



# PANAIR LABORATORY, INC.

4301 N.W.72 AVE., MIAMI, FL 33166 (305) 594-9055 FAX (305) 477-9137

## GASOLINE ANALYSIS REPORT

|                                        |
|----------------------------------------|
| LABORATORY NO.<br>12903G-1             |
| AWB NO.<br>001-78945440                |
| CUSTOMER<br>CIG Petroleum Inspectorate |
| TEST COMPLETED<br>2/19/16              |
| SAMPLED FROM<br>S04                    |

|                         |                               |
|-------------------------|-------------------------------|
| ORIGIN<br>Grand Cayman  | FUEL TYPE<br>Mogas            |
| DATE SAMPLED<br>2/12/16 | RECEIVED AT LAB<br>2/17/16    |
| REFINER                 | REFINER'S DESIGNATION<br>5000 |

THIS REPORT RELATES ONLY TO THE SAMPLE TESTED AND DOES NOT GUARANTEE THE BULK OF THE MATERIAL TO BE OF EQUAL QUALITY.

|                                                    |           |
|----------------------------------------------------|-----------|
| API GRAVITY @ 60 (D4052)                           | 58.78     |
| SPECIFIC GRAVITY @ 60 F (CONV.)                    | 0.7437    |
| DENSITY, KG/M3 @15C                                |           |
| APPEARANCE (VISUAL)                                |           |
| BROMINE NO. (D 1159)                               |           |
| COLOR VISUAL                                       |           |
| CORROSION, COPPER STRIP (D 130)                    | 1a        |
| DOCTOR TEST (IP 30)                                |           |
| EXISTENT GUM, MG/100 ML (D 381/ IP 131)            | 14        |
| WASHED GUM, MG/100 ML (D 381)                      | <1        |
| FREEZE POINT, C (D 2386)                           |           |
| VAPOR LIQUID RATIO = 20 @ C (D 4814)               |           |
| NON-VOLATILE MATTER, MG/100 ML (D1353)             |           |
| OCTANE NUMBER, MOTOR (D 2700)                      | 84.6      |
| LEAN RATING (CONVERSION) (D 2700)                  |           |
| OCTANE NUMBER, RESEARCH (D 2699)                   | 95.8      |
| ANTI-KNOCK INDEX (R+ M/2)                          | 90.2      |
| OXIDATION STABILITY @ 100 C, MINUTES (D 525)       |           |
| PARTICULATE MATTER, MG/L, (D 5452)                 |           |
| FILTER MEMBRANE COLOR RATING (D 5452)              |           |
| THRUPUT, LITERS                                    |           |
| PHOSPHOROUS CONTENT, MG/L (D 3231)                 |           |
| POTENTIAL GUM, MG/100 ML (D 873)                   |           |
| VISIBLE LEAD PRECIPITATE, MG/100 ML (D 873)        |           |
| SULFUR, mg/Kg (ppm), (D 2622)                      |           |
| TETRAETHYLLLEAD CONTENT, ML/LITER (D 3237/ IP 362) |           |
| LEAD CONTENT G/LITER ( CONV.)                      |           |
| LEAD, IODINE MONOCHLORIDE, ML/GAL (D 3341)         |           |
| VAPOR PRESSURE (LB REID/kPa) (D 5191)              | 9.21/63.4 |

### ASTM (D 86)

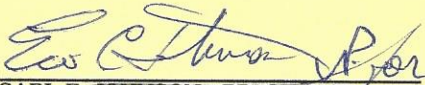
| DISTILLATION   | C      |
|----------------|--------|
| IBP            | 32.5   |
| 10% Evaporated | 52.8   |
| 50% Evap.      | 106.0  |
| 90% Evap.      | 161.1  |
| END POINT      | 199.5  |
| RECOVERY       | 98.5 % |
| RESIDUE        | 0.8 %  |
| LOSS           | 0.7 %  |

