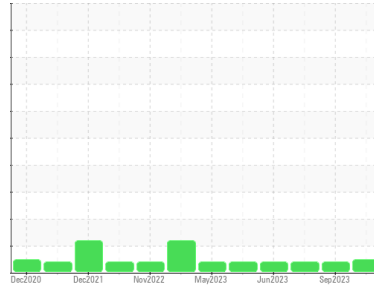




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
729041-361666

Component
Diesel Engine

Fluid
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 INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		GFL0098847	GFL0090952	GFL0074729
Sample Date	Client Info		06 Nov 2023	25 Sep 2023	14 Aug 2023
Machine Age	hrs	Client Info	19757	19593	19456
Oil Age	hrs	Client Info	164	137	181
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			NORMAL	ATTENTION	ATTENTION

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>2.0	<1.0	<1.0	<1.0
Water	WC Method	>0.2	NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	7	85	64
Chromium	ppm	ASTM D5185m >20	<1	3	2
Nickel	ppm	ASTM D5185m >4	0	<1	<1
Titanium	ppm	ASTM D5185m	0	<1	<1
Silver	ppm	ASTM D5185m >3	0	0	<1
Aluminum	ppm	ASTM D5185m >20	2	5	6
Lead	ppm	ASTM D5185m >40	1	12	5
Copper	ppm	ASTM D5185m >330	<1	9	5
Tin	ppm	ASTM D5185m >15	0	2	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	23	3	4
Barium	ppm	ASTM D5185m 0	0	0	0
Molybdenum	ppm	ASTM D5185m 60	52	76	75
Manganese	ppm	ASTM D5185m 0	<1	1	1
Magnesium	ppm	ASTM D5185m 1010	855	920	907
Calcium	ppm	ASTM D5185m 1070	1104	1025	1040
Phosphorus	ppm	ASTM D5185m 1150	990	951	939
Zinc	ppm	ASTM D5185m 1270	1216	1172	1146
Sulfur	ppm	ASTM D5185m 2060	3193	2805	3247

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	4	11	10
Sodium	ppm	ASTM D5185m	107	10	9
Potassium	ppm	ASTM D5185m >20	8	5	7
Glycol	%	*ASTM D2982	0.0	NEG	NEG

INFRA-RED

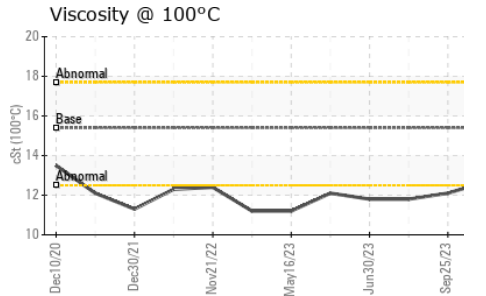
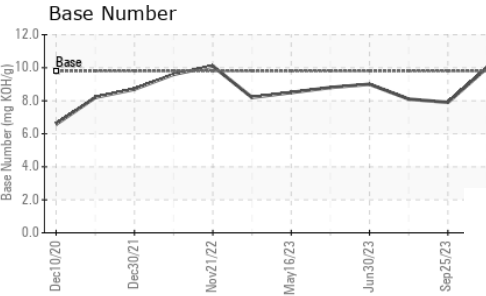
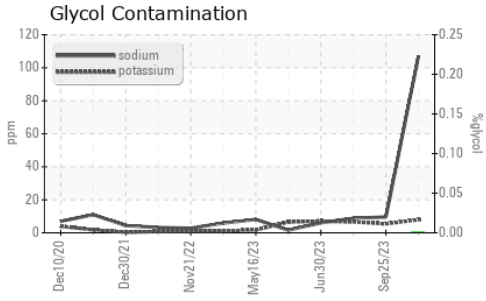
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.3	2.6	2
Nitration	Abs/cm	*ASTM D7624 >20	5.5	10.6	9.1
Sulfation	Abs/.1mm	*ASTM D7415 >30	18.3	23.0	21.4

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	13.5	15.9	14.4
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	10.0	7.9	8.1



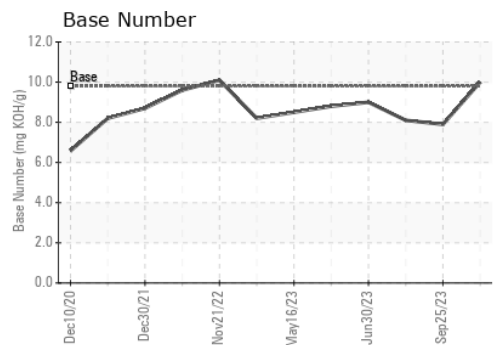
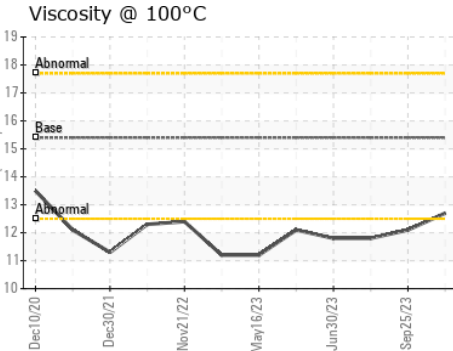
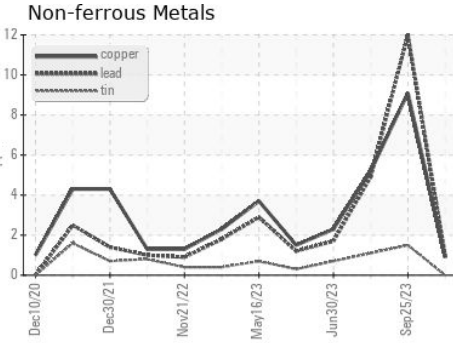
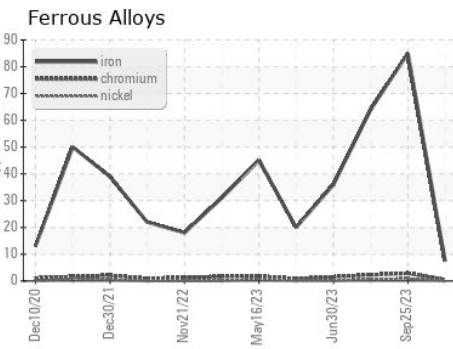
OIL ANALYSIS REPORT



PARAMETER	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	12.7	▲ 12.1 ▲ 11.8

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0098847 **Received** : 15 Nov 2023
Lab Number : 06008826 **Diagnosed** : 21 Nov 2023
Unique Number : 10742588 **Diagnostician** : Wes Davis
Test Package : FLEET (Additional Tests: Glycol)

GFL Environmental - 814 - Little Rock Hauling
 4005 Hwy 161 N.
 Little Rock, AR
 US 72117
 Contact: Brad Manager

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)

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F: