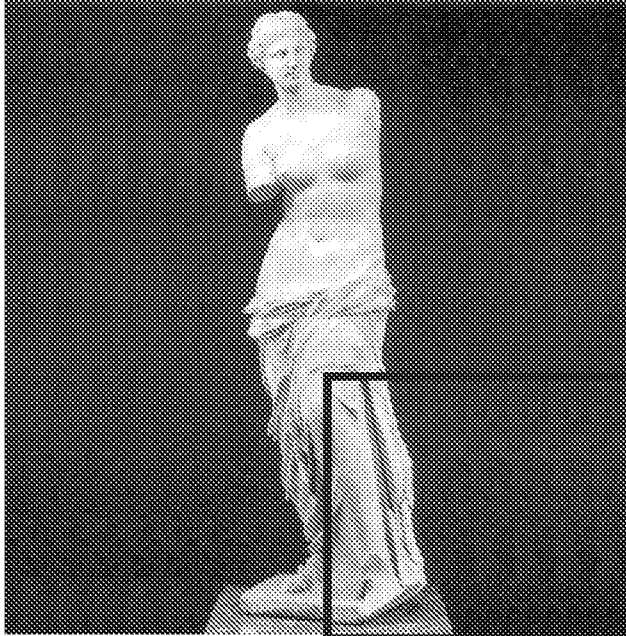


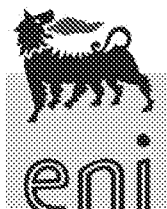
Exploration & Production




**Norway
Well 34/12-1
Afrodite**

GEOL-GEBA

Geochemical Study



September 2009

| | | | | | |
|--|--|-------------------|---------------------------------|------|------------------|
|  | ENI S.p.A. E&P Division | date 15-Sep-09 | Doc. N°. GEBA-2009/21 | Rev. | sheet of 3 54 |
|--|--|-------------------|---------------------------------|------|------------------|

GEOL
GEBA

“Basin Geology Department”

Authors

Rouven Elias (Editing)
Piergiuseppe Caccialanza (Source Rock Analyses)
Donato Barbieri (Optical Analyses)
Corrado Barbieri (Isotope Analyses)
Neria Costa (Biomarker Analyses)

Copies to

Eni Norge: 5 + 5 CD-ROM
GEBA: 1 +1 CD-ROM
SDAT: 1 + 1 CD-ROM

Date: September 2009



5. Appendix (Data)

5.1. TOC & RockEval

| Depth m | Sample type | TOC Wt% | S1 mg/g | S2 mg/g | HI mg/g | Tmax °C | PI |
|------------|----------------|------------|------------|------------|------------|------------|------|
| 1270,00 | cuttings | 2,00 | 1,00 | 6,62 | 331 | 407 | 0,13 |
| 1290,00 | cuttings | 2,49 | | | | | |
| 1310,00 | cuttings | 2,35 | 1,08 | 7,44 | 317 | 405 | 0,13 |
| 1330,00 | cuttings | 2,48 | | | | | |
| 1350,00 | cuttings | 2,08 | 0,59 | 6,06 | 291 | 413 | 0,09 |
| 1370,00 | cuttings | 2,16 | | | | | |
| 1390,00 | cuttings | 1,99 | 0,58 | 6,66 | 335 | 413 | 0,08 |
| 1410,00 | cuttings | 2,44 | | | | | |
| 1430,00 | cuttings | 2,15 | 0,73 | 7,42 | 345 | 412 | 0,09 |
| 1450,00 | cuttings | 2,11 | | | | | |
| 1470,00 | cuttings | 2,08 | 0,85 | 7,33 | 352 | 406 | 0,10 |
| 1490,00 | cuttings | 1,77 | | | | | |
| 1510,00 | cuttings | 2,51 | 0,86 | 8,25 | 329 | 414 | 0,09 |
| 1530,00 | cuttings | 2,17 | | | | | |
| 1550,00 | cuttings | 2,00 | 0,67 | 4,81 | 241 | 416 | 0,12 |
| 1570,00 | cuttings | 2,62 | | | | | |
| 1590,00 | cuttings | 3,07 | 0,91 | 9,42 | 307 | 414 | 0,09 |
| 1610,00 | cuttings | 2,07 | | | | | |
| 1630,00 | cuttings | 1,15 | | | | | |
| 1650,00 | cuttings | 1,42 | 0,94 | 2,83 | 199 | 423 | 0,25 |
| 1670,00 | cuttings | 1,31 | | | | | |
| 1690,00 | cuttings | 1,32 | 0,85 | 2,35 | 178 | 425 | 0,27 |
| 1710,00 | cuttings | 1,05 | | | | | |
| 1730,00 | cuttings | 1,44 | 0,97 | 3,91 | 272 | 423 | 0,20 |
| 1750,00 | cuttings | 1,74 | | | | | |
| 1770,00 | cuttings | 1,35 | 0,96 | 3,17 | 235 | 419 | 0,23 |
| 1790,00 | cuttings | 1,00 | | | | | |
| 1810,00 | cuttings | 1,64 | 0,89 | 3,78 | 230 | 417 | 0,19 |
| 1830,00 | cuttings | 1,84 | | | | | |
| 1850,00 | cuttings | 1,59 | 0,82 | 5,13 | 323 | 412 | 0,14 |
| 1870,00 | cuttings | 1,25 | | | | | |
| 1890,00 | cuttings | 1,42 | 0,84 | 4,35 | 306 | 408 | 0,16 |
| 1910,00 | cuttings | 1,64 | | | | | |
| 1930,00 | cuttings | 1,23 | 0,62 | 3,36 | 273 | 417 | 0,16 |
| 1950,00 | cuttings | 1,14 | | | | | |
| 1970,00 | cuttings | 1,43 | 0,59 | 4,20 | 294 | 414 | 0,12 |
| 1990,00 | cuttings | 1,70 | | | | | |
| 2010,00 | cuttings | 1,19 | 0,50 | 3,57 | 300 | 401 | 0,12 |
| 2030,00 | cuttings | 1,08 | | | | | |
| 2050,00 | cuttings | 1,00 | 0,40 | 2,38 | 238 | 395 | 0,14 |
| 2070,00 | cuttings | 0,87 | | | | | |
| 2090,00 | cuttings | 1,16 | 0,42 | 3,04 | 262 | 407 | 0,12 |
| 2110,00 | cuttings | 1,06 | | | | | |
| 2130,00 | cuttings | 1,54 | 0,52 | 4,20 | 273 | 414 | 0,11 |
| 2150,00 | cuttings | 1,28 | | | | | |
| 2170,00 | cuttings | 1,33 | 0,50 | 4,25 | 320 | 414 | 0,11 |
| 2190,00 | cuttings | 1,50 | | | | | |



| | | | | | | | |
|---------|--------------|------|------|------|-----|-----|------|
| 2210,00 | cuttings | 1,41 | 0,57 | 4,14 | 294 | 414 | 0,12 |
| 2230,00 | cuttings | 1,41 | | | | | |
| 2250,00 | cuttings | 0,89 | 0,59 | 2,30 | 258 | 402 | 0,20 |
| 2270,00 | cuttings | 0,99 | | | | | |
| 2290,00 | cuttings | 1,09 | 0,58 | 2,20 | 202 | 395 | 0,21 |
| 2310,00 | cuttings | 1,07 | | | | | |
| 2330,00 | cuttings | 1,17 | 0,59 | 2,63 | 225 | 397 | 0,18 |
| 2350,00 | cuttings | 0,98 | | | | | |
| 2370,00 | cuttings | 0,95 | 0,46 | 2,32 | 244 | 405 | 0,17 |
| 2380,00 | cuttings | 1,05 | | | | | |
| 2400,00 | cuttings | 1,12 | 0,56 | 3,06 | 273 | 406 | 0,15 |
| 2420,00 | cuttings | 1,26 | | | | | |
| 2440,00 | cuttings | 1,20 | 0,58 | 3,10 | 258 | 410 | 0,16 |
| 2446,00 | cuttings | 1,93 | | | | | |
| 2480,00 | cuttings | 1,18 | 0,49 | 2,72 | 231 | 412 | 0,15 |
| 2500,00 | cuttings | 1,08 | | | | | |
| 2520,00 | cuttings | 1,15 | 0,46 | 2,61 | 227 | 419 | 0,15 |
| 2540,00 | cuttings | 1,19 | | | | | |
| 2560,00 | cuttings | 1,18 | 0,57 | 2,86 | 242 | 421 | 0,17 |
| 2580,00 | cuttings | 1,24 | | | | | |
| 2600,00 | cuttings | 1,28 | 0,44 | 2,51 | 196 | 424 | 0,15 |
| 2620,00 | cuttings | 1,52 | | | | | |
| 2640,00 | cuttings | 1,48 | 0,73 | 4,27 | 289 | 421 | 0,15 |
| 2660,00 | cuttings | 1,33 | | | | | |
| 2680,00 | cuttings | 1,36 | 0,57 | 3,21 | 236 | 425 | 0,15 |
| 2700,00 | cuttings | 1,30 | | | | | |
| 2720,00 | cuttings | 1,23 | 0,58 | 2,71 | 220 | 426 | 0,18 |
| 2740,00 | cuttings | 1,00 | | | | | |
| 2760,00 | cuttings | 0,81 | 0,48 | 1,32 | 163 | 417 | 0,27 |
| 2780,00 | cuttings | 1,36 | | | | | |
| 2800,00 | cuttings | 1,39 | 0,63 | 4,09 | 294 | 416 | 0,13 |
| 2820,00 | cuttings | 1,36 | | | | | |
| 2840,00 | cuttings | 1,10 | 0,60 | 2,44 | 222 | 410 | 0,20 |
| 2860,00 | cuttings | 1,20 | 0,62 | 3,20 | 267 | 412 | 0,16 |
| 2880,00 | cuttings | 0,96 | | | | | |
| 2900,00 | cuttings | 1,06 | 0,53 | 2,25 | 212 | 417 | 0,19 |
| 2920,00 | cuttings | 1,15 | | | | | |
| 2940,00 | cuttings | 0,98 | 0,48 | 2,08 | 212 | 409 | 0,19 |
| 2960,00 | cuttings | 0,98 | | | | | |
| 2980,00 | cuttings | 0,99 | 0,37 | 1,75 | 177 | 424 | 0,17 |
| 3000,00 | cuttings | 0,99 | | | | | |
| 3020,00 | cuttings | 1,08 | 0,43 | 1,81 | 168 | 421 | 0,19 |
| 3040,00 | cuttings | 1,05 | | | | | |
| 3060,00 | cuttings | 1,07 | 0,46 | 2,00 | 187 | 416 | 0,19 |
| 3080,00 | cuttings | 0,97 | | | | | |
| 3100,00 | cuttings | 0,89 | 0,41 | 1,78 | 200 | 415 | 0,19 |
| 3120,00 | cuttings | 0,98 | | | | | |
| 3140,00 | cuttings | 1,10 | 0,52 | 2,25 | 205 | 413 | 0,19 |
| 3160,00 | cuttings | 0,87 | | | | | |
| 3180,00 | cuttings | 0,90 | 0,49 | 1,87 | 208 | 419 | 0,21 |
| 3200,00 | cuttings -ws | 0,90 | | | | | |
| 3220,00 | cuttings -ws | 0,85 | 0,10 | 1,60 | 188 | 424 | 0,06 |