Tests results shown meet  
D-4814 specifications for

Vapor Pressure/Distillation  
Classes B-D

Suspended Sediment mg/L  
(D6217) 0.38

Manganese mg/L  
(D3831) 0.9

  
CARL E. JOHNSON, PRESIDENT  
PAL-0230 Issued 3-2-05 Revision 1





# PANAIR LABORATORY, INC.

4301 N.W. 72 AVE. MIAMI, FL 33166 (305) 594-9055

## FUEL OIL ANALYSIS

|                         |                                 |                                        |
|-------------------------|---------------------------------|----------------------------------------|
| ORIGIN<br>Grand Cayman  | FUEL TYPE<br>Diesel             | CUSTOMER<br>CIG Petroleum Inspectorate |
| DATE SAMPLED<br>2/12/16 | RECEIVED AT LAB<br>2/17/16      | TEST COMPLETED<br>2/24/16              |
| REFINER                 | REFINER'S DESIGNATION<br>Diesel | SAMPLED FROM S05                       |

This report relates to the sample tested and does not guarantee the bulk of the material to be of equal

APPEARANCE, VISUAL

ASH, % WGT. (D 482)

ASPHALTENES, % WGT. (IP 143)

CARBON RESIDUE CONRADSON, % WGT. (D 189)

CARBON RESIDUE RAMSBOTTOM (ON 10% B), WGT. (D524)

CETANE INDEX (D 976)

CETANE NUMBER (D 613)

CLOUD POINT F/C (D 2500)

COPPER CORROSION (3 HRS 122 F/ 212 F) (D 130)

COLOR, ASTM (D 1500)

FLASH POINT PENSKY-MARTENS F /C (D 93)

GROSS CALORIFIC VALUE, BTU/LB (D240)

NET CALORIFIC VALUE (CALCULATED)

GRAVITY, API @ 60 F (D 4052)

SPECIFIC GRAVITY @ 60 F/ 60 F

DENSITY @ 15 C

POUNDS PER GALLON @ 60 F

COMPATABILITY SPOT RATING (D4740)

CCAI CALCULATION

POUR POINT F /C(D 97)

SEDIMENT BY EXTRACTION, % MASS (D 473)

SEDIMENT BY HOT FILTRATION, % MASS (D4870)

SULFUR, % WGT., XRAY (D 4294)

SULFUR, mg / Kg (ppm), XRAY, (D 2622)

VISCOSITY, KINEMATIC @ 50 C mm2/sec. (D 445)

VISCOSITY, KINEMATIC @ 40C mm2/sec. (D 445)

WATER BY DISTILLATION, % WGT. (D 95)

WATER AND SEDIMENT, % VOL. (D 1796)

WATER AND SEDIMENT, % VOL (D 2709)

NITROGEN, % WGT.

HYDROGEN, % WGT.

### DISTILLATION (D 86)

| % RECOVERY | C     |
|------------|-------|
| IBP        | 175.4 |
| 10         | 219.2 |
| 20         | 237.1 |
| 30         | 250.0 |
| 40         | 260.9 |
| 50         | 272.1 |
| 60         | 284.0 |
| 70         | 298.8 |
| 80         | 311.7 |
| 90         | 331.9 |
| 95         | 349.1 |
| END POINT  | 360.5 |

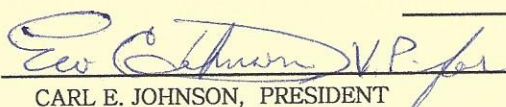
|          |      |   |
|----------|------|---|
| RECOVERY | 98.5 | % |
| RESIDUE  | 1.2  | % |
| LOSS     | 0.3  | % |

### ELEMENTS BY ATOMIC ABSORPTION, PPM

|                   |  |
|-------------------|--|
| ALUMINUM (Al)     |  |
| CALCIUM (Ca)      |  |
| CHROMIUM (Cr)     |  |
| COPPER (Cu)       |  |
| IRON (Fe)         |  |
| LEAD (Pb)         |  |
| MAGNESIUM (Mg)    |  |
| MANGANESE (Mn)    |  |
| NICKEL (Ni)       |  |
| POTASSIUM (K)     |  |
| SILICON (Si)      |  |
| SODIUM (Na)       |  |
| Sodium+ Potassium |  |
| VANADIUM (V)      |  |
| ZINC (Zn)         |  |
| LITHIUM (Li)      |  |
| PHOSPHORUS (P)    |  |

