

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL

Machine Id 429048-402450

Component **Diesel Engine**

Fluic

PETRO CANADA DURON SHP 15W40 (--- 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.





SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0114034	GFL0109786	GFL0109843
Sample Date		Client Info		18 Mar 2024	26 Feb 2024	19 Feb 2024
Machine Age	hrs	Client Info		0	17441	19371
Oil Age	hrs	Client Info		0	600	600
Oil Changed		Client Info		Not Changd	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	\ 5	<10	<10	<10
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method	20.L	NEG	NEG	NEG
	<u>_</u>	wo we head	1	NEG	history	history 0
	5	method	limit/base	current	nistory i	nistory2
Iron	ppm	ASTM D5185m	>110	4	18	23
Chromium	ppm	ASTM D5185m	>4	<1	2	<1
Nickel	ppm	ASTM D5185m	>2	<1	<1	1
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	3	3	6
Lead	ppm	ASTM D5185m	>45	<1	0	<1
Copper	ppm	ASTM D5185m	>85	<1	<1	6
Tin	ppm	ASTM D5185m	>4	<1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		<1	<1	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 0	current	history1 8	history2 6
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	limit/base 0 0	current 10 0	history1 8 0	history2 6 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 60	current 10 0 55	history1 8 0 64	history2 6 0 65
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 60 0	current 10 0 55 <1	history1 8 0 64 <1	history2 6 0 65 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 60 0 1010	current 10 0 55 <1 850	history1 8 0 64 <1 921	history2 6 0 65 <1 985
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 60 0 1010 1070	current 10 0 555 <1 850 1167	history1 8 0 64 <1 921 1210	history2 6 0 65 <1 985 1161
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 60 0 1010 1070 1150	current 10 0 55 <1 850 1167 1015	history1 8 0 64 <1 921 1210 972	history2 6 0 65 <1 985 1161 1087
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base 0 0 60 0 1010 1070 1150 1270	current 10 0 55 <1 850 1167 1015 1165	history1 8 0 64 <1 921 1210 972 1267	history2 6 0 65 <1 985 1161 1087 1318
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base 0 0 60 0 1010 1070 1150 1270 2060	current 10 0 555 <1 850 1167 1015 1165 3343	history1 8 0 64 <1 921 1210 972 1267 3186	history2 6 0 65 <1 985 1161 1087 1318 3398
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 60 0 1010 1070 1150 1270 2060 limit/base	current 10 0 55 <1 850 1167 1015 1165 3343 current	history1 8 0 64 <1 921 1210 972 1267 3186 history1	history2 6 0 65 <1 985 1161 1087 1318 3398 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base 0 0 60 0 1010 1070 1150 1150 1270 2060 limit/base >30	current 10 0 55 <1 850 1167 1015 1165 3343 current 8	history1 8 0 64 <1 921 1210 972 1267 3186 history1 5	history2 6 0 65 <1 985 1161 1087 1318 3398 history2 7
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base 0 0 1010 1010 1070 1150 1270 2060 limit/base >30	current 10 0 55 <1 850 1167 1015 1165 3343 current 8 2	history1 8 0 64 <1 921 1210 972 1267 3186 history1 5 29	history2 6 0 65 <1 985 1161 1087 1318 3398 history2 7 5
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base 0 0 60 0 1010 1070 1150 1150 1270 2060 limit/base >30 >20	current 10 0 555 <1 850 1167 1015 1165 3343 current 8 2 2	history1 8 0 64 <1 921 1210 972 1267 3186 history1 5 29 2	history2 6 0 65 <1 985 1161 1087 1318 3398 history2 7 5 13
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	method ASTM D5185m	limit/base 0 0 0 0 1010 1070 1150 1150 2060 limit/base >20 limit/base	current 10 0 55 <1 850 1167 1015 1165 3343 current 8 2 2 current	history1 8 0 64 <1 921 1210 972 1267 3186 history1 5 29 2 history1	history2 6 0 65 <1 985 1161 1087 1318 3398 history2 7 5 13 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base 0 0 0 1010 1010 1070 1150 1270 2060 limit/base >30 limit/base >30 limit/base	current 10 0 55 <1 850 1167 1015 1165 3343 current 8 2 current 0.1	history1 8 0 64 <1 921 1210 972 1267 3186 history1 5 29 2 history1 1.3	history2 6 0 65 <1 985 1161 1087 1318 3398 history2 7 5 13 history2 0.4
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base 0 0 1010 1010 1070 1150 1270 2060 limit/base >30 limit/base >33 >20	current 10 0 55 <1 850 1167 1015 1165 3343 current 8 2 current 0.1 6.1	history1 8 0 64 <1 921 1210 972 1267 3186 history1 5 29 2 history1 1.3 8.5	history2 6 0 65 <1 985 1161 1087 1318 3398 history2 7 5 13 history2 0.4 7.9
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	method ASTM D5185m ASTM D5185m	limit/base 0 0 1010 1010 1070 1150 1270 2060 limit/base >30 limit/base >30 limit/base	current 10 0 55 <1 850 1167 1015 1165 3343 current 8 2 current 0.1 6.1 18.0	history1 8 0 64 <1 921 1210 972 1267 3186 history1 5 29 2 history1 1.3 8.5 21.3	history2 6 0 65 <1 985 1161 1087 1318 3398 history2 7 5 13 history2 0.4 7.9 19.1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D7844 *ASTM D7624	limit/base 0 0 1010 1010 1070 1150 1270 2060 limit/base >30 limit/base >30 >20 limit/base	current 10 0 55 <1 850 1167 1015 1165 3343 current 8 2 current 0.1 6.1 18.0	history1 8 0 64 <1 921 1210 972 1267 3186 history1 5 29 2 history1 1.3 8.5 21.3	history2 6 0 65 <1 985 1161 1087 1318 3398 history2 7 5 13 history2 0.4 7.9 19.1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415 method	limit/base 0 0 60 0 1010 1070 1150 1270 2060 limit/base >30 limit/base >3 >20 limit/base >3 >20 limit/base >3 >20 limit/base >30 >20	current 10 0 55 <1 850 1167 1015 1165 3343 current 8 2 current 0.1 6.1 18.0 current	history1 8 0 64 <1 921 1210 972 1267 3186 history1 5 29 2 history1 1.3 8.5 21.3 history1	history2 6 0 65 <1 985 1161 1087 1318 3398 history2 7 5 13 history2 0.4 7.9 19.1 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD Oxidation	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm ppm ppm ppm ppm ppm pp	method ASTM D5185m ASTM D7844 *ASTM D7844	limit/base 0 0 60 0 1010 1070 1150 1270 2060 limit/base >30 s20 limit/base >30 limit/base >30 limit/base >30 limit/base >20	current 10 0 55 <1 850 1167 1015 1165 3343 current 8 2 current 0.1 6.1 18.0 current 14.3	history1 8 0 64 <1 921 1210 972 1267 3186 history1 5 29 2 history1 1.3 8.5 21.3 history1 15.3	history2 6 0 65 <1 985 1161 1087 1318 3398 history2 7 5 13 history2 0.4 7.9 19.1 history2 15.7

Contact/Location: GFL823,834,836,837,840 - Loyce Stewart - GFL836



OIL ANALYSIS REPORT





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
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	14.0	14.2	13.9
GRAPHS						



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

Certificate L2367

Contact/Location: GFL823,834,836,837,840 - Loyce Stewart - GFL836

F: