

CAPLINE SYSTEM

CRUDE OIL PROPERTIES AND QUALITY INDICATORS

Approved Crude List - 4th Quarter, 2003

Updated
01/07/04

| Section I. Crudes Approved, Moved and Capline Assay Reported | | | | | | | | | | | | | | | | | | | | | | |
|--|----------------|---------------------------------|--------------|--------------|------------|------------------|------------|------------|----------------------|--------------------|-----------------|-------|--------|--------------|----------------|--------------|----------------|--------------|------------------|--------------|-------------------------|---------|
| Mnmm | See Foot-notes | Crude Name | Product Code | Country | Assay Date | Density (API@60) | RVP (psia) | Sulfur (%) | a) Pour Point (degF) | Carbon Residue (%) | Viscosity (SSU) | | | b) H2S (ppm) | Metals (ppm) | | | | TAN E (mg KOH/g) | SALT (lb/MB) | Organic Chlorides (ppm) | |
| | | | | | | | | | | | @60 F | @80 F | @100 F | | Vanadium Whole | Nickel Pitch | Vanadium Whole | Nickel Pitch | | | Whole | Naphtha |
| Sweet - Low Metals Group | | | | | | | | | | | | | | | | | | | | | | |
| BNL | | BONNY LIGHT | 82337 | Nigeria | 10/28/03 | 33.4 | 4.5 | 0.16 | -5.8 | 1.2 | 52.7 | 43.9 | 39.7 | <1 | 0.5 | 5.2 | 3.7 | 43.0 | 0.26 | 18 | <1 | <1 |
| BSR | ☑ | BRASS RIVER | 82325 | Nigeria | 05/07/03 | 40.0 | 5.4 | 0.09 | <-27.4 | 0.5 | 36.9 | 34.8 | 33.1 | <1 | 0.3 | 5.8 | 1.0 | 26.0 | 0.15 | 6 | <1 | 1.3 |
| BRN | | BRENT | 82288 | U. K. | 05/08/03 | 38.2 | 5.2 | 0.41 | 26.6 | 1.9 | 50.5 | 41.7 | 37.6 | <1 | 6.7 | 38.0 | 1.3 | 7.9 | 0.05 | 17 | <1 | <1 |
| CAB | ☑ | CABINDA | 82345 | Angola | 03/03/03 | 32.4 | 2.7 | 0.13 | 59.0 | 3.5 | - | - | 73.5 | <1 | 1.7 | 6.0 | 17.0 | 63.0 | 0.17 | 3 | <1 | <1 |
| DJEN | ☑ | DJENO | 82602 | Congo | 07/05/97 | 27.0 | 2.5 | 0.47 | 32.0 | 5.3 | 695.1 | 284.3 | 173.9 | <1 | 6.7 | 22.0 | 12.3 | 62.0 | 0.82 | 10 | <1 | 2.4 |
| DRAUG | | DRAUGEN | 82575 | Norway | 04/26/02 | 39.1 | 7.3 | 0.16 | <-27.4 | 0.7 | 42.1 | 39.2 | 35.5 | <1 | 1.1 | 16.0 | 1.0 | 13.0 | 0.18 | 29 | <1 | <1 |
| EKO | | EKOFISK | 82307 | Norway | 06/06/02 | 37.3 | 3.9 | 0.23 | 26.6 | 0.9 | - | - | 40.8 | <1 | 1.4 | 9.7 | 2.2 | 16.0 | 0.10 | 4 | <1 | <1 |