| | | | | | | | |
|---------|--------------|------|------|------|-----|-----|------|
| 3340.00 | cuttings -ws | 0,75 | 0,12 | 1,42 | 189 | 434 | 0,08 |
| 3360.00 | cuttings -ws | 0,71 | | | | | |
| 3380.00 | cuttings -ws | 0,73 | 0,09 | 1,24 | 170 | 431 | 0,07 |
| 3400.00 | cuttings -ws | 0,73 | | | | | |
| 3420.00 | cuttings -ws | 0,76 | 0,11 | 1,65 | 217 | 432 | 0,06 |
| 3440.00 | cuttings -ws | 0,67 | | | | | |
| 3460.00 | cuttings -ws | 0,55 | 0,08 | 1,30 | 236 | 431 | 0,06 |
| 3480.00 | cuttings -ws | 0,63 | | | | | |
| 3500.00 | cuttings -ws | 0,65 | 0,07 | 1,20 | 185 | 432 | 0,06 |
| 3520.00 | cuttings -ws | 0,72 | | | | | |
| 3540.00 | cuttings -ws | 0,85 | 0,14 | 2,40 | 282 | 428 | 0,06 |
| 3560.00 | cuttings -ws | 0,83 | | | | | |
| 3580.00 | cuttings -ws | 0,80 | 0,13 | 2,80 | 350 | 434 | 0,04 |
| 3600.00 | cuttings -ws | 0,82 | | | | | |
| 3620.00 | cuttings -ws | 0,91 | 0,13 | 2,51 | 276 | 426 | 0,05 |
| 3640.00 | cuttings -ws | 0,73 | | | | | |
| 3660.00 | cuttings -ws | 0,71 | 0,10 | 1,66 | 234 | 435 | 0,06 |
| 3680.00 | cuttings -ws | 0,67 | | | | | |
| 3700.00 | cuttings -ws | 0,48 | 0,05 | 0,80 | 167 | 428 | 0,06 |
| 3720.00 | cuttings -ws | 0,68 | | | | | |
| 3740.00 | cuttings -ws | 0,60 | 0,05 | 1,10 | 183 | 430 | 0,04 |
| 3760.00 | cuttings -ws | 0,64 | | | | | |
| 3780.00 | cuttings -ws | 0,66 | 0,07 | 0,81 | 123 | 434 | 0,08 |
| 3800.00 | cuttings -ws | 0,75 | 0,11 | 1,10 | 147 | 433 | 0,09 |
| 3820.00 | cuttings -ws | 0,96 | | | | | |
| 3840.00 | cuttings -ws | 0,52 | 0,04 | 0,84 | 162 | 395 | 0,05 |
| 3860.00 | cuttings -ws | 0,81 | | | | | |
| 3880.00 | cuttings -ws | 0,97 | 0,05 | 0,97 | 100 | 400 | 0,05 |
| 3900.00 | cuttings -ws | 0,99 | | | | | |
| 3920.00 | cuttings -ws | 0,90 | 0,06 | 1,30 | 144 | 396 | 0,04 |
| 3940.00 | cuttings -ws | 0,75 | | | | | |
| 3960.00 | cuttings -ws | 0,67 | 0,07 | 1,41 | 210 | 412 | 0,05 |
| 3980.00 | cuttings -ws | 0,61 | | | | | |
| 4000.00 | cuttings -ws | 0,60 | 0,06 | 1,26 | 210 | 387 | 0,05 |
| 4020.00 | cuttings -ws | 0,84 | | | | | |
| 4040.00 | cuttings -ws | 1,23 | 0,05 | 1,10 | 89 | 392 | 0,04 |
| 4060.00 | cuttings -ws | 1,11 | | | | | |
| 4080.00 | cuttings -ws | 0,89 | 0,07 | 1,11 | 125 | 386 | 0,06 |
| 4100.00 | cuttings -ws | 0,94 | | | | | |
| 4120.00 | cuttings -ws | 1,02 | 0,10 | 1,87 | 183 | 399 | 0,05 |
| 4140.00 | cuttings -ws | 1,61 | 0,08 | 2,24 | 139 | 400 | 0,03 |
| 4160.00 | cuttings -ws | 1,12 | 0,10 | 2,30 | 205 | 417 | 0,04 |
| 4180.00 | cuttings -ws | 4,27 | 0,19 | 3,57 | 84 | 443 | 0,05 |
| 4200.00 | cuttings -ws | 5,37 | 0,23 | 2,70 | 50 | 444 | 0,08 |
| 4220.00 | cuttings -ws | 4,87 | 0,14 | 3,71 | 76 | 455 | 0,04 |
| 4240.00 | cuttings -ws | 2,27 | 0,09 | 3,19 | 141 | 449 | 0,03 |
| 4260.00 | cuttings -ws | 2,69 | 0,09 | 3,53 | 131 | 453 | 0,02 |
| 4280.00 | cuttings -ws | 2,31 | 0,10 | 3,65 | 158 | 448 | 0,03 |
| 4300.00 | cuttings -ws | 3,61 | 0,11 | 4,13 | 114 | 450 | 0,03 |
| 4310.00 | cuttings -ws | 3,08 | 0,09 | 2,92 | 95 | 443 | 0,03 |
| 4320.00 | cuttings -ws | 2,30 | 0,10 | 3,82 | 166 | 445 | 0,03 |
| 4332.00 | cuttings -ws | 3,27 | 0,42 | 4,67 | 143 | 448 | 0,08 |



| | | | | | | | |
|---------|--------------|-------|------|-------|-----|-----|------|
| 4341.00 | cuttings -ws | 4,51 | 0,40 | 5,12 | 114 | 453 | 0,07 |
| 4350.00 | cuttings -ws | 2,36 | 0,12 | 2,46 | 104 | 449 | 0,05 |
| 4359.00 | cuttings -ws | 0,96 | | | | | |
| 4368.00 | cuttings -ws | 2,74 | 0,09 | 3,93 | 143 | 445 | 0,02 |
| 4377.00 | cuttings -ws | 7,90 | 0,15 | 8,55 | 108 | 462 | 0,02 |
| 4386.00 | cuttings -ws | 0,63 | | | | | |
| 4395.00 | cuttings -ws | 19,79 | 0,34 | 19,70 | 100 | 472 | 0,02 |
| 4404.00 | cuttings -ws | 8,98 | 0,17 | 9,08 | 101 | 472 | 0,02 |
| 4413.00 | cuttings -ws | 5,85 | 0,12 | 4,96 | 85 | 475 | 0,02 |
| 4422.00 | cuttings -ws | 2,50 | 0,08 | 3,44 | 138 | 455 | 0,02 |
| 4431.00 | cuttings -ws | 0,89 | | | | | |
| 4440.00 | cuttings -ws | 7,99 | 0,15 | 8,52 | 107 | 475 | 0,02 |
| 4449.00 | cuttings -ws | 1,25 | 0,14 | 2,13 | 170 | 439 | 0,06 |
| 4458.00 | cuttings -ws | 0,86 | 0,47 | 2,82 | 328 | 435 | 0,14 |
| 4470.00 | cuttings -ws | 0,36 | | | | | |
| 4479.00 | cuttings -ws | 0,95 | 1,50 | 4,62 | 486 | 436 | 0,25 |
| 4488.00 | cuttings -ws | 1,25 | 0,65 | 3,89 | 311 | 436 | 0,14 |
| 4497.00 | cuttings -ws | 0,81 | | | | | |
| 4509.00 | cuttings -ws | 1,60 | 0,11 | 2,84 | 178 | 431 | 0,04 |
| 4518.00 | cuttings -ws | 1,63 | 0,32 | 2,74 | 168 | 435 | 0,10 |
| 4528.00 | cuttings -ws | 2,04 | 0,30 | 4,77 | 234 | 442 | 0,06 |
| 4537.00 | cuttings -ws | 1,95 | 0,11 | 4,88 | 250 | 437 | 0,02 |
| 4546.00 | cuttings -ws | 1,82 | 0,17 | 4,87 | 268 | 437 | 0,03 |
| 4555.00 | cuttings -ws | 1,69 | 0,59 | 4,71 | 279 | 436 | 0,11 |
| 4564.00 | cuttings -ws | 1,62 | 0,45 | 4,44 | 274 | 436 | 0,09 |
| 4573.00 | cuttings -ws | 1,53 | 0,14 | 3,90 | 255 | 436 | 0,03 |
| 4582.00 | cuttings -ws | 1,47 | 1,29 | 4,82 | 328 | 437 | 0,21 |
| 4591.00 | cuttings -ws | 2,03 | 0,37 | 4,66 | 230 | 438 | 0,07 |
| 4600.00 | cuttings -ws | 1,57 | 0,13 | 3,46 | 220 | 437 | 0,04 |
| 4609.00 | cuttings -ws | 1,64 | 1,33 | 5,44 | 332 | 437 | 0,20 |
| 4618.00 | cuttings -ws | 0,93 | | | | | |
| 4627.00 | cuttings -ws | 33,28 | 0,38 | 2,56 | 8 | 435 | 0,13 |
| 4636.00 | cuttings -ws | 13,57 | 1,92 | 7,55 | 56 | 314 | 0,20 |
| 4645.00 | cuttings -ws | 25,41 | 0,34 | 3,12 | 12 | 434 | 0,10 |
| 4654.00 | cuttings -ws | 36,95 | 0,77 | 4,05 | 11 | 434 | 0,16 |
| 4666.00 | cuttings -ws | 17,99 | 0,24 | 2,53 | 14 | 436 | 0,09 |
| 4675.00 | cuttings -ws | 1,81 | 0,07 | 0,72 | 40 | 437 | 0,09 |
| 4684.00 | cuttings -ws | 53,17 | 1,10 | 3,53 | 7 | 311 | 0,24 |
| 4693.00 | cuttings -ws | 12,25 | 0,31 | 2,43 | 20 | 435 | 0,11 |
| 4702.00 | cuttings -ws | 3,53 | 0,11 | 1,68 | 48 | 435 | 0,06 |
| 4713.00 | cuttings -ws | 3,31 | 0,14 | 1,65 | 50 | 435 | 0,08 |

