

| METHOD NAME   | METHOD REFERENCE    | MIN VOL | UNITS | PRICE    |
|---|---------------------|---------|-------|----------|
| DISTILLATION  | ASTM D86            | 105     | mL    | \$75.00  |
| FLASH POINT (PENSKY-MARTENS)  | ASTM D93            | 75      | mL    | \$47.00  |
| WATER BY DISTILLATION   | ASTM D95            | 50      | mL    | \$63.00  |
| POUR POINT  | ASTM D97            | 100     | mL    | \$59.00  |
| COPPER STRIP CORROSION (@ 50 DEGREE C)  | ASTM D130           | 30      | mL    | \$44.00  |
| COPPER STRIP CORROSION (@ ALL OTHER TEMPERATURES)   | ASTM D130           | 30      | mL    | \$44.00  |
| COLOR (SAYBOLT CHROMOMETER METHOD)  | ASTM D156           | 250     | mL    | \$30.00  |
| CONRADSON CARBON RESIDUE  | ASTM D189           | 20      | mL    | \$67.00  |
| CONRADSON CARBON RESIDUE (10% BOTTOMS)<br>Includes ASTM D86.  | ASTM D189           | 225     | mL    | \$142.00 |
| HEATING VALUE, GROSS  | ASTM D240           | 10      | mL    | \$174.00 |
| HEATING VALUES, NET (<20% ethanol)<br>Includes ASTM D4052, ASTM D4815 with calculation, and D5291       | ASTM D240           | 35      | mL    | \$699.00 |
| HEATING VALUES, NET (>20% ethanol)<br>Includes ASTM D4052, ASTM D5501 with calculation, E203, and D5291 | ASTM D240           | 85      | mL    | \$754.00 |
| GAS DILUENT   | ASTM D322           | 30      | mL    | \$107.00 |
| GUM CONTENT (UNWASHED)  | ASTM D381           | 50      | mL    | \$87.00  |
| GUM CONTENT (WASHED & UNWASHED)   | ASTM D381           | 50      | mL    | \$87.00  |
| KINEMATIC VISCOSITY (@ 40 DEGREE C)   | ASTM D445           | 20      | mL    | \$47.00  |
| KINEMATIC VISCOSITY (@ 100 DEGREE C)  | ASTM D445           | 20      | mL    | \$47.00  |
| KINEMATIC VISCOSITY (@ ALL OTHER TEMPERATURES)  | ASTM D445           | 20      | mL    | \$67.00  |
| ASH CONTENT   | ASTM D482           | 150     | mL    | \$55.00  |
| RAMSBOTTOM CARBON RESIDUE   | ASTM D524           | 10      | mL    | \$87.00  |
| RAMSBOTTOM CARBON RESIDUE (10% BOTTOMS)<br>Includes ASTM D86.   | ASTM D524           | 115     | mL    | \$162.00 |
| OXIDATION STABILITY (GASOLINE)  | ASTM D525           | 50      | mL    | \$152.00 |
| CETANE NUMBER   | ASTM D613           | 1000    | mL    | \$255.00 |
| TOTAL ACID NUMBER (POTENTIOMETRIC)  | ASTM D664           | 25      | mL    | \$50.00  |
| IRON CORROSION  | ASTM D665 MODIFIED  | 650     | mL    | \$99.00  |
| POTENTIAL GUM   | ASTM D873           | 125     | mL    | \$201.00 |
| SULFATED ASH CONTENT  | ASTM D874           | 150     | mL    | \$75.00  |
| STRONG ACID NUMBER (COLORIMETRIC)   | ASTM D974           | 50      | mL    | \$55.00  |
| TOTAL ACID NUMBER (COLORIMETRIC)  | ASTM D974           | 50      | mL    | \$55.00  |
| CETANE INDEX, 2 VARIABLE (CALCULATION WITH SUITE)<br>Includes ASTM D86 and D4052.                       | ASTM D976           | 110     | mL    | \$130.00 |
| ACIDITY FOR DISTILLED RESIDUES<br>Includes ASTM D86.  | ASTM D1093          | 125     | mL    | \$105.00 |
| CONDUCTIVITY (>2,000 uS/m)  | ASTM D1125 MODIFIED | 100     | mL    | \$62.00  |
| HYDROCARBON TYPE (FIA, UNCORRECTED)   | ASTM D1319          | 5       | mL    | \$101.00 |
| HYDROCARBON TYPE (FIA, TOTAL SAMPLE BASIS)<br>Includes ASTM D4052, D4815 with calculation.              | ASTM D1319          | 20      | mL    | \$401.00 |
| COLOR (ASTM COLOR SCALE)  | ASTM D1500          | 75      | mL    | \$30.00  |
| ACIDITY AS ACETIC ACID<br>Includes ASTM D4052.  | ASTM D1613          | 150     | mL    | \$85.00  |
| COPPER  | ASTM D1688 MODIFIED | 100     | mL    | \$75.00  |
| WATER AND SEDIMENT  | ASTM D1796          | 50      | mL    | \$57.00  |
| LPG HYDROCARBONS  | ASTM D2163          | CYL     | n/a   | \$270.00 |

|   |                        |      |     |          |
|---|------------------------|------|-----|----------|
| OXIDATION STABILITY (MIDDLE DISTILLATE FUELS)   | ASTM D2274             | 500  | mL  | \$297.00 |
| CLOUD POINT   | ASTM D2500             | 100  | mL  | \$52.00  |
| LPG CALCULATED PROPERTIES<br>Includes ASTM D2163.   | ASTM D2598             | CYL  | n/a | \$290.00 |
| CONDUCTIVITY (1-1,999,999 pS/m)   | ASTM D2624             | 100  | mL  | \$62.00  |
| OCTANE NUMBER - RESEARCH (RON)  | ASTM D2699             | 1000 | mL  | \$155.00 |
| OCTANE NUMBER - MOTOR (MON)   | ASTM D2700             | 1000 | mL  | \$155.00 |
| OCTANE NUMBER - R+M/2 (ANTI-KNOCK INDEX + SENSITIVITY)  | ASTM D2699; ASTM D2700 | 2000 | mL  | \$310.00 |
| WATER AND SEDIMENT (HIGH PRECISION METHOD)  | ASTM D2709             | 100  | mL  | \$57.00  |
| PHOSPHORUS (GASOLINE)   | ASTM D3231             | 10   | mL  | \$228.00 |
| LEAD  | ASTM D3237             | 50   | mL  | \$55.00  |
| ESTIMATED HEATING VALUE, NET (CALCULATION WITH SUITE)<br>Includes ASTM D86, D1319, and D4052.                       | ASTM D3338             | 115  | mL  | \$231.00 |
| HYDROGEN ((CALCULATION WITH SUITE), any ethanol content)<br>Includes ASTM D86, D1319, D4052, and D5622.             | ASTM D3343             | 125  | mL  | \$354.00 |
| HYDROGEN ((CALCULATION WITH SUITE), <20% ethanol)<br>Includes ASTM D86, D1319, D4052, D4815 with calculation.       | ASTM D3343             | 125  | mL  | \$496.00 |
| HYDROGEN ((CALCULATION WITH SUITE), >20% ethanol)<br>Includes ASTM D86, D1319, D4052, D5501, E203 with calculation. | ASTM D3343             | 175  | mL  | \$551.00 |
| BENZENE<br>Includes ASTM D4052.   | ASTM D3606             | 50   | mL  | \$280.00 |
| PEROXIDES   | ASTM D3703             | 10   | mL  | \$160.00 |
| MANGANESE   | ASTM D3831             | 5    | mL  | \$55.00  |
| DENSITY & RELATIVE DENSITY; API GRAVITY (@ 15.56 DEGREE C)  | ASTM D4052             | 5    | mL  | \$35.00  |
| DENSITY & RELATIVE DENSITY; API GRAVITY (@ ALL OTHER TEMPERATURES)  | ASTM D4052             | 5    | mL  | \$35.00  |
| APPEARANCE (DISTILLATE FUELS)   | ASTM D4176 PROCEDURE 1 | 1000 | mL  | \$20.00  |
| HAZE RATING   | ASTM D4176 PROCEDURE 2 | 1000 | mL  | \$30.00  |
| NITROGEN (ppm LEVEL)<br>Includes ASTM D4052.  | ASTM D4629             | 5    | mL  | \$110.00 |
| CETANE INDEX, 4 VARIABLE (CALCULATION WITH SUITE)<br>Includes ASTM D86 and D4052.                                   | ASTM D4737             | 110  | mL  | \$130.00 |
