

16 Base

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Mar2/22

Abnorm

RECOMMENDATION

Aug31/22

Abnorma

10.0

0.8 [re] % [re] % 6.0

6.0 4.0

2.0

0.0

Mar2/22

We advise that you check the fuel injection system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Vov13/23

PROBLEMATIC TEST RESULTS							
Sample Status				SEVERE	NORMAL	MARGINAL	
Fuel	%	ASTM D3524	>3.0	A 7.8	<1.0	1 .9	
Visc @ 100°C	cSt	ASTM D445	15.4	11.8	13.1	13.4	

Nov9/23

Vov13/23

Dec27/23

Aug31/22

Feb 6/24

Feb 13/24

Jan24/24

Mar4/24 -

Customer Id: GFL410 Sample No.: GFL0104287 Lab Number: 06109916 Test Package: FLEET



Jan24/24

Dec27/23

Feb6/24 .

Mar4/24 -

To manage this report scan the QR code

To discuss the diagnosis or test data: Wes Davis +1 905-569-8600 x223 wesd@wearcheck.ca

To change component or sample information: Customer Service +1 1-800-237-1369 customerservice@wearcheck.com

RECOMMENDE	O ACTIONS			
Action	Status	Date	Done By	Description
Resample			?	We recommend an early resample to monitor this condition.
Check Fuel/injector System			?	We advise that you check the fuel injection system.

HISTORICAL DIAGNOSIS



13 Feb 2024 Diag: Wes Davis

Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.



view report

06 Feb 2024 Diag: Wes Davis



The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. No other corrective action is recommended at this time.All component wear rates are normal. Light fuel dilution occurring. No other contaminants were detected in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

24 Jan 2024 Diag: Wes Davis



We advise that you check the fuel injection system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.All component wear rates are normal. There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.



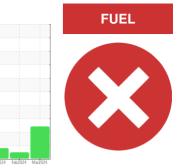




OIL ANALYSIS REPORT

Sample Rating Trend





Component Diesel Engine Fluid PETRO CANADA DURON SHP 15W40 (36 QTS)

DIAGNOSIS

We advise that you check the fuel injection system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Machine Id 4630M

Wear

All component wear rates are normal.

