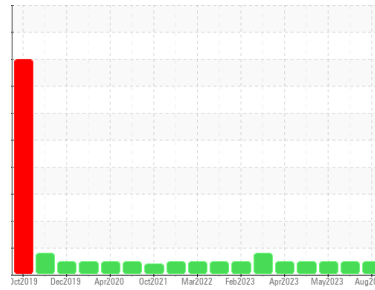




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
429062-402464

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	GFL0083662	GFL0087043	GFL0083682
Sample Date	Client Info	21 Aug 2023	02 Aug 2023	25 May 2023
Machine Age	hrs	Client Info	0	0
Oil Age	hrs	Client Info	0	0
Oil Changed	Client Info	Not Chngd	Not Chngd	Not Chngd
Sample Status		NORMAL	NORMAL	NORMAL

CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >5	<1.0	<1.0	<1.0
Glycol	WC Method	NEG	NEG	NEG

WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m >110	30	26	76
Chromium	ppm	ASTM D5185m >4	1	1	4
Nickel	ppm	ASTM D5185m >2	0	<1	<1
Titanium	ppm	ASTM D5185m	0	0	0
Silver	ppm	ASTM D5185m >2	0	0	0
Aluminum	ppm	ASTM D5185m >25	4	5	5
Lead	ppm	ASTM D5185m >45	5	4	17
Copper	ppm	ASTM D5185m >85	28	30	73
Tin	ppm	ASTM D5185m >4	<1	<1	1
Vanadium	ppm	ASTM D5185m	<1	0	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m 0	0	3	4
Barium	ppm	ASTM D5185m 0	0	0	0
Molybdenum	ppm	ASTM D5185m 60	62	61	68
Manganese	ppm	ASTM D5185m 0	<1	<1	<1
Magnesium	ppm	ASTM D5185m 1010	955	924	892
Calcium	ppm	ASTM D5185m 1070	1272	1189	1403
Phosphorus	ppm	ASTM D5185m 1150	986	1046	1064
Zinc	ppm	ASTM D5185m 1270	1271	1309	1353
Sulfur	ppm	ASTM D5185m 2060	3144	3501	2788

CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m >30	5	5	10
Sodium	ppm	ASTM D5185m	13	11	43
Potassium	ppm	ASTM D5185m >20	4	4	5

INFRA-RED

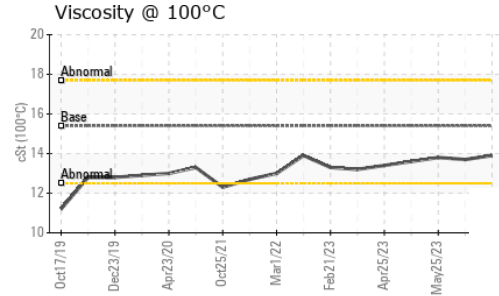
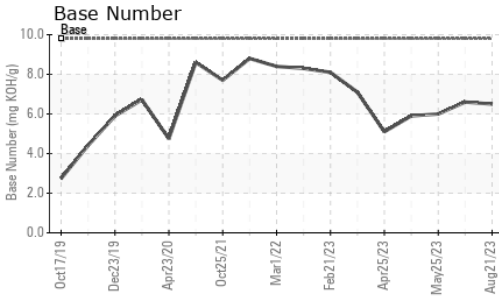
method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844 >3	0.4	0.3	0.5
Nitration	Abs/cm	*ASTM D7624 >20	10.9	10.4	13.0
Sulfation	Abs/.1mm	*ASTM D7415 >30	23.4	23.4	25.4

FLUID DEGRADATION

method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414 >25	21.7	21.3	24.9
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	6.5	6.6	6.0



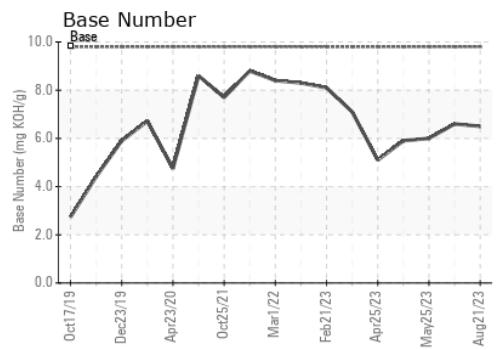
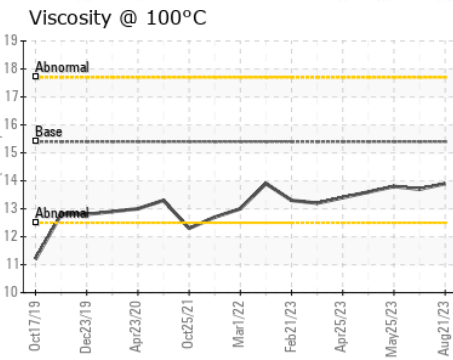
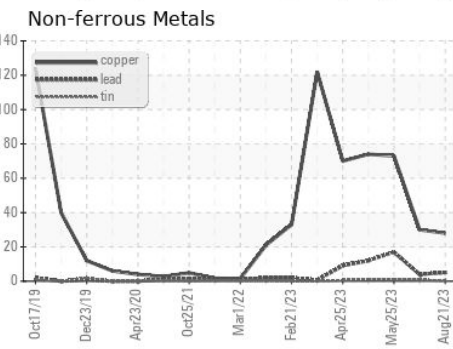
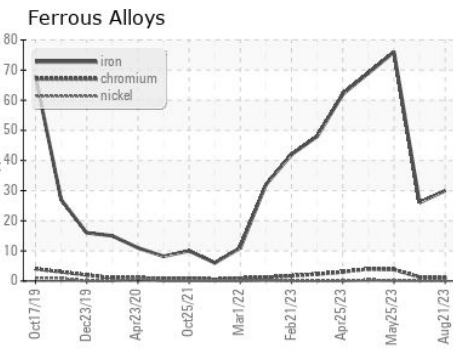
OIL ANALYSIS REPORT



VISUAL	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	13.9	13.7	13.8

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0083662 **Received** : 06 Sep 2023
Lab Number : **05943266** **Diagnosed** : 07 Sep 2023
Unique Number : 10633878 **Diagnostician** : Wes Davis
Test Package : FLEET

GFL Environmental - 846 - Mayfield Hauling
 3426 State Route 45
 Mayfield, KY
 US 42066
 Contact: Jack Lindsey
 jack.lindsey@gflenv.com
 T: (270)970-3690
 F:

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)