



CERTIFICATE OF ANALYSIS

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|---------|----------|
| JOB NO. | 509 |
| LAB NO. | PA013867 |

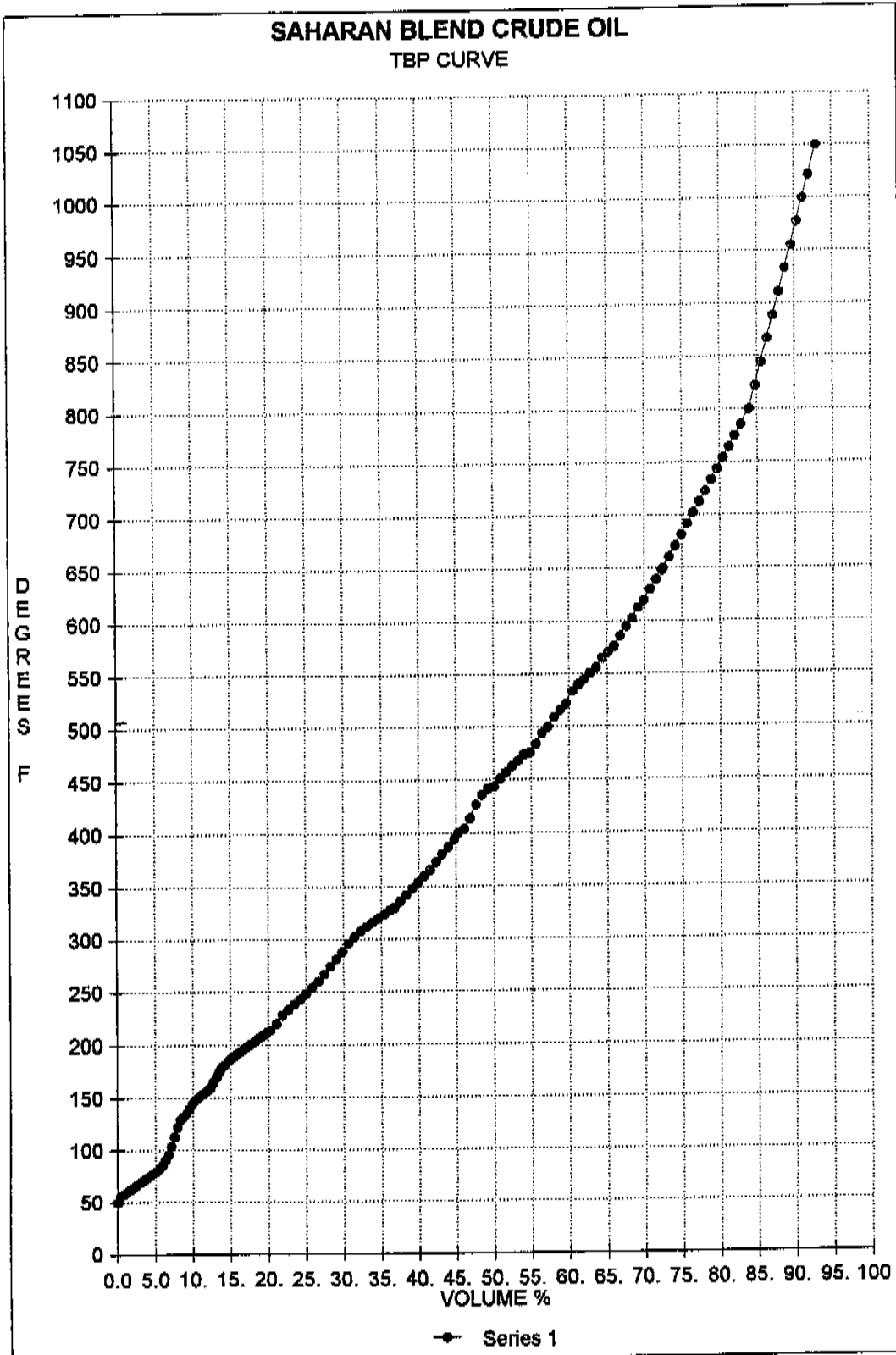
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|-----------------------|--|------|----------|
| VESSEL | SUBMITTED SAMPLE | DATE | 02-04-98 |
| CARGO | SAHARAN BLEND CRUDE OIL | | |
| TERMINAL/PORT | MIDDLE EAST LOCATION | | |
| SAMPLE FROM | WHOLE CRUDE OIL, N/A, | | |
| SAMPLE SUBMITTED BY | INSPECTORATE AMERICA CORP., PASADENA LAB SUBMITTED, TX | | |
| ANALYSIS PERFORMED BY | INSPECTORATE AMERICA CORP. | | |
| CLIENT(S) REF. | | | |

| METHOD | TEST/UNITS | RESULTS |
|--------------------------|--------------------------------------|---------|
| ASTM D 1298 | API Gravity, at 60 Deg. F, Deg. API | 45.3 |
| ASTM D 4294 | Total Sulfur, wt% | 0.10 |
| ASTM D 3227 | Mercaptan Sulfur, ppm wt | 3.2 |
| ASTM D 4629 | Trace Nitrogen, ppm wt | 169.0 |
| UOP 163 | Hydrogen Sulfide Content, mass-ppm | <1 |
| ASTM D 3230 | Salt Content, lb/1000b | <1 |
| ASTM D 445 | Kinematic Viscosity @ 40 Deg F, cSt | 4.100 |
| ASTM D 445 | Kinematic Viscosity @ 60 Deg F, cSt | 3.222 |
| ASTM D 445 | Kinematic Viscosity @ 80 Deg F, cSt | 2.768 |
| ASTM D 445 | Kinematic Viscosity @ 100 Deg F, cSt | 1.887 |
| ASTM D 445 | Kinematic Viscosity @ 122 Deg F, cSt | 1.6 |
| UOP 375 | UOP Characterization Factor | 12.1 |
| ASTM D 5191/EPA EQUATION | Dry Vapor Pressure Equivalent, psi | 7.37 |
| ASTM D 664 | Acid Number, mg KOH/g | 0.150 |
| ASTM D 97 | Pour Point, Deg. F | <-20 |

FOR INSPECTORATE:



| SAHARAN BLEND | | CRUDE | OIL | | | |
|--------------------------|-------|--------|----------|-------------------|-------------------|--------|
| CUT NO | API | S.G | WT GMS | WT% | VOL% | SULFUR |
| | | | | | | WT % |
| WHOLE | 45.3 | 0.8003 | 10057.00 | 100.00 | | 0.10 |
| IBP - 80 F | 102.1 | 0.6057 | 403.89 | 4.02 | 5.30 | 0.0001 |
| 80 - 160 F | 85.3 | 0.6527 | 629.29 | 6.26 | 7.67 | 0.0001 |
| 160 - 330 F | 59.8 | 0.7397 | 2334.17 | 23.21 | 25.09 | 0.0019 |
| 330 - 400 F | 47.9 | 0.7897 | 878.2 | 8.73 | 8.85 | 0.0058 |
| 400 - 500 F | 42.2 | 0.8146 | 1182.94 | 11.76 | 11.55 | 0.0153 |
| 500 - 650 F | 36.0 | 0.8448 | 1583.74 | 15.75 | 14.91 | 0.0928 |
| 650 - 800 F | 28.8 | 0.8827 | 1273.35 | 12.66 | 11.47 | 0.2400 |
| 800 -1050 F | 24.5 | 0.9071 | 1022.76 | 10.17 | 8.97 | 0.2600 |
| 1050+ | 15.7 | 0.9613 | 748.66 | 7.44 | 6.19 | 0.3400 |
| INTERMEDIATE CUTS | | | | | | |
| 375 - 450 | 45.8 | 0.7981 | | 9.93 | 9.95 | 0.0085 |
| 450 - 620 | 38.1 | 0.8343 | | 17.81 | 17.07 | 0.0490 |
| 620 - 680 | 32.3 | 0.8639 | | 6.31 | 5.84 | 0.21 |
| 650+ | 23.6 | 0.9123 | | 30.28 | 26.54 | 0.27 |
| | | | | | | |
| CALC | 45.4 | | 10057 | 100.00 | 100.00 | 0.1081 |
| | | | | | 125.05 | |
| | | | | | | |
| | | | | CUMULATIVE | CUMULATIVE | |
| | | | | WEIGHT | VOLUME | |
| IBP - 80 F | | | | 4.02 | 5.30 | |
| 80 - 160 F | | | | 10.27 | 12.97 | |
| 160 - 330 F | | | | 33.48 | 38.06 | |
| 330 - 400 F | | | | 42.21 | 46.92 | |
| 400 - 500 F | | | | 53.98 | 58.46 | |
| 500 - 650 F | | | | 69.72 | 73.37 | |
| 650 - 800 F | | | | 82.39 | 84.84 | |
| 800 -1050 F | | | | 92.56 | 93.81 | |
| 1050+ | | | | 100.00 | 100.00 | |
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| JOB NO. | 509 |
| LAB NO. | PA014314 |