Contamination

There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

Fluid Condition

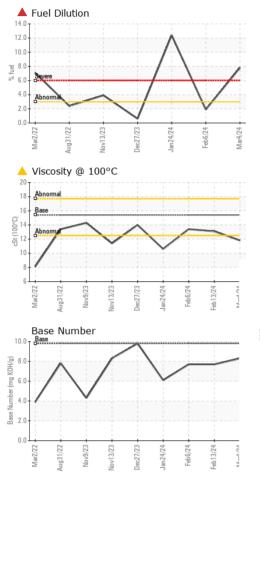
The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0104287	GFL0110074	GFL0110091
Sample Date		Client Info		04 Mar 2024	13 Feb 2024	06 Feb 2024
Machine Age	hrs	Client Info		19957	19823	19752
Oil Age	hrs	Client Info		600	600	600
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				SEVERE	NORMAL	MARGINAL
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	>75	14	12	12
Chromium	ppm	ASTM D5185m	>5	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	0	1
Titanium	ppm	ASTM D5185m	>2	0	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>15	2	2	1
Lead	ppm	ASTM D5185m	>25	0	0	<1
Copper	ppm	ASTM D5185m	>100	0	1	4
Tin	ppm	ASTM D5185m	>4	0	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	<1
			11 1. 11			
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	limit/base	current 0	history1 <1	history2 <1
	ppm ppm		0			
Boron		ASTM D5185m	0	0	<1	<1
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0 0 60	0 0	<1 0	<1 <1
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	0 0 50	<1 0 51	<1 <1 57
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	0 0 50 0	<1 0 51 0	<1 <1 57 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	0 0 50 0 818	<1 0 51 0 866	<1 <1 57 <1 879
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	0 0 50 0 818 857	<1 0 51 0 866 913	<1 <1 57 <1 879 988
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150	0 0 50 0 818 857 884	<1 0 51 0 866 913 935	<1 <1 57 <1 879 988 931
Boron 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 0 60 0 1010 1070 1150 1270	0 0 50 0 818 857 884 1058	<1 0 51 0 866 913 935 1151	<1 <1 57 <1 879 988 931 1158
Boron 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	0 0 60 1010 1070 1150 1270 2060	0 0 50 0 818 857 884 1058 2434	<1 0 51 0 866 913 935 1151 2787	<1 <1 57 <1 879 988 931 1158 2890
Boron 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 0 60 1010 1070 1150 1270 2060	0 0 50 0 818 857 884 1058 2434 current	<1 0 51 0 866 913 935 1151 2787 history1	<1 <1 57 <1 879 988 931 1158 2890 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	0 0 60 1010 1070 1150 1270 2060	0 0 50 0 818 857 884 1058 2434 current 7	<1 0 51 0 866 913 935 1151 2787 history1 6	<1 <1 57 <1 879 988 931 1158 2890 history2 5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm 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 0 60 1010 1070 1150 1270 2060 limit/base >25	0 0 50 0 818 857 884 1058 2434 Current 7 8	<1 0 51 0 866 913 935 1151 2787 history1 6 4	<1 <1 57 <1 879 988 931 1158 2890 history2 5 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25	0 0 50 0 818 857 884 1058 2434 Current 7 8 8 0	<1 0 51 0 866 913 935 1151 2787 history1 6 4 1	<1 <1 <1 57 <1 879 988 931 1158 2890 history2 5 0 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 imit/base >25 >20 >20	0 0 50 0 818 857 884 1058 2434 Current 7 8 8 0 0 × 7.8	<1 0 51 0 866 913 935 1151 2787 history1 6 4 1 1 <1.0	<1 <1 57 <1 879 988 931 1158 2890 history2 5 0 2 1.9
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 Imit/base >25 >20 >3.0 Imit/base >6	0 0 50 0 818 857 884 1058 2434 Current 7 8 0 ↓ 7.8 Current 0.6	<1 0 51 0 866 913 935 1151 2787 history1 6 4 1 <1.0 kistory1	<1 <1 <57 <11 879 988 931 1158 2890 bistory2 5 0 2 1.9 1.9
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm %	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >20 >3.0 imit/base >20 imit/base	0 0 50 0 818 857 884 1058 2434 current 7 8 0 0 x 7.8	<1 0 51 0 866 913 935 1151 2787 history1 6 4 1 <1.0 history1 0.5	<1 <1 57 <1 879 988 931 1158 2890 history2 5 0 2 1.9 history2 0.4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >20 >3.0 imit/base >20 imit/base	0 0 50 0 818 857 884 1058 2434 Current 7 8 0 ↓ 7.8 Current 0.6 8.8	<1 0 51 0 866 913 935 1151 2787 history1 6 4 1 <1.0 history1 0.5 8.4	<1 <1 <57 <1 879 988 931 1158 2890 history2 5 0 2 1.9 8 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D3524 *ASTM D7844 *ASTM D7844 *ASTM D7415	0 0 0 1010 1070 1150 1270 2060 imit/base >25 -20 >3.0 imit/base >6 >20 >30 imit/base	0 0 50 0 818 857 884 1058 2434 Current 7 8 0 7 8 0 7 8 0 7 8 0 0 7 8 0 0 7 8 8 0 0 7 8 8 0 0 1 9 1 9 1 9 1 9 1 9 1 9 1 9 1 9 1 9	<1 0 51 0 866 913 935 1151 2787 history1 6 4 1 <10 history1 0.5 8.4 19.9 history1	<1 <1 <57 <1 879 988 931 1158 2890 history2 5 0 2 1.9 88.1 19.5 0.4 8.1 19.5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 Imit/base >25 >20 >3.0 Imit/base >6 >20 >20	0 0 50 0 818 857 884 1058 2434 Current 7 8 0 0 7.8 7 8 0 0 7.8 7.8	<1 0 51 0 866 913 935 1151 2787 history1 6 4 1 <1.0 kistory1 0.5 8.4 19.9	<1 <1 <57 <1 879 988 931 1158 2890 bistory2 5 0 2 0.4 8.1 19.5