(by ICP method)

ND = NONE DETECTED

  
CARL E. JOHNSON, PRESIDENT

PAL-0206, Issued 10-17-14, Revision 1





# PANAIR LABORATORY, INC.

4301 N.W. 72 AVE., MIAMI, FL 33166 (305) 594-9055 FAX (305) 477-9137

## GASOLINE ANALYSIS REPORT

|                               |
|-------------------------------|
| LABORATORY NO.                |
| 12904G                        |
| AWB NO.                       |
| 001-7894 5440                 |
| CUSTOMER                      |
| CIG Petroleum Inspectorate    |
| TEST COMPLETED                |
| 2/19/16                       |
| SAMPLED FROM                  |
| Fuel Station S06-Location GCM |

|              |                       |                               |
|--------------|-----------------------|-------------------------------|
| ORIGIN       | FUEL TYPE             | CUSTOMER                      |
| Grand Cayman | Mogas                 | CIG Petroleum Inspectorate    |
| DATE SAMPLED | RECEIVED AT LAB       | TEST COMPLETED                |
| 2/12/16      | 2/17/16               | 2/19/16                       |
| REFINER      | REFINER'S DESIGNATION | SAMPLED FROM                  |
|              | Motor Gasoline        | Fuel Station S06-Location GCM |

THIS REPORT RELATES ONLY TO THE SAMPLE TESTED AND DOES NOT GUARANTEE THE BULK OF THE MATERIAL TO BE OF EQUAL QUALITY.

|                                                   |           |
|---------------------------------------------------|-----------|
| API GRAVITY @ 60 (D4052)                          | 58.83     |
| SPECIFIC GRAVITY @ 60 F (CONV.)                   | 0.7434    |
| DENSITY, KG/M3 @15C                               |           |
| APPEARANCE (VISUAL)                               |           |
| BROMINE NO. (D 1159)                              |           |
| COLOR VISUAL                                      |           |
| CORROSION, COPPER STRIP (D 130)                   | 1a        |
| DOCTOR TEST (IP 30)                               | 9         |
| EXISTENT GUM, MG/100 ML (D 381/ IP 131)           | <1        |
| WASHED GUM, MG/100 ML (D 381)                     |           |
| FREEZE POINT, C (D 2386)                          |           |
| VAPOR LIQUID RATIO = 20 @ C (D 4814)              |           |
| NON-VOLATILE MATTER, MG/100 ML (D1353)            |           |
| OCTANE NUMBER, MOTOR (D 2700)                     | 85.4      |
| LEAN RATING (CONVERSION) (D 2700)                 |           |
| OCTANE NUMBER, RESEARCH (D 2699)                  | 97.1      |
| ANTI-KNOCK INDEX (R+M/2)                          | 91.2      |
| OXIDATION STABILITY @ 100 C, MINUTES (D 525)      |           |
| PARTICULATE MATTER, MG/L, (D 5452)                |           |
| FILTER MEMBRANE COLOR RATING (D 5452)             |           |
| THRUPUT, LITERS                                   |           |
| PHOSPHOROUS CONTENT, MG/L (D 3231)                |           |
| POTENTIAL GUM, MG/100 ML (D 873)                  |           |
| VISIBLE LEAD PRECIPITATE, MG/100 ML (D 873)       |           |
| SULFUR, mg/Kg (ppm), (D 2622)                     |           |
| TETRAETHYLLEAD CONTENT, ML/LITER (D 3237/ IP 362) |           |
| LEAD CONTENT G/LITER (CONV.)                      |           |
| LEAD, IODINE MONOCHLORIDE, ML/GAL (D 3341)        |           |
| VAPOR PRESSURE (LB REID/kPa) (D 5191)             | 8.99/61.9 |