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| VESSEL | 0-C4+ LPG CUT | DATE | 02-04-98 |
| CARGO | SAHARAN BLEND CRUDE OIL | | |
| TERMINAL/PORT | SUBMITTED SAMPLE | | |
| SAMPLE FROM | 0-C4+ LPG, STREAM, 01/12/98 | | |
| SAMPLE SUBMITTED BY | INSPECTORATE AMERICA CORP., PASADENA LAB SUBMITTED, TX | | |
| ANALYSIS PERFORMED BY | INSPECTORATE AMERICA CORP. | | |
| CLIENT(S) REF. | | | |

| METHOD | TEST/UNITS | RESULTS |
|-------------|----------------------|---------|
| ASTM D 2163 | Methane, WT% | 0.00 |
| ASTM D 2163 | Methane, Vol% | 0.00 |
| ASTM D 2163 | Ethane, WT% | 0.00 |
| ASTM D 2163 | Ethane, Vol% | 0.00 |
| ASTM D 2163 | Ethylene, WT% | 0.00 |
| ASTM D 2163 | Ethylene, Vol% | 0.00 |
| ASTM D 2163 | Propane, WT% | 5.27 |
| ASTM D 2163 | Propane, Vol% | 6.32 |
| ASTM D 2163 | Propylene, WT% | 0.00 |
| ASTM D 2163 | Propylene, Vol% | 0.00 |
| ASTM D 2163 | Isobutane, WT% | 4.31 |
| ASTM D 2163 | Isobutane, Vol% | 4.65 |
| ASTM D 2163 | Normal Butane, WT% | 21.68 |
| ASTM D 2163 | Normal Butane, Vol% | 22.56 |
| ASTM D 2163 | 1-Butene, WT% | 0.00 |
| ASTM D 2163 | Butene-1, Vol% | 0.00 |
| ASTM D 2163 | Trans-2-Butene, WT% | 0.00 |
| ASTM D 2163 | Trans-2-Butene, Vol% | 0.00 |
| ASTM D 2163 | Cis-2-Butene, WT% | 0.00 |
| ASTM D 2163 | Cis-2-Butene, Vol% | 0.00 |
| ASTM D 2163 | Isobutylene, WT% | 0.00 |
| ASTM D 2163 | Isobutylene, Vol% | 0.00 |
| ASTM D 2163 | 1.3 Butadiene, WT% | 0.00 |
| ASTM D 2163 | Butadiene, Vol% | 0.00 |
| ASTM D 2163 | Isopentane, WT% | 23.92 |
| ASTM D 2163 | Isopentane, Vol% | 23.29 |
| ASTM D 2163 | Normal Pentane, WT% | 44.83 |
| ASTM D 2163 | Normal Pentane, Vol% | 43.18 |

FOR INSPECTORATE:



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| JOB NO. | 509 |
| LAB NO. | PA014314 |

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|-----------------------|--|------|----------|
| VESSEL | 0-C4+ LPG CUT | DATE | 02-04-98 |
| CARGO | SAHARAN BLEND CRUDE OIL | | |
| TERMINAL/PORT | SUBMITTED SAMPLE | | |
| SAMPLE FROM | 0-C4+ LPG, STREAM, 01/12/98 | | |
| SAMPLE SUBMITTED BY | INSPECTORATE AMERICA CORP., PASADENA LAB SUBMITTED, TX | | |
| ANALYSIS PERFORMED BY | INSPECTORATE AMERICA CORP. | | |
| CLIENT(S) REF. | | | |

| METHOD | TEST/UNITS | RESULTS |
|-------------|--|---------|
| ASTM D 2163 | C6 Plus Hydrocarbons,WT% | 0.00 |
| ASTM D 2163 | C6 Plus Hydrocarbons,Vol% | 0.00 |
| ASTM D 2598 | Vapor Pressure @ 100 F.(Calc),psi,gage | 30 |

FOR INSPECTORATE:



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| JOB NO. | 509 |
| LAB NO. | PA014038 |

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|-----------------------|--|------|----------|
| VESSEL | C5 - 160 CUT | DATE | 02-03-98 |
| CARGO | SAHARAN BLEND CRUDE OIL | | |
| TERMINAL/PORT | SUBMITTED SAMPLE | | |
| SAMPLE FROM | STRAIGHTRUN GASOLINE, STREAM, 01/12/98 | | |
| SAMPLE SUBMITTED BY | INSPECTORATE AMERICA CORP., PASADENA LAB SUBMITTED, TX | | |
| ANALYSIS PERFORMED BY | INSPECTORATE AMERICA CORP. | | |
| CLIENT(S) REF. | | | |

| METHOD | TEST/UNITS | RESULTS |
|--------------------------|--|---------|
| UOP 163 | Mercaptan as Sulfur, mass-ppm | <1 |
| ASTM D 2892 | TBP Start of Cut, Deg. F | 80 |
| ASTM D 2892 | TBP End of Cut, Deg. F | 160 |
| ASTM D 2892 | Yield of Cut, Vol% | 7.67 |
| ASTM D 2892 | Yield of Cut, Wt% | 6.26 |
| ASTM D 1298 | API Gravity, at 60 Deg. F, Deg. API | 85.3 |
| ASTM D 1298 | Specific Gravity at 60/60 Dg. F | 0.6527 |
| ASTM D 4294 | Total Sulfur, ppm-wt | 65 |
| ASTM D 2699 | Research Octane Number | 69.0 |
| ASTM D 2700 | Motor Octane Number | 68.1 |
| ASTM D 5191/EPA EQUATION | Dry Vapor Pressure Equivalent, psi | 17.32 |
| GC DHA | Aromatics Content, Vol% | 2.13 |
| GC DHA | Naphthenes Content, Vol% | 6.63 |
| GC DHA | Paraffins Content, Vol% | 91.24 |
| ASTM D 86 | Distillation, IBP, Deg. F | 83.0 |
| ASTM D 86 | Distillation, 5 % Recovered, Deg. F | 95.0 |
| ASTM D 86 | Distillation, 10 % Recovered, Deg. F | 98.0 |
| ASTM D 86 | Distillation, 20 % Recovered, Deg. F | 105.0 |
| ASTM D 86 | Distillation, 30 % Recovered, Deg. F | 112.0 |
| ASTM D 86 | Distillation, 40 % Recovered, Deg. F | 118.0 |
| ASTM D 86 | Distillation, 50 % Recovered, DEG. F | 124.0 |
| ASTM D 86 | Distillation, 60 % Recovered, Deg. F | 130.0 |
| ASTM D 86 | Distillation, 70 % Recovered, Deg. F | 137.0 |
| ASTM D 86 | Distillation, 80 % Recovered, Deg. F | 143.0 |
| ASTM D 86 | Distillation, 90 % Recovered, Deg. F | 151.0 |
| ASTM D 86 | Distillation, 95 % Recovered, Deg. F | 158.0 |
| ASTM D 86 | Distillation, End Point (FBP), Deg. F | 162.0 |
| ASTM D 86 | Distillation, Percent Recovery, Vol. % | 99.0 |

FOR INSPECTORATE: *B. Rayles*



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| JOB NO. | 509 |
| LAB NO. | PA014038 |