| DRIVEABILITY INDEX (CALCULATION WITH SUITE)<br>Includes ASTM D86, D4052, D4815 with calculation.                    | ASTM D4814             | 125  | mL  | \$395.00 |
| ESTIMATED VAPOR/LIQUID RATIO, V/L=20 (CALCULATION WITH SUITE)<br>ASTM D86, D5191                                    | Includes ASTM D4814    | 355  | mL  | \$146.00 |
| OXYGENATES (5 COMPOUNDS)<br>Includes ASTM D4052.  | ASTM D4815             | 15   | mL  | \$210.00 |
| OXYGENATES (13 COMPOUNDS)<br>Includes ASTM D4052.   | ASTM D4815             | 15   | mL  | \$280.00 |
| OXYGEN (CALCULATED WITH 13 COMPOUND SUITE)<br>Includes ASTM D4052 and D4815.  | ASTM D4815             | 15   | mL  | \$300.00 |
| OXYGEN (CALCULATED WITH 5 COMPOUND SUITE)<br>Includes ASTM D4052 and D4815 - oxygenates must be known.              | ASTM D4815             | 15   | mL  | \$230.00 |
| PHOSPHORUS (B100)   | ASTM D4951             | 20   | g   | \$75.00  |
| DOCTOR TEST   | ASTM D4952             | 20   | mL  | \$57.00  |
| ALUMINUM AND SILICON  | ASTM D5185 MODIFIED    | 20   | g   | \$100.00 |
| VAPOR PRESSURE (GRABNER @ 37.8 DEGREE C)  | ASTM D5191             | 1000 | mL  | \$51.00  |
| VAPOR PRESSURE (GRABNER @ ALL OTHER TEMPERATURES)   | ASTM D5191 MODIFIED    | 1000 | mL  | \$87.00  |
| CARBON & HYDROGEN (Analysis only)   | ASTM D5291             | 10   | mL  | \$225.00 |

|  |                    |      |     |          |
|--|--------------------|------|-----|----------|
| CARBON & HYDROGEN (Standard)<br>Includes ASTM D4052  | ASTM D5291         | 15   | mL  | \$260.00 |
| CARBON & HYDROGEN (with Oxygen; any level)<br>Includes ASTM D4052 and D5622.                               | ASTM D5291         | 25   | mL  | \$383.00 |
| CARBON & HYDROGEN (with Oxygen; <20% ethanol)<br>Includes ASTM D4052, D4815 with calculation.              | ASTM D5291         | 25   | mL  | \$525.00 |
| CARBON & HYDROGEN (with Oxygen; >20% ethanol)<br>Includes ASTM D4052, D5501 with calculation, and E203.    | ASTM D5291         | 75   | mL  | \$580.00 |
| NITROGEN (% LEVEL)   | ASTM D5291         | 10   | mL  | \$87.00  |
| PARTICULATE CONTAMINATION (AVIATION TURBINE FUELS)   | ASTM D5452         | 4000 | mL  | \$175.00 |
| SULFUR<br>Includes ASTM D4052.   | ASTM D5453         | 10   | mL  | \$112.00 |
| ETHANOL AND METHANOL CONTENT (≥20 MASS % EtOH, m/m% only)  | ASTM D5501         | 10   | mL  | \$245.00 |
| ETHANOL AND METHANOL CONTENT (≥20 MASS % EtOH, Standard)<br>Includes ASTM D4052 and E203.                  | ASTM D5501         | 10   | mL  | \$335.00 |
| OXYGEN (CALCULATED, ≥20 MASS % EtOH)<br>Includes ASTM D4052, D5501, and E203                               | ASTM D5501         | 60   | mL  | \$355.00 |
| OXYGEN (By Pyrolysis)  | ASTM D5622         | 10   | mL  | \$123.00 |
| LUBRICITY BY HFRR (DIGITAL CAMERA)   | ASTM D6079         | 2    | mL  | \$277.00 |
| PARTICULATE CONTAMINATION (MIDDLE DISTILLATE FUELS)  | ASTM D6217         | 1000 | mL  | \$175.00 |
| COLD FILTER PLUG POINT   | ASTM D6371         | 100  | mL  | \$94.00  |
| pHe (≥70 VOLUME % EtOH)  | ASTM D6423         | 100  | mL  | \$87.00  |
| LPG TOTAL VOLATILE SULFUR  | ASTM D6667         | CYL  | n/a | \$190.00 |
| PARTICULATE CONTAMINATION (B100 AND BIODIESEL BLENDS)  | ASTM D7321         | 500  | mL  | \$175.00 |
