Inspectorate America
33 Rigby Road
South Portland, Maine 04106
(207)767-1711

INSPECTORATE

# QUALITY CERTIFICATE

| | | | | | |
|---|---|---|---|---|---|
| Vessel | PENN 90 | Port | SEARSPORT,ME. | Report | SP/07/1214 |
| Customer | SPRAGUE | Date | December 15, 2007 | Ref. No. | V-07-01933 |
| Operation | ANALYSIS | Terminal | SPRAGUE | Sample # | 1571180 |

| | |
|---|---|
| Material being tested | #6 FUEL OIL (2.00%) |
| Description of sample source | SHORE TK NO. 4 UML COMPOSITE AFTER PENN 90 |
| Samples Drawn by (company) | INSPECTORATE AMERICA 12/15/07 |
| Samples Tested by (company) | INSPECTORATE AMERICA 12/15/07 |

| Tests being Performed | Test method | Minimum | Maximum | Sample Result |
|---|---|---|---|---|
| API Gravity @60/F | Average | 10 | | 10 4 |
| Sulphur, %wt | Average | | 2.00 | 1 43 |
| Viscosity, CST @ 50C | D-445 | | | 688 |
| Viscosity, SSF @ 122F | Average | | | 324 |
| Water by Distillation, Vol % | D-95 | | 1.0 | 0 |
| Sediment by Extraction, Wt % | D-473 | | 0.1 | 0.02 |
| Water & Sediment, Vol % | D-1796 | | 1.0 | 0 1 |
| Flash Pt/F | D-93 B | 150 | | 241 |
| Ash, %wt | D-482 | | 0.1 | 0 053 |
| Vanadium, ppm | IP-470 | | 300 | 20 |
| Sodium, ppm | IP-470 | | 60 | 5 |
| Aluminum, PPM | IP-470 | | | 35 |
| Silicon, PPM | IP-470 | | | 41 |
| Nitrogen, Wt % | D-5762 | | 0.55 | 0.3943 |
| Heat Of Combustion, Per Pound | D-240 | Report | | 18 350 |
| Heat Of Combustion, Per Gallon | Conversion | Report | | 152 397 |
| Asphaltenes, Wt % | IP-143 | | 14 | 2 52 |
| Carbon Residue, % wt | D-4530 | | 21 | 11 9 |
| Pour Point,F | D-97 | | 60 | 37 4 |
| Api Gravity @60/F Upper - Tag # 1473752 | D-287 | 10 | | 10 4 |
| Middle Tag # 1473753 | | | | 10 4 |
| Lower Tag # 1473754 | | | | 10 5 |
| Sulphur, %wt Upper Tag # 1473752 | D-4294 | | 2.00 | 1 43 |
| Middle Tag # 1473753 | | | | 1 43 |
| Lower Tag # 1473754 | | | | 1 43 |
| Viscosity, SSF @ 122F Upper Tag# 1473752 | D-445/2161 | | | 326 |
| Middle Tag# 1473753 | | | | 320 |
| Lower Tag # 1473754 | | | | 327 |

SPRAGUE PROVIDES THE ATTACHED INSPECTION REPORT/ANALYSIS REPRESENTING THE SPECIFICATIONS OF THE PRODUCT AT THE SPRAGUE TERMINAL IN TANK ON THE DATE OF INSPECTION NOTED ON THE CERTIFICATE. THIS ANALYSIS IS PROVIDED TO THE CUSTOMER FOR THE PURPOSE OF ESTABLISHING THE INDEPENDENTLY VERIFIED PRODUCT SPECIFICATION ON A COMPOSITE BASIS IN SPRAGUE'S TERMINAL SUPPLY TANK AS NOTED ON THE CERTIFICATE. THE INSPECTION REPORT IS NOT TO BE USED FOR ANY OTHER PURPOSE. SPRAGUE DISCLAIMS ANY LIABILITY FOR THE PRODUCT AFTER DELIVERY BY SPRAGUE TO CUSTOMER. SPRAGUE DISCLAIMS ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PURPOSE EXCEPT AS MAY BE SPECIFICALLY SET FORTH IN WRITING IN ANY CONTRACT OF SALE BETWEEN SPRAGUE AND A BUYER OF PRODUCT. SPRAGUE ASSUMES NO LIABILITY FOR CLAIMS OR LOSSES THAT MAY ARISE FROM CUSTOMER'S USE OF THIS INSPECTION REPORT ANALYSIS.

PMLAB REV 8-05

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INSPECTORATE

# QUALITY CERTIFICATE

| | | | | | |
|---|---|---|---|---|---|
| Vessel | TRANSFER | Port | SEARSPORT | Report | SP/07/0205 |
| Customer | SPRAGUE | Date | February 2, 2007 | Ref. No. | V-07-00161 |
| Operation | ANALYSIS | Terminal | SPRAGUE | Sample # | 959357 |

**Material being tested** #6 FUEL OIL (2.00%)

**Description of sample source** SHORE TK 4 UML COMPOSITE AFTER TRANSFER

**Samples Drawn by (company)** INSPECTORATE AMERICA

**Samples Tested by (company)** INSPECTORATE AMERICA

| Tests being Performed | | Test method | Minimum | Maximum | Sample Result |
|---|---|---|---|---|---|
| API Gravity @60/F | Calculated Average | D-287 | 10 | | 11.6 |
| Sulphur, %wt | Calculated Average | D-4294 | | 2.00 | 1.65 |
| Viscosity, CST @ 50C | Calculated Average | D-445 | | | 335 |
| Viscosity, SSF @ 122F | Calculated Average | D-445/2161 | 75 | 300 | 158.3 |
| Water by Distillation, Vol % | | D-95 | | 1.0 | 0 |
| Sediment by Extraction, Wt % | | D-473 | | 0.1 | 0.01 |
| Water & Sediment, Vol % | | D-1796 | | 1.0 | 0.1 |
| Flash Pt/F | | D-93 B | 150 | | 187 |
| Ash, %wt | | D-482 | | 0.1 | 0.040 |
| Vanadium, ppm | | IP-470 | | 300 | 52 |
| Sodium, ppm | | IP-470 | | 60 | 34.000 |
| Nitrogen, Wt % | | D-5762 | | 0.55 | 0.3672 |
| Heat Of Combustion, Per Pound | | D-240 | Report | | 18,299 |
| Heat Of Combustion, Per Gallon | | Conversion | Report | | 150,692 |
| Asphaltenes, Wt % | | IP-143 | | 14 | 2.60 |
| Carbon Residue, % wt | | D-4530 | | 21 | 10.87 |
| Pour Point,F | | D-97 | | 60 | +32.0 |
| Api Gravity @60/F | Upper - Tag #258813 | D-287 | 10 | | 11.6 |
| | Middle Tag #258814 | | | | 11.6 |
| | Lower Tag #258815 | | | | 11.6 |
| Sulphur, %wt | Upper Tag #258813 | D-4294 | | 2.00 | 1.66 |
| | Middle Tag #258814 | | | | 1.65 |
| | Lower Tag #258815 | | | | 1.65 |
| Viscosity, SSF @ 122F | Upper Tag#258813 | D-445/2161 | 75 | 300 | 157.7 |
| | Middle Tag#258814 | | | | 159.6 |
| | Lower Tag #258815 | | | | 157.7 |

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# QUALITY CERTIFICATE

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|---|---|---|---|---|---|
| Vessel | GEORGIA | Port | SEARSPORT | Report | SP/07/0210 |
| Customer | SPRAGUE | Date | February 10, 2007 | Ref. No. | V-07-00187 |
| Operation | ANALYSIS | Terminal | SPRAGUE | Sample # | 959393 |

| | |
|---|---|
| Material being tested | #6 FUEL OIL (2.00%) |
| Description of sample source | SHORE TK NO. 4 UML COMPOSITE AFTER GEORGIA |
| Samples Drawn by (company) | INSPECTORATE AMERICA |
| Samples Tested by (company) | INSPECTORATE AMERICA |

| Tests being Performed | | Test method | Minimum | Maximum | Sample Result |
|---|---|---|---|---|---|
| API Gravity @60/F | Calculated Average | D-287 | 10 | | 10.7 |
| Sulphur, %wt | Calculated Average | D-4294 | | 2.00 | 1.83 |
| Viscosity, CST @ 50C | Calculated Average | D-445 | | | 239 |
| Viscosity, SSF @ 122F | Calculated Average | D-445/2161 | 75 | 300 | 113.0 |
| Water by Distillation, Vol % | | D-95 | | 1.0 | 0.1 |
| Sediment by Extraction, Wt % | | D-473 | | 0.1 | 0.04 |
| Water & Sediment, Vol % | | D-1796 | | 1.0 | 0.1 |
| Flash Pt/F | | D-93 B | 150 | | 180 |
| Ash, %wt | | D-482 | | 0.1 | 0.053 |
| Vanadium, ppm | | IP-470 | | 300 | 66 |
| Sodium, ppm | | IP-470 | | 60 | 24 |
| Nitrogen, Wt % | | D-5762 | | 0.55 | 0.2992 |
| Heat Of Combustion, Per Pound | | D-240 | Report | | 18210 |
| Heat Of Combustion, Per Gallon | | Conversion | Report | | 150906 |
| Asphaltenes, Wt % | | IP-143 | | 14 | 5 83 |
| Carbon Residue, % wt | | D-4530 | | 21 | 12.7 |
| Pour Point,F | | D-97 | | 60 | 26 6 |
| Api Gravity @60/F | Upper - Tag # 258853 | D-287 | 10 | | 10 7 |
| | Middle Tag # 258854 | | | | 10 8 |
| | Lower Tag # 258855 | | | | 10.7 |
| Sulphur, %wt | Upper Tag # 258853 | D-4294 | | 2.00 | 1.83 |
| | Middle Tag # 258854 | | | | 1.83 |
| | Lower Tag # 258855 | | | | 1.82 |
| Viscosity, SSF @ 122F | Upper Tag# 258853 | D-445/2161 | 75 | 300 | 112 6 |
| | Middle Tag# 258854 | | | | 113.0 |
| | Lower Tag # 258855 | | | | 113.5 |

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# QUALITY CERTIFICATE

| | | | | | |
|---|---|---|---|---|---|
| Vessel | ENERGY 11104 | Port | SEARSPORT | Report | SP/07/0329 |
| Customer | SPRAGUE | Date | March 24, 2007 | Ref. No. | V-07-00511 |
| Operation | ANALYSIS | Terminal | SPRAGUE | Sample # | 959690 |

| | |
|---|---|
| Material being tested | #6 FUEL OIL (2.00%) |
| Description of sample source | SHORE TK NO. 4 UML COMPOSITE AFTER ENERGY 11104 |
| Samples Drawn by (company) | INSPECTORATE AMERICA |
| Samples Tested by (company) | INSPECTORATE AMERICA |

| Tests being Performed | | Test method | Minimum | Maximum | Sample Result |
|---|---|---|---|---|---|
| API Gravity @60/F | Calculated Average | D-287 | 10 | | 10.6 |
| Sulphur, %wt | Calculated Average | D-4294 | | 2.00 | 1.76 |
| Viscosity, CST @ 50C | Calculated Average | D-445 | | | 366 |
| Viscosity, SSF @ 122F | Calculated Average | D-445/2161 | 75 | 300 | 172.6 |
| Water by Distillation, Vol % | | D-95 | | 1.0 | 0.05 |
| Sediment by Extraction, Wt % | | D-473 | | 0.1 | 0.02 |
| Water & Sediment, Vol % | | D-1796 | | 1.0 | 0.10 |
| Flash Pt/F | | D-93 B | 150 | | 172 |
| Ash, %wt | | D-482 | | 0.1 | 0.054 |
| Vanadium, ppm | | IP-470 | | 300 | 77 |
| Sodium, ppm | | IP-470 | | 60 | 14 |
| Nitrogen, Wt % | | D-5762 | | 0.55 | 0.4361 |
| Heat Of Combustion, Per Pound | | D-240 | Report | | 18,346 |
| Heat Of Combustion, Per Gallon | | Conversion | Report | | 152,143 |
| Asphaltenes, Wt % | | IP-143 | | 14 | 6.79 |
| Carbon Residue, % wt | | D-4530 | | 21 | 14.3 |
| Pour Point,F | | D-97 | | 60 | 26.6 |
| Api Gravity @60/F | Upper - Tag # 958050 | D-287 | 10 | | 10.6 |
| | Middle Tag # 958051 | | | | 10.6 |
| | Lower Tag # 958052 | | | | 10.6 |
| Sulphur, %wt | Upper Tag # 958050 | D-4294 | | 2.00 | 1.77 |
| | Middle Tag # 958051 | | | | 1.75 |
| | Lower Tag # 958052 | | | | 1.75 |
| Viscosity, SSF @ 122F | Upper Tag# 958050 | D-445/2161 | 75 | 300 | 171.8 |
| | Middle Tag# 958051 | | | | 172.3 |
| | Lower Tag # 958052 | | | | 173.7 |

