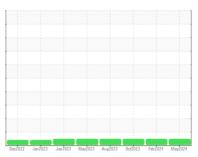


# **OIL ANALYSIS REPORT**

### Sample Rating Trend







Machine Id

808M
Component
Diesel Engine

PETRO CANADA DURON SHP 15W40 (--- GAL)

## DIAGNOSIS

#### Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

## Wear

All component wear rates are normal.

#### Contamination

Fuel content negligible. There is no indication of any contamination in the oil.

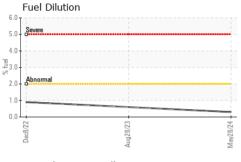
#### **Fluid Condition**

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Dec2022 Jan2023 Jan2023 May2023 Aug2023 Occ2023 Feb2024 May2024						
SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0101008	GFL0101062	GFL0092759
Sample Date		Client Info		28 May 2024	15 Feb 2024	31 Oct 2023
Machine Age	hrs	Client Info		16772	16772	16772
Oil Age	hrs	Client Info		0	16772	16772
Oil Changed		Client Info		Not Changd	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	17	17	12
Chromium	ppm	ASTM D5185m	>20	0	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	0	1
Titanium	ppm	ASTM D5185m		0	<1	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	2	3	1
Lead	ppm	ASTM D5185m	>40	0	0	<1
Copper	ppm	ASTM D5185m	>330	2	2	<1
Tin	ppm	ASTM D5185m	>15	0	0	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	0	<1	1
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0	0	<1 0	1 0
	• •					
Barium	ppm	ASTM D5185m	0	0	0 60 <1	0 63 <1
Barium Molybdenum	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010	0 62 <1 921	0 60 <1 895	0 63
Barium Molybdenum Manganese Magnesium Calcium	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0	0 62 <1 921 1131	0 60 <1 895 1013	0 63 <1
Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010	0 62 <1 921 1131 1047	0 60 <1 895	0 63 <1 968
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010 1070 1150 1270	0 62 <1 921 1131	0 60 <1 895 1013 960 1143	0 63 <1 968 1115 1103 1263
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010 1070 1150	0 62 <1 921 1131 1047	0 60 <1 895 1013 960	0 63 <1 968 1115 1103
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010 1070 1150 1270	0 62 <1 921 1131 1047 1203	0 60 <1 895 1013 960 1143	0 63 <1 968 1115 1103 1263 2698 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010 1070 1150 1270 2060	0 62 <1 921 1131 1047 1203 3460 current	0 60 <1 895 1013 960 1143 2715 history1	0 63 <1 968 1115 1103 1263 2698
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010 1070 1150 1270 2060	0 62 <1 921 1131 1047 1203 3460	0 60 <1 895 1013 960 1143 2715 history1 4	0 63 <1 968 1115 1103 1263 2698 history2 3
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 60 0 1010 1070 1150 1270 2060 limit/base	0 62 <1 921 1131 1047 1203 3460 current <1 2	0 60 <1 895 1013 960 1143 2715 history1	0 63 <1 968 1115 1103 1263 2698 history2 3 <1
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm	ASTM D5185m	0 60 0 1010 1070 1150 1270 2060 limit/base	0 62 <1 921 1131 1047 1203 3460 current <1	0 60 <1 895 1013 960 1143 2715 history1 4	0 63 <1 968 1115 1103 1263 2698 history2 3
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm	ASTM D5185m	0 60 0 1010 1070 1150 1270 2060 limit/base >25	0 62 <1 921 1131 1047 1203 3460 current <1 2	0 60 <1 895 1013 960 1143 2715 history1 4 7	0 63 <1 968 1115 1103 1263 2698 history2 3 <1
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur  CONTAMINAN Silicon Sodium Potassium Fuel	ppm	ASTM D5185m	0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 >2.0	0 62 <1 921 1131 1047 1203 3460 current <1 2 0	0 60 <1 895 1013 960 1143 2715 history1 4 7 2 <1.0	0 63 <1 968 1115 1103 1263 2698 history2 3 <1 1
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED	ppm	ASTM D5185m	0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 >2.0	0 62 <1 921 1131 1047 1203 3460  current <1 2 0 0.3  current	0 60 <1 895 1013 960 1143 2715 history1 4 7 2 <1.0	0 63 <1 968 1115 1103 1263 2698 history2 3 <1 1 <1.0
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm	ASTM D5185m ASTM D7844	0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 >2.0	0 62 <1 921 1131 1047 1203 3460  current <1 2 0 0.3  current 0.3	0 60 <1 895 1013 960 1143 2715 history1 4 7 2 <1.0 history1 0.5	0 63 <1 968 1115 1103 1263 2698 history2 3 <1 1 <1.0 history2 0.6
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur  CONTAMINAN Silicon Sodium Potassium Fuel  INFRA-RED Soot % Nitration	ppm	ASTM D5185m ASTM D7844 *ASTM D7844	0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 >2.0 limit/base >3 >20	0 62 <1 921 1131 1047 1203 3460  current <1 2 0 0.3  current 0.3 6.1	0 60 <1 895 1013 960 1143 2715 history1 4 7 2 <1.0 history1 0.5 8.6	0 63 <1 968 1115 1103 1263 2698 history2 3 <1 1 <1.0 history2 0.6 7.3
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm	ASTM D5185m ASTM D3524  method  *ASTM D7844  *ASTM D7624  *ASTM D76145	0 60 0 1010 1170 1150 1270 2060 limit/base >25 >20 >2.0 limit/base >3 >20 >30	0 62 <1 921 1131 1047 1203 3460  current <1 2 0 0.3  current 0.3 6.1 18.1	0 60 <1 895 1013 960 1143 2715 history1 4 7 2 <1.0 history1 0.5 8.6 19.4	0 63 <1 968 1115 1103 1263 2698 history2 3 <1 1 <1.0 history2 0.6 7.3 19.5
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE	ppm	ASTM D5185m  Method  ASTM D5185m ASTM D7624 *ASTM D7624 *ASTM D7615  method	0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 >2.0 limit/base >3 >20 >30 limit/base	0 62 <1 921 1131 1047 1203 3460  current <1 2 0 0.3  current 0.3 6.1 18.1  current	0 60 <1 895 1013 960 1143 2715 history1 4 7 2 <1.0 history1 0.5 8.6 19.4 history1	0 63 <1 968 1115 1103 1263 2698 history2 3 <1 1 <1.0 history2 0.6 7.3 19.5 history2