OIL ANALYSIS REPORT

VISUAL



		VISUAL		method	limit/base	current	,	history2
		White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
		Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
	1	Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
		Silt	scalar	*Visual	NONE	NONE	NONE	NONE
$-\vee$		Debris	scalar	*Visual	NONE	NONE	NONE	NONE
		Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
6/24	r4/24	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Fet	Ma	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			11.8	13.1	13.4
		GRAPHS						
		Ferrous Alloys						
6/24	VCIV	iron						
Feb 1	M.	60 - nickel						
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Sample Lab Nu Unique N Test Pa	e No. umber Number ickage	: GFL0104287 : <mark>06109916</mark>	Teste Diagn ests: Fuel	d:08 nosed:08 IDilution, Per	Mar 2024 Mar 2024 - V centFuel)	Wes Davis	Contact	Wayne,
	Febb124 Feb1324 Feb132	Febb6/24	White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance Odor Emulsified Water Free Water Free Water Visc @ 100°C GRAPHS Ferrous Alloys Otor Enclusion Company Otor Enclusion Company Otor Company Company Otor Company Company Company Company	White Metal scalar Yellow Metal scalar Precipitate scalar Sit scalar Sand/Dirt scalar Appearance scalar Odor scalar Free Water scalar Free Water scalar Free Water scalar Free Water scalar Free Water scalar Non-ferrous Alloys To part of the scalar Precipitate scalar Sand/Dirt scalar Free Water scalar Non-ferrous Metals Visc @ 100°C cSt GRAPHS Ferrous Alloys Visc Scalar Visc Scalar Visc @ 100°C cSt Over scalar Sand/Dirt scalar Precipitate scalar Scalar Scalar Scalar Scalar Scalar Scalar Scalar Visc @ 100°C cSt Over scalar Visc Scalar Visc @ 100°C cSt Over scalar Scalar Scalar Scalar Scalar Scalar Visc @ 100°C cSt Over scalar S	White Metal scalar *Visual Yellow Metal scalar *Visual Precipitate scalar *Visual Silt scalar *Visual Sand/Dirt scalar *Visual Appearance scalar *Visual Odor scalar *Visual Appearance scalar *Visual Free Water scalar *Visual Mon ferrous Alloys Visc © 100°C cSt ASTM D445 CRAPHS Ferrous Alloys Viscosity © 100°C Viscosity © 100°C Viscosity © 100°C	White Metal scalar Visual NONE Yellow Metal scalar Visual NONE Sitt scalar Visual NONE Sitt scalar Visual NONE Sitt scalar Visual NONE Sitt scalar Visual NONE Appearance scalar Visual NORML Odor scalar Visual NORML Odor scalar Visual NORML Odor scalar Visual NORML Emulsified Water scalar Visual NORML Emulsified Water scalar Visual NORML Emulsified Water scalar Visual Odor Free Water Scalar Visual NORML Emulsified Water Scalar Visual NORML Emulsified Water Scalar Visual NORML Emulsified Water Scalar Visual Odor Non-ferrous Alloys Visc @ 100°C cSt ASTM D445 15.4 GRAPHS Ferrous Alloys Visc @ 100°C cSt Other Viscossty @ 100°C Viscossty @ 100°C Odor Viscossty @ 100°C Odor Odor Odor Odor Color Co	White Metal scalar 'Visual NONE NONE Precipitate scalar 'Visual NONE NONE Sitt scalar 'Visual NONE NONE Debris scalar 'Visual NONE NONE Sand/Dirt scalar 'Visual NONE NONE Emulsified Water scalar 'Visual NORML NORML NORML Site @ 100°C cst ASTM D445 15.4 11.8 CRAPHS Ferrous Alloys Our for the scalar 'Visual NORMS 'I stal Visual NORML Visc @ 100°C cst ASTM D445 15.4 11.8 CRAPHS Visc @ 100°C cst ASTM D445 15.4 11.8 CRAPHS Visc @ 100°C cst ASTM D445 15.4 11.8 CRAPHS	White Metal scalar Visual NONE NONE NONE Precipitate scalar Visual NONE NONE NONE Siti scalar Visual NONE NONE NONE Sand/Diri scalar Visual NONE NONE NONE Appearance scalar Visual NORML NORML NORML Odor scalar Visual NORM NORM NORM NORE NONE Emulsified Water scalar Visual NORML NORML NORML NORML NORML NORM NORM NORM NORM NORM NORM NORM NORM NORM

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