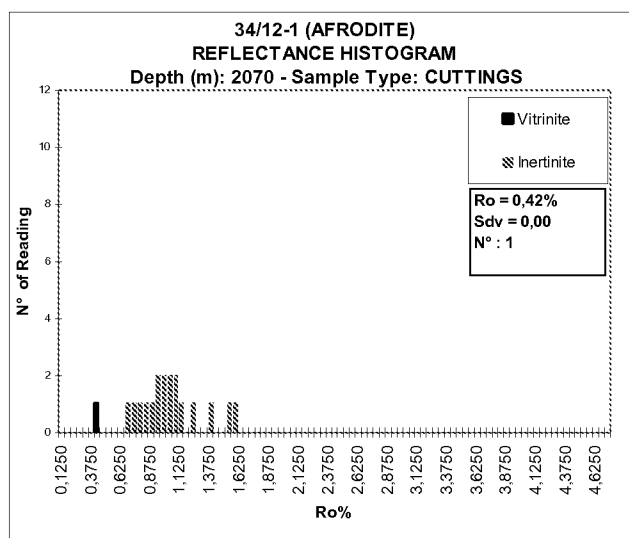
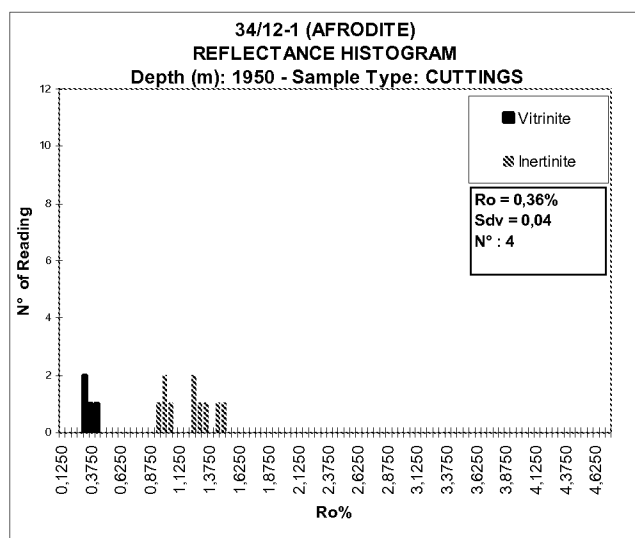
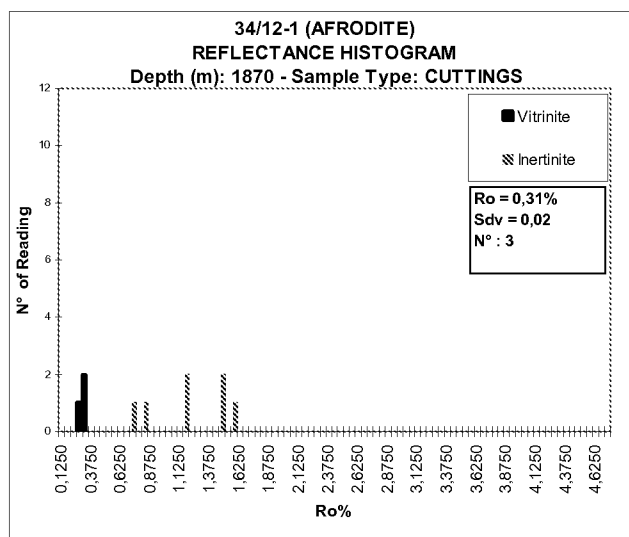
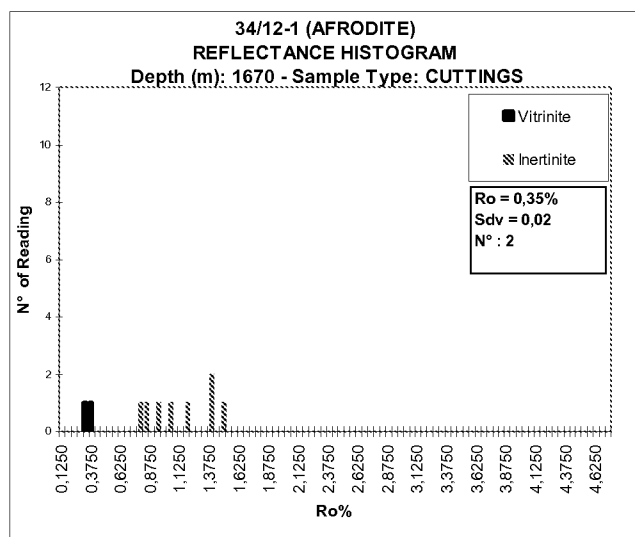
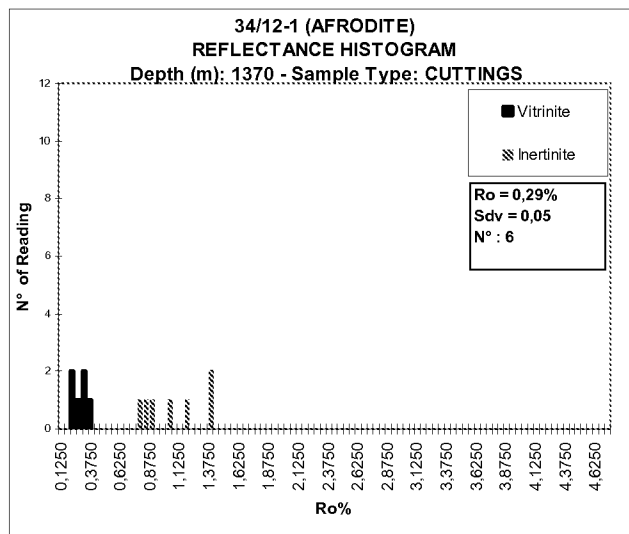
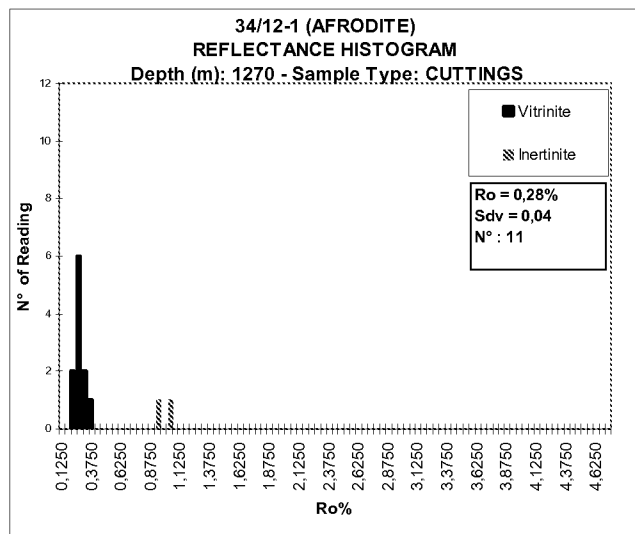
Note 1 : the samples referred to the interval 1270 - 3180 m have been submitted to a special chemical treatment in order to eliminate the additive "ultrahib"