| ESC | | ESCRAVOS | 82338 | Nigeria | 07/21/01 | 36.4 | 5.2 | 0.18 | 42.8 | 1.3 | 68.0 | 44.1 | 39.1 | <1 | 1.4 | 13.0 | 3.6 | 33.0 | 0.16 | 6 | <1 | <1 |
| FON | ☑ | FOINAVEN | 82424 | U. K. | 06/12/00 | 26.6 | 0.6 | 0.40 | 42.8 | 2.0 | 478.5 | 188.6 | 110.6 | <1 | 4.6 | 18.8 | 2.7 | 10.3 | 0.16 | 8 | <1 | 2.0 |
| FOR | | FORCADOS | 82331 | Nigeria | 10/27/03 | 30.6 | 3.2 | 0.16 | -5.8 | 1.0 | 62.2 | 50.7 | 44.2 | <1 | 0.6 | 5.9 | 2.5 | 37.0 | 0.33 | 12 | <1 | <1 |
| FOT | ☑ | FORTIES | 82308 | U.K. | 09/27/03 | 44.5 | 7.9 | 0.18 | -0.4 | 0.8 | 36.5 | 34.4 | 32.6 | <1 | 1.5 | 17.0 | 0.7 | 7.7 | 0.42 | 8 | <1 | <1 |
| GAL | | GALEOTA | 82314 | Trinidad | 08/24/03 | 37.8 | 6.0 | 0.19 | 53.6 | 0.2 | - | - | 37.7 | <1 | 0.1 | - | 0.1 | - | 0.60 | 4 | - | - |
| GIR | | GIRASSOL | 82583 | Angola | 10/26/03 | 31.1 | 3.0 | 0.38 | 26.6 | 3.2 | 130.7 | 93.9 | 60.4 | <1 | 4.6 | 22.0 | 9.7 | 45.0 | 0.33 | 43 | <1 | <1 |
| GFAK | | GULLFAKS | 82270 | Norway | 07/17/03 | 36.9 | 3.6 | 0.19 | 37.4 | 0.1 | 66.4 | 39.4 | 36.0 | <1 | 0.2 | 2.0 | 0.1 | 2.3 | 0.29 | 63 | <1 | <1 |
| HLS | ☑ | HEAVY LA SWEET | 82720 | USA | 08/26/03 | 33.3 | 2.6 | 0.36 | <-27.4 | 2.0 | 68.3 | 54.1 | 39.7 | <1 | 1.8 | 12.0 | 2.9 | 19.0 | 0.77 | 133 | <1 | <1 |
| HBA | ☑ | HIBERNIA | 82139 | Canada | 08/16/03 | 34.4 | 3.2 | 0.41 | 42.8 | 2.3 | - | - | 52.0 | <1 | 1.0 | 4.5 | 1.0 | 4.3 | <0.05 | 12 | <1 | <1 |
| KIT | ☑ | KITINA | 82580 | Congo | 09/21/02 | 36.4 | 4.2 | 0.11 | 59.0 | 2.3 | - | - | 56.8 | <1 | 1.0 | 4.7 | 9.1 | 38.0 | 0.10 | 4 | <1 | <1 |
| LMS | ☑ | LA MISSISSIPPI SWEET | 82723 | USA | 09/03/03 | 40.8 | 3.5 | 0.41 | 16.6 | 1.5 | 41.8 | 37.9 | 35.4 | <1 | 2.1 | 20.0 | 0.7 | 8.1 | 0.55 | 78 | <1 | <1 |
| LLS | | LIGHT LOUISIANA SWEET | 82722 | USA | 08/22/03 | 37.5 | 4.1 | 0.34 | -11.2 | 1.1 | 47.4 | 42.2 | 39.0 | <1 | 2.0 | 22.0 | 1.3 | 14.0 | 0.43 | 232 | <1 | 3.0 |
| LION | ☑ | LION CRUDE | 82604 | Ivory Coast | 04/18/03 | 43.0 | 5.6 | 0.26 | -17.0 | 1.0 | 38.1 | 34.9 | 33.3 | <1 | 3.1 | 39.0 | 1.8 | 24.0 | 0.08 | 2 | <1 | <1 |
| NAK | | NAPHTHA - KOCH | 82161 | USA | 08/03/02 | 57.8 | 3.1 | 0.11 | <-27.4 | 0.2 | <32.0 | <32.0 | <32.0 | <1 | 1.2 | - | 0.4 | - | 0.11 | 10 | <1 | <1 |
| NBA | | NEMBA | 82255 | Angola | 07/17/03 | 40.9 | 7.1 | 0.18 | 26.6 | 1.4 | 41.7 | 37.7 | 35.8 | <1 | 1.5 | 14.0 | 1.5 | 12.0 | <0.05 | 34 | <1 | <1 |
