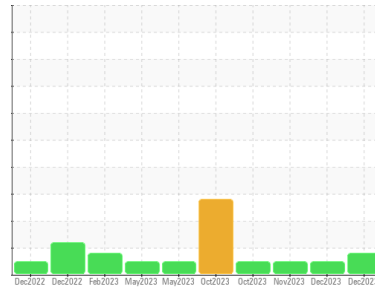




OIL ANALYSIS REPORT

Sample Rating Trend



SOOT



Machine Id
729043-361418

Component
Diesel Engine

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

DIAGNOSIS

▲ Recommendation

We recommend you service the filters on this component. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

▲ Contamination

There is an abnormal amount of solids and carbon present in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	GFL0098765	GFL0065492	GFL0098745
Sample Date	Client Info	22 Dec 2023	13 Dec 2023	10 Nov 2023
Machine Age	hrs	14418	5108	5108
Oil Age	hrs	150	150	600
Oil Changed	Client Info	Not Chngd	Not Chngd	Changed
Sample Status		ABNORMAL	NORMAL	NORMAL

CONTAMINATION

method	limit/base	current	history1	history2
Water	WC Method >0.2	NEG	NEG	NEG
Glycol	WC Method	NEG	NEG	NEG

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >100	18	3	10
Chromium	ppm ASTM D5185m >20	<1	0	<1
Nickel	ppm ASTM D5185m >4	0	0	0
Titanium	ppm ASTM D5185m	0	0	<1
Silver	ppm ASTM D5185m >3	0	0	<1
Aluminum	ppm ASTM D5185m >20	2	<1	2
Lead	ppm ASTM D5185m >40	<1	0	2
Copper	ppm ASTM D5185m >330	3	<1	3
Tin	ppm ASTM D5185m >15	<1	<1	<1
Vanadium	ppm ASTM D5185m	0	0	<1
Cadmium	ppm ASTM D5185m	0	0	<1

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	0	1	<1
Barium	ppm ASTM D5185m 0	0	0	0
Molybdenum	ppm ASTM D5185m 60	60	52	56
Manganese	ppm ASTM D5185m 0	0	<1	<1
Magnesium	ppm ASTM D5185m 1010	901	878	854
Calcium	ppm ASTM D5185m 1070	1013	937	955
Phosphorus	ppm ASTM D5185m 1150	939	922	949
Zinc	ppm ASTM D5185m 1270	1152	1173	1124
Sulfur	ppm ASTM D5185m 2060	3061	2847	2848

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	4	2	2
Sodium	ppm ASTM D5185m	28	1	7
Potassium	ppm ASTM D5185m >20	12	<1	3
Fuel	% ASTM D3524 >5	<1.0	<1.0	<1.0

INFRA-RED

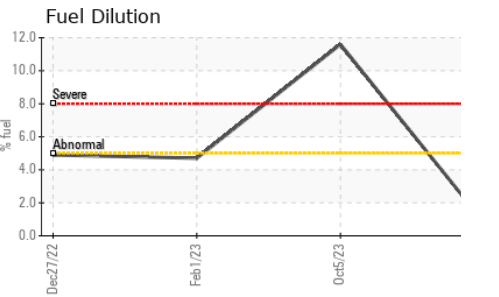
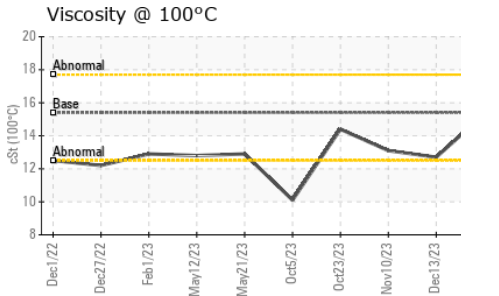
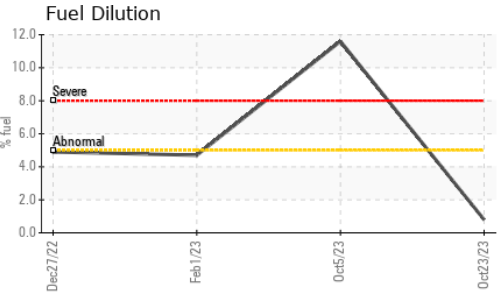
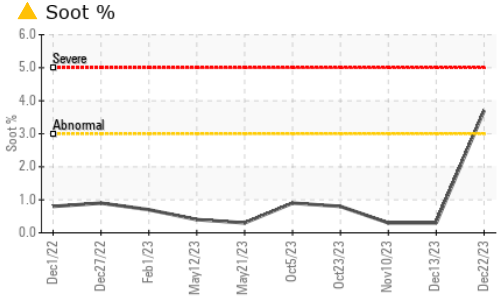
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	▲ 3.7	0.3	0.3
Nitration	Abs/cm *ASTM D7624 >20	9.3	5.8	6.0
Sulfation	Abs/.1mm *ASTM D7415 >30	25.4	18.1	18.1