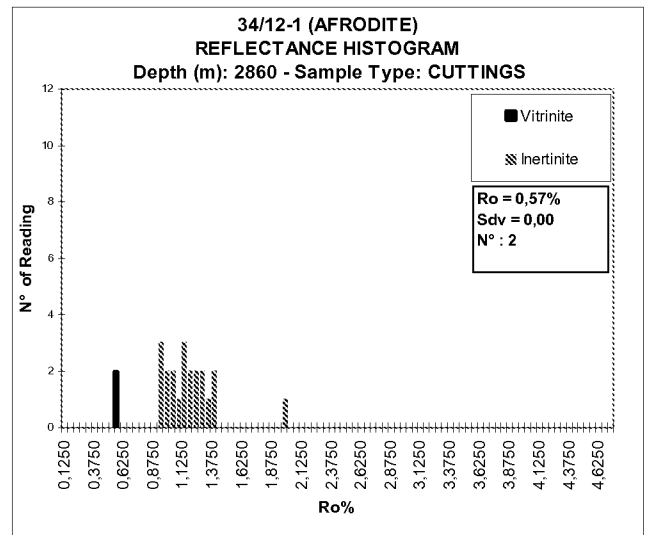
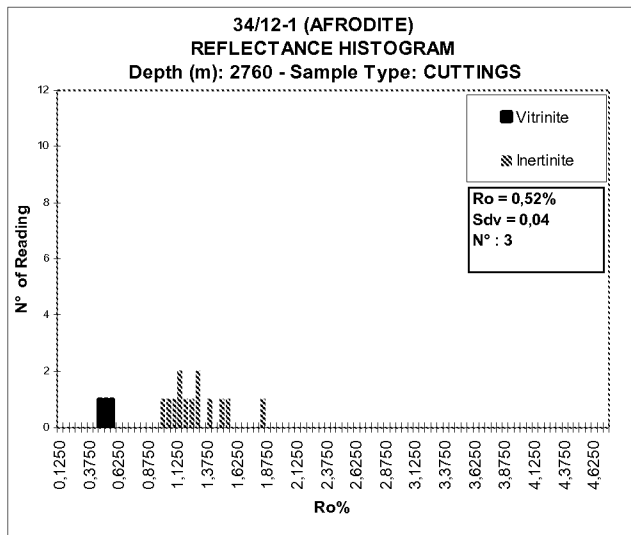
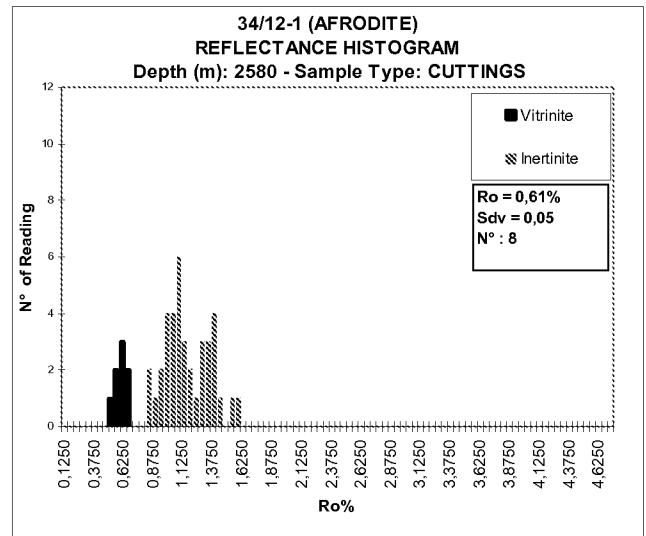
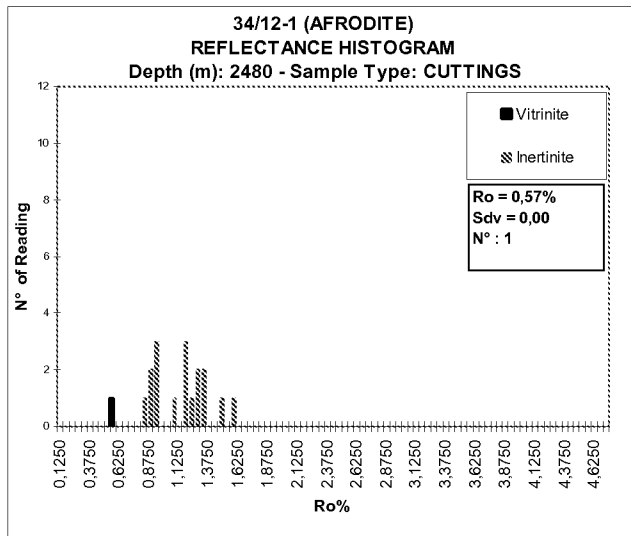
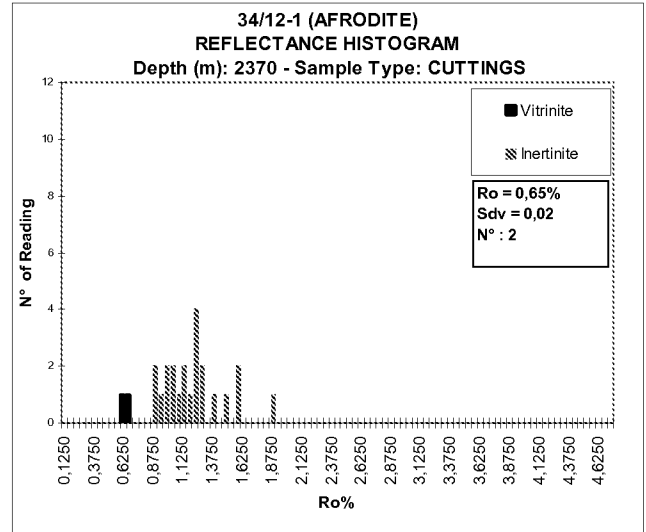
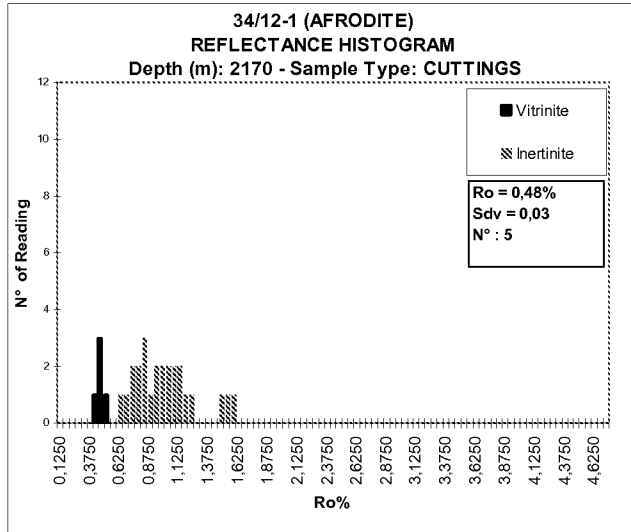
cutting-ws = samples washed with organic solvent

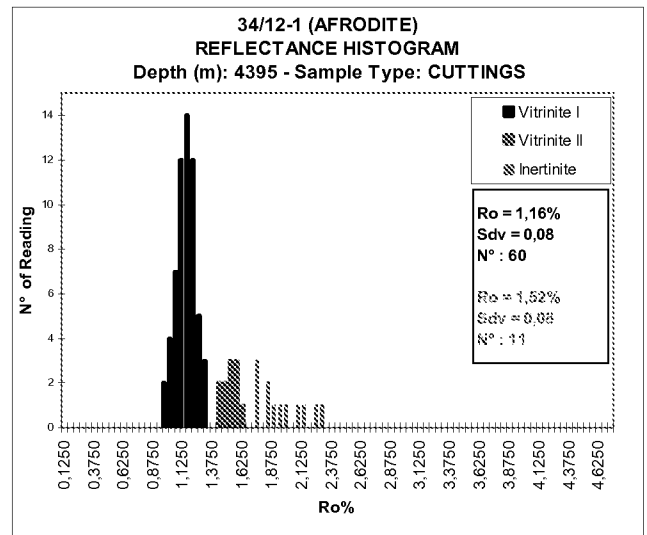
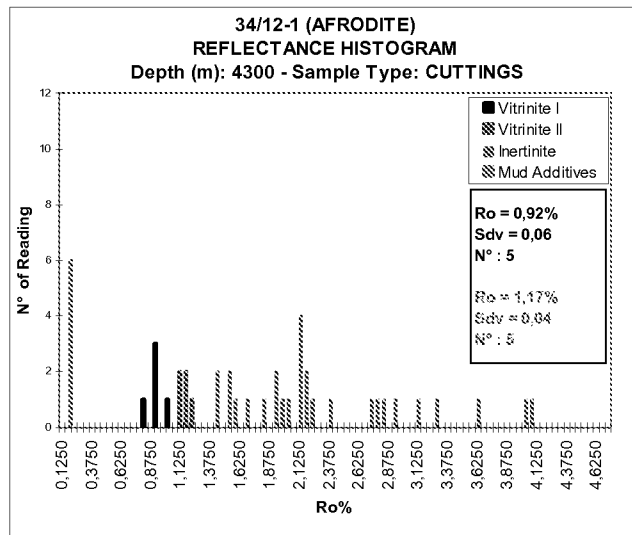
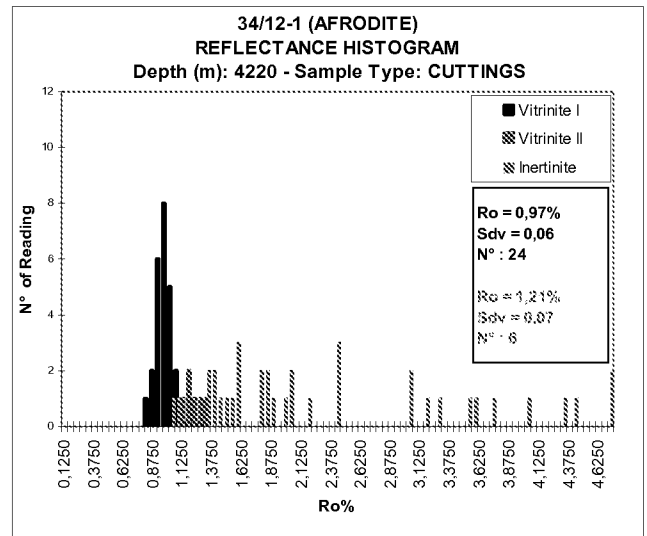
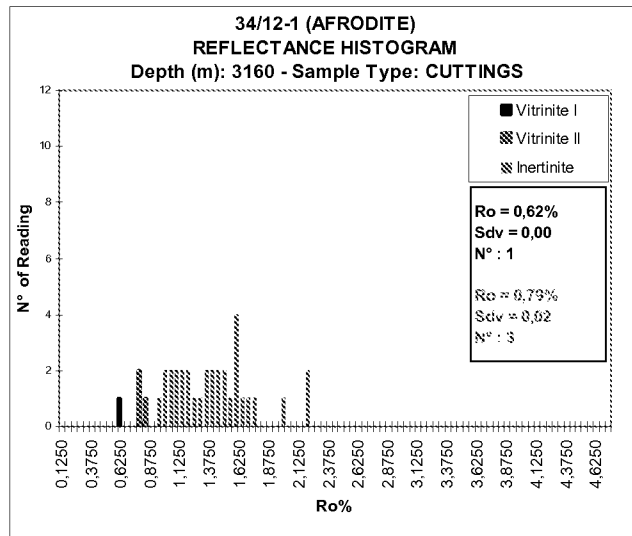
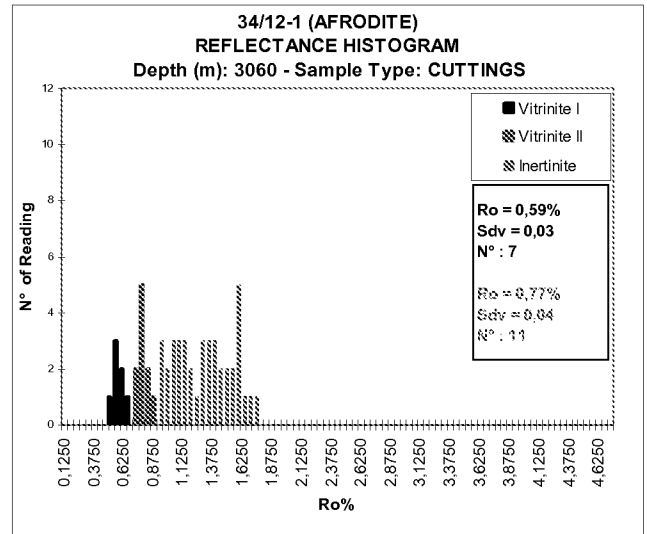
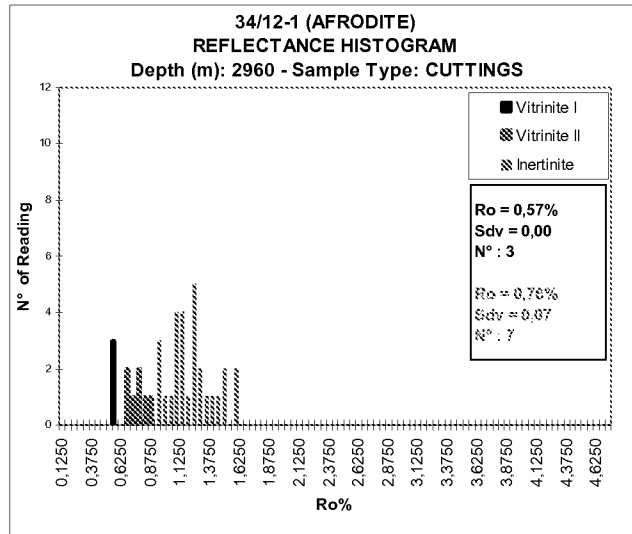