| NKS | ☑ | N'KOSSA | 82135 | Congo | 03/23/00 | 47.5 | 8.8 | 0.12 | <-27.4 | 0.2 | 36.1 | 34.2 | 33.7 | <1 | 1.5 | 21.0 | 0.7 | 8.7 | 0.04 | 8 | <1 | <1 |
| NOR | ☑ | NORNE | 82430 | Norway | 03/17/03 | 32.6 | 2.4 | 0.20 | 64.4 | 1.0 | - | - | 56.8 | <1 | <0.5 | 23.5 | 0.9 | 8.6 | 0.07 | 33 | <1 | <1 |
| OSB | | OSEBERG | 82271 | Norway | 04/26/03 | 38.7 | 5.2 | 0.22 | 15.8 | 1.8 | 45.1 | 39.4 | 38.5 | <1 | 1.1 | 8.6 | 1.1 | 8.9 | 0.11 | 7 | <1 | <1 |
| OSO | ☑ | OSO CONDENSATE | 82403 | Nigeria | 09/16/02 | 45.7 | 8.9 | 0.06 | 64.4 | 0.3 | 38.2 | 32.6 | <32.0 | <1 | <0.1 | - | 0.7 | - | 0.11 | 10 | <1 | <1 |
| SAH | ☑ | SAHARAN BLEND | 82298 | Middle East | 03/11/03 | 46.0 | 10.7 | 0.08 | <-27.4 | 1.0 | 36.2 | 34.3 | 32.9 | <1 | 0.3 | 2.8 | 0.2 | 2.0 | 0.03 | 14 | <1 | <1 |
| STB | | SANTA BARBARA | 82251 | Venezuela | 03/12/03 | 39.5 | 5.4 | 0.49 | -22.0 | 0.9 | 38.8 | 36.0 | 34.2 | <1 | 4.2 | 69.0 | 0.9 | 15.0 | 0.02 | 29 | <1 | <1 |
| SCH | ☑ | SCHIEHALLION | 82441 | Scotland | 10/17/03 | 26.4 | 1.3 | 0.46 | 42.8 | 2.9 | 340.0 | 159.0 | 93.8 | <1 | 7.2 | 33.0 | 4.2 | 19.0 | 0.33 | 13 | <1 | <1 |
| SLS | ☑ | SOUTH LOUISIANA SWEET | 82586 | USA | 08/30/03 | 35.2 | 3.0 | 0.37 | -11.2 | 1.7 | 53.9 | 46.4 | 40.8 | <1 | 2.4 | 18.0 | 2.2 | 22.0 | 0.60 | 75 | <1 | <1 |
| TROL | ☑ | TROLL EXPORT | 82421 | Norway | 06/27/03 | 27.2 | 1.4 | 0.25 | <-27.4 | 1.7 | 122.6 | 86.4 | 65.9 | <1 | 0.6 | 4.3 | 0.8 | 4.3 | 1.10 | 8 | <1 | <1 |
| WSB | | WILLIAMS SUGARLAND BLEND | 82573 | USA | 07/14/01 | 40.9 | 6.4 | 0.20 | 37.4 | 0.7 | 38.5 | 36.4 | 34.3 | <1 | 1.2 | 22.0 | 0.8 | 19.0 | 0.19 | 39 | <1 | 1.1 |
| Sweet - High Metals Group | | | | | | | | | | | | | | | | | | | | | | |
| CUS | ☑ | CUSIANA | 82419 | Columbia | 12/13/03 | 42.1 | 8.4 | 0.18 | 53.6 | 1.1 | 38.8 | 35.3 | 33.3 | <1 | 11.0 | 200.0 | 3.0 | 52.0 | <0.05 | 3 | <1 | <1 |
| KWI | ☑ | QUA IBOE | 82339 | Nigeria | 10/14/03 | 36.3 | 4.5 | 0.14 | 32.0 | 1.2 | - | 40.7 | 37.4 | <1 | 2.4 | 37.0 | 4.4 | 69.0 | 0.32 | 4 | <1 | <1 |
| Intermediate Group | | | | | | | | | | | | | | | | | | | | | | |
| BS | ☑ | BONITO SOUR | 82743 | USA | 12/15/03 | 35.5 | 4.7 | 0.99 | -22.0 | 2.3 | 60.1 | 49.9 | 44.4 | <1 | 7.6 | 40.0 | 3.2 | 18.0 | 0.67 | 71 | <1 | <1 |