| INORGANIC CHLORIDE<br>Includes ASTM D4052.   | ASTM D7328         | 50   | mL  | \$112.00 |
| EXISTENT INORGANIC SULFATE<br>Includes ASTM D4052.   | ASTM D7328         | 50   | mL  | \$112.00 |
| BIODIESELCONTENT (FAME)  | ASTM D7371         | 30   | mL  | \$100.00 |
| PARTICLE COUNT   | ASTM D7619/ISO4406 | 500  | mL  | \$237.00 |
| SILVER STRIP CORROSION   | ASTM D7671         | 30   | mL  | \$66.00  |
| LUBRICITY BY HFRR (VISUAL)   | ASTM D7688         | 2    | mL  | \$305.00 |
| WATER (KARL FISCHER) BY v/v%   | ASTM E203          | 50   | mL  | \$55.00  |
| WATER (KARL FISCHER) BY m/m%<br>Includes ASTM D4052.   | ASTM E203          | 50   | mL  | \$90.00  |
| BIODIESELCONTENT (FAME)  | EN 14078           | 30   | mL  | \$70.00  |
| OXIDATION STABILITY (B100 AND BIODIESEL BLENDS)  | EN 14112           | 10   | g   | \$129.00 |
| CALCIUM AND MAGNESIUM, COMBINED  | EN 14538           | 20   | g   | \$82.00  |
| SODIUM AND POTASSIUM, COMBINED   | EN 14538           | 20   | g   | \$82.00  |
| OXIDATION STABILITY (B100 AND BIODIESEL BLENDS)  | EN 15751           | 20   | g   | \$176.00 |
| METALS, 27 ELEMENTS (ICP-MS)   | EPA SW846-6020     | 50   | mL  | \$123.00 |
| PEROXIDES (FORD METHOD)  | FORD AZ 105        | 5    | mL  | \$176.00 |
| IRON CORROSSION  | NACE TM0172        | 650  | mL  | \$99.00  |
| CARBON DENSITY (CALCULATED)<br>Includes ASTM D4052.  | PARAGON SOP-A0039  | 5    | mL  | \$55.00  |
| CARBON DENSITY (CALCULATED; with Oxygen; any matrix )<br>Includes ASTM D4052 and D5622.                    | PARAGON SOP-A0039  | 15   | mL  | \$178.00 |
| CARBON DENSITY (CALCULATED; with Oxygen; <20 MASS % EtOH )<br>Includes ASTM D4052, D4815 with calculation. | PARAGON SOP-A0039  | 15   | mL  | \$320.00 |

|  |                        |     |     |                 |
|--|------------------------|-----|-----|-----------------|
| CARBON DENSITY (CALCULATED; with Oxygen; ≥20 MASS % EtOH )<br>Includes ASTM D4052, D5501 with calculation, and E203.   | PARAGON SOP-A0039      | 65  | mL  | \$375.00        |
| COLOR (VISUAL DESCRIPTION)   | PARAGON SOP-A0214      | 50  | mL  | \$20.00         |
| LUMINOSITY   | PARAGON SOP-A0226      | 1   | mL  | \$20.00         |
| DMHD CONTENT   | PARAGON SOP-A0227      | 2   | mL  | \$270.00        |
| ETHANOL REMOVAL (WASH)   | PARAGON SOP-A0260      | 550 | mL  | \$110.00        |
| GASOLINE / DENATURANT (CALCULATED; ≥20 MASS % EtOH )<br>Includes ASTM D4052, D5501 with calculation, and E203.   | PARAGON SOP-A0277      | 65  | mL  | \$375.00        |
| ODOR   | PARAGON SOP-A0279      | n/a | n/a | \$20.00         |
| STOICHIOMETRIC AIR FUEL RATIOS (CALCULATION WITH SUITE)<br>This calculation will require some of the following tests:<br>D86, D3343, D4052, D5622, D5291, D4815, D5501, D5453, D4629 and/or D5291<br>Please contact Paragon Laboratories directly with your needs. | SAE J1829              | n/a | n/a | \$20.00         |
| <b>SUBCONTRACTED METHODS</b>   |                        |     |     |                 |
| VISCOSITY-KINEMATIC-LOW TEMPERATURE [A]  | ASTM D445              | 40  | mL  | \$160.00        |
| SMOKE POINT [A]  | ASTM D1322             | 200 | mL  | \$171.00        |