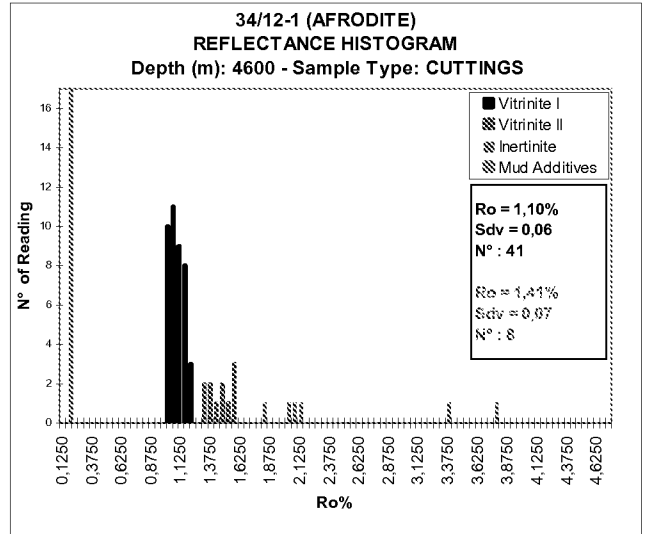
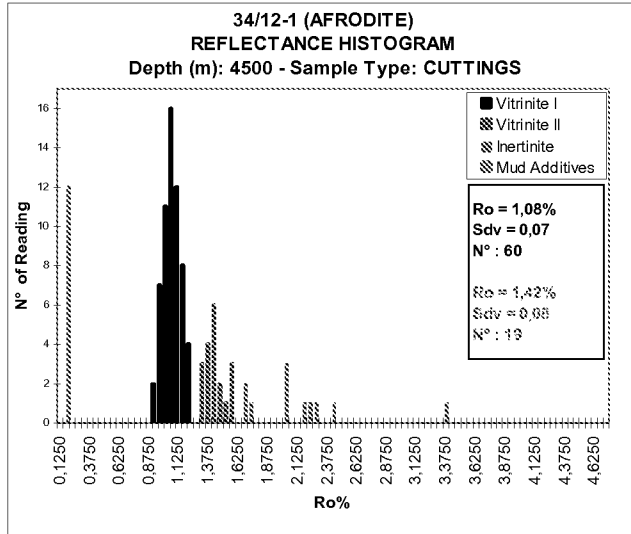
5.2. Optical Analysis

| Depth m | Sample Type | AQM % | MPH % | CHF % | CWF % | TAI | Fluor. | Ro % | ST. DEV. | N° Measured Points |
|------------|----------------|----------|----------|----------|----------|-------------|-----------|---------|-------------|--------------------------|
| 1270,00 | Cuttings | | 25 | 40 | 35 | 1,2 | Y | 0,28 | 0,04 | 11 |
| 1370,00 | Cuttings | 5 | 30 | 45 | 20 | 1,2 | Y | 0,29 | 0,05 | 6 |
| 1490,00 | Cuttings | T | 35 | 50 | 15 | 1,2/1,5 | Y | V.A. | | |
| 1570,00 | Cuttings | | 15 | 70 | 15 | 1,5 | Y-DY | V.A. | | |
| 1670,00 | Cuttings | | 25 | 60 | 15 | 1,5 | DY | 0,35 | 0,02 | 2 |
| 1750,00 | Cuttings | 10 | 30 | 50 | 10 | 1,5 | DY | V.A. | | |
| 1870,00 | Cuttings | T | 10 | 60 | 30 | 1,5 | Y-DY | 0,31 | 0,02 | 3 |
| 1950,00 | Cuttings | T | 20 | 30 | 50 | 1,5/1,7? | Y-DY | 0,36 | 0,04 | 4 |
| 2070,00 | Cuttings | | 10 | 20 | 70 | 0,0 | Y-DY | 0,42 | | 1 |
| 2170,00 | Cuttings | T | 15 | 50 | 35 | 1,7 | Y-DY-Br | 0,48 | 0,03 | 5 |
| 2270,00 | Cuttings | | 10 | 20 | 70 | 2,5? | Br | V.A. | | |
| 2370,00 | Cuttings | | 10 | 30 | 60 | 2,2 | DY-O-Br | 0,65 | 0,02 | 2 |
| 2480,00 | Cuttings | | 10 | 25 | 65 | 2,072,2/2,5 | DY-O-Br | 0,57 | | 1 |
| 2580,00 | Cuttings | | 10 | 20 | 70 | 1,7/2,0 | Y-DY-O | 0,47 | | 3 |
| 2580,00 | Cuttings | | | | | | | 0,61 | 0,05 | 8 |
| 2680,00 | Cuttings | | 15 | 30 | 55 | 1,7/2,0 | Y-DY-O | V.A. | | |
| 2760,00 | Cuttings | | 20 | 30 | 50 | 1,7 | Y-DY-O | 0,52 | 0,04 | 3 |
| 2860,00 | Cuttings | | 15 | 15 | 70 | 1,7/2,0 | Y-DY-O | 0,52 | | 2 |
| 2960,00 | Cuttings | | 15 | 15 | 70 | 1,7 | Y-DY-O | 0,57 | | 3 |
| 2960,00 | Cuttings | | | | | | | 0,76 | 0,07 | 7 |
| 3060,00 | Cuttings | | 10 | 10 | 80 | 2,2 | Y-DY-O | 0,59 | 0,04 | 7 |
| 3060,00 | Cuttings | | | | | | | 0,77 | 0,03 | 11 |
| 3160,00 | Cuttings | | 30 | 20 | 50 | 2,2/2,5 | Y-DY-O-Br | 0,62 | | 1 |
| 3160,00 | Cuttings | | | | | | | 0,79 | 0,02 | 3 |
| 3260,00 | Cuttings | 70? | 20? | 5? | 5? | 0,0 | NF | V.A. | | |
| 3360,00 | Cuttings | 60? | 5? | 15? | 20? | 0,0 | NF | V.A. | | |
| 3440,00 | Cuttings | 75? | | 10? | 15? | 0,0 | NF | V.A. | | |
| 3540,00 | Cuttings | 90 | | 5? | 5? | 0,0 | NF | V.A. | | |
| 3640,00 | Cuttings | T | | T | T | 0,0 | NF | V.A. | | |
| 3740,00 | Cuttings | 80? | | 10? | 10? | 0,0 | NF | V.A. | | |
| 3820,00 | Cuttings | 75? | | 10? | 15? | 0,0 | NF | V.A. | | |
| 3920,00 | Cuttings | | 10 | 10 | 80 | 2,5? | NF | V.A. | | |
| 4020,00 | Cuttings | | 10 | 10 | 80 | 2,7 | NF | V.A. | | |
| 4120,00 | Cuttings | | | | 100 | 0,0 | NF | V.A. | | |
| 4220,00 | Cuttings | | | | 100 | 0,0 | NF | 0,97 | 0,06 | 24 |
| 4220,00 | Cuttings | | | | | | | 1,21 | 0,07 | 6 |
| 4300,00 | Cuttings | | | T | 100 | 0,0 | NF | 0,92 | 0,06 | 5 |
| 4300,00 | Cuttings | | | | | | | 1,17 | 0,04 | 5 |
| 4395,00 | Cuttings | | | | 100 | 0,0 | NF | 1,16 | 0,08 | 60 |
| 4395,00 | Cuttings | | | | | | | 1,52 | 0,06 | 11 |
| 4500,00 | Cuttings | | | | 100 | 0,0 | NF | 1,08 | 0,07 | 60 |
| 4500,00 | Cuttings | | | | | | | 1,43 | 0,08 | 19 |
| 4600,00 | Cuttings | | | T | 100 | 0,0 | NF | 1,10 | 0,06 | 41 |
| 4600,00 | Cuttings | | | | | | | 1,41 | 0,07 | 8 |
| 4684,00 | Cuttings | | | | 100 | 0,0 | NF | V.A. | | |









5.3. Gas Show and Head Space Analysis

Eni S.p.A.
Divisione Exploration & Production
 Laboratorio Composizione Fluidi Idrocarburici



S. Donato Milanese, 29/08/08

BOLLETTINO N. 210 / 2008 (Gas)

Campione di gas proveniente dal pozzo AFRODITE 34/12-1

Dati di campionamento

| | |
|--------------------------------|--------------------------------|
| Intervallo : | Portata: |
| Punto di prelievo : Separatore | Press. : 19 bar Temp. : ° C |
| Data di prelievo : 15/04/2008 | Data di arrivo : 12/08/2008 |
| Prelevato da : Eni Norge | Bombola n. : PT-632 |

Risultati analitici

COMPOSIZIONE CENTESIMALE (gascromatografia)

| | %mol |
|--------------------|---------|
| Azoto | 0.11 |
| Anidride carbonica | 5.07 |
| Idrogeno solforato | - |
| Metano | 86.40 |
| Etano | 4.55 |
| Propano | 1.45 |
| I-Butano | 0.31 |
| N-Butano | 0.41 |
| Neo-pentano | 0.0050 |
| I-Pentano | 0.22 |
| N-Pentano | 0.19 |
| Esani | 0.48 |
| Eptani | 0.42 |
| Ottani | 0.23 |
| Nonani | 0.12 |
| Decani | 0.025 |
| Undecani | 0.0045 |
| Dodecani | 0.0033 |
| Tridecani | 0.0015 |
| Tetradecani | 0.00033 |
| Pentadecani+ | 0. |

CARATTERISTICHE FISICHE CALCOLATE a 15 ° C e 1.01325 bar (ISO 6976/1995)

| | |
|------------------------------------|--------|
| Fatt. Comprimib. | 0.9969 |
| Densita` (aria=1) | 0.6977 |
| Massa Volumica kg/Sm3 | 0.8549 |
| Potere calorifico superiore | |
| kcal/Sm3 | 9849 |
| kJ/Sm3 | 41236 |
| Potere calorifico inferiore | |
| kcal/Sm3 | 8909 |
| kJ/Sm3 | 37300 |
| Indice di Wobbe | |
| kcal/Sm3 | 11792 |
| kJ/Sm3 | 49371 |

Il Supervisore di laboratorio

P. Barbaglia



Eni S.p.A.
Divisione Exploration & Production
Laboratorio Composizione Fluidi Idrocarburici



S. Donato Milanese, 29/08/08

BOLLETTINO N. 211 / 2008 (Gas)

Campione di gas proveniente dal pozzo AFRODITE 34/12-1

Dati di campionamento

| | |
|--------------------------------|-----------------------------|
| Intervallo : | Portata: |
| Punto di prelievo : Separatore | Press. : 19 bar Temp. : °C |
| Data di prelievo : 15/04/2008 | Data di arrivo : 12/08/2008 |
| Prelevato da : Eni Norge | Bombola n. : PT-628 |