| OMA | | OLMECA | 82385 | Mexico | 02/18/02 | 37.3 | 6.2 | 0.84 | 10.4 | 2.4 | 48.6 | 43.1 | 39.5 | <1 | 11.0 | 66.0 | 5.0 | 26.0 | 0.15 | 10 | <1 | 1.9 |
| Sour Group | | | | | | | | | | | | | | | | | | | | | | |
| AXL | | ARABIAN EXTRA LIGHT | 82375 | Saudi Arabia | 03/19/03 | 39.4 | 5.1 | 1.09 | <-27.4 | 1.9 | 42.5 | 38.8 | 36.1 | <1 | 3.0 | 20.0 | 1.1 | 8.0 | 0.03 | 20 | <1 | <1 |
| ABL | ☑ | ARABIAN LIGHT | 82376 | Saudi Arabia | 10/11/03 | 32.8 | 3.7 | 1.97 | -5.8 | 4.5 | 68.7 | 55.6 | 41.2 | <1 | 18.0 | 98.0 | 5.2 | 28.0 | 0.05 | 2 | <1 | <1 |
| BASLI | | BASRAH LT/MESA 30 BLEND (35/65) | 82671 | Iraq/USA | 02/08/01 | 30.5 | 3.5 | 1.63 | <-27.4 | 5.0 | 92.8 | 75.5 | 54.2 | <1 | 39.0 | 181.0 | 9.6 | 43.0 | 0.09 | 4 | <1 | <1 |
| EIC | ☑ | EUGENE ISLAND | 82725 | USA | 12/18/03 | 33.6 | 3.5 | 1.23 | <-27.4 | 3.3 | 68.2 | 54.7 | 47.3 | <1 | 17.0 | 82.0 | 6.6 | 31.0 | 0.57 | 148 | <1 | <1 |
| FUR | | FURRIAL | 82374 | Venezuela | 03/19/02 | 30.0 | 2.8 | 1.06 | <-27.4 | 4.3 | 93.5 | 69.0 | 53.6 | <1 | 38.0 | 179.0 | 8.2 | 35.0 | 0.09 | 3 | <1 | <1 |
| MARS | | MARS BLEND | 82754 | USA | 08/27/03 | 31.2 | 4.4 | 1.82 | <-27.4 | 4.7 | 93.9 | 71.4 | 55.6 | <1 | 34.0 | 128.0 | 14.0 | 52.0 | 0.50 | 108 | <1 | <1 |
| MMB | | MARS/MESA BLEND (40/60) | 82428 | Loop | 09/08/00 | 30.1 | 3.1 | 1.65 | -22.0 | 5.1 | 100.0 | 70.9 | 57.6 | <1 | 48.0 | 156.0 | 14.0 | 49.0 | 0.27 | 85 | <1 | <1 |
| MSA | | MESA 30 | 82369 | Venezuela | 05/10/03 | 30.2 | 2.8 | 1.06 | <-27.4 | 4.5 | 88.0 | 66.2 | 53.9 | <1 | 39.0 | 194.0 | 8.2 | 41.0 | 0.05 | 3 | <1 | 1.0 |
| ORI | | ORIENTE | 82388 | Ecuador | 01/05/01 | 24.1 | 2.8 | 1.51 | 5.0 | 9.3 | 652.6 | 356.4 | 201.0 | <1 | 167.0 | 240.0 | 66.0 | 240.0 | 0.13 | 61 | <1 | <1 |
| PSD | | POSEIDON | 82749 | USA | 08/26/03 | 30.9 | 3.9 | 1.68 | -11.2 | 4.0 | 98.6 | 74.6 | 56.1 | <1 | 23.0 | 102.0 | 8.3 | 37.0 | 0.95 | >300 | <1 | <1 |
| URA | | URALS | 82370 | C.I.S. Euro | 05/23/02 | 32.6 | 4.7 | 1.09 | -11.2 | 3.1 | 88.2 | 61.4 | 52.1 | <1 | 42.0 | 202.0 | 13.0 | 63.0 | 0.66 | 7 | <1 | 1.4 |
| VAS | ☑ | VASCONIA | 82237 | Colombia | 02/09/02 | 24.5 | 1.9 | 1.01 | 37.4 | 6.0 | 440.8 | 229.5 | 130.6 | <1 | 144.0 | 349.0 | 67.0 | 171.0 | 0.78 | 6 | <1 | <1 |