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REPRESENTING THE SPECIFICATIONS OF THE PRODUCT AT THE SPRAGUE
TERMINAL IN TANK ON THE DATE OF INSPECTION NOTED ON THE CERTIFICATE.
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# QUALITY CERTIFICATE

| | | | | | |
|---|---|---|---|---|---|
| Vessel | EMERALD STAR | Port | SEARSPORT | Report | SP/07/0423 |
| Customer | SPRAGUE | Date | April 20, 2007 | Ref. No. | V-07-00703 |
| Operation | ANALYSIS | Terminal | SPRAGUE | Sample # | AS BELOW |

**Material being tested** **#6 FUEL OIL (2.00%)**

**Description of sample source** SHORE TKS 3 & 4 UML COMPOSITE AFTER EMERALD STAR

**Samples Drawn by (company)** INSPECTORATE AMERICA

**Samples Tested by (company)** INSPECTORATE AMERICA

| Tests being Performed | | Test method | Minimum | Maximum | Sample Result 959810 TK 3 | Sample Result 959811 TK 4 |
|---|---|---|---|---|---|---|
| API Gravity @60/F | Calculated Average | D-287 | 10 | | 13.0 | 12.3 |
| Sulphur, %wt | Calculated Average | D-4294 | | 2.00 | 1.51 | 1.50 |
| Viscosity, CST @ 50C | Calculated Average | D-445 | | | 564 | 463 |
| Viscosity, SSF @ 122F | Calculated Average | D-445/2161 | 75 | 300 | 266 | 218 |
| Water by Distillation, Vol % | | D-95 | | 1.0 | 0 | 0 |
| Sediment by Extraction, Wt % | | D-473 | | 0.1 | 0.04 | 0.03 |
| Water & Sediment, Vol % | | D-1796 | | 1.0 | 0.10 | 0.10 |
| Flash Pt/F | | D-93 B | 150 | | 212 | 178 |
| Ash, %wt | | D-482 | | 0.1 | 0.040 | 0.041 |
| Vanadium, ppm | | IP-470 | | 300 | 51 | 45 |
| Sodium, ppm | | IP-470 | | 60 | 28 | 31 |
| Nitrogen, Wt % | | D-5762 | | 0.55 | 0.3516 | 0.4168 |
| Heat Of Combustion, Per Pound | | D-240 | Report | | 18,410 | 18,343 |
| Heat Of Combustion, Per Gallon | | Conversion | Report | | 150,134 | 150,321 |
| Asphaltenes, Wt % | | IP-143 | | 14 | 3.88 | 3.69 |
| Carbon Residue, % wt | | D-4530 | | 21 | 10.7 | 11.7 |
| Pour Point,F | | D-97 | | 60 | 36.8 | 32.0 |
| Api Gravity @60/F | Upper - Tag # 958601/958604 | D-287 | 10 | | 13.0 | 12.3 |
| | Middle Tag # 958602/958605 | | | | 13.0 | 12.3 |
| | Lower Tag # 958603/958606 | | | | 13.0 | 12.3 |
| Sulphur, %wt | Upper Tag # 958601/958604 | D-4294 | | 2.00 | 1.51 | 1.50 |
| | Middle Tag # 958602/958605 | | | | 1.51 | 1.50 |
| | Lower Tag # 958603/958606 | | | | 1.50 | 1.50 |
| Viscosity, SSF @ 122F | Upper Tag# 958601/958604 | D-445/2161 | 75 | 300 | 264 | 218 |
| | Middle Tag# 958602/958605 | | | | 266 | 218 |
| | Lower Tag # 958603/958606 | | | | 268 | 219 |

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# QUALITY CERTIFICATE

| | | | | | |
|---|---|---|---|---|---|
| Vessel | GEORGIA | Port | SEARSPORT, ME. | Report | SP/07/0506 |
| Customer | SPRAGUE | Date | May 5, 2007 | Ref. No. | V/07/00778 |
| Operation | ANALYSIS | Terminal | SPRAGUE | Sample # | 959891 |

**Material being tested** #6 FUEL OIL (2.00%)

**Description of sample source** SHORE TK NO. 4 UML COMPOSITE AFTER GEORGIA

**Samples Drawn by (company)** INSPECTORATE AMERICA

**Samples Tested by (company)** INSPECTORATE AMERICA

| Tests being Performed | Test method | Minimum | Maximum | Sample Result |
|---|---|---|---|---|
| API Gravity @60/F Calculated Average | D-287 | 10 | | 12.0 |
| Sulphur, %wt Calculated Average | D-4294 | | 2.00 | 1.77 |
| Viscosity, CST @ 50C Calculated Average | D-445 | | | 505 |
| Viscosity, SSF @ 122F Calculated Average | D-445/2161 | 75 | 300 | 238 |
| Water by Distillation, Vol % | D-95 | | 1.0 | 0.2 |
| Sediment by Extraction, Wt % | D-473 | | 0.1 | 0.04 |
| Water & Sediment, Vol % | D-1796 | | 1.0 | 0.30 |
| Flash Pt/F | D-93 B | 150 | | 214 |
| Ash, %wt | D-482 | | 0.1 | 0.043 |
| Vanadium, ppm | IP-470 | | 300 | 70 |
| Sodium, ppm | IP-470 | | 60 | 32 |
| Nitrogen, Wt % | D-5762 | | 0.55 | 0.3967 |
| Heat Of Combustion, Per Pound | D-240 | Report | | 18,284 |
| Heat Of Combustion, Per Gallon | Conversion | Report | | 150,148 |
| Asphaltenes, Wt % | IP-143 | | 14 | 5.4 |
| Carbon Residue, % wt | D-4530 | | 21 | 11.8 |
| Pour Point,F | D-97 | | 60 | 32.0 |
| Api Gravity @60/F Upper - Tag # 958691 | D-287 | 10 | | 11.9 |
| Middle Tag # 958692 | | | | 12.1 |
| Lower Tag # 958693 | | | | 12.1 |
| Sulphur, %wt Upper Tag # 958691 | D-4294 | | 2.00 | 1.77 |
| Middle Tag # 958692 | | | | 1.78 |
| Lower Tag # 958693 | | | | 1.77 |
| Viscosity, SSF @ 122F Upper Tag# 958691 | D-445/2161 | 75 | 300 | 239 |
| Middle Tag# 958692 | | | | 240 |
| Lower Tag # 958693 | | | | 236 |

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*PMLAB REV 8-05*

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INSPECTORATE

# QUALITY CERTIFICATE

| | | | | | |
|---|---|---|---|---|---|
| Vessel | E-11104 | Port | SEARSPORT, ME. | Report | SP/07/0507 |
| Customer | SPRAGUE | Date | May 6, 2007 | Ref. No. | V/07/00777 |
| Operation | ANALYSIS | Terminal | SPRAGUE | Sample # | 959906 |

**Material being tested** #6 FUEL OIL (2.00%)

**Description of sample source** SHORE TK NO. 4 UML COMPOSITE AFTER ENERGY 11104

**Samples Drawn by (company)** INSPECTORATE AMERICA

**Samples Tested by (company)** INSPECTORATE AMERICA

| Tests being Performed | | Test method | Minimum | Maximum | Sample Result |
|---|---|---|---|---|---|
| API Gravity @60/F | Calculated Average | D-287 | 10 | | 12 1 |
| Sulphur, %wt | Calculated Average | D-4294 | | 2 00 | 1 75 |
| Viscosity, CST @ 50C | Calculated Average | D-445 | | | 518 |
| Viscosity, SSF @ 122F | Calculated Average | D-445/2161 | 75 | 300 | 245 |
| Water by Distillation, Vol % | | D-95 | | 1.0 | 0 05 |
| Sediment by Extraction, Wt % | | D-473 | | 0 1 | 0 01 |
| Water & Sediment, Vol % | | D-1796 | | 1 0 | 0 05 |
| Flash Pt/F | | D-93 B | 150 | | 222 |
| Ash, %wt | | D-482 | | 0 1 | 0.010 |
| Vanadium, ppm | | IP-470 | | 300 | 64 |
| Sodium, ppm | | IP-470 | | 60 | 32 |
| Nitrogen, Wt % | | D-5762 | | 0.55 | 0.3961 |
| Heat Of Combustion, Per Pound | | D-240 | Report | | 18,261 |
| Heat Of Combustion, Per Gallon | | Conversion | Report | | 149,850 |
| Asphaltenes, Wt % | | IP-143 | | 14 | 2.14 |
| Carbon Residue, % wt | | D-4530 | | 21 | 11.76 |
| Pour Point,F | | D-97 | | 60 | 48 2 |
| Api gravity @ 60/F | Upper - Tag 958697 | D-287 | 10 | | 12 |
| | Middle - Tag 958698 | | | | 12.1 |
| | Lower - Tag 958699 | | | | 12 1 |
| Sulphur, %wt | Upper Tag # | D-4294 | | 2.00 | 1.74 |
| | Middle Tag # | | | | 1.75 |
| | Lower Tag # | | | | 1.76 |
| Viscosity, SSF @ 122F | Upper Tag# | D-445/2161 | 75 | 300 | 262 |
| | Middle Tag# | | | | 236 |
| | Lower Tag # | | | | 236 |

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# QUALITY CERTIFICATE

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|---|---|---|---|---|---|
| Vessel | NEW HAMPSHIRE | Port | SEARSPORT, MAINE | Report | SP/07/0610 |
| Customer | SPRAGUE | Date | June 14, 2007 | Ref. No. | V-07-00982 |
| Operation | ANALYSIS | Terminal | SPRAGUE | Sample # | 1470080 |