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	15.6	13.5	13.5
Base Number (BN)	mg KOH/g ASTM D2896 9.8	8.2	8.2	8.7



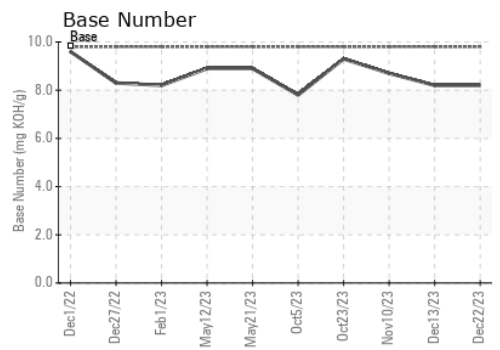
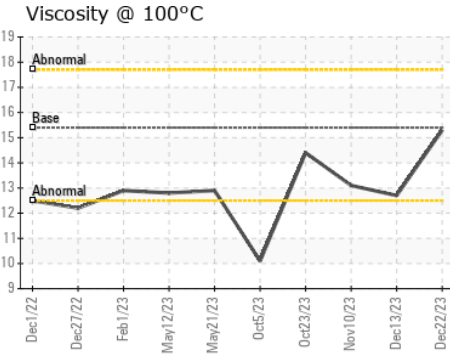
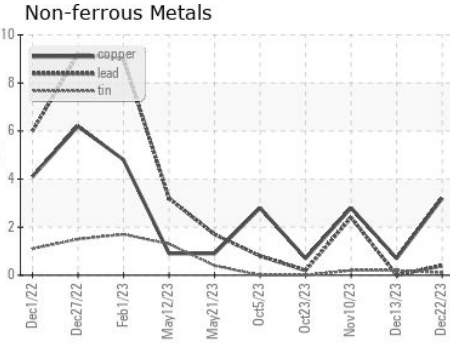
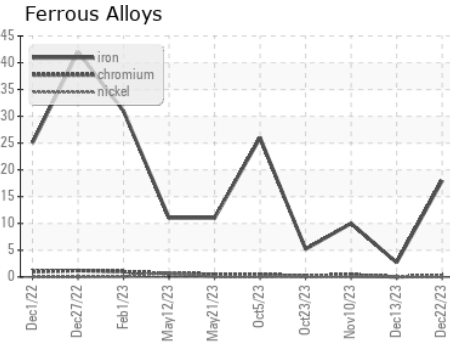
OIL ANALYSIS REPORT



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	15.3	12.7	13.1

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0098765 **Received** : 27 Dec 2023
Lab Number : **06045836** **Diagnosed** : 28 Dec 2023
Unique Number : 10806444 **Diagnostician** : Don Baldrige
Test Package : FLEET (Additional Tests: FuelDilution)

GFL Environmental - 829 - Wilco Hauling
 5054 Highway HH
 Hartville, MO
 US 65667
 Contact: James Jones
 james.jones@gflenv.com
 T: (417)349-5006
 F:

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)