CAPLINE SYSTEM

CRUDE OIL PROPERTIES AND QUALITY INDICATORS

Updated
01/07/04

Approved Crude List - 4th Quarter, 2003

| Mnmn | See Foot- notes | Crude Name | Product Code | Country | Assay Date | Density | RVP | Sulfur | a)Pour Point | Carbon Residue | Viscosity (SSU) | | | b) H2S | Metals (ppm) | | | | TAN E | SALT | Organic Chlorides (ppm) | |
|--|-------------------------------------|----------------------|--------------|--------------|------------|----------|--------|--------|--------------|----------------|-----------------|-------|--------|--------|--------------|--------|-------|-------|-------|-------|-------------------------|---------|
| | | | | | | (API@60) | (psia) | (%) | (degF) | (%) | @60 F | @80 F | @100 F | (ppm) | Vanadium | Nickel | Whole | Pitch | Whole | Pitch | (mg KOH/g) | (lb/MB) |
| High Sulfur Sour Group | | | | | | | | | | | | | | | | | | | | | | |
| ABH | | ARABIAN HEAVY | 82378 | Saudi Arabia | 05/19/01 | 27.7 | 4.3 | 2.87 | <-27.4 | 7.8 | 226.2 | 145.8 | 99.6 | <1 | 49.0 | 181.0 | 15.0 | 59.0 | <0.10 | 6 | <1 | <1 |
| ABM | | ARABIAN MEDIUM | 82377 | Saudi Arabia | 06/20/03 | 30.4 | 3.5 | 2.57 | <-27.4 | 6.1 | 104.8 | 77.1 | 61.3 | <1 | 41.0 | 136.0 | 13.0 | 41.0 | 0.25 | 2 | <1 | <1 |
| BAS | <input checked="" type="checkbox"/> | BASRAH LIGHT | 82383 | Iraq | 04/23/03 | 30.5 | 5.4 | 2.90 | <-27.4 | 6.2 | 92.2 | 73.0 | 60.7 | <1 | 45.0 | 163.0 | 12.0 | 45.0 | 0.37 | 14 | <1 | <1 |
| EMX | <input checked="" type="checkbox"/> | EAST MS MIX | 82521 | USA | 09/03/03 | 30.9 | 3.0 | 2.10 | 15.8 | 7.3 | 106.7 | 78.5 | 57.3 | 23 | 23.0 | 87.0 | 8.0 | 31.0 | 0.26 | 250 | <1 | <1 |
| KIR | | KIRKUK | 82384 | IRAQ | 03/11/03 | 33.9 | 4.6 | 2.26 | -0.4 | 4.9 | 62.9 | 52.3 | 45.6 | <1 | 31.0 | 128.0 | 13.0 | 53.0 | 0.12 | 75 | <1 | <1 |
| KUW | | KUWAIT | 82380 | Kuwait | 10/09/03 | 30.0 | 4.1 | 2.62 | -5.8 | 6.5 | 123.2 | 82.2 | 75.5 | <1 | 42.0 | 149.0 | 15.0 | 51.0 | 0.15 | 17 | <1 | <1 |