**Material being tested** **#6 FUEL OIL (2.00%)**

**Description of sample source** SHORE TK NO. 4 UML COMPOSITE AFTER NEW HAMPSHIRE

**Samples Drawn by (company)** INSPECTORATE AMERICA

**Samples Tested by (company)** INSPECTORATE AMERICA

| Tests being Performed | | Test method | Minimum | Maximum | Sample Result |
|---|---|---|---|---|---|
| API Gravity @60/F | Calculated Average | D-287 | 10 | | 11.5 |
| Sulphur, %wt | Calculated Average | D-4294 | | 2.00 | 1.71 |
| Viscosity, CST @ 50C | Calculated Average | D-445 | | | 480 |
| Viscosity, SSF @ 122F | Calculated Average | D-445/2161 | 75 | 300 | 226 |
| Water by Distillation, Vol % | | D-95 | | 1.0 | 0.1 |
| Sediment by Extraction, Wt % | | D-473 | | 0.1 | 0.013 |
| Water & Sediment, Vol % | | D-1796 | | 1.0 | 0.1 |
| Flash Pt/F | | D-93 B | 150 | | 210 |
| Ash, %wt | | D-482 | | 0.1 | 0.074 |
| Vanadium, ppm | | IP-470 | | 300 | 56 |
| Sodium, ppm | | IP-470 | | 60 | 14 |
| Aluminum, PPM | | IP-470 | | | 98 |
| Silicon, PPM | | IP-470 | | | 125 |
| Nitrogen, Wt % | | D-5762 | | 0.55 | 0.3228 |
| Heat Of Combustion, Per Pound | | D-240 | Report | | 18,388 |
| Heat Of Combustion, Per Gallon | | Conversion | Report | | 151,536 |
| Asphaltenes, Wt % | | IP-143 | | 14 | 5.33 |
| Carbon Residue, % wt | | D-4530 | | 21 | 11.8 |
| Pour Point,F | | D-97 | | 60 | 32.0 |
| Api Gravity @60/F | Upper - Tag # 958817 | D-287 | 10 | | 11.5 |
| | Middle Tag # 958818 | | | | 11.5 |
| | Lower Tag # 958819 | | | | 11.5 |
| Sulphur, %wt | Upper Tag # 958817 | D-4294 | | 2.00 | 1.72 |
| | Middle Tag # 958818 | | | | 1.71 |
| | Lower Tag # 958819 | | | | 1.71 |
| Viscosity, SSF @ 122F | Upper Tag# 958817 | D-445/2161 | 75 | 300 | 227 |
| | Middle Tag# 958818 | | | | 225 |
| | Lower Tag # 958819 | | | | 227 |

SPRAGUE PROVIDES THE ATTACHED INSPECTION REPORT/ANALYSIS REPRESENTING THE SPECIFICATIONS OF THE PRODUCT AT THE SPRAGUE TERMINAL INANDON THE DATE OF INSPECTION NOTED ON THE CERTIFICATE. THIS ANALYSIS IS PROVIDED TO THE CUSTOMER FOR THE PURPOSE OF ESTABLISHING THE INDEPENDENTLY VERIFIED PRODUCT SPECIFICATION ON A COMPOSITE BASIS IN SPRAGUES TERMINAL SHORE TANK AS NOTED ON THE CERTIFICATE. THE INSPECTION REPORT IS NOT TO BE USED FOR ANY OTHER PURPOSE. SPRAGUE DISCLAIMS ANY LIABILITY FOR THE PRODUCT AFTER DELIVERY BY SPRAGUE TO CUSTOMER. SPRAGUE DISCLAIMS ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR AN INTENDED USE EXCEPT AS MAY BE SPECIFICALLY SET FORTH IN WRITING IN ANY CONTRACT OR TERMS OF SALE BETWEEN SPRAGUE AND A BUYER OF PRODUCT. SPRAGUE ASSUMES NO LIABILITY FOR CLAIMS OR LOSSES THAT MAY ARISE FROM CUSTOMERS USE OF THIS INSPECTION REPORT/ANALYSIS.

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*PMLAB REV 8-05*

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INSPECTORATE

# QUALITY CERTIFICATE

| | | | | | |
|---|---|---|---|---|---|
| Vessel | DIAMOND STAR | Port | SEARSPORT, ME. | Report | SP/07/0618 |
| Customer | SPRAGUE | Date | June 28, 2007 | Ref. No. | V-07-01080 |
| Operation | ANALYSIS | Terminal | SPRAGUE | Sample # | 1470321 |

**Material being tested** #6 FUEL OIL (2.00%)

**Description of sample source** SHORE TK NO. 4 UML COMPOSITE AFTER DIAMOND STAR

**Samples Drawn by (company)** INSPECTORATE AMERICA

**Samples Tested by (company)** INSPECTORATE AMERICA

| Tests being Performed | Test method | Minimum | Maximum | Sample Result |
|---|---|---|---|---|
| API Gravity @60/F Calculated Average | D-287 | 10 | | 12.1 |
| Sulphur, %wt Calculated Average | D-4294 | | 2.00 | 1.51 |
| Viscosity, CST @ 50C Calculated Average | D-445 | | | 493 |
| Viscosity, SSF @ 122F Calculated Average | D-445/2161 | 75 | 300 | 233 |
| Water by Distillation, Vol % | D-95 | | 1.0 | 0.05 |
| Sediment by Extraction, Wt % | D-473 | | 0.1 | 0.08 |
| Water & Sediment, Vol % | D-1796 | | 1.0 | 0.15 |
| Flash Pt/F | D-93 B | 150 | | 212 |
| Ash, %wt | D-482 | | 0.1 | 0.08 |
| Vanadium, ppm | IP-470 | | 300 | 47 |
| Sodium, ppm | IP-470 | | 60 | 22 |
| Aluminum, PPM | IP-470 | | | 117 |
| Silicon, PPM | IP-470 | | | 144 |
| Nitrogen, Wt % | D-5762 | | 0.55 | 0.3489 |
| Heat Of Combustion, Per Pound | D-240 | Report | | 18,410 |
| Heat Of Combustion, Per Gallon | Conversion | Report | | 151,072 |
| Asphaltenes, Wt % | IP-143 | | 14 | 3.52 |
| Carbon Residue, % wt | D-4530 | | 21 | 10.8 |
| Pour Point,F | D-97 | | 60 | 32.0 |
| Api Gravity @60/F Upper - Tag # 958870 | D-287 | 10 | | 12.2 |
| Middle Tag # 958871 | | | | 12.0 |
| Lower Tag # 958872 | | | | 12.1 |
| Sulphur, %wt Upper Tag # 958870 | D-4294 | | 2.00 | 1.51 |
| Middle Tag # 958871 | | | | 1.51 |
| Lower Tag # 958872 | | | | 1.52 |
| Viscosity, SSF @ 122F Upper Tag# 958870 | D-445/2161 | 75 | 300 | 231 |
| Middle Tag# 958871 | | | | 233 |
| Lower Tag # 958872 | | | | 234 |

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# QUALITY CERTIFICATE

| | | | | | |
|---|---|---|---|---|---|
| Vessel | DIAMOND STAR | Port | SEARSPORT, ME | Report | SP/07/0709 |
| Customer | SPRAGUE | Date | July 12, 2007 | Ref. No. | V-07-01135 |
| Operation | ANALYSIS | Terminal | SPRAGUE | Sample # | 1470399 |

| | |
|---|---|
| Material being tested | **#6 FUEL OIL (2.00%)** |
| Description of sample source | SHORE TK NO. 4 UML COMPOSITE AFTER DIAMOND STAR |
| Samples Drawn by (company) | INSPECTORATE AMERICA |
| Samples Tested by (company) | INSPECTORATE AMERICA |

| Tests being Performed | Test method | Minimum | Maximum | Sample Result |
|---|---|---|---|---|
| API Gravity @60/F Calculated Average | D-287 | 10 | | 12.3 |
| Sulphur, %wt Calculated Average | D-4294 | | 2.00 | 1.47 |
| Viscosity, CST @ 50C Calculated Average | D-445 | | | 484 |
| Viscosity, SSF @ 122F Calculated Average | D-445/2161 | 75 | 300 | 228 |
| Water by Distillation, Vol % | D-95 | | 1.0 | 0.15 |
| Sediment by Extraction, Wt % | D-473 | | 0.1 | 0.13 |
| Water & Sediment, Vol % | D-1796 | | 1.0 | 0.20 |
| Flash Pt/F | D-93 B | 150 | | 210 |
| Ash, %wt | D-482 | | 0.1 | 0.100 |
| Vanadium, ppm | IP-470 | | 300 | 56 |
| Sodium, ppm | IP-470 | | 60 | 26 |
| Aluminum, PPM | IP-470 | | | 160 |
| Silicon, PPM | IP-470 | | | 129 |
| Nitrogen, Wt % | D-5762 | | 0.55 | 0.3531 |
| Heat Of Combustion, Per Pound | D-240 | Report | | 18,437 |
| Heat Of Combustion, Per Gallon | Conversion | Report | | 151,091 |
| Asphaltenes, Wt % | IP-143 | | 14 | 3.66 |
| Carbon Residue, % wt | D-4530 | | 21 | 10.7 |
| Pour Point,F | D-97 | | 60 | 36.8 |
| Api Gravity @60/F Upper - Tag # 958938 | D-287 | 10 | | 12.3 |
| Middle Tag # 958939 | | | | 12.4 |
| Lower Tag # 958940 | | | | 12.3 |
| Sulphur, %wt Upper Tag # 958938 | D-4294 | | 2.00 | 1.47 |
| Middle Tag # 958939 | | | | 1.46 |
| Lower Tag # 958940 | | | | 1.48 |
| Viscosity, SSF @ 122F Upper Tag# 958938 | D-445/2161 | 75 | 300 | 226 |
| Middle Tag# 958939 | | | | 228 |
| Lower Tag # 958940 | | | | 230 |

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VU1

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# QUALITY CERTIFICATE

| | | | | | |
|---|---|---|---|---|---|
| Vessel | BALTIC CAPTAIN 1 | Port | SEARSPORT, ME | Report | SP/07/0714 |
| Customer | SPRAGUE | Date | July 15, 2007 | Ref. No. | V-07-01149 |
| Operation | ANALYSIS | Terminal | SPRAGUE | Sample # | 1470417 |

| | |
|---|---|
| Material being tested | **#6 FUEL OIL (2.00%)** |
| Description of sample source | SHORE TK NO. 4 UML COMPOSITE AFTER BALTIC CAPTAIN 1 |
| Samples Drawn by (company) | INSPECTORATE AMERICA |
| Samples Tested by (company) | INSPECTORATE AMERICA |

| Tests being Performed | | Test method | Minimum | Maximum | Sample Result |
|---|---|---|---|---|---|
| API Gravity @60/F | Calculated Average | D-287 | 10 | | 12.1 |
| Sulphur, %wt | Calculated Average | D-4294 | | 2.00 | 1.48 |
| Viscosity, CST @ 50C | Calculated Average | D-445 | | | 491 |
| Viscosity, SSF @ 122F | Calculated Average | D-445/2161 | 75 | 300 | 232 |
| Water by Distillation, Vol % | | D-95 | | 1.0 | 0.10 |
| Sediment by Extraction, Wt% | | D-473 | | 0.1 | <0.01 |
| Water & Sediment, Vol % | | D-1796 | | 1.0 | 0.10 |
| Flash Pt/F | | D-93 B | 150 | | 208 |
| Ash, %wt | | D-482 | | 0.1 | 0.055 |
| Vanadium, ppm | | IP-470 | | 300 | 36 |
| Sodium, ppm | | IP-470 | | 60 | 17 |
| Aluminum, PPM | | IP-470 | | | 99 |
| Silicon, PPM | | IP-470 | | | 130 |
| Nitrogen, Wt % | | D-5762 | | 0.55 | 0.28 |
| Heat Of Combustion, Per Pound | | D-240 | Report | | 18,418 |
| Heat Of Combustion, Per Gallon | | Conversion | Report | | 151,138 |
| Asphaltenes, Wt % | | IP-143 | | 14 | 3.10 |
| Carbon Residue, % wt | | D-4530 | | 21 | 10.5 |
| Pour Point,F | | D-97 | | 60 | 42.8 |
| Api Gravity @60/F | Upper - Tag # 958938 | D-287 | 10 | | 12.4 |
| | Middle Tag # 958939 | | | | 12.4 |
| | Lower Tag # 958940 | | | | 11.4 |
| Sulphur, %wt | Upper Tag # 958938 | D-4294 | | 2.00 | 1.48 |
| | Middle Tag # 958939 | | | | 1.47 |
| | Lower Tag # 958940 | | | | 1.49 |
| Viscosity, SSF @ 122F | Upper Tag# 958938 | D-445/2161 | 75 | 300 | 219 |
| | Middle Tag# 958939 | | | | 226 |
| | Lower Tag # 958940 | | | | 250 |

