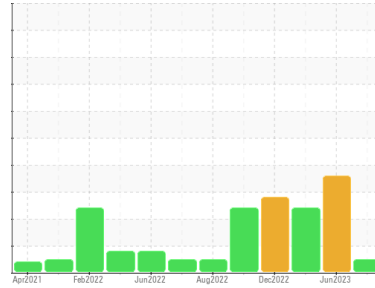




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
428013-1161

Component
Diesel Engine

Fluid
PETRO CANADA DURON HP 15W40 (--- GAL)

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

Light fuel dilution occurring. No other contaminants were detected 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	history 1	history 2
Sample Number	Client Info	GFL0062183	GFL0062226	GFL0062182
Sample Date	Client Info	25 Jun 2023	15 Jun 2023	15 Mar 2023
Machine Age	hrs	12696	12649	292720
Oil Age	hrs	47	432	4684
Oil Changed	Client Info	Not Chngd	Changed	Not Chngd
Sample Status		NORMAL	SEVERE	SEVERE

CONTAMINATION

method	limit/base	current	history 1	history 2
Glycol	WC Method	NEG	NEG	NEG

WEAR METALS

method	limit/base	current	history 1	history 2	
Iron	ppm	ASTM D5185m >100	8	68	22
Chromium	ppm	ASTM D5185m >20	<1	6	2
Nickel	ppm	ASTM D5185m >4	<1	0	0
Titanium	ppm	ASTM D5185m	0	<1	0
Silver	ppm	ASTM D5185m >3	0	0	0
Aluminum	ppm	ASTM D5185m >20	2	4	2
Lead	ppm	ASTM D5185m >40	<1	7	3
Copper	ppm	ASTM D5185m >330	<1	2	<1
Tin	ppm	ASTM D5185m >15	<1	2	<1
Vanadium	ppm	ASTM D5185m	0	<1	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

method	limit/base	current	history 1	history 2	
Boron	ppm	ASTM D5185m	15	5	4
Barium	ppm	ASTM D5185m	0	0	0
Molybdenum	ppm	ASTM D5185m	55	60	48
Manganese	ppm	ASTM D5185m	<1	1	<1
Magnesium	ppm	ASTM D5185m	917	866	683
Calcium	ppm	ASTM D5185m	1132	984	856
Phosphorus	ppm	ASTM D5185m	1025	892	760
Zinc	ppm	ASTM D5185m	1252	1103	940
Sulfur	ppm	ASTM D5185m	3761	2790	2197

CONTAMINANTS

method	limit/base	current	history 1	history 2	
Silicon	ppm	ASTM D5185m >25	3	8	2
Sodium	ppm	ASTM D5185m	1	37	0
Potassium	ppm	ASTM D5185m >20	<1	▲ 48	2
Fuel	%	ASTM D3524 >2.0	1.5	◆ 9.6	◆ 18.8

INFRA-RED

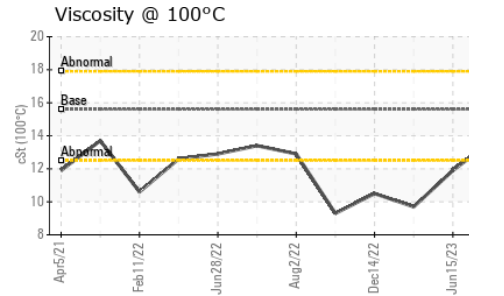
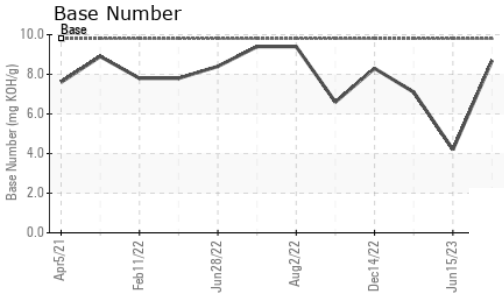
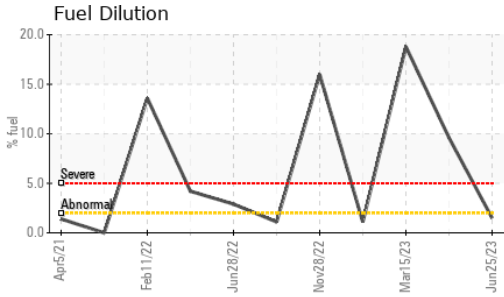
method	limit/base	current	history 1	history 2	
Soot %	%	*ASTM D7844 >3	0.2	0.8	0.4
Nitration	Abs/cm	*ASTM D7624 >20	6.3	15.4	12.3
Sulfation	Abs/.1mm	*ASTM D7415 >30	19.0	28.5	21.1