| Section II. Crudes Approved, Moved, Pending Capline Assay | | | | | | | | | | | | | | | | | | | | | | |
| Sweet - Low Metals Group | | | | | | | | | | | | | | | | | | | | | | |
| LLC | | CUSIANA/LLS BLEND | 82756 | Colombia | 05/15/00 | 39.9 | 5.8 | 0.23 | 23.9 | 0.8 | 42.2 | 38.2 | 35.8 | <1 | 1.0 | 17.2 | 0.4 | 5.2 | 0.17 | 44 | <1 | <1 |
| MARB | <input checked="" type="checkbox"/> | MARIB LIGHT (ALIF) | 82352 | North Yem | 05/12/98 | 48.9 | 8.6 | 0.07 | -22.0 | 0.6 | 32.1 | 31.4 | 30.4 | <1 | 1.0 | <1 | 1.0 | <1 | 0.16 | <1 | <1 | <1 |
| ODU | | ODUDU | 82110 | Nigeria | 11/27/98 | 30.5 | 3.3 | 0.15 | <-27.4 | | 60.8 | 51.1 | 44.0 | <1 | 1.2 | 8.9 | 6.7 | 59.0 | 0.77 | 65 | 8.0 | <1 |
| OKON | <input checked="" type="checkbox"/> | OKONO | 82584 | Nigeria | 02/09/02 | 41.9 | 7.7 | 0.06 | 64.4 | 0.4 | 39.0 | 35.0 | 33.0 | - | <2 | 4.0 | 2.0 | 57.0 | 0.34 | 13 | - | - |
| PSOYO | | PALANCA/SOYO | 82460 | Angola | 01/01/99 | 37.8 | 7.8 | 0.16 | 45.0 | 1.5 | 48.7 | 42.7 | 40.5 | <1 | 1.7 | 15.4 | 1.5 | 13.1 | 0.05 | 27 | <1 | <1 |
| WHSW | | WEST HACKBERRY SWEET | 82267 | USA | 10/10/00 | 37.0 | 5.3 | 0.29 | -2.0 | 1.9 | 51.6 | 43.6 | 38.9 | <2 | 4.0 | 35.0 | 2.6 | 23.0 | 0.09 | 45 | | |
| Sour Group | | | | | | | | | | | | | | | | | | | | | | |
| BCSR | <input checked="" type="checkbox"/> | BAYOU CHOCTAW - SOUR | 82174 | USA | 05/01/98 | 32.2 | 3.6 | 1.43 | 11.0 | 4.0 | 76.8 | 57.0 | 47.3 | 100 | 40.3 | 240.0 | 11.1 | 66.0 | 0.13 | <50 | <0.1 | |
| Section III. Crudes Approved, Not Moved | | | | | | | | | | | | | | | | | | | | | | |
| Sweet - Low Metals Group | | | | | | | | | | | | | | | | | | | | | | |
| ESP | | ESPOIR | 82983 | Ivory Coast | 01/01/02 | 33.0 | 6.3 | 0.30 | 33.3 | 1.5 | 66.0 | 54.0 | 47.0 | - | 1.1 | | 4.0 | | 0.17 | 25 | - | - |
| KUMK | | KUMKOL | 82908 | Azerbaijan | 01/01/01 | 40.9 | 4.4 | 0.08 | 75.0 | 1.5 | 50.0 | 44.0 | 39.5 | <2 | 0.2 | - | 3.8 | - | 0.17 | 18 | - | - |

Updated
01/07/04

CAPLINE SYSTEM
CRUDE OIL PROPERTIES AND QUALITY INDICATORS
Approved Crude List - 4th Quarter, 2003