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# QUALITY CERTIFICATE

| | | | | | |
|---|---|---|---|---|---|
| Vessel | P-121 | Port | SEARSPORT,ME. | Report | SP/07/0813 |
| Customer | SPRAGUE ENERGY | Date | August 18, 2007 | Ref. No. | V-07-01198 |
| Operation | ANALYSIS | Terminal | SPRAGUE | Sample # | 1470908 |

| | |
|---|---|
| Material being tested | **#6 FUEL OIL (2.00%)** |
| Description of sample source | SHORE TK NO. 4 UML COMPOSITE AFTER PENN 121 |
| Samples Drawn by (company) | INSPECTORATE AMERICA |
| Samples Tested by (company) | INSPECTORATE AMERICA |

| Tests being Performed | | Test method | Minimum | Maximum | Sample Result |
|---|---|---|---|---|---|
| API Gravity @60/F | Calculated Average | D-287 | 10 | | 11.1 |
| Sulphur, %wt | Calculated Average | D-4294 | | 2.00 | 1.29 |
| Viscosity, CST @ 50C | Calculated Average | D-445 | | | 482 |
| Viscosity, SSF @ 122F | Calculated Average | D-445/2161 | 75 | 300 | 227 |
| Water by Distillation, Vol % | | D-95 | | 1.0 | 0.05 |
| Sediment by Extraction, Wt % | | D-473 | | 0.1 | 0.05 |
| Water & Sediment, Vol % | | D-1796 | | 1.0 | 0.10 |
| Flash Pt/F | | D-93 B | 150 | | 224 |
| Ash, %wt | | D-482 | | 0.1 | 0.049 |
| Vanadium, ppm | | IP-470 | | 300 | 23 |
| Sodium, ppm | | IP-470 | | 60 | 8 |
| Aluminum, PPM | | IP-470 | | | 85 |
| Silicon, PPM | | IP-470 | | | 102 |
| Nitrogen, Wt % | | D-5762 | | 0.55 | 0.3543 |
| Heat Of Combustion, Per Pound | | D-240 | Report | | 18,352 |
| Heat Of Combustion, Per Gallon | | Conversion | Report | | 151,661 |
| Asphaltenes, Wt % | | IP-143 | | 14 | 2.10 |
| Carbon Residue, % wt | | D-4530 | | 21 | 10.0 |
| Pour Point,F | | D-97 | | 60 | 32.0 |
| Api Gravity @60/F | Upper - Tag # 1473162 | D-287 | 10 | | 12.0 |
| | Middle Tag # 1473163 | | | | 10.6 |
| | Lower Tag # 1473164 | | | | 10.6 |
| Sulphur, %wt | Upper Tag # 1473162 | D-4294 | | 2.00 | 1.49 |
| | Middle Tag # 1473163 | | | | 1.20 |
| | Lower Tag # 1473164 | | | | 1.17 |
| Viscosity, SSF @ 122F | Upper Tag# 1473162 | D-445/2161 | 75 | 300 | 233 |
| | Middle Tag# 1473163 | | | | 223 |
| | Lower Tag # 1473164 | | | | 226 |

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INSPECTORATE

# QUALITY CERTIFICATE

| | | | | | |
|---|---|---|---|---|---|
| Vessel | PENN 121 | Port | SEARSPORT, ME. | Report | SP/07/0925 |
| Customer | SPRAGUE | Date | September 27, 2007 | Ref. No. | V-07-01388 |
| Operation | ANALYSIS | Terminal | SPRAGUE | Sample # | 1470785 |

| | |
|---|---|
| Material being tested | **#6 FUEL OIL (2.00%)** |
| Description of sample source | SHORE TK NO. 4 UML COMPOSITE AFTER PENN 121 |
| Samples Drawn by (company) | INSPECTORATE AMERICA 9/27/07 |
| Samples Tested by (company) | INSPECTORATE AMERICA 9/27/07 |

| Tests being Performed | Test method | Minimum | Maximum | Sample Result |
|---|---|---|---|---|
| API Gravity @60/F | Average | 10 | | 11 3 |
| Sulphur, %wt | Average | | 2.00 | 0 996 |
| Viscosity, CST @ 50C | Average | | | 468 |
| Viscosity, SSF @ 122F | Average | 75 | 300 | 221 |
| Water by Distillation, Vol % | D-95 | | 1.0 | 0 05 |
| Sediment by Extraction, Wt % | D-473 | | 0.1 | 0 07 |
| Water & Sediment, Vol % | D-1796 | | 1.0 | 0 10 |
| Flash Pt/F | D-93 B | 150 | | 244 |
| Ash, %wt | D-482 | | 0.1 | 0 093 |
| Vanadium, ppm | IP-470 | | 300 | 8 |
| Sodium, ppm | IP-470 | | 60 | 8 |
| Aluminum, PPM | IP-470 | | | 168 |
| Silicon, PPM | IP-470 | | | 99 |
| Nitrogen, Wt % | D-5762 | | 0.55 | 0 3321 |
| Heat Of Combustion, Per Pound | D-240 | Report | | 18,362 |
| Heat Of Combustion, Per Gallon | Conversion | Report | | 151 523 |
| Asphaltenes, Wt % | IP-143 | | 14 | 1.2 |
| Carbon Residue, % wt | D-4530 | | 21 | 9.8 |
| Pour Point,F | D-97 | | 60 | 42 8 |
| Api Gravity @60/F Upper - Tag # 1473400 | D-287 | 10 | | 11 4 |
| Middle Tag # 1473401 | | | | 11 3 |
| Lower Tag # 1473402 | | | | 11 2 |
| Sulphur, %wt Upper Tag # 1473400 | D-4294 | | 2 00 | 0.998 |
| Middle Tag # 1473401 | | | | 0.999 |
| Lower Tag # 1473402 | | | | 0.992 |
| Viscosity, SSF @ 122F Upper Tag# 1473400 | D-445/2161 | 75 | 300 | 217 |
| Middle Tag# 1473401 | | | | 223 |
| Lower Tag # 1473402 | | | | 223 |

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PMLAB REV 8-05

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INSPECTORATE

# QUALITY CERTIFICATE

| | | | | | |
|---|---|---|---|---|---|
| Vessel | PENN 121 | Port | SEARSPORT, ME. | Report | SP/07/1018 |
| Customer | SPRAGUE | Date | October 18, 2007 | Ref. No. | V-07-0527 |
| Operation | ANALYSIS | Terminal | SPRAGUE | Sample # | 1470615 |

**Material being tested** #6 FUEL OIL (2.00%)

**Description of sample source** SHORE TK NO. 4 UML COMPOSITE AFTER PENN 121

**Samples Drawn by (company)** INSPECTORATE AMERICA 10/18/07

**Samples Tested by (company)** INSPECTORATE AMERICA 10/18/07

| Tests being Performed | Test method | Minimum | Maximum | Sample Result |
|---|---|---|---|---|
| API Gravity @60/F | Average | 10 | | 10.7 |
| Sulphur, %wt | Average | | 2.00 | 1.56 |
| Viscosity, CST @ 50C | Average | | | 542 |
| Viscosity, SSF @ 122F | Average | 75 | 300 | 255 |
| Water by Distillation, Vol % | D-95 | | 1.0 | 0 |
| Sediment by Extraction, Wt % | D-473 | | 0.1 | 0.01 |
| Water & Sediment, Vol % | D-1796 | | 1.0 | 0.1 |
| Flash Pt/F | D-93 B | 150 | | 230 |
| Ash, %wt | D-482 | | 0.1 | 0 |
| Vanadium, ppm | IP-470 | | 300 | 30 |
| Sodium, ppm | IP-470 | | 60 | 20 |
| Aluminum, PPM | IP-470 | | | 77 |
| Silicon, PPM | IP-470 | | | 91 |
| Nitrogen, Wt % | D-5762 | | 0.55 | 0.3360 |
| Heat Of Combustion, Per Pound | D-240 | Report | | 18,651 |
| Heat Of Combustion, Per Gallon | Conversion | Report | | 154,569 |
| Asphaltenes, Wt % | IP-143 | | 14 | 4.98 |
| Carbon Residue, % wt | D-4530 | | 21 | 11.18 |
| Pour Point,F | D-97 | | 60 | 48.2 |
| Api Gravity @60/F Upper - Tag # 1473493 | D-287 | 10 | | 11.0 |
| Middle Tag # 1473494 | | | | 10.6 |
| Lower Tag # 1473495 | | | | 10.6 |
| Sulphur, %wt Upper Tag # 1473493 | D-4294 | | 2.00 | 1.27 |
| Middle Tag # 1473494 | | | | 1.70 |
| Lower Tag # 1473495 | | | | 1.70 |
| Viscosity, SSF @ 122F Upper Tag# 1473493 | D-445/2161 | 75 | 300 | 242 |
| Middle Tag# 1473494 | | | | 256 |
| Lower Tag # 1473495 | | | | 268 |

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INSPECTORATE

# QUALITY CERTIFICATE

| | | | | | |
|---|---|---|---|---|---|
| Vessel | P-121 | Port | SEARSPORT | Report | SP/07/1117 |
| Customer | SPRAGUE | Date | November 20, 2007 | Ref. No. | V-07-01723 |
| Operation | ANALYSIS | Terminal | SPRAGUE | Sample # | 1470575 |

| | |
|---|---|
| Material being tested | #6 FUEL OIL (2.00%) |
| Description of sample source | SHORE TK NO. 4 UML COMPOSITE AFTER PENN 121 |
| Samples Drawn by (company) | INSPECTORATE AMERICA 11/20/07 |
| Samples Tested by (company) | INSPECTORATE AMERICA 11/20/07 |

| Tests being Performed | Test method | Minimum | Maximum | Sample Result |
|---|---|---|---|---|
| API Gravity @60/F | Average | 10 | | 10.7 |
| Sulphur, %wt | Average | | 2.00 | 1.62 |
| Viscosity, CST @ 50C | Average | | | 607 |
| Viscosity, SSF @ 122F | Average | 75 | 300 | 286 |
| Water by Distillation, Vol % | D-95 | | 1.0 | 0.05 |
| Sediment by Extraction, Wt % | D-473 | | 0.1 | 0.06 |
| Water & Sediment, Vol % | D-1796 | | 1.0 | 0.2 |
| Flash Pt/F | D-93 B | 150 | | 252 |
| Ash, %wt | D-482 | | 0.1 | 0.080 |
| Vanadium, ppm | IP-470 | | 300 | 43 |
| Sodium, ppm | IP-470 | | 60 | 13 |
| Aluminum, PPM | IP-470 | | | 98 |
| Silicon, PPM | IP-470 | | | 129 |
| Nitrogen, Wt % | D-5762 | | 0.55 | 0.3365 |
| Heat Of Combustion, Per Pound | D-240 | Report | | 18,331 |
| Heat Of Combustion, Per Gallon | Conversion | Report | | 151,909 |
| Asphaltenes, Wt % | IP-143 | | 14 | 4.90 |
| Carbon Residue, % wt | D-4530 | | 21 | 12.0 |
| Pour Point,F | D-97 | | 60 | 48.2 |
| Api Gravity @60/F Upper - Tag # 1473638 | D-287 | 10 | | 10.7 |
| Middle Tag # 1473639 | | | | 10.7 |
| Lower Tag # 1473640 | | | | 10.6 |
| Sulphur, %wt Upper Tag # 1473638 | D-4294 | | 2.00 | 1.63 |
| Middle Tag # 1473639 | | | | 1.62 |
| Lower Tag # 1473640 | | | | 1.62 |
| Viscosity, SSF @ 122F Upper Tag# 1473638 | D-445/2161 | 75 | 300 | 284 |
| Middle Tag# 1473639 | | | | 286 |
| Lower Tag # 1473640 | | | | 288 |