FLUID DEGRADATION

method	limit/base	current	history 1	history 2	
Oxidation	Abs/.1mm	*ASTM D7414 >25	15.9	30.7	18.9
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	8.7	4.2	7.1



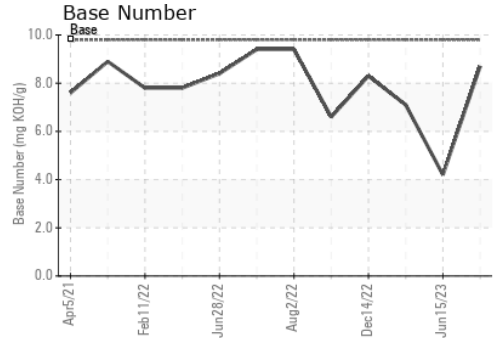
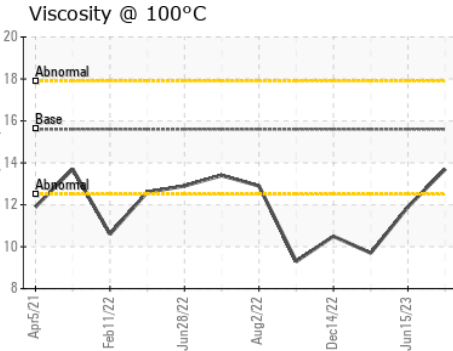
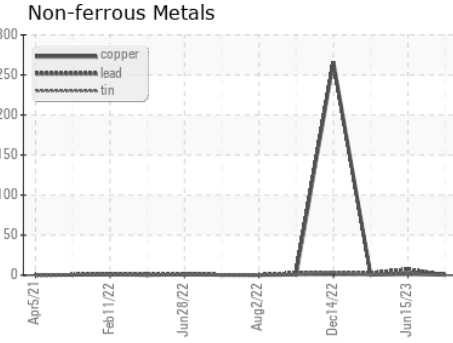
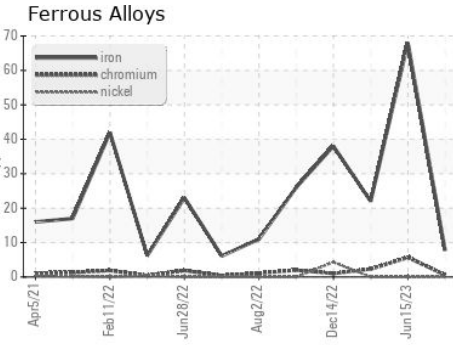
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history 1	history 2
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	history 1	history 2
Visc @ 100°C	cSt	ASTM D445	15.6	13.7	▲ 11.9 ▲ 9.7

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0062183 **Received** : 29 Jun 2023
Lab Number : 05886466 **Diagnosed** : 02 Jul 2023
Unique Number : 10536949 **Diagnostician** : Wes Davis
Test Package : FLEET (Additional Tests: PercentFuel)

GFL Environmental - 626 - Cadillac Hauling
 1501 Ron Wilson St
 Cadillac, MI
 US 49601
 Contact: GARY BREWER
 gbrewerjr@gflenv.com

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