HYDROCARBON

FOOTNOTES

| | |
|-----------------------------|---|
| ARABIAN LIGHT | !! Due to HIGH Hydrogen Sulfide reported via LOOP - TAKE SAFETY PRECAUTIONS !! |
| BASRAH LIGHT | Neutralization number higher than previously seen (approx 0.1 mg KOH/g) |
| BAYOU CHOCTAW - SOUR | !! Due to Hydrogen Sulfide results- Take safety precautions !! |
| BONITO SOUR | Salt very high for Bonito Sour. Retest confirms. |
| BRASS RIVER | Testing for organic chloride consistently (five out of seven previous batches) indicates trace amounts in the naphtha cut. The amount is lower than Capline specs and may be something other than organic chloride, however it does appear in most samples. |
| CABINDA | Must be pour point depressed ! Viscosity at 60 and 80F not accurately measured - too close to pour point. |
| CUSIANA | low levels. |
| DJENO | Must be pour point depressed. |
| EAST MS MIX | !! Due to Hydrogen Sulfide results- Take safety precautions !! |
| FOINAVEN | Must be pour point depressed. |
| FORTIES | RVP and Acid Number were much higher than expected based on assay received |
| HEAVY LA SWEET | Gravity higher than usual. Gravity for HLS has been trending upward. |
| HIBERNIA | Must be pour point depressed. |
| KITINA | Must be pour point depressed. |
| LOUISIANA MISSISSIPPI SWEET | Several parameters are not consistent with LMS. Carriers have been notified and stream should change soon. |
| NKOSSA | Due to RVP - ONLY move in winter months |
| NORNE | Must be pour point depressed. |
| OKONO | Must be pour point depressed. |
| OSO CONDENSATE | Due to RVP, must be shipped on a case by case basis and approved prior to each nomination. |
| QUA IBOE | Must be pour point depressed. |
| SAHARAN BLEND | Due to RVP, must be shipped on a case by case basis and approved prior to each nomination. |
| SCHIEHALLION | Must be pour point depressed. |
| TROLL EXPORT | Acid number on Troll Export continues to be higher than usual. Will continue to move with Sweet Low Metals group and will monitor. |
| VASCONIA | Must be pour point depressed. |

a) POUR POINT may have been depressed in the sample taken for this assay.

b) Due to loss of H₂S in sampling and shipping, H₂S is likely higher than stated in this assay. TAKE precautions with all crude oils - sour or sweet.

Updated
01/07/04

CAPLINE SYSTEM

CRUDE OIL PROPERTIES AND QUALITY INDICATORS

Approved Crude List - 4th Quarter, 2003

NOTES

CRITERIA FOR GROUPING CRUDES ON CAPLINE

| Group | Criteria | | | |
|---------------------|--------------|---------------|-----------------|---------------------|
| | Sulfur %w | Ni + V ppm | TAN mg KOH/g | Salt lb/1000 bbl |
| Sweet - Low Metals | < 0.5 | <= 100 | <= 1.0 | <= 75 |
| Sweet - High Metals | < 0.5 | <= 250 | <= 1.0 | <= 75 |
| Intermediate | 0.5 - 1.0 | <= 550 | <= 1.0 | <= 75 |
| Sour | >1.0 - 2.0 | <= 1200 | <= 1.5 | <= 75 |
| High Sulfur Sour | > 2.0 | <= 1200 | <= 2.0 | <= 75 |

POUR POINT REQUIREMENTS

| | |
|---------------|---|
| Summer | Start on or after April 1 and Clear of system by September 30 <= +55F |
| Winter | Start October 1 - March 31 <= +35F |

RVP LIMITATIONS

| | |
|-------------------|---|
| Year-Round | RVP of <= 8.6 psi accepted year-round |
| Winter | Start on or after October 1 and Clear of system by April 30 <= 9.6 NOTE: Winter RVP > 9.6 Subject to Management Approval |

CRUDES REMOVED AS OF THIS LISTING:

| Crude | Assay or Approval Date | |
|---------------------|------------------------|--|
| Aasgard | Apr 4/2/03 | |
| Cocodrie Condensate | 7/27/2001 * | * When sampled for assay, this crude did not move on Capline. It was sampled at Houma, LA. |
| Isthmus | 7/1/1997 | |
| Yoho | Apr 6/11/03 | |
| Zafiro | 10/15/1997 | |

Crudes not moved within three (3) years will be removed from the list.

Newly approved crudes that have not moved within six (6) months will be removed from the list.