for analysis on a Porabond Q column on a Carlo Erba HRGC 5300 equipped with a flame ionisation (FID) and a thermal conductivity (TCD) detector. The detection limit for the hydrocarbon gas components is 0.001 µl/ml, for CO<sub>2</sub> 0.05 µl/ml.

**Vitrinite reflectance analysis**

The samples are prepared either as “whole rock” or are treated with hydrochloric and hydrofluoric acid prior to further preparation. The aim of the acid treatment is to avoid soft and expanding mineral phases in order to ensure good polishing quality. The whole rock or the kerogen resulting from the acid treatment is embedded in an epoxy resin to make



briquettes, ground flat and polished using 0.25 micron diamond paste and magnesium oxide as the two final steps.

The analytical equipment used is a Zeiss MPM 03 photometer microscope equipped with an Epiplan-Neofluar 40/0.90 oil objective. The sensitive measuring spot is kept constant for all measurements at about 2.5 micron in diameter. The measurements are made through a green band pass filter (546 nm) and in oil immersion (refractive index 1.515 at 18 °C). The readings are made without a polarizer and using a stationary stage. This procedure is called measurement of random reflectance (%Rm). The photometer is calibrated daily against a standard of known reflectance (%Rm = 0.588) and routinely (daily) checked against two other standards of significant different reflectances (%Rm = 0.879 and 1.696). A deviation from these values of less than  $\pm 0.01$  and  $\pm 0.02$  respectively is considered acceptable. The calibration is routinely checked during the course of measurements at least every hour, and a deviation of less than  $\pm 0.005$  is considered acceptable.

For each sample at least 20 points are measured if possible, and quality ratings are given to various important aspects, which may affect the measurements. These aspects are abundance of vitrinite, uncertainties in the identification of indigenous vitrinite, type of vitrinite, particle size, particle surface quality and abundance of pyrite.