### ASTM (D 86)

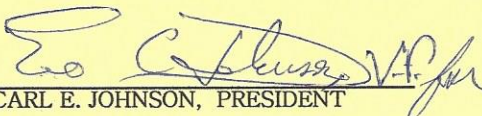
| DISTILLATION   | C      |
|----------------|--------|
| IBP            | 33.6   |
| 10% Evaporated | 52.3   |
| 50% Evap.      | 105.9  |
| 90% Evap.      | 160.9  |
| END POINT      | 201.1  |
| RECOVERY       | 98.0 % |
| RESIDUE        | 1.0 %  |
| LOSS           | 1.0 %  |

Tests results shown meet  
D-4814 specifications for

Vapor Pressure/Distillation  
Classes A-D

Suspended Sediment mg/L  
(D6217) 0.92

Manganese mg/L  
(D3831) 13

  
CARL E. JOHNSON, PRESIDENT  
PAL-0230 Issued 3-2-05 Revision 1





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## GASOLINE ANALYSIS REPORT

LABORATORY NO.

12905G

AWB NO.

001-7894 5440

CUSTOMER

CIG Petroleum Inspectorate

ORIGIN

Grand Cayman

FUEL TYPE

Mogas

DATE SAMPLED

s072/12/16

RECEIVED AT LAB

2/17/16

TEST COMPLETED

2/19/16

REFINER

REFINER'S DESIGNATION

Fuel Type 8000

SAMPLED FROM

Fuel Station S07 Location GCM

THIS REPORT RELATES ONLY TO THE SAMPLE TESTED AND DOES NOT GUARANTEE THE BULK OF THE MATERIAL TO BE OF EQUAL QUALITY.

API GRAVITY @ 60 (D4052)

58.83

SPECIFIC GRAVITY @ 60 F (CONV.)

0.7435

DENSITY, KG/M3 @15C

APPEARANCE (VISUAL)

BROMINE NO. (D 1159)

COLOR VISUAL

CORROSION, COPPER STRIP (D 130)

1a

DOCTOR TEST (IP 30)

8

EXISTENT GUM, MG/100 ML (D 381/ IP 131)

<1

WASHED GUM, MG/100 ML (D 381)

FREEZE POINT, C (D 2386)

VAPOR LIQUID RATIO = 20 @ C (D 4814)

NON-VOLATILE MATTER, MG/100 ML (D1353)

85.2

OCTANE NUMBER, MOTOR (D 2700)

LEAN RATING (CONVERSION) (D 2700)

97.1

OCTANE NUMBER, RESEARCH (D 2699)

91.2

ANTI-KNOCK INDEX (R+ M/2)

OXIDATION STABILITY @ 100 C, MINUTES (D 525)

PARTICULATE MATTER, MG/L, (D 5452)

FILTER MEMBRANE COLOR RATING (D 5452)

THRUPUT, LITERS

PHOSPHOROUS CONTENT, MG/L (D 3231)

POTENTIAL GUM, MG/100 ML (D 873)

VISIBLE LEAD PRECIPITATE, MG/100 ML (D 873)

SULFUR, mg/Kg (ppm), (D 2622)

TETRAETHYLLEAD CONTENT, ML/LITER (D 3237/ IP 362)

LEAD CONTENT G/LITER ( CONV.)

9.22/63.5

LEAD, IODINE MONOCHLORIDE, ML/GAL (D 3341)

VAPOR PRESSURE (LB REID/kPa) (D 5191)

ASTM (D 86)

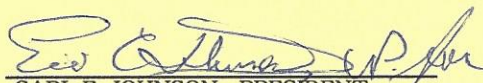
| DISTILLATION   | C      |
|----------------|--------|
| IBP            | 32.5   |
| 10% Evaporated | 51.8   |
| 50% Evap.      | 105.6  |
| 90% Evap.      | 161.1  |
| END POINT      | 199.4  |
| RECOVERY       | 97.8 % |
| RESIDUE        | 0.9 %  |
| LOSS           | 1.3 %  |

Tests results shown meet  
D-4814 specifications for

Vapor Pressure/Distillation  
Classes B-D

Suspended Sediment mg/L  
(D6217) 0.91

Manganese mg/L  
(D3831) 13

  
CARL E. JOHNSON, PRESIDENT  
PAL-0230 Issued 3-2-05 Revision 1