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|-----------------------|--|------|----------|
| VESSEL | C5 - 160 CUT | DATE | 02-03-98 |
| CARGO | SAHARAN BLEND CRUDE OIL | | |
| TERMINAL/PORT | SUBMITTED SAMPLE | | |
| SAMPLE FROM | STRAIGHTRUN GASOLINE, STREAM, 01/12/98 | | |
| SAMPLE SUBMITTED BY | INSPECTORATE AMERICA CORP., PASADENA LAB SUBMITTED, TX | | |
| ANALYSIS PERFORMED BY | INSPECTORATE AMERICA CORP. | | |
| CLIENT(S) REF. | | | |

| METHOD | TEST/UNITS | RESULTS |
|-----------|---------------------------------------|---------|
| ASTM D 86 | Distillation, Percent Residue, Vol. % | 1.0 |
| ASTM D 86 | Distillation, Percent Loss, Vol. % | 0.0 |

FOR INSPECTORATE:



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| JOB NO. | 509 |
| LAB NO. | PA014039 |

| | | | |
|-----------------------|---|------|----------|
| VESSEL | 160-330 CUT | DATE | 02-03-98 |
| CARGO | LIGHT NAPHTHA (160 - 330) CUT | | |
| TERMINAL/PORT | SUBMITTED SAMPLE | | |
| SAMPLE FROM | LIGHT NAPHTHA CUT (160-330) DEGREES C., STREAM, 01/12/98 | | |
| SAMPLE SUBMITTED BY | INSPECTORATE AMERICA CORP., PASADENA LAB SUBMITTED, TX | | |
| ANALYSIS PERFORMED BY | INSPECTORATE AMERICA CORP. | | |
| CLIENT(S) REF. | | | |

| METHOD | TEST/UNITS | RESULTS |
|--------------------------|--|---------|
| ASTM D 2892 | TBP Start of Cut, Deg. F | 160 |
| ASTM D 2892 | TBP End of Cut, Deg. F | 330 |
| ASTM D 2892 | Yield of Cut, Vol% | 25.09 |
| ASTM D 2892 | Yield of Cut, Wt% | 23.21 |
| ASTM D 1298 | API Gravity, at 60 Deg. F, Deg. API | 59.8 |
| ASTM D 1298 | Specific Gravity at 60/60 Dg.F | 0.7393 |
| ASTM D 4294 | Total Sulfur, ppm-wt | 19 |
| ASTM D 3227 | Mercaptan Sulfur, ppm wt | <1 |
| ASTM D 2699 | Research Octane Number | 45.3 |
| ASTM D 2700 | Motor Octane Number | 42.9 |
| ASTM D 5191/EPA EQUATION | Dry Vapor Pressure Equivalent, psi | 2.67 |
| GC DHA | Aromatics Content, Vol% | 9.94 |
| GC DHA | Naphthenes Content, Vol% | 28.43 |
| GC DHA | Paraffins Content, Vol% | 61.55 |
| ASTM D 86 | Distillation, IBP, Deg. F | 186.0 |
| ASTM D 86 | Distillation, 5 % Recovered, Deg. F | 203.0 |
| ASTM D 86 | Distillation, 10 % Recovered, Deg. F | 208.0 |
| ASTM D 86 | Distillation, 20 % Recovered, Deg. F | 216.0 |
| ASTM D 86 | Distillation, 30 % Recovered, Deg. F | 224.0 |
| ASTM D 86 | Distillation, 40 % Recovered, Deg. F | 234.0 |
| ASTM D 86 | Distillation, 50 % Recovered, DEG. F | 244.0 |
| ASTM D 86 | Distillation, 60 % Recovered, Deg. F | 254.0 |
| ASTM D 86 | Distillation, 70 % Recovered, Deg. F | 264.0 |
| ASTM D 86 | Distillation, 80 % Recovered, Deg. F | 277.0 |
| ASTM D 86 | Distillation, 90 % Recovered, Deg. F | 294.0 |
| ASTM D 86 | Distillation, 95 % Recovered, Deg. F | 305.0 |
| ASTM D 86 | Distillation, End Point (FBP), Deg. F | 334.0 |
| ASTM D 86 | Distillation, Percent Recovery, Vol. % | 99.0 |

FOR INSPECTORATE: *B. Raylus*



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| JOB NO. | 509 |
| LAB NO. | PA014039 |

| | | | |
|-----------------------|---|------|----------|
| VESSEL | 160-330 CUT | DATE | 02-03-98 |
| CARGO | LIGHT NAPHTHA (160 - 330) CUT | | |
| TERMINAL/PORT | SUBMITTED SAMPLE | | |
| SAMPLE FROM | LIGHT NAPHTHA CUT (160-330) DEGREES C., STREAM, 01/12/98 | | |
| SAMPLE SUBMITTED BY | INSPECTORATE AMERICA CORP., PASADENA LAB SUBMITTED, TX | | |
| ANALYSIS PERFORMED BY | INSPECTORATE AMERICA CORP. | | |
| CLIENT(S) REF. | | | |

| METHOD | TEST/UNITS | RESULTS |
|-----------|---------------------------------------|---------|
| ASTM D 86 | Distillation, Percent Residue, Vol. % | 0.5 |
| ASTM D 86 | Distillation, Percent Loss, Vol. % | 0.5 |

FOR INSPECTORATE:

D. Kayles



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| JOB NO. | 509 |
| LAB NO. | PA014040 |

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|-----------------------|--|------|----------|
| VESSEL | 330-400 CUT | DATE | 02-03-98 |
| CARGO | HEAVY NAPHTHA (330 - 400)CUT | | |
| TERMINAL/PORT | SUBMITTED SAMPLE | | |
| SAMPLE FROM | HEAVY NAPHTHA (330-400)CUT, STREAM, 01/12/98 | | |
| SAMPLE SUBMITTED BY | INSPECTORATE AMERICA CORP., PASADENA LAB SUBMITTED, TX | | |
| ANALYSIS PERFORMED BY | INSPECTORATE AMERICA CORP. | | |
| CLIENT(S) REF. | | | |

| METHOD | TEST/UNITS | RESULTS |
|--------------------------|--|---------|
| ASTM D 2892 | TBP Start of Cut, Deg. F | 330 |
| ASTM D 2892 | TBP End of Cut, Deg. F | 400 |
| ASTM D 2892 | Yield of Cut, Vol% | 8.85 |
| ASTM D 2892 | Yield of Cut, Wt% | 8.73 |
| ASTM D 1298 | API Gravity, at 60 Deg. F, Deg. API | 47.9 |
| ASTM D 1298 | Specific Gravity at 60/60 Dg. F | 0.7887 |
| ASTM D 4294 | Total Sulfur, ppm-wt | 58 |
| ASTM D 3227 | Mercaptan Sulfur, ppm wt | 2.6 |
| ASTM D 5191/EPA EQUATION | Dry Vapor Pressure Equivalent, psi | 0.29 |
| GC DHA | Aromatics Content, Vol% | 20.00 |
| GC DHA | Naphthenes Content, Vol% | 14.58 |
| GC DHA | Paraffins Content, Vol% | 65.42 |
| ASTM D 86 | Distillation, IBP, Deg. F | 333.0 |
| ASTM D 86 | Distillation, 5 % Recovered, Deg. F | 341.0 |
| ASTM D 86 | Distillation, 10 % Recovered, Deg. F | 342.0 |
| ASTM D 86 | Distillation, 20 % Recovered, Deg. F | 345.0 |
| ASTM D 86 | Distillation, 30 % Recovered, Deg. F | 347.0 |
| ASTM D 86 | Distillation, 40 % Recovered, Deg. F | 349.0 |
| ASTM D 86 | Distillation, 50 % Recovered, DEG. F | 351.0 |
| ASTM D 86 | Distillation, 60 % Recovered, Deg. F | 353.0 |
| ASTM D 86 | Distillation, 70 % Recovered, Deg. F | 357.0 |
| ASTM D 86 | Distillation, 80 % Recovered, Deg. F | 361.0 |
| ASTM D 86 | Distillation, 90 % Recovered, Deg. F | 369.0 |
| ASTM D 86 | Distillation, 95 % Recovered, Deg. F | 375.0 |
| ASTM D 86 | Distillation, End Point (FBP), Deg. F | 402.0 |
| ASTM D 86 | Distillation, Percent Recovery, Vol. % | 98.5 |
| ASTM D 86 | Distillation, Percent Residue, Vol. % | 1.0 |
| ASTM D 86 | Distillation, Percent Loss, Vol. % | 0.5 |

FOR INSPECTORATE:



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| JOB NO. | 509 |
| LAB NO. | PA014040 |

| | | | |
|-----------------------|--|------|----------|
| VESSEL | 330-400 CUT | DATE | 02-03-98 |
| CARGO | HEAVY NAPHTHA (330 - 400)CUT | | |
| TERMINAL/PORT | SUBMITTED SAMPLE | | |
| SAMPLE FROM | HEAVY NAPHTHA (330-400)CUT, STREAM, 01/12/98 | | |
| SAMPLE SUBMITTED BY | INSPECTORATE AMERICA CORP., PASADENA LAB SUBMITTED, TX | | |
| ANALYSIS PERFORMED BY | INSPECTORATE AMERICA CORP. | | |
| CLIENT(S) REF. | | | |

| METHOD | TEST/UNITS | RESULTS |
|--|---|-----------------------|
| ATSM D 1322 ASTM D 2386 ASTM D 664 | Smoke Point,mm Freezing Point,Deg. C Acid Number,mg KOH/g | 20.0 <-66 0.005 |

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| JOB NO. | 509 |
| LAB NO. | PA014041 |

| | | | |
|-----------------------|--|------|----------|
| VESSEL | 375-450 CUT | DATE | 02-03-98 |
| CARGO | SAHARAN BLEND CRUDE OIL | | |
| TERMINAL/PORT | SUBMITTED SAMPLE | | |
| SAMPLE FROM | 375-450 LT KEROSENE CUT, STREAM, 01/12/98 | | |
| SAMPLE SUBMITTED BY | INSPECTORATE AMERICA CORP., PASADENA LAB SUBMITTED, TX | | |
| ANALYSIS PERFORMED BY | INSPECTORATE AMERICA CORP. | | |
| CLIENT(S) REF. | | | |

| METHOD | TEST/UNITS | RESULTS |
|-------------|-------------------------------------|---------|
| ASTM D 2892 | TBP Start of Cut,Deg.F | 375 |
| ASTM D 2892 | TBP End of Cut,Deg.F | 450 |
| ASTM D 4294 | Total Sulfur,ppm-wt | <100 |
| ASTM D 2892 | Yield of Cut,Wt% | 9.93 |
| ASTM D 2892 | Yield of Cut,Vol% | 9.95 |
| ASTM D 1298 | API Gravity, at 60 Deg. F,Deg. API | 45.8 |
| ASTM D 1298 | Specific Gravity at 60/60 Dg.F | 0.7981 |
| ASTM D 3227 | Mercaptan Sulfur,ppm wt | 0.9 |
| ASTM D 4629 | Trace Nitrogen,mg/kg | <1 |
| UOP 269 | Basic Nitrogen,mass % | 0.00 |
| ASTM D 445 | Kinematic Viscosity @122 Deg F,cSt | 1.1 |
| ASTM D 445 | Kinematic Viscosity @212 Deg F,cSt | 0.651 |
| UOP 375 | UOP Characterization Factor | 11.8 |
| ASTM D 1319 | Saturates by FIA,Volume % | 85.7 |
| ASTM D 1319 | Aromatics by FIA,Volume % | 14.3 |
| ATSM D 1322 | Smoke Point,mm | 19.0 |
| ASTM D 2386 | Freezing Point,Deg. C | -53.0 |
| ASTM D 3242 | Total Acidity,mg KOH/g | 0.004 |
| IP 309/83 | Cold Filter Plugging Point,Deg. C | -47 |
| ASTM D 86 | Distillation, IBP,Deg. F | 361.0 |
| ASTM D 86 | Distillation, 5 % Recovered,Deg. F | 370.0 |
| ASTM D 86 | Distillation, 10 % Recovered,Deg. F | 373.0 |
| ASTM D 86 | Distillation, 20 % Recovered,Deg. F | 378.0 |
| ASTM D 97 | Pour Point,Deg. F | <-20 |
| ASTM D 86 | Distillation, 30 % Recovered,Deg. F | 381.0 |
| ASTM D 86 | Distillation, 40 % Recovered,Deg. F | 387.0 |
| ASTM D 86 | Distillation, 50 % Recovered, DEG.F | 391.0 |
| ASTM D 86 | Distillation, 60 % Recovered,Deg. F | 396.0 |

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| JOB NO. | 509 |
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| | | | |
|-----------------------|--|------|----------|
| VESSEL | 375-450 CUT | DATE | 02-03-98 |
| CARGO | SAHARAN BLEND CRUDE OIL | | |
| TERMINAL/PORT | SUBMITTED SAMPLE | | |
| SAMPLE FROM | 375-450 LT KEROSENE CUT, STREAM, 01/12/98 | | |
| SAMPLE SUBMITTED BY | INSPECTORATE AMERICA CORP., PASADENA LAB SUBMITTED, TX | | |
| ANALYSIS PERFORMED BY | INSPECTORATE AMERICA CORP. | | |
| CLIENT(S) REF. | | | |

| METHOD | TEST/UNITS | RESULTS |
|-----------|--|---------|
| ASTM D 86 | Distillation, 70 % Recovered, Deg. F | 401.0 |
| ASTM D 86 | Distillation, 80 % Recovered, Deg. F | 409.0 |
| ASTM D 86 | Distillation, 90 % Recovered, Deg. F | 419.0 |
| ASTM D 86 | Distillation, 95 % Recovered, Deg. F | 428.0 |
| ASTM D 86 | Distillation, End Point (FBP), Deg. F | 438.0 |
| ASTM D 86 | Distillation, Percent Recovery, Vol. % | 98.5 |
| ASTM D 86 | Distillation, Percent Residue, Vol. % | 1.0 |
| ASTM D 86 | Distillation, Percent Loss, Vol. % | 0.5 |

FOR INSPECTORATE:

B. Kayles



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| VESSEL | 400-500 CUT | DATE | 02-03-98 |
| CARGO | SAHARAN BLEND CRUDE OIL | | |
| TERMINAL/PORT | SUBMITTED SAMPLE | | |
| SAMPLE FROM | 400-500 HEAVY KEROSENE CUT, STREAM, 01/12/98 | | |
| SAMPLE SUBMITTED BY | INSPECTORATE AMERICA CORP., PASADENA LAB SUBMITTED, TX | | |
| ANALYSIS PERFORMED BY | INSPECTORATE AMERICA CORP. | | |
| CLIENT(S) REF. | | | |

| METHOD | TEST/UNITS | RESULTS |
|-------------|--------------------------------------|---------|
| ASTM D 2892 | TBP Start of Cut, Deg. F | 400 |
| ASTM D 2892 | TBP End of Cut, Deg. F | 500 |
| ASTM D 2892 | Yield of Cut, Wt% | 11.76 |
| ASTM D 2892 | Yield of Cut, Vol% | 11.55 |
| ASTM D 1298 | API Gravity, at 60 Deg. F, Deg. API | 42.2 |
| ASTM D 1298 | Specific Gravity at 60/60 Dg. F | 0.8142 |
| ASTM D 1319 | Aromatics by FIA, Volume % | 16.6 |
| ASTM D 3227 | Mercaptan Sulfur, ppm wt | 2.7 |
| ASTM D 4294 | Total Sulfur, ppm-wt | 153 |
| ASTM D 1319 | Saturates by FIA, Volume % | 83.3 |
| ASTM D 4629 | Trace Nitrogen, ppm wt | 1.0 |
| ASTM D 445 | Kinematic Viscosity @122 Deg F, cSt | 1.4 |
| ASTM D 445 | Kinematic Viscosity @212 Deg F, cSt | 0.787 |
| UOP 375 | UOP Characterization Factor | 11.8 |
| ATSM D 1322 | Smoke Point, mm | 19.0 |
| ASTM D 2386 | Freezing Point, Deg. C | -43.0 |
| ASTM D 3242 | Total Acidity, mg KOH/g | 0.009 |
| ASTM D 97 | Pour Point, Deg. F | <-20 |
| IP 309/83 | Cold Filter Plugging Point, Deg. C | -43 |
| ASTM D 86 | Distillation, IBP, Deg. F | 408.0 |
| ASTM D 86 | Distillation, 5 % Recovered, Deg. F | 420.0 |
| ASTM D 86 | Distillation, 10 % Recovered, Deg. F | 422.0 |
| ASTM D 86 | Distillation, 20 % Recovered, Deg. F | 426.0 |
| ASTM D 86 | Distillation, 30 % Recovered, Deg. F | 430.0 |
| ASTM D 86 | Distillation, 40 % Recovered, Deg. F | 432.0 |
| ASTM D 86 | Distillation, 50 % Recovered, DEG. F | 436.0 |
| ASTM D 86 | Distillation, 60 % Recovered, Deg. F | 438.0 |
| ASTM D 86 | Distillation, 70 % Recovered, Deg. F | 444.0 |