Risultati analitici

COMPOSIZIONE CENTESIMALE
(gascromatografia)

| | %mol |
|--------------------|---------|
| Azoto | 0.11 |
| Anidride carbonica | 5.10 |
| Idrogeno solforato | - |
| Metano | 87.13 |
| Etano | 4.59 |
| Propano | 1.41 |
| I-Butano | 0.29 |
| N-Butano | 0.37 |
| Neo-pentano | 0.0044 |
| I-Pentano | 0.17 |
| N-Pentano | 0.14 |
| Esani | 0.29 |
| Eptani | 0.22 |
| Ottani | 0.11 |
| Nonani | 0.051 |
| Decani | 0.010 |
| Undecani | 0.0022 |
| Dodecani | 0.0015 |
| Tridecani | 0.00072 |
| Tetradecani | 0.00015 |
| Pentadecani+ | 0. |

CARATTERISTICHE FISICHE CALCOLATE
a 15 °C e 1.01325 bar (ISO 6976/1995)

| | |
|--|--------|
| Fatt. Comprimib. | 0.9972 |
| Densita' (aria=1) | 0.6766 |
| Massa Volumica kg/Sm ³ | 0.8292 |
| Potere calorifico superiore | |
| kcal/Sm ³ | 9553 |
| kJ/Sm ³ | 39997 |
| Potere calorifico inferiore | |
| kcal/Sm ³ | 8633 |
| kJ/Sm ³ | 36145 |
| Indice di Wobbe | |
| kcal/Sm ³ | 11613 |
| kJ/Sm ³ | 48621 |

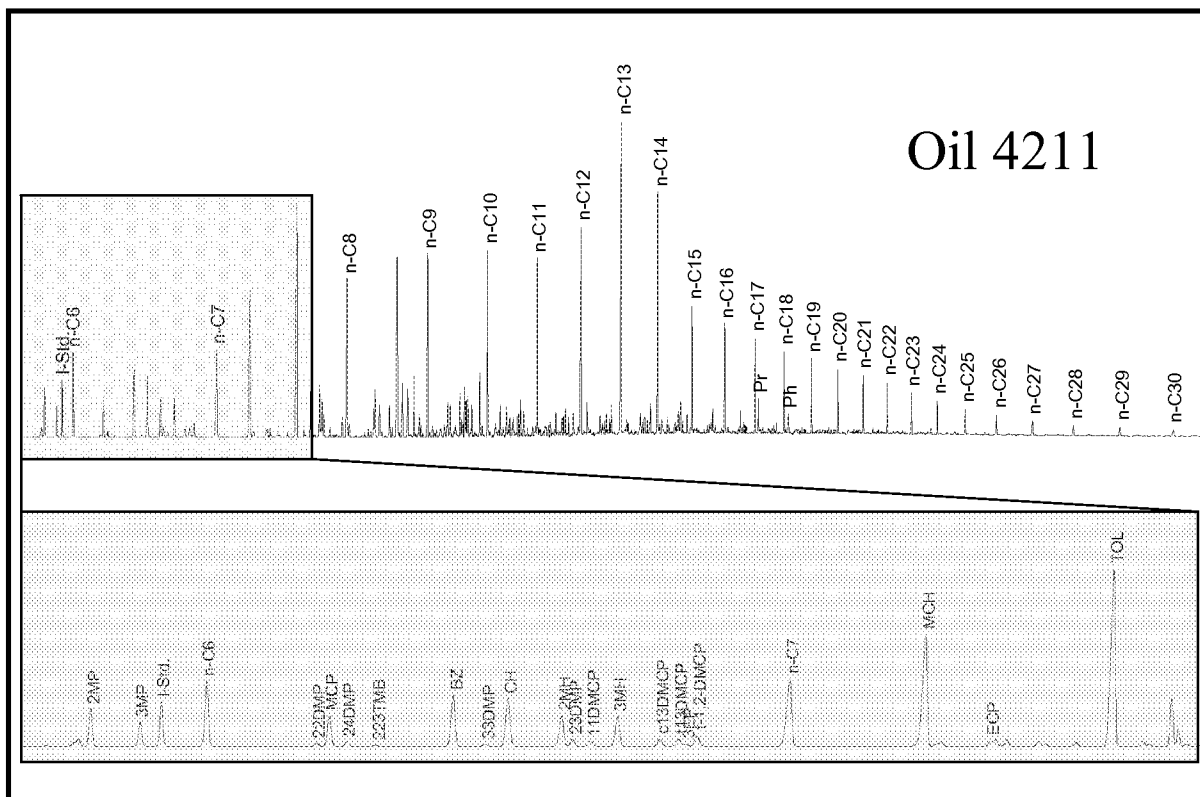
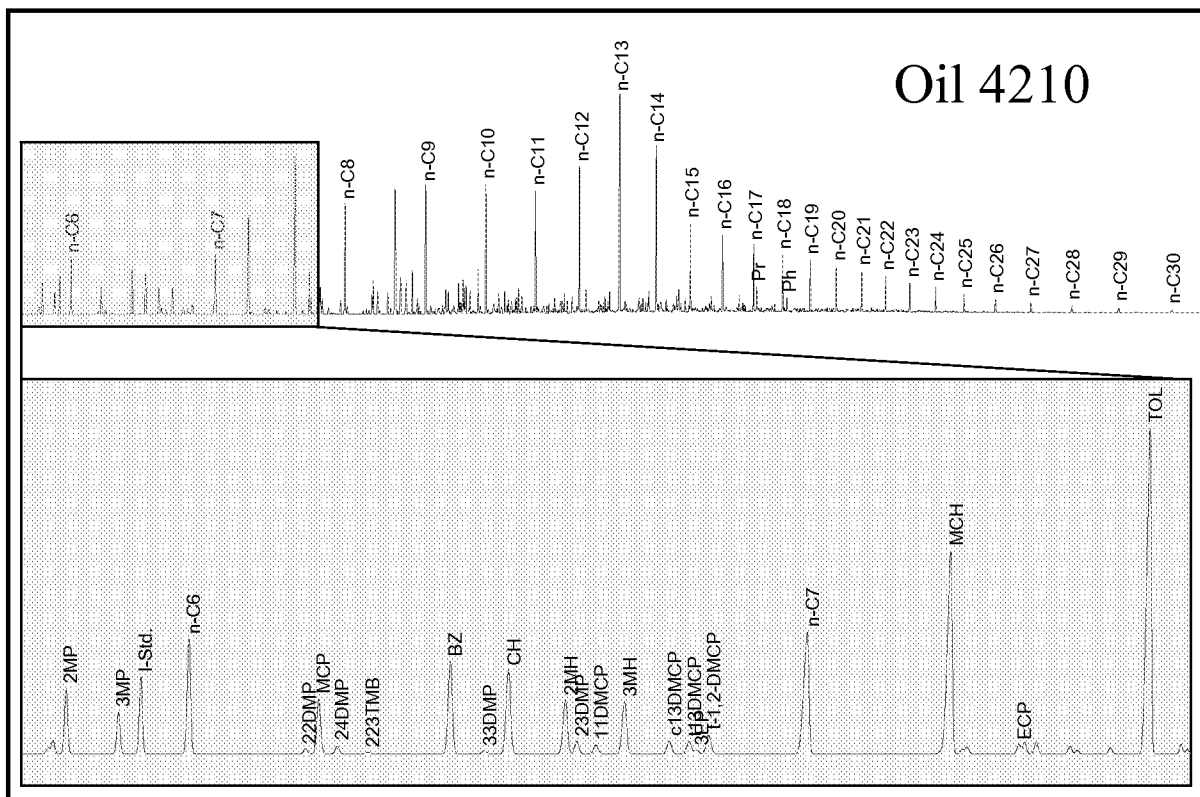
Il Supervisore di laboratorio

