

OIL ANALYSIS REPORT

(DUX488) **AUTOCAR 10672** Component

Diesel Engine

PETRO CANADA DURON SHP 15W40 (7 GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

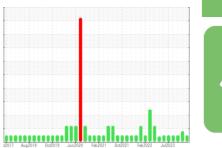
All component wear rates are normal.

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.





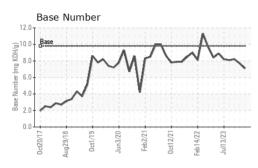
NORMAL

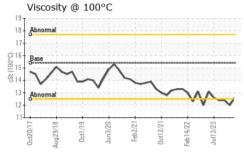
Sample Rating Trend

SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0116740	GFL0109104	GFL0086189
Sample Date		Client Info		21 Mar 2024	17 Jan 2024	27 Sep 2023
Machine Age	hrs	Client Info		28532	28274	27480
Oil Age	hrs	Client Info		4120	0	27721
Oil Changed		Client Info		Not Changd	N/A	N/A
Sample Status				NORMAL	MARGINAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	1 .4	<1.0
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	>75	6	15	17
Chromium	ppm	ASTM D5185m	>5	0	1	<1
Nickel	ppm	ASTM D5185m	>4	0	0	1
Titanium	ppm	ASTM D5185m	>2	0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>15	3	4	2
Lead	ppm	ASTM D5185m	>25	0	0	0
Copper	ppm	ASTM D5185m	>100	0	<1	1
Tin	ppm	ASTM D5185m	>4	0	0	<1
Vanadium	ppm	ASTM D5185m		0	<1	<1
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	11	20	24
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	60	58	55	62
Manganese	ppm	ASTM D5185m	0	0	0	<1
Magnesium				•	0	
	ppm	ASTM D5185m	1010	793	714	784
Calcium	ppm ppm	ASTM D5185m ASTM D5185m	1010 1070			
Calcium Phosphorus				793	714	784
	ppm	ASTM D5185m	1070	793 1228	714 1044	784 1074
Phosphorus	ppm ppm	ASTM D5185m ASTM D5185m	1070 1150	793 1228 981	714 1044 914	784 1074 918
Phosphorus Zinc	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	1070 1150 1270	793 1228 981 1179	714 1044 914 1104	784 1074 918 1133
Phosphorus Zinc Sulfur	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1070 1150 1270 2060 limit/base	793 1228 981 1179 3364	714 1044 914 1104 2895	784 1074 918 1133 2960
Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	1070 1150 1270 2060 limit/base	793 1228 981 1179 3364 current	714 1044 914 1104 2895 history1	784 1074 918 1133 2960 history2
Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m	1070 1150 1270 2060 limit/base >25	793 1228 981 1179 3364 current 2	714 1044 914 1104 2895 history1 6	784 1074 918 1133 2960 history2 6
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1070 1150 1270 2060 limit/base >25	793 1228 981 1179 3364 <u>current</u> 2 3	714 1044 914 1104 2895 history1 6 3	784 1074 918 1133 2960 history2 6 4
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1070 1150 1270 2060 limit/base >25 >20	793 1228 981 1179 3364 current 2 3 4	714 1044 914 1104 2895 history1 6 3 3	784 1074 918 1133 2960 history2 6 4 3
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1070 1150 1270 2060 limit/base >25 >20 limit/base	793 1228 981 1179 3364 current 2 3 4 current	714 1044 914 1104 2895 history1 6 3 3 3 history1	784 1074 918 1133 2960 history2 6 4 3 3 history2
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1070 1150 2060 limit/base >25 >20 limit/base >6 >20	793 1228 981 1179 3364 current 2 3 4 current 0.2	714 1044 914 1104 2895 history1 6 3 3 3 history1 0.2	784 1074 918 1133 2960 history2 6 4 3 3 history2 0.4
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm TS ppm ppm ppm % Abs/cm Abs/.1mm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1070 1150 2060 limit/base >25 >20 limit/base >6 >20	793 1228 981 1179 3364 current 2 3 4 current 0.2 7.5	714 1044 914 1104 2895 history1 6 3 3 history1 0.2 6.4	784 1074 918 1133 2960 history2 6 4 3 history2 0.4 5.7
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm TS ppm ppm ppm % Abs/cm Abs/.1mm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7624	1070 1150 1270 2060 limit/base >25 >20 limit/base >6 >20 >30	793 1228 981 1179 3364 current 2 3 4 current 0.2 7.5 18.2	714 1044 914 1104 2895 history1 6 3 3 history1 0.2 6.4 16.5	784 1074 918 1133 2960 history2 6 4 3 3 history2 0.4 5.7 16.6
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE	ppm ppm ppm ppm TS ppm ppm ppm ppm % Abs/cm Abs/cm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7624 *ASTM D7414	1070 1150 1270 2060 >25 >20 limit/base >6 >20 >30 limit/base >25	793 1228 981 1179 3364 current 2 3 4 current 0.2 7.5 18.2 current	714 1044 914 1104 2895 history1 6 3 3 history1 0.2 6.4 16.5 history1	784 1074 918 1133 2960 history2 6 4 3 3 history2 0.4 5.7 16.6 history2

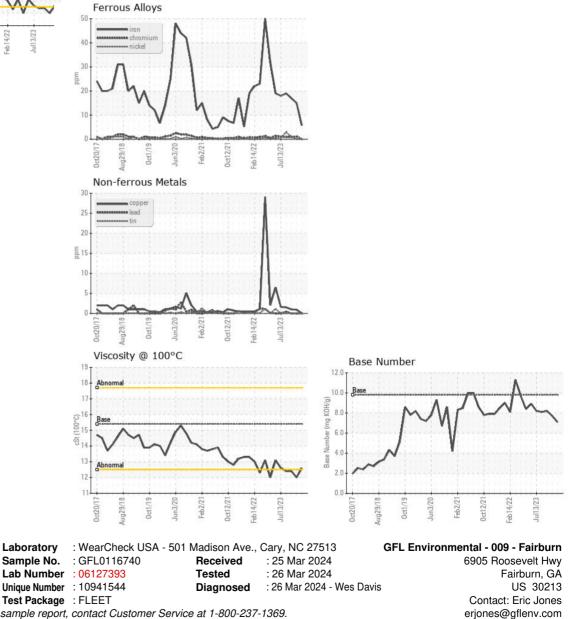


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VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*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
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	12.6	12.0	12.4
GRAPHS						



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

Certificate L2367

T: (678)630-9927

F:

^{* -} Denotes test methods that are outside of the ISO 17025 scope of accreditation.