FOR INSPECTORATE: B. Kapus



CERTIFICATE OF ANALYSIS

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|---------|----------|
| JOB NO. | 509 |
| LAB NO. | PA014042 |

| | | | |
|-----------------------|--|------|----------|
| VESSEL | 400-500 CUT | DATE | 02-03-98 |
| CARGO | SAHARAN BLEND CRUDE OIL | | |
| TERMINAL/PORT | SUBMITTED SAMPLE | | |
| SAMPLE FROM | 400-500 HEAVY KEROSENE CUT, STREAM, 01/12/98 | | |
| SAMPLE SUBMITTED BY | INSPECTORATE AMERICA CORP., PASADENA LAB SUBMITTED, TX | | |
| ANALYSIS PERFORMED BY | INSPECTORATE AMERICA CORP. | | |
| CLIENT(S) REF. | | | |

| METHOD | TEST/UNITS | RESULTS |
|-----------|--|---------|
| ASTM D 86 | Distillation, 80 % Recovered, Deg. F | 448.0 |
| ASTM D 86 | Distillation, 90 % Recovered, Deg. F | 456.0 |
| ASTM D 86 | Distillation, 95 % Recovered, Deg. F | 464.0 |
| ASTM D 86 | Distillation, End Point (FBP), Deg. F. | 496.0 |
| ASTM D 86 | Distillation, Percent Recovery, Vol. % | 99.0 |
| ASTM D 86 | Distillation, Percent Residue, Vol. % | 1.0 |
| ASTM D 86 | Distillation, Percent Loss, Vol. % | 0.0 |
| UOP 313 | Basic Nitrogen, ppm-wt | <1 |

FOR INSPECTORATE:

B. Kayles



CERTIFICATE OF ANALYSIS

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| | | | |
|-----------------------|--|------|----------|
| VESSEL | 450-620 GASOIL CUT | DATE | 02-03-98 |
| CARGO | SAHARAN BLEND CRUDE OIL | | |
| TERMINAL/PORT | SUBMITTED SAMPLE | | |
| SAMPLE FROM | 450-620 GASOIL CUT, STREAM, 01/12/98 | | |
| SAMPLE SUBMITTED BY | INSPECTORATE AMERICA CORP., PASADENA LAB SUBMITTED, TX | | |
| ANALYSIS PERFORMED BY | INSPECTORATE AMERICA CORP. | | |
| CLIENT(S) REF. | | | |

| METHOD | TEST/UNITS | RESULTS |
|-------------|---|---------|
| ASTM D 97 | Pour Point, Deg. F | <-20 |
| ASTM D 1298 | Density at 15 Deg. C, kg/m ³ | 834.3 |
| ASTM D 2892 | TBP Start of Cut, Deg. F | 450 |
| ASTM D 2892 | TBP End of Cut, Deg. F | 620 |
| ASTM D 4294 | Total Sulfur, ppm-wt | 490 |
| ASTM D 2892 | Yield of Cut, Wt% | 17.81 |
| ASTM D 2892 | Yield of Cut, Vol% | 17.07 |
| ASTM D 1298 | API Gravity, at 60 Deg. F, Deg. API | 38.1 |
| ASTM D 3227 | Mercaptan Sulfur, ppm wt | 0.0 |
| ASTM D 4629 | Trace Nitrogen, ppm wt | 3.0 |
| UOP 313 | Basic Nitrogen, ppm-wt | <1 |
| ASTM D 445 | Kinematic Viscosity @122 Deg F, cSt | 2.2 |
| ASTM D 445 | Kinematic Viscosity @212 Deg F, cSt | 1.084 |
| UOP 375 | UOP Characterization Factor | 11.8 |
| ASTM D 1319 | Aromatics by FIA, Volume % | 22.5 |
| ASTM D 1319 | Saturates by FIA, Volume % | 77.4 |
| ASTM D 3242 | Total Acidity, mg KOH/g | 0.010 |
| IP 309/83 | Cold Filter Plugging Point, Deg. C | -20 |
| ASTM D 976 | Calculated Cetane Index | 52.0 |
| ASTM D 2500 | Cloud Point, Deg. F | -13 |
| ASTM D 86 | Distillation, IBP, Deg. F | 464.0 |
| ASTM D 86 | Distillation, 5 % Recovered, Deg. F | 473.0 |
| ASTM D 86 | Distillation, 10 % Recovered, Deg. F | 480.0 |
| ASTM D 86 | Distillation, 20 % Recovered, Deg. F | 485.0 |
| ASTM D 86 | Distillation, 30 % Recovered, Deg. F | 492.0 |
| ASTM D 86 | Distillation, 40 % Recovered, Deg. F | 500.0 |
| ASTM D 86 | Distillation, 50 % Recovered, DEG. F | 508.0 |
| ASTM D 86 | Distillation, 60 % Recovered, Deg. F | 518.0 |

FOR INSPECTORATE:



CERTIFICATE OF ANALYSIS

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|---------|----------|
| JOB NO. | 509 |
| LAB NO. | PA014044 |

| | | | |
|-----------------------|--|------|----------|
| VESSEL | 450-620 GASOIL CUT | DATE | 02-03-98 |
| CARGO | SAHARAN BLEND CRUDE OIL | | |
| TERMINAL/PORT | SUBMITTED SAMPLE | | |
| SAMPLE FROM | 450-620 GASOIL CUT, STREAM, 01/12/98 | | |
| SAMPLE SUBMITTED BY | INSPECTORATE AMERICA CORP., PASADENA LAB SUBMITTED, TX | | |
| ANALYSIS PERFORMED BY | INSPECTORATE AMERICA CORP. | | |
| CLIENT(S) REF. | | | |

| METHOD | TEST/UNITS | RESULTS |
|-----------|--|---------|
| ASTM D 86 | Distillation, 70 % Recovered, Deg. F | 526.0 |
| ASTM D 86 | Distillation, 80 % Recovered, Deg. F | 538.0 |
| ASTM D 86 | Distillation, 90 % Recovered, Deg. F | 544.0 |
| ASTM D 86 | Distillation, 95 % Recovered, Deg. F | 564.0 |
| ASTM D 86 | Distillation, End Point (FBP), Deg. F | 578.0 |
| ASTM D 86 | Distillation, Percent Recovery, Vol. % | 99.0 |
| ASTM D 86 | Distillation, Percent Residue, Vol. % | 0.5 |
| ASTM D 86 | Distillation, Percent Loss, Vol. % | 0.5 |

FOR INSPECTORATE:



CERTIFICATE OF ANALYSIS

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| JOB NO. | 509 |
| LAB NO. | PA014045 |

| | | | |
|-----------------------|--|------|----------|
| VESSEL | 620-680 GASOIL CUT | DATE | 02-03-98 |
| CARGO | SAHARAN BLEND CRUDE OIL | | |
| TERMINAL/PORT | SUBMITTED SAMPLE | | |
| SAMPLE FROM | 620-680 GASOIL CUT, STREAM, 01/12/98 | | |
| SAMPLE SUBMITTED BY | INSPECTORATE AMERICA CORP., PASADENA LAB SUBMITTED, TX | | |
| ANALYSIS PERFORMED BY | INSPECTORATE AMERICA CORP. | | |
| CLIENT(S) REF. | | | |