# **OIL ANALYSIS REPORT**



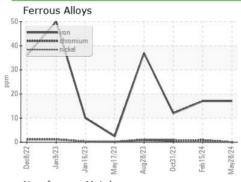
	,
	W
	Υe
	Pr
	Sil
	De
	Sa
28/24	Αp
Мау	Od
	Er
	Fr

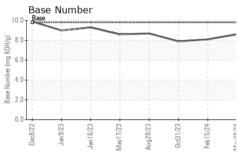
VISUAL		method				history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
<b>Emulsified Water</b>	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
Tiee water	Scalai	Visuai		NEG	NLG	NLG

FLUID PROPE	ERTIES	method				history2
Visc @ 100°C	cSt	ASTM D445	15.4	12.3	13.5	13.5

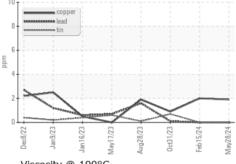
# FT-IR (Direct Trend) 25

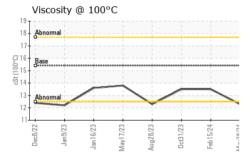




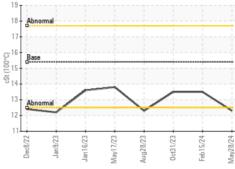


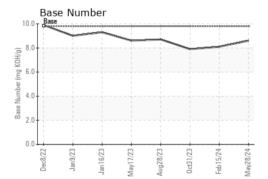
















Certificate 12367

Laboratory Sample No.

: GFL0101008 Lab Number : 06197243

Unique Number : 11059366

: WearCheck USA - 501 Madison Ave., Cary, NC 27513

Received : 03 Jun 2024 **Tested** : 05 Jun 2024 Diagnosed : 05 Jun 2024 - Wes Davis

Test Package: FLEET (Additional Tests: FuelDilution, PercentFuel)

To discuss this sample report, contact Customer Service at 1-800-237-1369. \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. GFL Environmental - 455 - Flint

2051 W. Bristol Rd Flint Township, MI US 48507

Contact: MARK WOMBLE mwomble@gflenv.com T: (586)825-9514

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) Report Id: GFL455 [WUSCAR] 06197243 (Generated: 06/05/2024 10:36:19) Rev: 1