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PMLAB REV 8-05

DENNIS E. CURTIS
*Inspectorate America So Portland, Me*

INSPECTORATE

# Certificate of Analysis

SP/07/0120

Laboratory Submission No. 2008-020-00038 ( 0020-0000036 )

Sample Submitted By : Inspectorate Portland
Client Reference : V-08-00021
Vessel : SHORE TANK NO 4 AFTER PENN 120
Terminal / Port / Office : INSPECTORATE SEARSPORT
Analysis Performed By : Inspectorate Portland

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Sample ID : 2008-020-00038-002
Customer Product Description : ShoreTank 4 UML Composite #6 Oil
Date Sampled : 17-Jan-2008

| Method | Test | Result | Unit |
|---|---|---|---|
| ASTM D1250 | Density at 15°C | 0.9987 | |
| ASTM D1796 | Water and Sediment | 0.400 | % (V/V) |
| ASTM D2161 | Test Temperature | 140 | °F |
| ASTM D2161 | Saybolt Furol Seconds | 238 | s |
| ASTM D240 | Gross Heat of Combustion Unit Con | 18243 | BTU/lb |
| ASTM D240 | Gross Heat of Combustion Unit Con | 151818 | BTU/gal |
| ASTM D287-(U,M,L Average) | API Gravity | 10.1 | °API |
| ASTM D4294-(U,M,L Aveerage) | Sulfur Content | 1.53 | Mass % |
| ASTM D445 | Test Temperature | 50°C (122°F) | |
| ASTM D445-(U,M,L Average) | Kinematic Viscosity | 496.2 | cSt |
| ASTM D4530 | Carbon Residue | 11.8 | % (m/m) |
| ASTM D482 | Ash Content | 0.0363 | Mass % |
| ASTM D6560 | Asphaltenes | 8.1 | % (m/m) |
| ASTM D93 Proc. B | Manual/Automated | Automatic | |
| ASTM D93 Proc. B | Flash Point | >110 | °C |
| ASTM D93 Proc. B | Flash Point | >230 | °F |
| ASTM D95 | Water | 0.10 | % (V/V) |
| ASTM D97 (IP 15) | Pour Point | 43 | °F |
| IP 470 | Aluminum | 42 | ppm (mg/kg) |
| IP 470 | Silicon | 56 | ppm (mg/kg) |
| IP 470 | Sodium | 15 | ppm (mg/kg) |
| IP 470 | Vanadium | 41 | ppm (mg/kg) |

Sample ID : 2008-020-00038-006
Customer Product Description : ShoreTank 4 Upper #6 Oil
Date Sampled : 17-Jan-2008

| Method | Test | Result | Unit |
|---|---|---|---|
| ASTM D287 | API Gravity | 10.1 | °API |
| ASTM D4294 | Sulfur Content | 1.53 | Mass % |
| ASTM D445 | Test Temperature | 50°C (122°F) | |
| ASTM D445 | Kinematic Viscosity | 502.9 | cSt |

INSPECTORATE

# Certificate of Analysis

SP/07/0120

Sample ID : 2008-020-00038-007
Customer Product Description : ShoreTank 4 Middle #6 Oil
Date Sampled : 17-Jan-2008

| Method | Test | Result | Unit |
|---|---|---|---|
| ASTM D287 | API Gravity | 10.1 | °API |
| ASTM D4294 | Sulfur Content | 1.53 | Mass % |
| ASTM D445 | Test Temperature | 50°C (122°F) | |
| ASTM D445 | Kinematic Viscosity | 498.1 | cSt |

Sample ID : 2008-020-00038-008
Customer Product Description : ShoreTank 4 Lower #6 Oil
Date Sampled : 17-Jan-2008

| Method | Test | Result | Unit |
|---|---|---|---|
| ASTM D287 | API Gravity | 10.0 | °API |
| ASTM D4294 | Sulfur Content | 1.53 | Mass % |
| ASTM D445 | Test Temperature | 50°C (122°F) | |
| ASTM D445 | Kinematic Viscosity | 487.6 | cSt |

Manager Approval: _____
DENNIS E. CURTIS

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Inspectorate America
33 Rigby Road
South Portland, Maine 04106
(207)767-1711

INSPECTORATE

# QUALITY CERTIFICATE

| | | | | | |
|---|---|---|---|---|---|
| Vessel | SHORE TANK | Port | SEARSPORT, MAINE | Report | SP/08/0303 |
| Customer | SPRAGUE ENERGY | Date | March 3, 2008 | Ref. No. | V-08-00417 |
| Operation | ANALYSIS | Terminal | SPRAGUE SEARSPORT | Sample # | 1581288-90 |

| | |
|---|---|
| Material being tested | NO. 6 FUEL OIL 2.0% |
| Description of sample source | SHORE TANK NO. 4 AFTER GEORGIA |
| Samples Drawn by (company) | INSPECTORATE AMERICA |
| Samples Tested by (company) | INSPECTORATE AMERICA |

| Tests being Performed | | Test method | Minimum | Maximum | Sample Result |
|---|---|---|---|---|---|
| API Gravity @60/F | Calculated Average | D-287 | 10 | | 10 4 |
| Density, @ 15c | | D-1250 TABLE 3 Vol. X | Report | | 0 9966 |
| Sulphur, %wt | Calculated Average | D-4294 | | 2 00 | 1 46 |
| Viscosity, CST @ 50C | Calculated Average | D-445 | | | 432 1 |
| Viscosity, SSF @ 122F | | D-2161 | 75 | 300 | 204 |
| Water by Distillation, Vol % | | D-95 | | 1 | 0 30 |
| Sediment by Extraction, Wt % | | D-473 | | 0.1 | <0 01 |
| Water & Sediment, Vol % | | D-1796 | | 1.0 | 0 200 |
| Flash Pt/F | | D-93 B | 150 | | 226 |
| Ash, %wt | | D-482 | | 0 1 | 0 0675 |
| Vanadium, ppm | | IP-470 | | 300 | 64 |
| Sodium, ppm | | IP-470 | | 60 | 39 |
| Nitrogen, Wt % | | D-5762 | Report | | 0 3247 |
| Heat Of Combustion, Per Pound | | D-240 | Report | | 18,231 |
| Heat Of Combustion, Per Gallon | | Conversion | Report | | 151,408 |
| Asphaltenes, Wt % | | D-6560 | | 14 | 3 2 |
| Carbon Residue, % wt | | D-4530 | | 21 | 11 5 |
| Pour Point,F | | D-97 | | 60 | 43 |
| Aluminum, PPM | | IP-470 | Report | | 74 |
| Silicon, PPM | | IP-470 | Report | | 94 |

| | | | UPPER | MIDDLE | LOWER |
|---|---|---|---|---|---|
| API Gravity @60/F | | D-287 | 10.4 | 10.4 | 10 4 |
| Sulphur, %wt | | D-4294 | 1.69 | 1.31 | 1 38 |
| Viscosity, CST @ 50C | | D-445 | 510 2 | 385.4 | 400 7 |

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PMLAB REV 8-05

DENNIS E. CURTIS
*Inspectorate America So Portland, Me*

INSPECTORATE
ISO 9001:2000 Certified

# Certificate of Analysis

SP/08/0205

**Vessel / Shore Tank :** SEARSPORTS SHORE TANKS
**Product :** #6 Oil
**Client Reference :**
Terminal / Port / Office :
Job ID : 0020-0000103

Sample Submitted By :
Analysis Performed By Inspectorate Portland
Date Sampled : 02-Feb-2008
Date Reported : 05-Feb-2008
Submission ID : 2008-020-00105

Sample Details : SHORE TK NO. 4 AFTER NEW HAMPSHIRE
Comments :

| | Sample Type | UML Comp. | Upper | Middle | Lower |
|---|---|---|---|---|---|
| | Sample Description | 4 | 4 | 4 | 4 |
| | Sample Number | 0105-005 | 0105-006 | 0105-007 | 0105-008 |
| Method | Test | Result | Result | Result | Result |
| ASTM D1250 | Density at 15°C | 0.9966 | | | |
| ASTM D287 | API Gravity, ° API- Avg | 10.4 | 10.4 | 10.4 | 10.4 |
| ASTM D4294 | Sulfur Content, Mass %- Avg | 1.71 | 1.70 | 1.71 | 1.71 |
| ASTM D1796 | Water and Sediment, % (V/V) | 0.200 | | | |
| ASTM D2161 | Test Temperature, ° F | 122 | | | |
| ASTM D445 | Test Temperature | 50°C (122°F) | 50°C (122°F) | 50°C (122°F) | 50°C (122°F) |
| ASTM D2161 | Saybolt Furol Seconds, Seconds | 240 | | | |
| ASTM D445 | Kinematic Viscosity, cSt- Avg | 508.2 | 505.0 | 508.6 | 510.9 |
| ASTM D240 | Gross Heat of Combustion Unit Conv | 18257 / 151624 | / | / | / |
| ASTM D4530 | Carbon Residue, % (m/m) | 11.9 | | | |
| ASTM D473 | Sediment Content, Mass % / Vol % | 0.02 / 0.01 | / | / | / |
| ASTM D482 | Ash Content, Mass % | 0.0367 | | | |
| ASTM D6560 | Asphaltenes, % (m/m) | 4.4 | | | |
| ASTM D93 Proc. B | Manual/Automated | Automatic | | | |
| | Flash Point, ° C / ° F | 106.5 / 224 | / | / | / |
| ASTM D95 | Water, % (V/V) | 0.20 | | | |
| ASTM D97 (IP 15) | Pour Point, ° F | 32 | | | |
| IP 470 | Aluminum, mg/kg | 47 | | | |
| | Silicon, mg/kg | 65 | | | |
| | Sodium, mg/kg | 18 | | | |
| | Vanadium, mg/kg | 100 | | | |
| ASTM D5762 | Nitrogen, % wt. | 0.3965 | | | |

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For Inspectorate: _____
Dennis Curtis