| SURFACE TENSION [A]  | ASTM D1331A            | 200 | mL  | \$472.00        |
| NAPHTHALENE CONTENT [A]  | ASTM D1840             | 100 | mL  | \$396.00        |
| THERMAL OXIDATION [A]  | ASTM D3241             | 600 | mL  | \$630.00        |
| ORGANIC CHLORIDE [A]   | ASTM D4929             | 110 | mL  | \$306.00        |
| AROMATICS BY SFC [A]   | ASTM D5186             | 20  | mL  | \$185.00        |
| OXYGENATES [A]   | ASTM D5599             | 25  | mL  | \$211.00        |
| VAPOR PRESSURE (VP <sub>x</sub> )-TRIPLE EXPANSION METHOD [A]  | ASTM D6378             | 500 | mL  | \$360.00        |
| DETAILED HYDROCARBON ANALYSIS [A]  | ASTM D6729             | 5   | mL  | \$530.00        |
| DERIVED CETANE NUMBER [A]  | ASTM D6890             | 100 | mL  | \$518.00        |
| ORGANIC CHLORIDE [A]   | ASTM D7536 MOD         | 110 | mL  | \$306.00        |
| VIALE BACTERIA (PLATE COUNT) [A]   | ASTM D6974 (FOR D6469) | 500 | mL  | \$72.00         |
| VIALE FUNGI AND MOLD [A]   | ASTM D6974 (FOR D6469) | 500 | mL  | \$72.00         |
| KEROSENE [A]   | JIS K-2536             | 10  | mL  | \$530.00        |
| <b>MISCELLANEOUS CHARGES</b>   |                        |     |     |                 |
| LABORATORY LABOR   | n/a                    | n/a | n/a | \$100.00/HOUR   |
| CHEMISTRY/BIOLOGY/ENGINEERING CONSULTING (BILLED IN 30 MINUTE INCREMENTS)  | n/a                    | n/a | n/a | \$150.00/HOUR   |
| EXECUTIVE/PROJECT MANAGEMENT CONSULTING (BILLED IN 30 MINUTE INCREMENTS)   | n/a                    | n/a | n/a | \$300.00/HOUR   |
| LABORATORY INSTRUMENT TIME (CALL FOR QUOTE-BILLED IN 30 MINUTE INCREMENTS)   | n/a                    | n/a | n/a | \$50-\$100/HOUR |
| CUSTOM EDD (BILLED IN 30 MINUTE INCREMENTS)  | n/a                    | n/a | n/a | \$150.00/HOUR   |
| TRIP CHARGE, WITHIN 25 MILES OF LABORATORY   | n/a                    | n/a | n/a | \$15.00         |
| TRIP CHARGE, WITHIN 50 MILES OF LABORATORY   | n/a                    | n/a | n/a | \$40.00         |
| TRIP CHARGE, WITHIN 75 MILES OF LABORATORY   | n/a                    | n/a | n/a | \$75.00         |
| TRIP CHARGE, WITHIN 100 MILES OF LABORATORY  | n/a                    | n/a | n/a | \$120.00        |
| SHIPPING CHARGE, PER SAMPLE  | n/a                    | n/a | n/a | \$50.00         |
| <b>RUSH SURCHARGES (% ABOVE LIST FEES)</b>   |                        |     |     |                 |
| 72 HOUR TAT  | n/a                    | n/a | n/a | 50%             |
| 48 HOUR TAT  | n/a                    | n/a | n/a | 75%             |
| 24 HOUR TAT  | n/a                    | n/a | n/a | 100%            |
| 8 HOUR TAT (SAMPLE MUST BE ON-SITE BY 7:30 AM FOR 4:00 PM RESULTS)   | n/a                    | n/a | n/a | 300%            |
| 4 HOUR TAT (SAMPLE MUST BE ON-SITE BY 11:30 AM FOR 4:00 PM RESULTS)  | n/a                    | n/a | n/a | 400%            |

[A] These procedures are not performed by Paragon but are subcontracted on behalf of the customer. Pricing is for an expedited 3 day TAT once the sample is received by the subcontract lab. Prices for subcontracted procedures are subject to change without notice.