



PANAIR LABORATORY, INC.

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

FUEL OIL ANALYSIS

ORIGIN Grand Cayman	FUEL TYPE ULS D.A.D.O	LABORATORY NO. 2694F
DATE SAMPLED 5/26/15	RECEIVED AT LAB 6/8/15	AWB NO. 378-0349 0104
REFINER	REFINER'S DESIGNATION ULSD	CUSTOMER J & R Services
		TEST COMPLETED 6/14/15
		SAMPLED FROM CUC Rubis Transfer Line

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

DISTILLATION (D 86)

APPEARANCE, VISUAL

ASH, % WGT. (D 482)

ASPHALTENES, % WGT. (IP 143)

CARBON RESIDUE CONRADSON (ON 10% B), 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)

NET CALORIFIC VALUE, BTU/LB (D240)

NET CALORIFIC VALUE, BTU/ US gal.,

GRAVITY, API @ 60 F (D 4052)

SPECIFIC GRAVITY @ 60 F/ 60 F

DENSITY @ 15 C

POUNDS PER GALLON @ 60 F

NEUTRALIZATION NUMBER mg KOH/gm (D 974)

OXIDATION STABILITY, mg/100 ml. (D 2274)

POUR POINT F /C(D 97)

SEDIMENT BY EXTRACTION, % MASS (D 473)

SEDIMENT BY HOT FILTRATION, % MASS (IP 375)

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)

SUSPENDED SEDIMENT mg/100 ml. (D6217)

THRUPUT, LITERS

49.2

36.49

0.8423

0.8419

7.00

7 ppm

1.928

<0.005

0.14

0.840

% RECOVERY

C

IBP

162.4

10

194.6

20

208.3

30

223.7

40

238.6

50

253.3

60

267.7

70

282.8

80

299.8

90

319.6

95

334.9

END POINT

342.5

RECOVERY

98.3

%

RESIDUE

1.4

%

LOSS

0.3

%

Lubricity, HFRR, (D6079)

WEAR SCAR DIAMETER, micron

MAJOR AXIS, um

MINOR AXIS, um

TEST DATE MM/DD/YR

Nitrogen, % wgt. (Combustion)

Hydrogen, % wgt. (Combustion)

BioDiesel Content, % vol.
(prEN 14078, mod.) mod.=
lab-blended oil standards

Aromatics, % vol. (D1319)

Electrical Conductivity, (D2624),
ps/m @ Centigrade

Particle Count, microns.....Particles/mL

> or = 4

> or = 6

> or = 14

> or = 21

> or = 25

> or = 30

ISO Code >= 4/6/14 (ISO 4406)

CARL E. JOHNSON, PRESIDENT

PAL-0207 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

ORIGIN Grand Cayman	FUEL TYPE Mogas	LABORATORY NO. 12813G
DATE SAMPLED 5/22/15	RECEIVED AT LAB 6/8/15	AWB NO. 378-03490104
REFINER	REFINER'S DESIGNATION Mogas	CUSTOMER J & R Services
		TEST COMPLETED 6/10/15
		SAMPLED FROM COTT truck comp. # (blank)

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)	50.48
SPECIFIC GRAVITY @ 60 F (CONV.)	0.7775
APPEARANCE (D4176)	Clear, Yellow
OLEFINS, % VOL. (D 1319)	
ODOR	
COLOR VISUAL	
CORROSION, COPPER STRIP (D 130)	1a
DOCTOR TEST (IP 30)	
EXISTENT GUM, MG/100 ML (D 381/ IP 131)	1
WASHED GUM, MG/100 ML (D 381)	<1
FREEZE POINT, C (D 2386)	
VAPOR LOCK INDEX (D323)	
DRIVEABILITY (D4814)	617
OCTANE NUMBER, MOTOR (D 2700)	85.9
OCTANE SENSITIVITY (RON - MON)	
OCTANE NUMBER, RESEARCH (D 2699)	97.6
ANTI-KNOCK INDEX (R+M/2)	91.7
OXIDATION STABILITY @ 100 C, MINUTES (D 525)	
PARTICULATE MATTER, MG/L, (D 5452)	0.38
FILTER MEMBRANE COLOR RATING (D 5452)	B-1
THRUPUT, LITERS	0.928
PHOSPHOROUS CONTENT, MG/L (D 3231)	
POTENTIAL GUM, MG/100 ML (D 873)	
MANGANESE, mg/L (D 3831)	0.2
SULFUR, mg / kg (ppm) (D 2622)	
TETRAETHYLLEAD CONTENT,g/U.S. gal. (D 3237/ IP 362)	
LEAD CONTENT g/Liter (CONV.)	
SILVER CORROSION (D4814 annex)	
VAPOR PRESSURE (LB REID/kPa) (D 5191)	7.16/49.3

ASTM (D 86)


DISTILLATION	C
IBP	36.9
10% Evaporated	63.6
50% Evap.	118.3
90% Evap.	166.4
END POINT	205.0
RECOVERY	98.8 %
RESIDUE	1.0 %
LOSS	0.2 %



Product complies with ASTMD4814 for Mogas test results shown if box is checked

EXCEPT DRIVABILITY

Ethanol, % Vol. (GM) 0


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PAL-0238 Issued 10-21-13, Revision 1



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GASOLINE ANALYSIS REPORT

LABORATORY NO.

12814G

AWB NO.

378-03490104

ORIGIN Grand Cayman	FUEL TYPE Mogas	CUSTOMER J & R Services
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API GRAVITY @ 60 (D4052)

54.72

SPECIFIC GRAVITY @ 60 F (CONV.)

0.7589

APPEARANCE (D4176)

OLEFINS, % VOL. (D 1319)

ODOR

COLOR VISUAL

CORROSION, COPPER STRIP (D 130)

1a

DOCTOR TEST (IP 30)

2

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

<1

WASHED GUM, MG/100 ML (D 381)

FREEZE POINT, C (D 2386)

VAPOR LOCK INDEX (D323)

DRIVEABILITY (D4814)

603

OCTANE NUMBER, MOTOR (D 2700)

83.2

OCTANE SENSITIVITY (RON - MON)

OCTANE NUMBER, RESEARCH (D 2699)

93.4

ANTI-KNOCK INDEX (R+M/2)

88.3

OXIDATION STABILITY @ 100 C, MINUTES (D 525)

1.33

PARTICULATE MATTER, MG/L. (D 5452)

B-4

FILTER MEMBRANE COLOR RATING (D 5452)

0.902

THRUPUT, LITERS

PHOSPHOROUS CONTENT, MG/L (D 3231)

POTENTIAL GUM, MG/100 ML (D 873)

0.3

MANGANESE, mg/L (D 3831)

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

TETRAETHYLLEAD CONTENT, g/U.S. gal. (D 3237/ IP 362)

LEAD CONTENT g/Liter (CONV.)

SILVER CORROSION (D4814 annex)

8.41/57.9

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

ASTM (D 86)

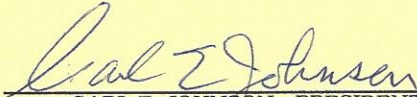
DISTILLATION	C
IBP	34.2
10% Evaporated	54.1
50% Evap.	111.1
90% Evap.	188.7
END POINT	225.3
RECOVERY	98.6 %
RESIDUE	1.0 %
LOSS	0.4 %

X

Product complies with ASTM D4814 for Mogas test results shown if box is checked

EXCEPT Drivability

Ethanol, % Vol. (GM) 0


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