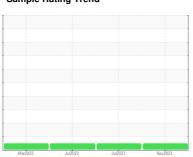


## **OIL ANALYSIS REPORT**

### Sample Rating Trend









Machine Id
4667M
Component
Diesel Engine
Fluid

PETRO CANADA DURON SHP 15W40 (36 QTS)

# DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

#### Wear

All component wear rates are normal.

### Contamination

There is no indication of any contamination in the oil

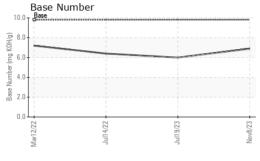
### **Fluid Condition**

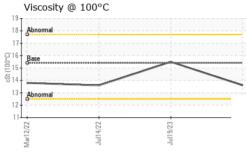
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFOR Sample Number Sample Date Machine Age Oil Age	MATION					
Sample Date Machine Age		method	limit/base	current	history1	history2
Machine Age		Client Info		GFL0059157	GFL0085031	GFL0052072
		Client Info		08 Nov 2023	19 Jul 2023	14 Jul 2022
Oil Age	hrs	Client Info		120330	114281	11334
	hrs	Client Info		120330	0	11334
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Glycol		WC Method	7 0.0	NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
ron	ppm	ASTM D5185m	>90	31	74	26
Chromium	ppm	ASTM D5185m		<1	2	1
Nickel	ppm	ASTM D5185m	>2	0	<1	<1
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	>2	<1	0	<1
Aluminum	ppm	ASTM D5185m	>20	2	9	3
_ead	ppm	ASTM D5185m	>40	<1	0	<1
Copper	ppm	ASTM D5185m	>330	2	4	1
Γin	ppm	ASTM D5185m	>15	0	0	1
√anadium	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	7	2
Barium	ppm	ASTM D5185m	0	6	0	0
Molybdenum	ppm	ASTM D5185m	60	60	78	53
Manganese	ppm	ASTM D5185m	0	<1	<1	<1
Magnesium	ppm	ASTM D5185m	1010	871	1232	818
-	ppm	ASTM D5185m	1070	1049	1356	1005
Calcium		ASTM D5185m	1150			
	DDIII			976	1292	889
Phosphorus	ppm			976 1163	1292 1585	889 1123
Phosphorus Zinc	ppm	ASTM D5185m ASTM D5185m	1270 2060	976 1163 3239	1292 1585 3802	889 1123 2927
Phosphorus Zinc	ppm	ASTM D5185m	1270	1163	1585	1123
Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm	ASTM D5185m ASTM D5185m	1270 2060	1163 3239	1585 3802	1123 2927
Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm NTS ppm	ASTM D5185m ASTM D5185m method ASTM D5185m	1270 2060 limit/base	1163 3239 current	1585 3802 history1	1123 2927 history2
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm	ASTM D5185m ASTM D5185m method	1270 2060 limit/base >25	1163 3239 current	1585 3802 history1	1123 2927 history2 10
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm VTS ppm ppm	ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m	1270 2060 limit/base >25	1163 3239 current 4 0	1585 3802 history1 10 50	1123 2927 history2 10 7
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm VTS ppm ppm	ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m	1270 2060 limit/base >25 >20	1163 3239 current 4 0 9	1585 3802 history1 10 50 7	1123 2927 history2 10 7
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm VTS ppm ppm ppm	ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m method	1270 2060 limit/base >25 >20 limit/base >6	1163 3239 current 4 0 9	1585 3802 history1 10 50 7 history1	1123 2927 history2 10 7 1 history2
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ITS ppm ppm ppm ppm	ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m method *ASTM D7844	1270 2060 limit/base >25 >20 limit/base >6	1163 3239 current 4 0 9 current 0.6	1585 3802 history1 10 50 7 history1	1123 2927 history2 10 7 1 history2
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm JTS ppm ppm ppm ppm Abs/cm	ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D7844 *ASTM D7624 *ASTM D7415	1270 2060 limit/base >25 >20 limit/base >6 >20	1163 3239 current 4 0 9 current 0.6 9.9	1585 3802 history1 10 50 7 history1 1.2 14.7	1123 2927 history2 10 7 1 history2 0.7 11.2
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm JTS ppm ppm ppm ppm Abs/cm	ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D7844 *ASTM D7624 *ASTM D7415	1270 2060 limit/base >25 >20 limit/base >6 >20 >30	1163 3239 current 4 0 9 current 0.6 9.9 21.5	1585 3802 history1 10 50 7 history1 1.2 14.7 28.0	1123 2927 history2 10 7 1 history2 0.7 11.2 25.3



## **OIL ANALYSIS REPORT**

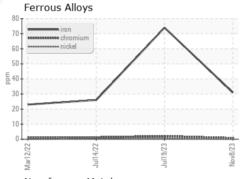


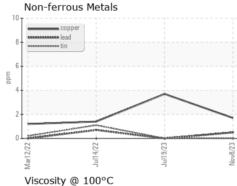


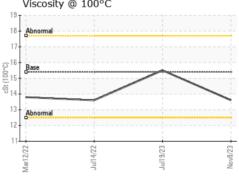
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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

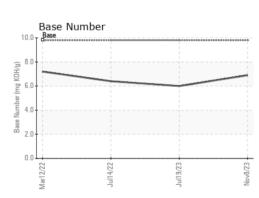
FLUID PROPI	ERITES	method	ilmit/base		nistory i	nistory2
Visc @ 100°C	cSt	ASTM D445	15.4	13.6	15.5	13.6

### **GRAPHS**













Certificate L2367

Laboratory Sample No. Lab Number

: GFL0059157 : 06006711 Unique Number : 10740473 Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 14 Nov 2023

Diagnosed : 14 Nov 2023 Diagnostician : Wes Davis

GFL Environmental - 405 - Arbor Hills

7400 Napier Rd NORTHVILLE, MI US 48168

Contact: Anthony Hopkins ahopkins@gflenv.com

T: F:

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. Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Report Id: GFL405 [WUSCAR] 06006711 (Generated: 11/15/2023 12:35:32) Rev: 1

Submitted By: Belal Dgheish