| METHOD | TEST/UNITS | RESULTS |
|-------------|--------------------------------------|---------|
| ASTM D 2892 | TBP Start of Cut, Deg. F | 620 |
| ASTM D 2892 | TBP End of Cut, Deg. F | 680 |
| ASTM D 2892 | Yield of Cut, Wt% | 6.31 |
| ASTM D 2892 | Yield of Cut, Vol% | 5.84 |
| ASTM D 1298 | API Gravity, at 60 Deg. F, Deg. API | 32.3 |
| ASTM D 1298 | Specific Gravity at 60/60 Dg.F | 0.8639 |
| ASTM D 4294 | Total Sulfur, wt% | 0.21 |
| ASTM D 3227 | Mercaptan Sulfur, ppm wt | 2.7 |
| ASTM D 4629 | Trace Nitrogen, ppm wt | 25.4 |
| UOP 269 | Basic Nitrogen, mass % | 0.00 |
| ASTM D 445 | Kinematic Viscosity @122 Deg F, cSt | 5.2 |
| ASTM D 445 | Kinematic Viscosity @212 Deg F, cSt | 2.085 |
| UOP 375 | UOP Characterization Factor | 11.9 |
| ASTM D 1319 | Aromatics by FIA, Volume % | 27.0 |
| ASTM D 1319 | Saturates by FIA, Volume % | 73.0 |
| ASTM D 664 | Acid Number, mg KOH/g | 0.008 |
| ASTM D 97 | Pour Point, Deg. F | 30 |
| IP 309/83 | Cold Filter Plugging Point, Deg. C | 4 |
| ASTM D 976 | Calculated Cetane Index | 51.0 |
| ASTM D 2500 | Cloud Point, Deg. F | 34 |
| ASTM D 86 | Distillation, IBP, Deg. F | 600.0 |
| ASTM D 86 | Distillation, 5 % Recovered, Deg. F | 606.0 |
| ASTM D 86 | Distillation, 10 % Recovered, Deg. F | 608.0 |
| ASTM D 86 | Distillation, 20 % Recovered, Deg. F | 610.0 |
| ASTM D 86 | Distillation, 30 % Recovered, Deg. F | 614.0 |
| ASTM D 86 | Distillation, 40 % Recovered, Deg. F | 616.0 |
| ASTM D 86 | Distillation, 50 % Recovered, DEG. F | 618.0 |
| ASTM D 86 | Distillation, 60 % Recovered, Deg. F | 620.0 |

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CERTIFICATE OF ANALYSIS

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|---------|----------|
| JOB NO. | 509 |
| LAB NO. | PA014045 |

| | | | |
|-----------------------|--|------|----------|
| VESSEL | 620-680 GASOIL CUT | DATE | 02-03-98 |
| CARGO | SAHARAN BLEND CRUDE OIL | | |
| TERMINAL/PORT | SUBMITTED SAMPLE | | |
| SAMPLE FROM | 620-680 GASOIL CUT, STREAM, 01/12/98 | | |
| SAMPLE SUBMITTED BY | INSPECTORATE AMERICA CORP., PASADENA LAB SUBMITTED, TX | | |
| ANALYSIS PERFORMED BY | INSPECTORATE AMERICA CORP. | | |
| CLIENT(S) REF. | | | |

| METHOD | TEST/UNITS | RESULTS |
|-----------|--|---------|
| ASTM D 86 | Distillation, 70 % Recovered, Deg. F | 623.0 |
| ASTM D 86 | Distillation, 80 % Recovered, Deg. F | 628.0 |
| ASTM D 86 | Distillation, 90 % Recovered, Deg. F | 635.0 |
| ASTM D 86 | Distillation, 95 % Recovered, Deg. F | 640.0 |
| ASTM D 86 | Distillation, End Point (FBP), Deg. F | 652.0 |
| ASTM D 86 | Distillation, Percent Recovery, Vol. % | 99.5 |
| ASTM D 86 | Distillation, Percent Residue, Vol. % | 0.3 |
| ASTM D 86 | Distillation, Percent Loss, Vol. % | 0.2 |

FOR INSPECTORATE:



CERTIFICATE OF ANALYSIS

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| JOB NO. | 509 |
| LAB NO. | PA014046 |

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|-----------------------|--|------|----------|
| VESSEL | 500-650 GASOIL CUT | DATE | 02-03-98 |
| CARGO | SAHARAN BLEND CRUDE OIL | | |
| TERMINAL/PORT | SUBMITTED SAMPLE | | |
| SAMPLE FROM | 500-650 GASOIL CUT, STREAM, 01/12/98 | | |
| SAMPLE SUBMITTED BY | INSPECTORATE AMERICA CORP., PASADENA LAB SUBMITTED, TX | | |
| ANALYSIS PERFORMED BY | INSPECTORATE AMERICA CORP. | | |
| CLIENT(S) REF. | | | |

| METHOD | TEST/UNITS | RESULTS |
|-------------|--------------------------------------|---------|
| ASTM D 2892 | TBP Start of Cut, Deg. F | 500 |
| ASTM D 2892 | TBP End of Cut, Deg. F | 650 |
| ASTM D 2892 | Yield of Cut, Wt% | 15.75 |
| ASTM D 2892 | Yield of Cut, Vol% | 14.91 |
| ASTM D 1298 | API Gravity, at 60 Deg. F, Deg. API | 36.0 |
| ASTM D 1298 | Specific Gravity at 60/60 Dg. F | 0.8448 |
| ASTM D 4294 | Total Sulfur, wt% | 0.09 |
| ASTM D 3227 | Mercaptan Sulfur, ppm wt | 0.0 |
| ASTM D 4629 | Trace Nitrogen, ppm wt | 6.7 |
| UOP 313 | Basic Nitrogen, ppm-wt | <1 |
| ASTM D 445 | Kinematic Viscosity @122 Deg F, cSt | 3.1 |
| ASTM D 445 | Kinematic Viscosity @212 Deg F, cSt | 1.361 |
| UOP 375 | UOP Characterization Factor | 11.9 |
| ASTM D 1319 | Aromatics by FIA, Volume % | 28.6 |
| ASTM D 1319 | Saturates by FIA, Volume % | 71.2 |
| ASTM D 664 | Acid Number, mg KOH/g | 0.010 |
| ASTM D 97 | Pour Point, Deg. F | 5 |
| IP 309/83 | Cold Filter Plugging Point, Deg. C | -9 |
| ASTM D 976 | Calculated Cetane Index | 52.5 |
| ASTM D 2500 | Cloud Point, Deg. F | 7 |
| ASTM D 86 | Distillation, IBP, Deg. F | 516.0 |
| ASTM D 86 | Distillation, 5 % Recovered, Deg. F | 532.0 |
| ASTM D 86 | Distillation, 10 % Recovered, Deg. F | 534.0 |
| ASTM D 86 | Distillation, 20 % Recovered, Deg. F | 535.0 |
| ASTM D 86 | Distillation, 30 % Recovered, Deg. F | 539.0 |
| ASTM D 86 | Distillation, 40 % Recovered, Deg. F | 543.0 |
| ASTM D 86 | Distillation, 50 % Recovered, DEG. F | 547.0 |
| ASTM D 86 | Distillation, 60 % Recovered, Deg. F | 553.0 |

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|---------|----------|
| JOB NO. | 509 |
| LAB NO. | PA014046 |

| | | | |
|-----------------------|--|------|----------|
| VESSEL | 500-650 GASOIL CUT | DATE | 02-03-98 |
| CARGO | SAHARAN BLEND CRUDE OIL | | |
| TERMINAL/PORT | SUBMITTED SAMPLE | | |
| SAMPLE FROM | 500-650 GASOIL CUT, STREAM, 01/12/98 | | |
| SAMPLE SUBMITTED BY | INSPECTORATE AMERICA CORP., PASADENA LAB SUBMITTED, TX | | |
| ANALYSIS PERFORMED BY | INSPECTORATE AMERICA CORP. | | |
| CLIENT(S) REF. | | | |

| METHOD | TEST/UNITS | RESULTS |
|-----------|--|---------|
| ASTM D 86 | Distillation, 70 % Recovered, Deg. F | 562.0 |
| ASTM D 86 | Distillation, 80 % Recovered, Deg. F | 572.0 |
| ASTM D 86 | Distillation, 90 % Recovered, Deg. F | 588.0 |
| ASTM D 86 | Distillation, 95 % Recovered, Deg. F | 599.0 |
| ASTM D 86 | Distillation, End Point (FBP), Deg. F | 611.0 |
| ASTM D 86 | Distillation, Percent Recovery, Vol. % | 98.5 |
| ASTM D 86 | Distillation, Percent Residue, Vol. % | 1.0 |
| ASTM D 86 | Distillation, Percent Loss, Vol. % | 0.5 |

FOR INSPECTORATE:



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|---------|----------|
| JOB NO. | 509 |
| LAB NO. | PA014049 |

| | | | |
|-----------------------|--|------|----------|
| VESSEL | 650-800 CUT | DATE | 02-03-98 |
| CARGO | SAHARAN BLEND CRUDE OIL | | |
| TERMINAL/PORT | SUBMITTED SAMPLE | | |
| SAMPLE FROM | LIGHT VGO (650-800) CUT, STREAM, 01/12/98 | | |
| SAMPLE SUBMITTED BY | INSPECTORATE AMERICA CORP., PASADENA LAB SUBMITTED, TX | | |
| ANALYSIS PERFORMED BY | INSPECTORATE AMERICA CORP. | | |
| CLIENT(S) REF. | | | |

| METHOD | TEST/UNITS | RESULTS |
|-------------|---------------------------------------|---------|
| ASTM D 2892 | TBP Start of Cut,Deg.F | 650 |
| ASTM D 2892 | TBP End of Cut,Deg.F | 800 |
| ASTM D 2892 | Yield of Cut,Wt% | 12.66 |
| ASTM D 2892 | Yield of Cut,Vol% | 11.47 |
| ASTM D 1298 | API Gravity, at 60 Deg. F,Deg. API | 28.8 |
| ASTM D 1298 | Specific Gravity at 60/60 Dg.F | 0.8827 |
| ASTM D 4294 | Total Sulfur,wt% | 0.24 |
| ASTM D 4629 | Trace Nitrogen,ppm wt | 254.0 |
| UOP 269 | Basic Nitrogen,mass % | 0.01 |
| ASTM D 445 | Kinematic Viscosity @122 Deg F,cSt | 12.5 |
| ASTM D 445 | Kinematic Viscosity @212 Deg F,cSt | 3.672 |
| UOP 375 | UOP Characterization Factor | 12.0 |
| ASTM D 974 | Acid Number,mg KOH/g | 0.01 |
| ASTM D 97 | Pour Point,Deg. F | 65 |
| ASTM D 611 | Aniline Point,Deg. F | 188.0 |
| ASTM D 1160 | Distillation-Vacuum,IBP -AET,Deg. F | 648 |
| ASTM D 1160 | Dist.-Vacuum,5 % Recovered-AET,Deg. F | 671 |
| ASTM D 1160 | Dist.-Vacuum,10% Recovered-AET,Deg. F | 680 |
| ASTM D 1160 | Dist.-Vacuum,20% Recovered-AET,Deg. F | 689 |
| ASTM D 1160 | Dist.-Vacuum,30% Recovered-AET,Deg. F | 696 |
| ASTM D 1160 | Dist.-Vacuum,40% Recovered-AET,Deg. F | 705 |
| ASTM D 1160 | Dist.-Vacuum,50% Recovered-AET,Deg. F | 714 |
| ASTM D 1160 | Dist.-Vacuum,60% Recovered-AET,Deg. F | 723 |
| ASTM D 1160 | Dist.-Vacuum,70% Recovered-AET,Deg. F | 738 |
| ASTM D 1160 | Dist.-Vacuum,80% Recovered-AET,Deg. F | 761 |
| ASTM D 1160 | Dist.-Vacuum,90% Recovered-AET,Deg. F | 786 |
| ASTM D 1160 | Dist.-Vacuum,95% Recovered-AET,Deg. F | 806 |
| ASTM D 1160 | Distillation Vac,End Point-AET,Deg. F | 847 |

FOR INSPECTORATE:



CERTIFICATE OF ANALYSIS

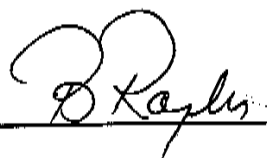
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| JOB NO. | 509 |
| LAB NO. | PA014049 |

| | | | |
|-----------------------|--|------|----------|
| VESSEL | 650-800 CUT | DATE | 02-03-98 |
| CARGO | SAHARAN BLEND CRUDE OIL | | |
| TERMINAL/PORT | SUBMITTED SAMPLE | | |
| SAMPLE FROM | LIGHT VGO (650-800) CUT, STREAM, 01/12/98 | | |
| SAMPLE SUBMITTED BY | INSPECTORATE AMERICA CORP., PASADENA LAB SUBMITTED, TX | | |
| ANALYSIS PERFORMED BY | INSPECTORATE AMERICA CORP. | | |
| CLIENT(S) REF. | | | |

| METHOD | TEST/UNITS | RESULTS |
|-------------|--|---------|
| ASTM D 1160 | Distillation, Percent Recovery, Vol. % | 99.0 |
| ASTM D 1160 | Distillation, Percent Residue, Vol. % | 1.0 |

FOR INSPECTORATE:





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PAGE 1

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|---------|----------|
| JOB NO. | 509 |
| LAB NO. | PA014050 |

| | | | |
|-----------------------|--|------|----------|
| VESSEL | 800-1050 CUT | DATE | 02-03-98 |
| CARGO | SAHARAN BLEND CRUDE OIL | | |
| TERMINAL/PORT | SUBMITTED SAMPLE | | |
| SAMPLE FROM | HEAVY VGO (800-1050)CUT, STREAM, 01/12/98 | | |
| SAMPLE SUBMITTED BY | INSPECTORATE AMERICA CORP., PASADENA LAB SUBMITTED, TX | | |
| ANALYSIS PERFORMED BY | INSPECTORATE AMERICA CORP. | | |
| CLIENT(S) REF. | | | |

| METHOD | TEST/UNITS | RESULTS |
|-------------|---------------------------------------|---------|
| ASTM D 445 | Kinematic Viscosity @275 Deg F,cSt | 4.770 |
| ASTM D 2892 | TBP Start of Cut,Deg.F | 800 |
| ASTM D 2892 | TBP End of Cut,Deg.F | 1050 |
| ASTM D 2892 | Yield of Cut,Wt% | 10.17 |
| ASTM D 2892 | Yield of Cut,Vol% | 8.97 |
| ASTM D 1298 | API Gravity, at 60 Deg. F,Deg. API | 24.5 |
| ASTM D 1298 | Specific Gravity at 60/60 Dg.F | 0.9071 |
| ASTM D 4294 | Total Sulfur,wt% | 0.26 |
| ASTM D 4629 | Trace Nitrogen,ppm wt | 628.0 |
| UOP 269 | Basic Nitrogen,mass % | 0.02 |
| ASTM D 445 | Kinematic Viscosity @122 Deg F,cSt | 58.9 |
| ASTM D 445 | Kinematic Viscosity @212 Deg F,cSt | 10.140 |
| UOP 375 | UOP Characterization Factor | 12.0 |
| ASTM D 974 | Acid Number,mg KOH/g | 0.02 |
| ASTM D 97 | Pour Point,Deg. F | 90 |
| ASTM D 611 | Aniline Point,Deg. F | 209.0 |
| ASTM D 1160 | Distillation-Vacuum,IBP -AET,Deg. F | 583 |
| ASTM D 1160 | Dist.-Vacuum,5 % Recovered-AET,Deg. F | 741 |
| ASTM D 1160 | Dist.-Vacuum,10% Recovered-AET,Deg. F | 768 |
| ASTM D 1160 | Dist.-Vacuum,20% Recovered-AET,Deg. F | 797 |
| ASTM D 1160 | Dist.-Vacuum,30% Recovered-AET,Deg. F | 817 |
| ASTM D 1160 | Dist.-Vacuum,40% Recovered-AET,Deg. F | 842 |
| ASTM D 1160 | Dist.-Vacuum,50% Recovered-AET,Deg. F | 860 |
| ASTM D 1160 | Dist.-Vacuum,60% Recovered-AET,Deg. F | 873 |
| ASTM D 1160 | Dist.-Vacuum,70% Recovered-AET,Deg. F | 896 |
| ASTM D 1160 | Dist.-Vacuum,80% Recovered-AET,Deg. F | 916 |
| ASTM D 1160 | Dist.-Vacuum,90% Recovered-AET,Deg. F | 937 |
| ASTM D 1160 | Dist.-Vacuum,95% Recovered-AET,Deg. F | 961 |

