

OIL ANALYSIS REPORT

Sample Rating Trend

GLYCOL

Machine Id 925039-260315

Component **Diesel Engine** Fluid PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation

We advise that you check for the source of the coolant leak. Check for low coolant level. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

Sodium and/or potassium levels are high.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil.



		method	in in base	Guirent	motory	Thistory 2
Sample Number		Client Info		GFL0109762	GFL0102409	GFL0098601
Sample Date		Client Info		29 Jan 2024	06 Dec 2023	03 Nov 2023
Machine Age	hrs	Client Info		23060	22913	22741
Oil Age	hrs	Client Info		600	0	0
Oil Changed		Client Info		Changed	N/A	Not Change
Sample Status						SEVERE
Campic Claids				ADITOTIMAL	ABIOTIMAL	OLVENE
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	0.1	12.9
Water		WC Method	>0.2	NEG	NEG	NEG
	_		11 1. 11			
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>110	21	18	24
Chromium	ppm	ASTM D5185m	>4	<1	<1	3
Nickel	ppm	ASTM D5185m	>2	<1	<1	0
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>2	<1	0	0
Aluminum	ppm	ASTM D5185m	>25	4	3	1
Lead	ppm	ASTM D5185m	>45	4	1	0
Copper	ppm	ASTM D5185m	>85	2	2	<1
Tin	ppm	ASTM D5185m	>4	<1	<1	0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	<1	0
		method	limit/base	current	history1	history?
			0		_	-
Boron	ppm	ASTM D5185m	0	11	5	0
Barium	ppm	ASTM D5185m	0	0	12	0
Molybdenum	ppm	ASTM D5185m	60	73	64	51
Manganese	nnm	ASTM D5185m	0	<1	<1	<1
	ppin		1010			700
Magnesium	ppm	ASTM D5185m	1010	928	906	788
Magnesium Calcium	ppm ppm	ASTM D5185m ASTM D5185m	1010 1070	928 1017	906 995	788 873
Magnesium Calcium Phosphorus	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	1010 1070 1150	928 1017 1097	906 995 1022	788 873 845
Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1010 1070 1150 1270	928 1017 1097 1291	906 995 1022 1173	788 873 845 1080
Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1010 1070 1150 1270 2060	928 1017 1097 1291 3203	906 995 1022 1173 3399	788 873 845 1080 2381
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	1010 1070 1150 1270 2060 limit/base	928 1017 1097 1291 3203 current	906 995 1022 1173 3399 history1	788 873 845 1080 2381 history2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	1010 1070 1150 1270 2060 limit/base >30	928 1017 1097 1291 3203 current 14	906 995 1022 1173 3399 history1 12	788 873 845 1080 2381 history2 3
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1010 1070 1150 1270 2060 limit/base >30	928 1017 1097 1291 3203 current 14 ▲ 413	906 995 1022 1173 3399 history1 12 ▲ 184	788 873 845 1080 2381 history2 3 4
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1010 1070 1150 1270 2060 limit/base >30 >20	928 1017 1097 1291 3203 <u>current</u> 14 ▲ 413 8	906 995 1022 1173 3399 history1 12 ▲ 184 6	788 873 845 1080 2381 history2 3 4 2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol	ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D2982	1010 1070 1150 22060 Iimit/base >30 >20	928 1017 1097 1291 3203 <u>current</u> 14 ▲ 413 8 NEG	906 995 1022 1173 3399 history1 12 ▲ 184 6 NEG	788 873 845 1080 2381 history2 3 4 2 NEG
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol	ppm ppm ppm ppm ppm ppm ppm ppm ppm %	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D2982	1010 1070 1150 1270 2060 limit/base >30 >20	928 1017 1097 1291 3203 current 14 ▲ 413 8 NEG	906 995 1022 1173 3399 history1 12 ▲ 184 6 NEG	788 873 845 1080 2381 history2 3 4 2 NEG