33 Rigby Road, South Portland, Maine 04106 Ph: 207-767-1711 Fax: 207-767-5309

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# Certificate of Analysis

| | | | |
|---|---|---|---|
| | | | SP/08/0418 |
| **Vessel / Shore Tank :** | **SHORE TANK 4** | Sample Submitted By : | IAC Searsport |
| **Product :** | **#6 Fuel Oil** | Analysis Performed By : | IAC Portland |
| **Client Reference :** | **V-08-00686** | Date Sampled : | 16-Apr-2008 |
| Terminal / Port / Office : | SPRAGUE SEARSPORT | Date Reported : | 17-Apr-2008 |
| Job ID : | 0020-0000346 | Submission ID : | 2008-020-00417 |
| Sample Details : | After "New Hampshire" | | |
| Comments : | | | |

| | | UML Composite | |
|---|---|---|---|
| | Sample Number | 2008-020-00417-005 | |
| Method | Test | Result | Specification |
| ASTM D287 | API Gravity, ° API-U,M,L Calc Avg | 10.6 | 10 Min |
| ASTM D1250 | Density at 15°C | 0.9952 | |
| ASTM D4294 | Sulfur Content, mass %, U,M,L Calc Avg | 1.72 | 2.00 Max |
| ASTM D445 | Test Temperature | 50°C (122°F) | |
| | Kinematic Viscosity, cSt-U,M,L Calc Avg | 428.8 | |
| ASTM D2161 | Test Temperature, ° F | 122 | |
| | Saybolt Furol Seconds, sec | 202 | 75-300 (ssf) |
| ASTM D95 | Water, % (v/v) | 0.20 | 1.0 Max |
| ASTM D473 | Sediment Content, mass % / vol % | 0.05 / 0.02 | 0.1 Max |
| ASTM D1796 | Water and Sediment, % (v/v) | 0.100 | 1.0 Max |
| ASTM D93 Proc. B | Manual/Automated | Automatic | |
| | Flash Point, ° C / ° F | 104.5 / 220 | 150 Min |
| ASTM D482 | Ash Content, mass % | 0.0827 | 0.1 Max |
| IP 470 | Aluminum, ppm (mg/kg) | 86 | |
| | Silicon, ppm (mg/kg) | 102 | |
| | Sodium, ppm (mg/kg) | 44 | 60 Max (ppm) |
| | Vanadium, ppm (mg/kg) | 114 | 300 Max (ppm) |
| ASTM D240 | Gross Heat of Combustion Unit Conversion, BTU/l | 18318 / 151911 | |
| ASTM D4530 | Carbon Residue, % (m/m) | 11.6 | 21 Max |
| ASTM D97 | Pour Point, ° C / ° F | -3 / 27 | 60 Max (F) |
| ASTM D6560 | Asphaltenes, % (m/m) | 4.5 | 14 Max |
| ASTM D287 | API Gravity, ° API | | |
| | Upper | 10.6 | |
| | Middle | 10.6 | |
| | Lower | 10.6 | |
| ASTM D4294 | Sulfur Content, mass % | | |
| | Upper | 1.59 | |
| | Middle | 1.78 | |
| | Lower | 1.78 | |
| ASTM D445 | Test Temperature | 50°C (122°F) | |
| | Kinematic Viscosity, cSt | | |
| | Upper | 425.2 | |
| | Middle | 430.7 | |
| | Lower | 430.4 | |

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For Inspectorate: Signature On File
Richard Kennedy

33 Rigby Road, South Portland, Maine 04106 Ph: 207-767-1711 Fax: 207-767-5309

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# Certificate of Analysis

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|---|---|---|---|
| | | | SP/08/0507 |
| **Vessel / Shore Tank :** | **SHORE TANK 4** | Sample Submitted By : | IAC Searsport |
| **Product :** | **#6 Fuel Oil** | Analysis Performed By : | IAC Portland |
| **Client Reference :** | **V-08-00761** | Date Sampled : | 04-May-2008 |
| Terminal / Port / Office : | SPRAGUE SEARSPORT | Date Reported : | 05-May-2008 |
| Job ID : | 0020-0000413 | Submission ID : | 2008-020-00507 |
| Sample Details : | | | |
| Comments : | SHORE TK NO. 4 AFTER EMERALD STAR | | |

| | | UML Composite | |
|---|---|---|---|
| | Sample Number | 2008-020-00507-008 | |
| Method | Test | Result | Specification |
| ASTM D287 | API Gravity, ° API-U,M,L Calc Avg | 13.0 | 10 Min |
| ASTM D1250 | Density at 15°C | 0.9787 | |
| ASTM D4294 | Sulfur Content, mass %-U,M,L Calc Avg | 1.63 | 2.0 Max |
| ASTM D445 | Test Temperature | 50°C (122°F) | |
| | Kinematic Viscosity, cSt-U,M,L Calc Avg | 397.6 | |
| ASTM D2161 | Test Temperature, ° F | 122 | |
| | Saybolt Furol Seconds, sec | 125.2 | 75-300 (ssf) |
| ASTM D95 | Water, % (v/v) | 0.05 | 1.0 Max |
| ASTM D473 | Sediment Content, mass % / vol % | 0.03 / 0.01 | 0.1 Max |
| ASTM D1796 | Water and Sediment, % (v/v) | 0.100 | 1.0 Max |
| ASTM D93 Proc. B | Manual/Automated | Automatic | |
| | Flash Point, ° C / ° F | 85.0 / 185 | 150 Min (F) |
| ASTM D482 | Ash Content, mass % | 0.0582 | 0.1 Max |
| IP 470 | Aluminum, ppm (mg/kg) | 47 | |
| | Silicon, ppm (mg/kg) | 60 | |
| | Sodium, ppm (mg/kg) | 22 | 60 Max |
| | Vanadium, ppm (mg/kg) | 82 | 300 Max |
| ASTM D240 | Gross Heat of Combustion Unit Conversion, BTU/l | 18482 / 150721 | |
| ASTM D4530 | Carbon Residue, % (m/m) | 11.2 | 21 Max |
| ASTM D97 | Pour Point, ° C / ° F | -3 / 27 | 60 Max (F) |
| ASTM D6560 | Asphaltenes, % (m/m) | 3.4 | 14 Max |
| ASTM D287 | API Gravity, ° API | | |
| | Upper | 13.0 | |
| | Middle | 13.0 | |
| | Lower | 12.9 | |
| ASTM D4294 | Sulfur Content, mass % | | |
| | Upper | 1.62 | |
| | Middle | 1.64 | |
| | Lower | 1.64 | |
| ASTM D445 | Kinematic Viscosity, cSt | | |
| | Upper | 397.5 | |
| | Middle | 396.1 | |
| | Lower | 399.1 | |
| ASTM D 5762 | NITROGEN, % WT. | 0.3798 | 0.55 MAX. |

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For Inspectorate: Signature On File
Richard Kennedy

35 Rigby Road, South Portland, Maine 04106 Ph: 207-767-1711 Fax: 207-767-5309

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# Certificate of Analysis

| | | | |
|---|---|---|---|
| | | | SP/08/1035 |
| **Vessel / Shore Tank :** | **SHORE TANK 4** | Sample Submitted By : | IAC Searsport |
| **Product :** | **#6 Fuel Oil** | Analysis Performed By : | IAC Portland |
| **Client Reference :** | **DUANE SEEKINS** | Date Sampled : | 24-Oct-2008 |
| Terminal / Port / Office : | SPRAGUE SEARSPORT | Date Reported : | 26-Oct-2008 |
| Job ID : | 0020-0000918 | Submission ID : | 2008-020-01142 |
| Sample Details : | | | |
| Comments : | | | |

| | Sample Number | 2008-020-01142-004 | |
|---|---|---|---|
| Method | Test | Result | Specification |
| ASTM D287 | API Gravity, ° API-U,M,L Calc Avg | 13.4 | 10.0 Min |
| ASTM D1250 | Density at 15°C | 0.9760 | |
| ASTM D4294 | Sulfur Content, mass %-U,M,L Calc Avg | 1.46 | 2.00 Max |
| ASTM D445 | Kinematic Viscosity, cSt-U,M,L Calc Avg | 437.7 | |
| ASTM D2161 | Test Temperature, ° F | 122 | |
| | Saybolt Furol Seconds, sec-U,M,L Calc Avg | 207 | 75-300 |
| ASTM D95 | Water, % (v/v) | 0.05 | 1.0 Max |
| ASTM D473 | Sediment Content, mass % / vol % | 0.02 / <0.01 | 0.1 Max |
| ASTM D1796 | Water and Sediment, % (v/v) | 0.100 | 1.0 Max |
| ASTM D93 Proc. B | Manual / Automated | Automatic | |
| | Flash Point, ° C / ° F | 87.5 / 190 | 150 Min (F) |
| ASTM D482 | Ash Content, mass % | 0.0423 | 0.1 Max |
| IP 470 | Aluminum, ppm (mg/kg) | 45 | |
| | Silicon, ppm (mg/kg) | 44 | |
| | Sodium, ppm (mg/kg) | 24 | 60 Max |
| | Vanadium, ppm (mg/kg) | 55 | 300 Max |
| ASTM D5762 | Nitrogen, % wt | 0.3228 | |
| ASTM D240 | Gross Heat of Combustion Unit Conversion, BTU/l | 18549 / 150859 | |
| ASTM D4530 | Carbon Residue, % (m/m) | 9.9 | 21 Max |
| ASTM D97 | Pour Point, ° C / ° F | 3 / 37 | 60 Max (F) |
| ASTM D6560 | Asphaltenes, % (m/m) | 2.8 | 14 Max |
| ASTM D287 | API Gravity, ° API | | |
| | Upper | 13.4 | |
| | Middle | 13.4 | |
| | Lower | 13.3 | |
| ASTM D4294 | Sulfur Content, mass % | | |
| | Upper | 1.46 | |
| | Middle | 1.46 | |
| | Lower | 1.45 | |
| ASTM D445 | Kinematic Viscosity, cSt | | |
| | Upper | 438.7 | |
| | Middle | 440.1 | |
| | Lower | 434.2 | |

REPRESENTING THE SPECIFICATIONS OF THE PRODUCT AT THE SPRAGUE TERMINAL IN TANK ON THE DATE OF INSPECTION NOTED ON THE CERTIFICATE. THIS ANALYSIS IS PROVIDED TO THE CUSTOMER FOR THE PURPOSE OF ESTABLISHING THE INDEPENDENTLY VERIFIED PRODUCT SPECIFICATION ON A COMPOSITE BASIS IN SPRAGUE'S TERMINAL SHORE TANK AS NOTED ON THE CERTIFICATE. THE INSPECTION REPORT IS NOT TO BE USED FOR ANY OTHER PURPOSE. SPRAGUE DISCLAIMS ANY LIABILITY FOR THE PRODUCT AFTER DELIVERY BY SPRAGUE TO CUSTOMER. SPRAGUE DISCLAIMS ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR AN INTENDED USE EXCEPT AS MAY BE SPECIFICALLY SET FORTH IN WRITING IN ANY CONTRACT OR TERMS OF SALE BETWEEN SPRAGUE AND A BUYER OF PRODUCT. SPRAGUE ASSUMES NO LIABILITY FOR CLAIMS OR LOSSES THAT MAY ARISE FROM CUSTOMERS USE OF THIS INSPECTION REPORT/ANALYSIS.