FOR INSPECTORATE: *B Kaylis*



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| JOB NO. | 509 |
| LAB NO. | PA014050 |

| | | | |
|-----------------------|--|------|----------|
| VESSEL | 800-1050 CUT | DATE | 02-03-98 |
| CARGO | SAHARAN BLEND CRUDE OIL | | |
| TERMINAL/PORT | SUBMITTED SAMPLE | | |
| SAMPLE FROM | HEAVY VGO (800-1050)CUT, STREAM, 01/12/98 | | |
| SAMPLE SUBMITTED BY | INSPECTORATE AMERICA CORP., PASADENA LAB SUBMITTED, TX | | |
| ANALYSIS PERFORMED BY | INSPECTORATE AMERICA CORP. | | |
| CLIENT(S) REF. | | | |

| METHOD | TEST/UNITS | RESULTS |
|-------------|---------------------------------------|---------|
| ASTM D 1160 | Distillation Vac,End Point-AET,Deg. F | 1047 |
| ASTM D 1160 | Distillation, Percent Recovery,Vol. % | 99.0 |
| ASTM D 1160 | Distillation, Percent Residue,Vol. % | 1.0 |

FOR INSPECTORATE: *B. Kayles*



CERTIFICATE OF ANALYSIS

PAGE 1

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|---------|----------|
| JOB NO. | 509 |
| LAB NO. | PA014067 |

| | | | |
|-----------------------|--|------|----------|
| VESSEL | 650+ | DATE | 02-03-98 |
| CARGO | SAHARAN BLEND CRUDE OIL | | |
| TERMINAL/PORT | SUBMITTED SAMPLE | | |
| SAMPLE FROM | STRAIGHT RUN RESIDUE, STREAM, 01/12/98 | | |
| SAMPLE SUBMITTED BY | INSPECTORATE AMERICA CORP., PASADENA LAB SUBMITTED, TX | | |
| ANALYSIS PERFORMED BY | INSPECTORATE AMERICA CORP. | | |
| CLIENT(S) REF. | | | |

| METHOD | TEST/UNITS | RESULTS |
|-------------|---------------------------------------|---------|
| ASTM D 445 | Kinematic Viscosity @275 Deg F,cSt | 5.091 |
| ASTM D 2892 | TBP Start of Cut,Deg.F | 650 |
| ASTM D 2892 | Yield of Cut,Wt% | 30.28 |
| ASTM D 2892 | Yield of Cut,Vol% | 26.54 |
| ASTM D 1298 | API Gravity, at 60 Deg. F,Deg. API | 23.6 |
| ASTM D 445 | Kinematic Viscosity @122 Deg F,cSt | 62.5 |
| ASTM D 1298 | Specific Gravity at 60/60 Dg.F | 0.9123 |
| ASTM D 4294 | Total Sulfur,wt% | 0.27 |
| ASTM D 4629 | Trace Nitrogen,ppm wt | 727.0 |
| ASTM D 445 | Kinematic Viscosity @212 Deg F,cSt | 10.600 |
| UOP 375 | UOP Characterization Factor | 11.9 |
| ASTM D 97 | Pour Point,Deg. F | 80 |
| ASTM D 1160 | Distillation-Vacuum,IBP -AET,Deg. F | 648 |
| ASTM D 1160 | Dist.-Vacuum,5 % Recovered-AET,Deg. F | 653 |
| ASTM D 1160 | Dist.-Vacuum,10% Recovered-AET,Deg. F | 671 |
| ASTM D 1160 | Dist.-Vacuum,20% Recovered-AET,Deg. F | 693 |
| ASTM D 1160 | Dist.-Vacuum,30% Recovered-AET,Deg. F | 716 |
| ASTM D 1160 | Dist.-Vacuum,40% Recovered-AET,Deg. F | 752 |
| ASTM D 1160 | Dist.-Vacuum,50% Recovered-AET,Deg. F | 792 |
| ASTM D 1160 | Dist.-Vacuum,60% Recovered-AET,Deg. F | 837 |
| ASTM D 1160 | Dist.-Vacuum,70% Recovered-AET,Deg. F | 891 |
| ASTM D 1160 | Dist.-Vacuum,80% Recovered-AET,Deg. F | 972 |
| ASTM D 1160 | Dist.-Vacuum,90% Recovered-AET,Deg. F | 1094 |
| ASTM D 1160 | Distillation Vac,End Point-AET,Deg. F | 1126 |
| ASTM D 1160 | Distillation, Percent Recovery,Vol. % | 94.0 |
| ASTM D 1160 | Distillation, Percent Residue,Vol. % | 6.0 |
| ASTM D 4530 | Carbon Residue (Micro Method),mass % | 3.1 |
| ASTM D 524 | Ramsbottom Carbon Residue,mass % | 3.07 |

FOR INSPECTORATE: *B. Rojas*



CERTIFICATE OF ANALYSIS

PAGE 2

| | |
|---------|----------|
| JOB NO. | 509 |
| LAB NO. | PA014067 |

| | | | |
|-----------------------|--|------|----------|
| VESSEL | 650+ | DATE | 02-03-98 |
| CARGO | SAHARAN BLEND CRUDE OIL | | |
| TERMINAL/PORT | SUBMITTED SAMPLE | | |
| SAMPLE FROM | STRAIGHT RUN RESIDUE, STREAM, 01/12/98 | | |
| SAMPLE SUBMITTED BY | INSPECTORATE AMERICA CORP., PASADENA LAB SUBMITTED, TX | | |
| ANALYSIS PERFORMED BY | INSPECTORATE AMERICA CORP. | | |
| CLIENT(S) REF. | | | |

| METHOD | TEST/UNITS | RESULTS |
|-----------------------|---------------------|---------|
| IP 143 | Asphaltenes, mass % | 0.25 |
| AAS By Acid Digestion | Nickel, ppm-wt | 0.2 |
| AAS By Acid Digestion | Vanadium, ppm-wt | 2.4 |
| AAS By Acid Digestion | Sodium, ppm-wt | 5.1 |
| AAS By Acid Digestion | Iron, ppm-wt | 2.1 |

FOR INSPECTORATE: *B. Kayles*



CERTIFICATE OF ANALYSIS

PAGE 1

| | |
|---------|----------|
| JOB NO. | 509 |
| LAB NO. | PA014068 |

| | | | |
|-----------------------|--|------|----------|
| VESSEL | 1050+ | DATE | 02-03-98 |
| CARGO | SAHARAN BLEND CRUDE OIL | | |
| TERMINAL/PORT | SUBMITTED SAMPLE | | |
| SAMPLE FROM | VACUUM RESIDUE, STREAM, 01/12/98 | | |
| SAMPLE SUBMITTED BY | INSPECTORATE AMERICA CORP., PASADENA LAB SUBMITTED, TX | | |
| ANALYSIS PERFORMED BY | INSPECTORATE AMERICA CORP. | | |
| CLIENT(S) REF. | | | |

| METHOD | TEST/UNITS | RESULTS |
|-----------------------|--------------------------------------|---------|
| ASTM D 445 | Kinematic Viscosity @212 Deg F,cSt | 213.0 |
| ASTM D 2892 | Yield of Cut,Wt% | 7.44 |
| ASTM D 2892 | Yield of Cut,Vol% | 6.19 |
| ASTM D 1298 | API Gravity, at 60 Deg. F,Deg. API | 15.7 |
| ASTM D 445 | Kinematic Viscosity @122 Deg F,cSt | 6774.0 |
| ASTM D 1298 | Specific Gravity at 60/60 Dg.F | 0.9613 |
| ASTM D 4294 | Total Sulfur,wt% | 0.34 |
| ASTM D 4629 | Trace Nitrogen,ppm wt | 1873.0 |
| ASTM D 445 | Kinematic Viscosity @275 Deg F,cSt | 55.7 |
| UOP 375 | UOP Characterization Factor | 12.0 |
| ASTM D 97 | Pour Point,Deg. F | 90 |
| ASTM D 4530 | Carbon Residue (Micro Method),mass % | 14.1 |
| ASTM D 524 | Ramsbottom Carbon Residue,mass % | 13.34 |
| IP 143 | Asphaltenes,mass % | 3.32 |
| AAS By Acid Digestion | Nickel,ppm-wt | 0.7 |
| AAS By Acid Digestion | Vanadium,ppm-wt | 6.3 |
| AAS By Acid Digestion | Sodium,ppm-wt | 8.6 |
| AAS By Acid Digestion | Iron,ppm-wt | 7.0 |

FOR INSPECTORATE:

Q-COA
REV #2 - 2/94