P. Barbaglia

| Depth (m) | C1 % | C2 % | C3 % | i-C4 % | n-C4 % | i-C5 % | n-C5 % | C6+ % | %CH4 Vol. tot. | T.G. | ppb CH4 | ppb T.G. |
|--------------|---------|---------|---------|-----------|-----------|-----------|-----------|----------|-------------------|------|------------|-------------|
| 1300 | 97,33 | 1,09 | 0,63 | 0,33 | 0,15 | 0,15 | 0,32 | | 0,04 | 0,04 | 2468 | 2468 |
| 1350 | 95,63 | 1,55 | 0,92 | 1,34 | 0,26 | 0,24 | 0,06 | | 0,03 | 0,04 | 877 | 1169 |
| 1400 | 95,10 | 2,31 | 1,03 | 1,13 | 0,21 | 0,17 | 0,05 | | 0,02 | 0,02 | 780 | 780 |
| 1450 | 93,74 | 3,83 | 1,24 | 0,53 | 0,34 | 0,25 | 0,07 | | 0,02 | 0,02 | 552 | 552 |
| 1500 | 92,79 | 4,92 | 1,46 | 0,41 | 0,22 | 0,13 | 0,07 | | 0,03 | 0,04 | 731 | 974 |
| 1550 | 92,94 | 4,96 | 1,52 | 0,24 | 0,16 | 0,12 | 0,06 | | 0,03 | 0,04 | 1900 | 2533 |
| 1600 | 95,01 | 3,35 | 1,17 | 0,18 | 0,16 | 0,07 | 0,06 | | 0,03 | 0,04 | 1364 | 1819 |
| 1650 | 91,61 | 5,32 | 2,12 | 0,37 | 0,44 | 0,07 | 0,07 | | 0,03 | 0,03 | 1608 | 1608 |
| 1700 | 93,95 | 3,36 | 1,12 | 1,06 | 0,40 | 0,05 | 0,06 | | 0,02 | 0,02 | 974 | 974 |
| 1750 | 82,66 | 10,04 | 4,86 | 0,93 | 1,08 | 0,24 | 0,19 | | 0,04 | 0,06 | 1754 | 2631 |
| 1800 | 92,15 | 4,22 | 1,56 | 1,01 | 0,60 | 0,24 | 0,22 | | 0,01 | 0,01 | 195 | 195 |
| 1850 | 74,57 | 12,26 | 6,60 | 2,23 | 2,41 | 1,09 | 0,84 | | 0,03 | 0,06 | 1267 | 2533 |
| 1950 | 12,51 | 7,15 | 18,90 | 10,28 | 13,23 | 9,72 | 8,72 | 19,49 | 0,00 | 0,01 | | |
| 2000 | 79,00 | 7,86 | 5,59 | 1,70 | 2,29 | 1,19 | 1,01 | 1,36 | 0,03 | 0,05 | 1413 | 2355 |
| 2050 | 60,12 | 8,35 | 10,90 | 4,75 | 6,06 | 3,66 | 2,98 | 3,18 | 0,03 | 0,10 | 487 | 1624 |
| 2100 | 51,76 | 9,30 | 11,60 | 5,59 | 6,94 | 4,54 | 3,54 | 6,73 | 0,02 | 0,08 | 455 | 1819 |
| 2200 | 72,39 | 8,96 | 6,97 | 2,02 | 2,51 | 1,24 | 1,52 | 4,39 | 0,02 | 0,06 | 487 | 1462 |
| 2500 | 74,74 | 7,04 | 5,88 | 3,06 | 2,99 | 1,80 | 1,44 | 3,05 | 0,01 | 0,02 | 487 | 974 |
| 2550 | 47,80 | 15,87 | 16,05 | 7,32 | 5,78 | 2,82 | 2,09 | 2,27 | 0,01 | 0,02 | 325 | 650 |
| 2650 | 69,62 | 8,74 | 7,22 | 6,96 | 2,74 | 1,38 | 1,11 | 2,23 | 0,01 | 0,03 | 309 | 926 |
| 2700 | 61,39 | 9,48 | 10,99 | 8,10 | 4,40 | 2,08 | 1,57 | 1,99 | 0,01 | 0,01 | 568 | 568 |
| 2800 | 81,32 | 8,36 | 5,15 | 1,63 | 1,66 | 0,73 | 0,55 | 0,60 | 0,02 | 0,04 | 552 | 1104 |
| 2850 | 75,62 | 10,35 | 7,14 | 1,91 | 2,34 | 0,95 | 0,79 | 0,90 | 0,01 | 0,02 | 260 | 520 |
| 2900 | 79,82 | 10,25 | 5,48 | 1,34 | 1,49 | 0,61 | 0,47 | 0,54 | 0,03 | 0,05 | 828 | 1380 |
| 2950 | 83,97 | 6,70 | 4,16 | 1,45 | 1,44 | 0,74 | 0,57 | 0,97 | 0,03 | 0,04 | 731 | 974 |
| 3000 | 79,13 | 9,84 | 5,45 | 1,50 | 1,72 | 0,81 | 0,61 | 0,94 | 0,03 | 0,05 | 487 | 812 |
| 3100 | 75,73 | 12,12 | 6,85 | 1,64 | 1,74 | 0,76 | 0,49 | 0,67 | 0,03 | 0,05 | 1462 | 2436 |
| 3150 | 71,75 | 11,03 | 8,08 | 2,71 | 2,64 | 1,56 | 0,99 | 1,24 | 0,03 | 0,06 | 1267 | 2533 |
| 3200 | 76,28 | 11,95 | 6,70 | 1,75 | 1,51 | 0,71 | 0,41 | 0,69 | 0,03 | 0,05 | 1462 | 2436 |
| 3250 | 73,32 | 10,78 | 10,68 | 3,15 | 2,07 | | | | 0,00 | 0,00 | | |
| 3300 | 84,38 | 9,69 | 4,09 | 1,19 | 0,65 | | | | 0,00 | 0,00 | | |
| 3350 | 88,23 | 8,14 | 2,39 | 0,62 | 0,45 | 0,09 | 0,08 | | 0,01 | 0,01 | 974 | 974 |
| 3400 | 81,54 | 11,16 | 4,35 | 1,14 | 0,90 | 0,29 | 0,23 | 0,39 | 0,01 | 0,01 | 812 | 812 |
| 3450 | 83,11 | 9,77 | 7,12 | | | | | | 0,01 | 0,01 | 1039 | 1039 |
| 3500 | 93,00 | 5,02 | 1,36 | 0,24 | 0,23 | 0,07 | 0,08 | | 0,01 | 0,01 | 698 | 698 |
| 3550 | 93,12 | 4,40 | 2,47 | | | | | | 0,00 | 0,00 | | |
| 3600 | 76,81 | 11,81 | 5,63 | 1,98 | 1,99 | 0,94 | 0,84 | | 0,00 | 0,00 | | |
| 3650 | 87,04 | 5,71 | 3,12 | 2,60 | 1,53 | | | | 0,00 | 0,00 | | |
| 3700 | 90,27 | 4,76 | 1,93 | 1,52 | 0,75 | 0,32 | 0,45 | | 0,00 | 0,00 | | |
| 3750 | 94,16 | 4,29 | 1,55 | | | | | | 0,00 | 0,00 | | |
| 3800 | 93,21 | 4,46 | 1,17 | 0,28 | 0,42 | 0,19 | 0,27 | | 0,00 | 0,00 | | |
| 3850 | 95,04 | 3,89 | 1,07 | | | | | | 0,00 | 0,00 | | |
| 3900 | 89,97 | 7,26 | 2,78 | | | | | | 0,00 | 0,00 | | |
| 3950 | 97,52 | 1,86 | 0,62 | | | | | | 0,00 | 0,00 | | |
| 4000 | 98,67 | 0,75 | 0,58 | | | | | | 0,00 | 0,00 | | |
| 4050 | 99,33 | 0,50 | 0,17 | | | | | | 0,00 | 0,00 | | |
| 4100 | 92,37 | 6,59 | 1,04 | | | | | | 0,00 | 0,00 | | |

| Depth (m) | $\delta^{13}\text{C}$ C1 | $\delta^{13}\text{C}$ C2 | $\delta^{13}\text{C}$ C3 | $\delta^{13}\text{C}$ i-C4 | $\delta^{13}\text{C}$ n-C4 | $\delta^{13}\text{C}$ i-C5 | $\delta^{13}\text{C}$ n-C5 | $\delta^{13}\text{C}$ CO2 |
|--------------|-----------------------------|-----------------------------|-----------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|------------------------------|
| 1300 | -49,10 | -31,02 | -27,26 | | | | | |
| 1350 | -62,99 | -34,88 | -26,58 | -26,16 | -23,59 | | | |
| 1400 | -59,54 | -33,75 | -27,87 | -27,56 | | | | |
| 1450 | -56,96 | -31,99 | -27,60 | | | | | |
| 1500 | -55,02 | -30,55 | -28,62 | | | | | |
| 1550 | | | | | | | | |
| 1600 | | | | | | | | |
| 1650 | -53,18 | | -27,34 | | | | | |
| 1700 | -42,77 | -26,46 | -27,39 | | | | | |
| 1750 | -39,15 | -25,64 | -25,32 | -25,82 | -24,41 | | | |
| 1800 | -47,72 | -27,48 | -27,26 | | | | | |
| 1850 | -36,64 | -25,89 | -25,82 | -25,71 | -22,10 | | | |
| 1950 | -35,68 | -25,40 | -24,44 | -25,39 | -23,42 | | | |
| 2000 | -37,07 | -26,06 | -24,55 | -25,36 | -23,85 | | | |
| 2050 | -35,02 | -24,65 | -23,98 | -25,23 | -23,48 | | | |
| 2100 | -37,03 | -25,43 | -24,17 | -25,20 | -23,52 | | | |
| 2200 | -36,76 | -25,31 | -23,98 | -24,82 | -23,14 | | | |
| 2500 | -36,33 | -26,64 | -24,53 | -26,45 | -22,70 | | | |
| 2550 | | -23,31 | -23,74 | -25,81 | | | | |
| 2650 | -31,20 | -24,29 | -23,85 | -24,78 | -22,33 | | | |
| 2700 | -37,36 | -26,33 | -24,14 | -25,23 | -21,59 | | | |
| 2800 | -36,90 | -26,38 | -26,10 | -24,21 | -20,38 | | | |
| 2850 | -36,34 | -26,16 | -24,36 | -25,76 | -26,15 | | | |
| 2900 | -38,13 | -26,26 | -24,43 | -25,25 | -23,57 | | | |
| 2950 | -38,73 | -26,30 | -23,45 | -26,28 | -24,24 | | | |
| 3000 | -35,79 | -26,57 | -26,48 | | | | | |
| 3100 | -38,73 | -26,34 | -24,46 | -25,01 | -21,49 | | | |
| 3150 | -37,94 | -26,37 | -24,14 | -25,48 | -24,32 | | | |
| 3200 | | -23,36 | -23,74 | -24,58 | -21,86 | | | |
| 3400 | | -25,98 | -27,56 | | | | | |
| 3850 | -30,58 | | | | | | | |
| 4100 | -32,38 | -26,46 | | | | | | |

5.4. Fluid Analysis



| sample no. | 4210 | 4211 | | 4210 | 4211 |
|---------------|-------------|-------------|--------------------|-------------|-------------|
| compound | peak height | peak height | compound | peak height | peak height |
| i-C4 | 0 | 0 | n-C20 | 635 | 622 |
| n-C4 | 0 | 0 | n-C21 | 523 | 518 |
| i-C5 | 0 | 0 | n-C22 | 452 | 446 |
| n-C5 | 0 | 0 | n-C23 | 431 | 427 |
| 2,2-DMB | 0 | 0 | n-C24 | 24 | 385 |
| CP | 0 | 0 | n-C25 | 334 | 329 |
| 2,3-DMB | 0 | 0 | n-C26 | 274 | 271 |
| 2-MP | 618 | 681 | n-C27 | 229 | 227 |
| 3-MP | 405 | 442 | n-C28 | 199 | 195 |
| I.S. | 707 | 755 | n-C29 | 175 | 173 |
| n-C6 | 1159 | 1257 | n-C30 | 137 | 135 |
| 2,2-DMP | 56 | 59 | n-C31 | 124 | 118 |
| MCP | 632 | 676 | n-C32 | 95 | 94 |
| 2,4-DMP | 91 | 97 | n-C33 | 89 | 87 |
| 2,2,3-TMB | 19 | 20 | n-C34 | 52 | 53 |
| Bz | 1156 | 1193 | n-C35 | 43 | 44 |
| 3,3-DMP | 42 | 43 | n-C36 | 37 | 40 |
| CH | 1108 | 1172 | n-C37 | 0 | 0 |
| 2-MH | 697 | 730 | n-C38 | 0 | 0 |
| 2,3-DMP | 160 | 167 | n-C39 | 0 | 0 |
| 1,1-DMCP | 120 | 126 | n-C40 | 0 | 0 |
| 3-MH | 689 | 720 | n-C41 | 0 | 0 |
| c-1,3-DMCP | 176 | 184 | n-C42 | 0 | 0 |
| t-1,3-DMCP | 176 | 184 | b-carotane | 0 | 0 |
| 3-EP | 42 | 43 | | | |
| t-1,2-DMCP | 261 | 272 | | | |
| n-C7 | 1888 | 1960 | | | |
| c-1,2-DMCP nd | nd | nd | | | |
| MCH | 2928 | 3028 | Sample Weight (mg) | 98,7 | 99,2 |
| ECP | 105 | 109 | I.S. Weight (mg) | 0,59 | 0,59 |
| TOL | 4437 | 4469 | | | |
| n-C8 | 2192 | 2212 | | | |
| n-C9 | 2200 | 2194 | | | |
| n-C10 | 2131 | 2120 | | | |
| n-C11 | 1938 | 1926 | | | |
| i-C13 | 0 | 0 | | | |
| n-C12 | 2365 | 2352 | | | |
| i-C14 | 0 | 0 | | | |
| n-C13 | 4474 | 4443 | | | |
| i-C15 | 0 | 0 | | | |
| n-C14 | 2865 | 2839 | | | |
| i-C16 | 0 | 0 | | | |
| n-C15 | 1281 | 1260 | | | |
| n-C16 | 1157 | 1132 | | | |
| i-C18 | 0 | 0 | | | |
| n-C17 | 915 | 903 | | | |
| Pristane | 379 | 373 | | | |
| n-C18 | 795 | 795 | | | |
| Phytane | 227 | 227 | | | |
| n-C19 | 720 | 712 | | | |