For Inspectorate: Signature On File

Richard Kennedy

33 Rigby Road, South Portland, Maine 04106 Ph: 207-767-1711 Fax: 207-767-5309

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# Certificate of Analysis

| | | | |
|---|---|---|---|
| | | | SP/09/0415 |
| **Vessel / Shore Tank :** | **SHORE TANK** | Sample Submitted By : | IAC Searsport |
| **Product :** | **#6 Fuel Oil** | Analysis Performed By : | IAC Portland |
| **Client Reference :** | **V-09-00485** | Date Sampled : | 21-Apr-2009 |
| Terminal / Port / Office : | SPRAGUE SEARSPORT | Date Reported : | 22-Apr-2009 |
| Job ID : | 0020-0001545 | Submission ID : | 2009-020-00378 |
| Sample Details : | As Below | | |
| Comments : | | | |

| | Sample Type | | | |
|---|---|---|---|---|
| | Sample Description | Tank 3 | Tank 4 | |
| | Sample Number | 00378-001 | 0378-005 | |
| Method | Test | Result | Result | Result |
| ASTM D287 | API Gravity, ° API-U,M,L Calc Avg | 13.1 | 13.9 | |
| ASTM D1250 | Density at 15°C | 0.9786 | 0.9732 | |
| ASTM D4294 | Sulfur Content, mass %-U,M,L Calc Avg | 1.36 | 1.23 | |
| ASTM D445 | Test Temperature | 50°C (122°F) | 50°C (122°F) | |
| | Kinematic Viscosity, cSt-U,M,L Calc Avg | 473.4 | 457.6 | |
| ASTM D2161 | Test Temperature, ° F | 122 | 122 | |
| | Saybolt Furol Seconds, sec | 227 | 219 | |
| ASTM D95 | Water, % (v/v) | 0.10 | 0.20 | |
| ASTM D473 | Sediment Content, mass % / vol % | <0.01 / <0.01 | <0.01 / <0.01 | |
| ASTM D1796 | Water and Sediment, % (v/v) | 0.100 | 0.100 | |
| ASTM D93 Proc. B | Manual / Automated | Automatic | Automatic | |
| | Flash Point, ° C / ° F | 86.0 / 187 | 96.0 / 205 | |
| ASTM D482 | Ash Content, mass % | 0.0380 | 0.0386 | |
| IP 470 | Aluminum, ppm (mg/kg) | 69 | 48 | |
| | Silicon, ppm (mg/kg) | 64 | 70 | |
| | Sodium, ppm (mg/kg) | 25 | 33 | |
| | Vanadium, ppm (mg/kg) | 32 | 31 | |
| ASTM D5762 | Nitrogen, % wt | 0.3258 | 0.3571 | |
| ASTM D240 | Net Heat of Combustion, BTU/lb | 18458 | 18502 | |
| | Net Heat of Combustion Unit Conversion, BTU/gal | 150432 | 149959 | |
| ASTM D4530 | Carbon Residue, % (m/m) | 10.2 | 11.3 | |
| ASTM D97 | Pour Point, ° C / ° F | 9 / 48 | 6 / 43 | |
| ASTM D6560 | Asphaltenes, % (m/m) | 4.3 | 4.5 | |
| ASTM D287 | API Gravity, ° API | | | |
| | Upper | 13.1 | 14.0 | |
| | Middle | 13.1 | 13.9 | |
| | Lower | 13.1 | 13.8 | |
| ASTM D4294 | Sulfur Content, mass % | | | |
| | Upper | 1.36 | 1.17 | |
| | Middle | 1.35 | 1.22 | |
| | Lower | 1.36 | 1.30 | |
| ASTM D445 | Kinematic Viscosity, cSt | | | |
| | Upper | 473.4 | 439.7 | |
| | Middle | 471.3 | 454.6 | |
| | Lower | 475.4 | 478.5 | |

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For Inspectorate: Signature On File

Richard Kennedy

33 Rigby Road, South Portland, Maine 04106 Ph: 207-767-1711 Fax: 207-767-5309

Intertek Caleb Brett

## 78 Pleasant Avenue, South Portland, ME

**REPORT OF ANALYSIS**

| | |
|---|---|
| Vessel / Barge | Georgia |
| Port/Terminal | Sprague, Searsport, ME |
| Sprague Reference | V-08-01881 |
| ICB Reference | US380-0001304 |
| Date Sample Taken | 01/20/09 |
| Date Submitted | 01/20/09 |
| Date Tested | 01/20/09 |
| Sample Designated a | # 6 Fuel Oil (2.0%) |
| Drawn By | Intertek Caleb Brett |
| Representing | Tk. 4, After Discharge |
| Slate | A + (Al & Si) |

| | Test | Method | Results | Units |
|---|---|---|---|---|
| Upper | Gravity | ASTM D 4052 | 11.8 | API @ 60F |
| | Viscosity at 122 F | ASTM D 445/2161 | 446.5 / 210 | cSt / SFS |
| Middle | Gravity | ASTM D 4052 | 11.8 | API @ 60F |
| | Viscosity at 122 F | ASTM D 445/2161 | 442.2 / 209 | cSt / SFS |
| Lower | Gravity | ASTM D 4052 | 11.8 | API @ 60F |
| | Viscosity at 122 F | ASTM D 445/2161 | 437.0 / 206 | cSt / SFS |
| Composite | Flash Point (PMCC) | ASTM D 93B | >200 | Degrees F |
| | Pour Point | ASTM D 97 | +3 / +37 | Degrees C / F |
| | Sediment & Water by Cen | ASTM D 1796 | 0.25 | Volume % |
| | Sulfur | ASTM D 4294 | 1.94 | Weight % |
| | Ash | ASTM D 482 | 0.084 | Weight % |
| | Water by Distillation | ASTM D 95 | 0.2 | Volume % |
| | Sediment by Extraction | ASTM D 473 | 0.05 | Weight % |
| | Heat of Combustion | ASTM D-240 | 18,323 | Btu/lb |
| | Gravity | Table 8 | 8.223 | lb./gal |
| | Heat of Combustion | ASTM D-240 | 150,670 | Btu/gal |
| | Nitrogen | ASTM D-5762 | 0.43 | Weight % |
| | Vanadium | ASTM D-5863B | 74 | ppm |
| | Sodium | ASTM D-5863B | 37 | ppm |
| | Aluminum | ASTM D-5184B | 44 | ppm |
| | Silicon | ASTM D-5184B | 75 | ppm |
| | Asphaltenes | IP-143 | 7.8 | Weight % |
| | Conradson Carbon Resid | ASTM D-189 | 17.0 | Weight % |

Michael Holland, Lab Supervisor
*Intertek Caleb Brett, South Portland, ME*



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# Certificate of Analysis

| | | | |
|---|---|---|---|
| Vessel / Shore Tank : | Tank 4 | | SP/09/0118 |
| Product : | #6 Fuel Oil | Sample Submitted By : | IAC Searsport |
| Client Reference : | DUANE SEEKINS | Analysis Performed By : | IAC Portland |
| Terminal / Port / Office : | IRVING OIL SEARSPORT | Date Sampled : | 6-Jan-2009 |
| Job ID : | 0020-0001207 | Date Reported : | 09-Jan-2009 |
| Sample Details : | | Submission ID : | 2009-020-00039 |
| Comments : | | | |

| Method | Sample Number / Test | 2009-020-00039-004 Result | Specification |
|---|---|---|---|
| ASTM D287 | API Gravity, ° API-U,M,L Calc Avg | 11.4 | 10.0 Min |
| ASTM D1250 | Density at 15°C | 0.9896 | |
| ASTM D4294 | Sulfur Content, mass %-U,M,L Calc Avg | 1.78 | 2.0 Max |
| ASTM D445 | Kinematic Viscosity, cSt-U,M,L Calc Avg | 401.4 | |
| ASTM D2161 | Test Temperature, ° F | 122 | |
| | Saybolt Furol Seconds, sec-U,M,L Calc Avg | 189.4 | 75-300 |
| ASTM D95 | Water, % (v/v) | 0.05 | 1.0 Max |
| ASTM D473 | Sediment Content, mass % / vol % | 0.07 / 0.03 | 0.1 Max |
| ASTM D1796 | Water and Sediment, % (v/v) | 0.100 | 1.0 MAx |
| ASTM D93 Proc. B | Manual / Automated | Automatic | |
| | Flash Point, ° C / ° F | 84.5 / 184 | 150 Min (F) |
| ASTM D482 | Ash Content, mass % | 0.0780 | 0.1 Min |
| IP 470 | Aluminum, ppm (mg/kg) | 37 | |
| | Silicon, ppm (mg/kg) | 33 | |
| | Sodium, ppm (mg/kg) | 32 | 60 Max |
| | Vanadium, ppm (mg/kg) | 64 | 300 Max |
| ASTM D5762 | Nitrogen,% Wt | 0.4093 | |
| ASTM D240 | Gross Heat of Combustion Unit Conversion, BTU/lb | 18290 / 150838 | |
| ASTM D4530 | Carbon Residue, % (m/m) | 13.6 | 21 Max |
| ASTM D97 | Pour Point, ° C / ° F | 0 / 32 | 60 Max (F) |
| ASTM D6560 | Asphaltenes, % (m/m) | 5.9 | 14 Max |
| ASTM D287 | API Gravity, ° API | | |
| | Upper | 11.4 | |
| | Middle | 11.4 | |
| | Lower | 11.4 | |
| ASTM D4294 | Sulfur Content, mass % | | |
| | Upper | 1.79 | |
| | Middle | 1.78 | |
| | Lower | 1.78 | |
| ASTM D445 | Kinematic Viscosity, cSt | | |
| | Upper | 399.5 | |
| | Middle | 404.8 | |
| | Lower | 399.8 | |

For Inspectorate: Signature On File
Richard Kennedy

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# Certificate of Analysis

| | | | |
|---|---|---|---|
| | | | SP/09/0132 |
| Vessel / Shore Tank : | Shore Analysis | Sample Submitted By : | IAC Searsport |
| Product : | #6 Fuel Oil | Analysis Performed By : | IAC Portland |
| Client Reference : | V-08-01882 | Date Sampled : | 17-Jan-2009 |
| Terminal / Port / Office : | SPRAGUE SEARSPORT | Date Reported : | 19-Jan-2009 |
| Job ID : | 0020-0001239 | Submission ID : | 2009-020-00071 |
| Sample Details : | AS Below | | |
| Comments : | AFTER DISCHARGE OF ENERGY 11103 | | |

| | Sample Type | | | |
|---|---|---|---|---|
| | Sample Description<br>Sample Number | Tank 3<br>0071-001 | Tank 4<br>0071-005 | |
| Method | Test | Result | Result | Result |
| ASTM D287 | API Gravity, ° API-U,M,L Calc Avg | 11.8 | 11.7 | 10.0 Min |
| ASTM D1250 | Density at 15°C-U,M,L Calc Avg | 0.9874 | 0.9881 | |
| ASTM D4294 | Sulfur Content, mass %-U,M,L Calc Avg | 1.88 | 1.89 | 2.0 Max |
| ASTM D445 | Test Temperature | 50°C (122°F) | 50°C (122°F) | |
| | Kinematic Viscosity, cSt-U,M,L Calc Avg | 460.4 | 474.0 | |
| ASTM D2161 | Test Temperature, ° F | 122 | 122 | |
| | Saybolt Furol Seconds, sec-U,M,L Calc Avg | 217 | 224 | 75-300 |
| ASTM D95 | Water, % (v/v) | 0.20 | 0.30 | 1.0 Max |
| ASTM D473 | Sediment Content, mass % / vol % | <0.01 / <0.01 | <0.01 / <0.01 | 0.1 Max |
| ASTM D1796 | Water and Sediment, % (v/v) | 0.200 | 0.400 | 1.0 Max |
| ASTM D93 Proc. B | Manual / Automated | Automatic | Automatic | |
| | Flash Point, ° C / ° F | 72.0 / 162 | 76.0 / 169 | 150 Min (F) |
| ASTM D482 | Ash Content, mass % | 0.0804 | 0.0742 | 0.1 MAx |
| IP 470 | Aluminum, ppm (mg/kg) | 40 | 48 | |
| | Silicon, ppm (mg/kg) | 40 | 50 | |
| | Sodium, ppm (mg/kg) | 44 | 49 | 60 Max |
| | Vanadium, ppm (mg/kg) | 66 | 70 | 300 Max |
| ASTM D5762 | Nitrogen, % wt | 0.4351 | 0.3734 | |
| ASTM D240 | Gross Heat of Combustion Unit Conversion, BTU | 18404 / 151336 | 18389 / 151323 | |
| ASTM D4530 | Carbon Residue, % (m/m) | 10.7 | 10.8 | 21 Max |
| ASTM D97 | Pour Point, ° C / ° F | 6 / 43 | 6 / 43 | 60 Max (F) |
| ASTM D6560 | Asphaltenes, % (m/m) | 5.6 | 6.1 | 14 Max |
| ASTM D287 | API Gravity, ° API | | | |
| | Upper | 11.8 | 11.7 | |
| | Middle | 11.8 | 11.7 | |
| | Lower | 11.7 | 11.7 | |
| ASTM D4294 | Sulfur Content, mass % | | | |
| | Upper | 1.89 | 1.87 | |
| | Middle | 1.88 | 1.90 | |
| | Lower | 1.87 | 1.90 | |
| ASTM D445 | Kinematic Viscosity, cSt | | | |
| | Upper | 449.0 | 473.2 | |
| | Middle | 471.3 | 481.6 | |
| | Lower | 460.8 | 467.1 | |

For Inspectorate: Signature On File

Richard Kennedy

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# Certificate of Analysis

| | | | |
|---|---|---|---|
| | | | SP/09/0203 |
| **Vessel / Shore Tank :** | **SHORE ANALYSIS** | Sample Submitted By : | IAC Searsport |
| **Product :** | **#6 Fuel Oil** | Analysis Performed By : | IAC Portland |
| **Client Reference :** | **V-08-01880** | Date Sampled : | 02-Feb-2009 |
| Terminal / Port / Office : | SPRAGUE SEARSPORT | Date Reported : | 03-Feb-2009 |
| Job ID : | 0020-0001292 | Submission ID : | 2009-020-00124 |
| Sample Details : | After "Emerald Star" | | |
| Comments : | | | |

| | Sample Type | | | |
|---|---|---|---|---|
| | Sample Description | Tank 3 | Tank 4 | |
| | Sample Number | 0124-001 | 0124-002 | |
| Method | Test | Result | Result | Specifications |
| ASTM D287 | API Gravity, ° API-U,M,L Calc Avg | 13.3 | 12.1 | 10 Min |
| ASTM D1250 | Density at 15°C-U,M,L Calc Avg | 0.9766 | 0.9848 | |
| ASTM D4294 | Sulfur Content, mass %-U,M,L CalcAvg | 1.39 | 1.78 | 2.0 Max |
| ASTM D445 | Test Temperature | 50°C (122°F) | 50°C (122°F) | |
| | Kinematic Viscosity, cSt-U,M,L Calc Avg | 401.1 | 354.9 | |
| ASTM D2161 | Test Temperature, ° F | 122 | 122 | |
| | Saybolt Furol Seconds, sec-U,M,L Calc A | 189.3 | 167.5 | 75-300 |
| ASTM D95 | Water, % (v/v) | 0.00 | 0.20 | 1.0 Max |
| ASTM D473 | Sediment Content, mass % / vol % | 0.05 / 0.02 | 0.07 / 0.03 | 0.1 Max |
| ASTM D1796 | Water and Sediment, % (v/v) | 0.100 | 0.100 | 1.0 Max |
| ASTM D93 Proc. B | Manual / Automated | Automatic | Automatic | |
| | Flash Point, ° C / ° F | 86.0 / 187 | 83.0 / 181 | 150 Min (F) |
| ASTM D482 | Ash Content, mass % | 0.0694 | 0.0972 | 0.1 Max |
| IP 470 | Aluminum, ppm (mg/kg) | 82 | 84 | |
| | Silicon, ppm (mg/kg) | 71 | 94 | |
| | Sodium, ppm (mg/kg) | 41 | 60 | 60 Max |
| | Vanadium, ppm (mg/kg) | 37 | 69 | 300 Max |
| ASTM D5762 | Nitrogen, % Wt. | 0.2112 | 0.2028 | |
| ASTM D240 | Gross Heat of Combustion Unit Conversi | 18778 / 152815 | 18346 / 150547 | |
| ASTM D4530 | Carbon Residue, % (m/m) | 10.6 | 13.7 | 21 Max |
| ASTM D97 | Pour Point, ° C / ° F | 6 / 43 | 6 / 43 | 60 Max |
| ASTM D6560 | Asphaltenes, % (m/m) | 2.6 | 5.4 | 14 Max |
| ASTM D287 | API Gravity, ° API | | | |
| | Upper | 13.3 | 12.1 | |
| | Middle | 13.3 | 12.1 | |
| | Lower | 13.3 | 12.1 | |
| ASTM D4294 | Sulfur Content, mass % | | | |
| | Upper | 1.39 | 1.78 | |
| | Middle | 1.39 | 1.78 | |
| | Lower | 1.38 | 1.78 | |
| ASTM D445 | Kinematic Viscosity, cSt | | | |
| | Upper | 403.7 | 352.0 | |
| | Middle | 403.8 | 355.0 | |
| | Lower | 395.6 | 357.7 | |

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Richard Kennedy

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Intertek Caleb Brett

## 78 Pleasant Avenue, South Portland, ME

**REPORT OF ANALYSIS**

| | |
|---|---|
| Vessel / Barge | DBL-105 |
| Port/Terminal | Sprague, Searsport, ME |
| Sprague Reference | V-09-00311 |
| ICB Reference | US380-0001365 |
| Date Sample Taken | 03/11/09 |
| Date Submitted | 03/11/09 |
| Date Tested | 03/11/09 |
| Sample Designated | # 6 Fuel Oil |
| Drawn By | Intertek Caleb Brett |
| Representing | Tk. 4, After Discharge |
| Slate | A |

| | Test | Method | Results | Units |
|---|---|---|---|---|
| Upper | Gravity | ASTM D 4052 | 14.3 | API @ 60F |
| | Viscosity at 122 F | ASTM D 445/2161 | 407.5 / 193 | cSt / SFS |
| Middle | Gravity | ASTM D 4052 | 14.3 | API @ 60F |
| | Viscosity at 122 F | ASTM D 445/2161 | 409.3 / 193 | cSt / SFS |
| Lower | Gravity | ASTM D 4052 | 14.3 | API @ 60F |
| | Viscosity at 122 F | ASTM D 445/2161 | 409.6 / 193 | cSt / SFS |
| Composite | Flash Point (PMCC) | ASTM D 93B | >200 | Degrees F |
| | Pour Point | ASTM D 97 | +6 / +43 | Degrees C / F |
| | Sediment & Water by Cen | ASTM D 1796 | 0.25 | Volume % |
| | Sulfur | ASTM D 4294 | 1.15 | Weight % |
| | Ash | ASTM D 482 | 0.032 | Weight % |
| | Water by Distillation | ASTM D 95 | 0.2 | Volume % |
| | Sediment by Extraction | ASTM D 473 | 0.04 | Weight % |
| | Heat of Combustion | ASTM D-240 | 18,619 | Btu/lb |
| | Gravity | Table 8 | 8.016 | lb./gal |
| | Heat of Combustion | ASTM D-240 | 149,241 | Btu/gal |
| | Nitrogen | ASTM D-5762 | 0.37 | Weight % |
| | Vanadium | ASTM D-5863B | 42 | ppm |
| | Sodium | ASTM D-5863B | 21 | ppm |
| | Aluminum | ASTM D-5184B | 41 | ppm |
| | Silicon | ASTM D-5184B | 60 | ppm |
| | Asphaltenes | IP-143 | 3.8 | Weight % |
| | Conradson Carbon Residu | ASTM D-189 | 11.8 | Weight % |

Michael Holland, Lab Supervisor
*Intertek Caleb Brett, South Portland, ME*



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# Certificate of Analysis

| | | | |
|---|---|---|---|
| | | | SP/09/0320 |
| **Vessel / Shore Tank :** | **Shore Analysis** | Sample Submitted By : | IAC Searsport |
| **Product :** | **#6 Fuel Oil** | Analysis Performed By : | IAC Portland |
| **Client Reference :** | **V-09-00341** | Date Sampled : | 14-Mar-2009 |
| Terminal / Port / Office : | INSPECTORATE SEARSPORT | Date Reported : | 16-Mar-2009 |
| Job ID : | 0020-0001438 | Submission ID : | 2009-020-00270 |
| Sample Details : | After "Jade Star" | | |
| Comments : | | | |

| | Sample Type | | | |
|---|---|---|---|---|
| | Sample Description | Tank 3 | Tank 4 | |
| | Sample Number | 00270-007 | ~~0270-008~~ | |
| Method | Test | Result | Result | Specification |
| ASTM D287 | API Gravity, ° API-U,M,L Calc Avg | 13.0 | 14.1 | 10 Min |
| ASTM D1250 | Density at 15°C | 0.9786 | 0.9713 | |
| ASTM D4294 | Sulfur Content, mass %-U,M,L Calc Avg | 1.28 | 1.17 | 2.00 Max |
| ASTM D445 | Kinematic Viscosity, cSt-U,M,L Calc Avg | 489.0 | 424.6 | |
| ASTM D2161 | Test Temperature, ° F | 122 | 122 | |
| | Saybolt Furol Seconds, sec | 231 | 200 | |
| ASTM D95 | Water, % (v/v) | 0.05 | 0.00 | 75-300 (ssf) |
| ASTM D473 | Sediment Content, mass % / vol % | 0.01 / <0.01 | 0.04 / 0.02 | 1.0 Max |
| ASTM D1796 | Water and Sediment, % (v/v) | 0.100 | 0.100 | 0.1 Max |
| ASTM D93 Proc. B | Manual / Automated | Automatic | Automatic | 1.0 Max |
| | Flash Point, ° C / ° F | 97.5 / 208 | 105.5 / 222 | |
| ASTM D482 | Ash Content, mass % | 0.0453 | 0.0486 | 150 Min (F) |
| IP 470 | Aluminum, ppm (mg/kg) | 91 | 53 | 0.1 Max |
| | Silicon, ppm (mg/kg) | 63 | 52 | |
| | Sodium, ppm (mg/kg) | 33 | 32 | 60 Max |
| | Vanadium, ppm (mg/kg) | 24 | 28 | 300 Max |
| ASTM D5762 | Nitrogen, % wt | 0.3187 | 0.3639 | |
| ASTM D240 | Gross Heat of Combustion, BTU/lb | 18552 | 18560 | |
| | Net Heat of Combustion Unit Conversion, B | 151292 | 150206 | |
| ASTM D4530 | Carbon Residue, % (m/m) | 9.9 | 11.4 | 21 Max |
| ASTM D97 | Pour Point, ° C / ° F | 9 / 48 | 9 / 48 | 60 Max (F) |
| ASTM D6560 | Asphaltenes, % (m/m) | 7.2 | 3.2 | 14 Max |
| ASTM D287 | API Gravity, ° API | | | |
| | Upper | 13.0 | 14.1 | |
| | Middle | 13.0 | 14.1 | |
| | Lower | 13.0 | 14.1 | |
| ASTM D4294 | Sulfur Content, mass % | | | |
| | Upper | 1.27 | 1.16 | |
| | Middle | 1.28 | 1.16 | |
| | Lower | 1.28 | 1.18 | |
| ASTM D445 | Kinematic Viscosity, cSt | | | |
| | Upper | 482.9 | 413.4 | |
| | Middle | 489.9 | 386.1 | |
| | Lower | 494.3 | 474.3 | |

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For Inspectorate: Signature On File

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