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm %	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D2982 method	1010 1070 1150 22060 limit/base >30 >20 limit/base	928 1017 1097 1291 3203 current 14 ▲ 413 8 NEG current	906 995 1022 1173 3399 history1 12 ▲ 184 6 NEG NEG history1	788 873 845 1080 2381 history2 3 4 2 NEG history2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot %	ppm ppm ppm ppm ppm TS ppm ppm ppm ppm %	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D2982 method *ASTM D7844	1010 1070 1150 2060 limit/base >30 >20 limit/base >3	928 1017 1097 1291 3203 current 14 ▲ 413 8 NEG current 0.8	906 995 1022 1173 3399 history1 12 ▲ 184 6 NEG history1 0.6	788 873 845 1080 2381 history2 3 4 2 NEG history2 0.4
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm TS ppm ppm ppm ppm %	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D2982 method *ASTM D7844 *ASTM D7624	1010 1070 1150 2060 limit/base >30 >20 limit/base >3 >20	928 1017 1097 1291 3203	906 995 1022 1173 3399 12 12 ▲ 184 6 NEG NEG 0.6 8.1	788 873 845 1080 2381 history2 3 4 2 NEG history2 0.4 12.5
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm %	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D2982 Method *ASTM D7844 *ASTM D7624 *ASTM D7415	1010 1070 1150 22060 limit/base >30 limit/base >3 >20 >3 >30	928 1017 1097 1291 3203 current 14 413 8 NEG 0.8 9.9 20.5	906 995 1022 1173 3399 history1 12 ▲ 184 6 NEG NEG history1 0.6 8.1 19.7	788 873 845 1080 2381 history2 3 4 2 NEG history2 0.4 12.5 25.6
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE	ppm ppm ppm ppm ppm ppm ppm ppm % % Abs/.1mm DATION	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D5185m *ASTM D2982 method *ASTM D7844 *ASTM D7844	1010 1070 1150 2060 Iimit/base >30 Iimit/base >3 >20 >30 >30	928 1017 1097 1291 3203	906 995 1022 1173 3399 history1 12 ▲ 184 6 NEG NEG history1 0.6 8.1 19.7 history1	788 873 845 1080 2381 history2 3 4 2 NEG history2 0.4 12.5 25.6 history2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE Oxidation	ppm ppm ppm ppm ppm TS ppm ppm ppm % % Abs/cm Abs/cm Abs/.1mm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D2982 *ASTM D2982 *ASTM D7844 *ASTM D7844 *ASTM D7614 *ASTM D7414	1010 1070 1150 2060 Imit/base >30 Imit/base >3 >20 >30 Imit/base >30	928 1017 1097 1291 3203 current 14 ▲ 413 8 NEG current 0.8 9.9 20.5 current 15.9	906 995 1022 1173 3399 history1 12 ▲ 184 6 NEG history1 0.6 8.1 19.7 history1 14.9	788 873 845 1080 2381 history2 3 4 2 NEG history2 0.4 12.5 25.6 history2 22.1
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD Oxidation Base Number (BN)	ppm ppm ppm ppm ppm ppm ppm ppm ppm % % Abs/cm Abs/.1mm Abs/.1mm mg KOH/g	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D2982 Method *ASTM D7844 *ASTM D7624 *ASTM D7415 Method *ASTM D7414 ASTM D2896	1010 1070 1150 2060 Imit/base >30 Imit/base >3 >20 Imit/base >3 >20 >30 Imit/base >3	928 1017 1097 1291 3203 current 14 ▲ 413 8 NEG current 0.8 9.9 20.5 current 15.9 8.7	906 995 1022 1173 3399 12 12 ▲ 184 6 NEG NEG 0.6 8.1 19.7 history1 14.9 8.5	788 873 845 1080 2381 history2 3 4 2 NEG history2 0.4 12.5 25.6 history2 22.1 5.5

Contact/Location: See also GFL823, 834, 837, 840 - Robert Hart - GFL836



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Feb 8/19 0ct4/19 Aar31/20

OIL ANALYSIS REPORT





Mar11/22

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
		un othe o d	line it /le e e e		la la tanun d	history O
FLUID PROPEI	RIIES	method	limit/base	current	nistory i	nistory2
Visc @ 100°C	cSt	ASTM D445	15.4	13.4	13.5	1 0.7
GRAPHS						

Ferrous Alloys



Jun1/23

Jan 10/23

Mar11/22

Recieved



Lab Number : 06075541 Diagnosed Unique Number : 10857632 Test Package : FLEET (Additional Tests: Glycol) Certificate L2367 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.

Laboratory

Sample No.

16 B

10

9

Feb8/19

0.05

0.00

Nov3/23

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

Mar31/20 Sep23/20

0ct4/19

: GFL0109762

Contact/Location: See also GFL823, 834, 837, 840 - Robert Hart - GFL836

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