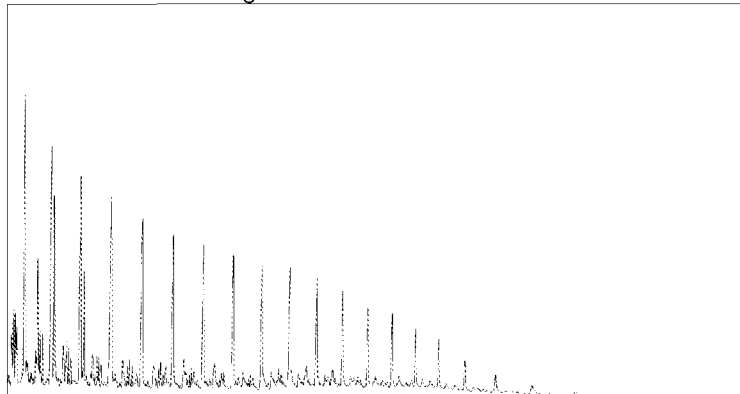
Summary Report

Country: NORVEGIA
Age:
Form Name:

Site Name: afrodite 34/12-1
Basin:
Oil N.: 4210

Sample_ID: p00985-oil-0001
Depth: 4321 - 4356(M)
S_Type: OIL

Total Ion Chromatogram



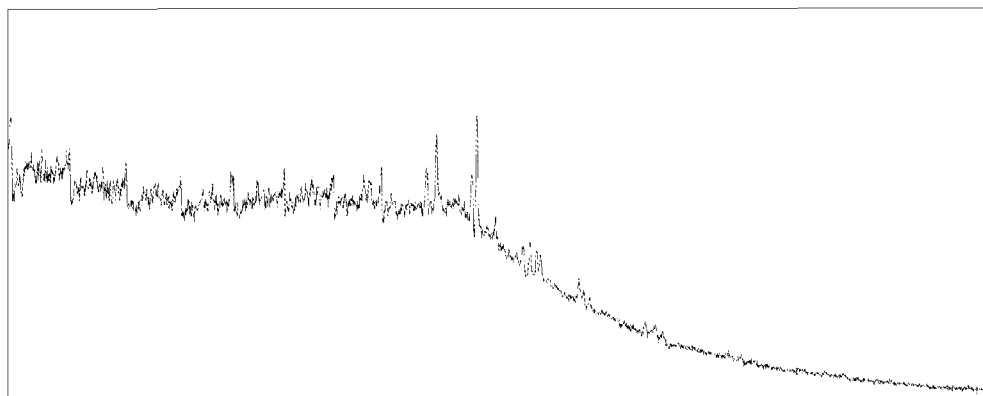
Bulk Parameters

API Gravity:
% Sulfur:
delt C13 Whole Crude:
delt C13 Saturates:
delt C13 Aromatics:
% Saturates:
% Aromatics:
% NONHCPC:
OEP: 0.86

GCMS Para 1

PrPh: 1.55
Tri:
Tet:
Trit:
TsTm:
C29Hop/C30Hop:
C30Lin:
C29Ts/C30Hop:
C30*/C30Hop:
Gam/C30:
Dia:

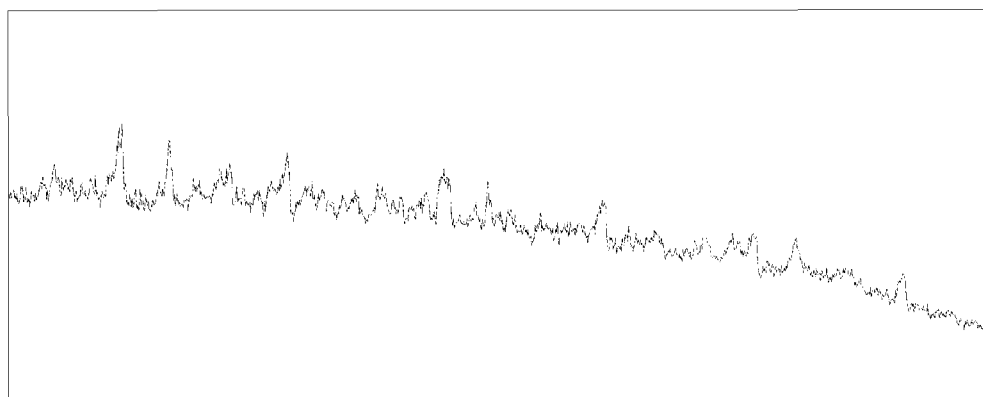
TERPANES(m/z 191)



GCMS Para 2

Organic Matter Parameters:
C27/C29 Sterane:
%27:
%28:
%29:
Sterani/Hopani:
Maturity Parameters:
PrC17: 0.81
PhC18: 0.56
S/S+R Terpanes:
S/S+R Steranes:
TsTm:
BB/aa:
T/TM:
MPI: 0.92
Age Parameters:
Oleanane/30Hop:
Baccarane:
Other Parameters:
31/30:
Methylhopane:

STERANES(m/z 217)

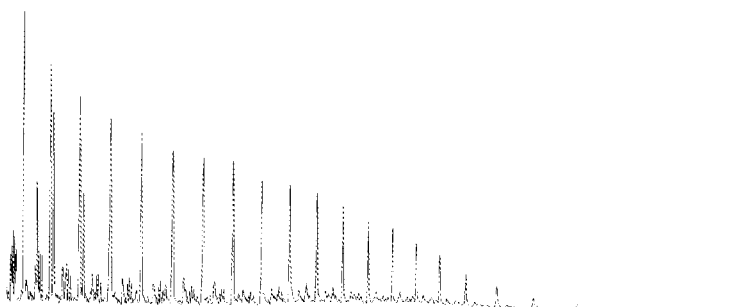




Summary Report

| | | |
|-------------------|-----------------------------|----------------------------|
| Country: NORVEGIA | Site Name: afrodite 34/12-1 | Sample_ID: p00985-oil-0002 |
| Age: | Basin: | Depth: 4321 - 4356(M) |
| Form Name: | Oil N.: 4211 | S_Type: OIL |

Total Ion Chromatogram



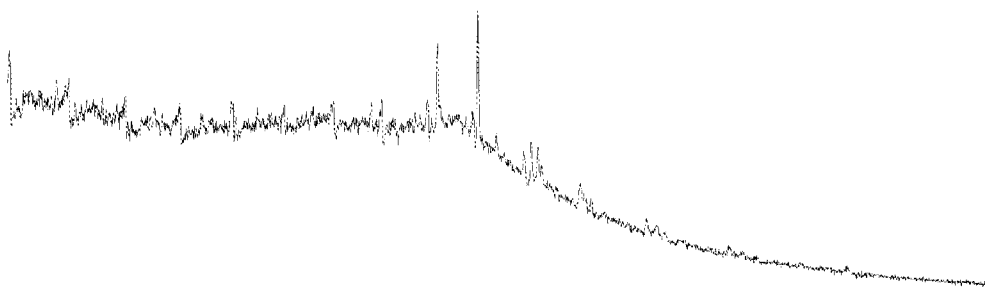
Bulk Parameters

API Gravity:
% Sulfur:
delt C13 Whole Crude:
delt C13 Saturates:
delt C13 Aromatics:
% Saturates:
% Aromatics:
% NONHCPC:
OEP: 0.90

GCMS Para 1

PrPh: 1.65
Tri:
Tet:
Trit:
TsTm:
C29Hop/C30Hop:
C30Lin:
C29Ts/C30Hop:
C30*/C30Hop:
Gam/C30:
Dia:

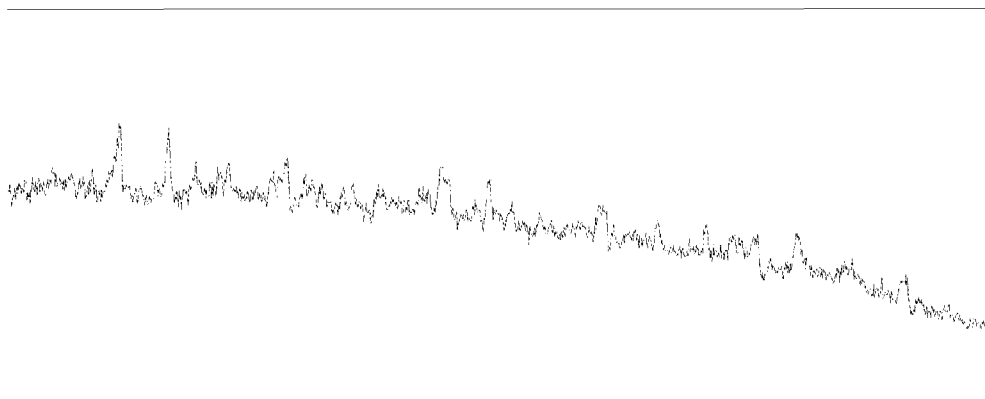
TERPANES(m/z 191)



GCMS Para 2

Organic Matter Parameters:
C27/C29 Sterane:
%27:
%28:
%29:
Sterani/Hopani:
Maturity Parameters:
PrC17: 0.81
PhC18: 0.54
S/S+R Terpanes:
S/S+R Steranes:
TsTm:
BB/aa:
T/TM:
MPI: 0.94

STERANES(m/z 217)



Age Parameters:
Oleanane/30Hop:
Baccarane:
Other Parameters:
31/30:
Methylhopane: