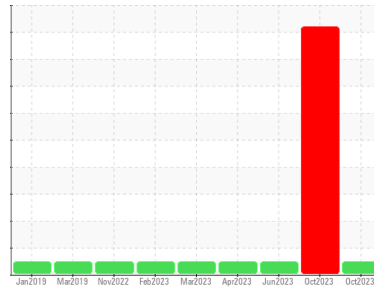




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
928081-260347

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		GFL0088078	GFL0088185	GFL0067800
Sample Date	Client Info		24 Oct 2023	18 Oct 2023	01 Jun 2023
Machine Age	hrs	Client Info	29215	123947	118010
Oil Age	hrs	Client Info	29215	0	0
Oil Changed	Client Info		N/A	Changed	Not Chngd
Sample Status			NORMAL	SEVERE	NORMAL

CONTAMINATION

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

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	14	▲ 103	6
Chromium	ppm	ASTM D5185m >20	<1	5	0
Nickel	ppm	ASTM D5185m >4	<1	1	<1
Titanium	ppm	ASTM D5185m	0	2	0
Silver	ppm	ASTM D5185m >3	0	0	0
Aluminum	ppm	ASTM D5185m >20	2	11	<1
Lead	ppm	ASTM D5185m >40	<1	<1	0
Copper	ppm	ASTM D5185m >330	1	38	<1
Tin	ppm	ASTM D5185m >15	<1	2	0
Vanadium	ppm	ASTM D5185m	0	0	0
Cadmium	ppm	ASTM D5185m	0	<1	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	3	22	0
Barium	ppm	ASTM D5185m 0	0	2	0
Molybdenum	ppm	ASTM D5185m 60	58	427	60
Manganese	ppm	ASTM D5185m 0	<1	3	<1
Magnesium	ppm	ASTM D5185m 1010	965	651	877
Calcium	ppm	ASTM D5185m 1070	1041	918	1046
Phosphorus	ppm	ASTM D5185m 1150	1042	767	1004
Zinc	ppm	ASTM D5185m 1270	1326	1018	1170
Sulfur	ppm	ASTM D5185m 2060	3110	2464	3046

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	6	26	5
Sodium	ppm	ASTM D5185m	3	▲ 4259	3
Potassium	ppm	ASTM D5185m >20	1	▲ 1106	1
Glycol	%	*ASTM D2982	NEG	◆ 0.20	NEG

INFRA-RED

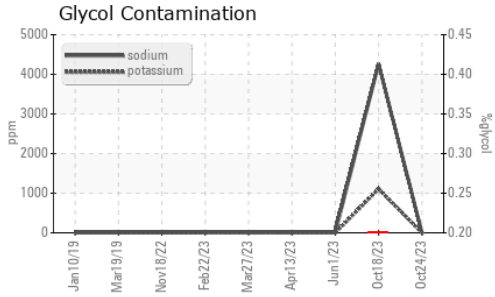
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.5	0.6	0.3
Nitration	Abs/cm	*ASTM D7624 >20	10.2	18.6	6.3
Sulfation	Abs/.1mm	*ASTM D7415 >30	22.4	25.2	18.6

FLUID DEGRADATION

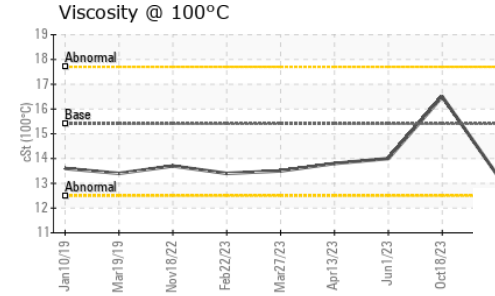
	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	20.8	17.0	13.9
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	6.3	30.2	9.1



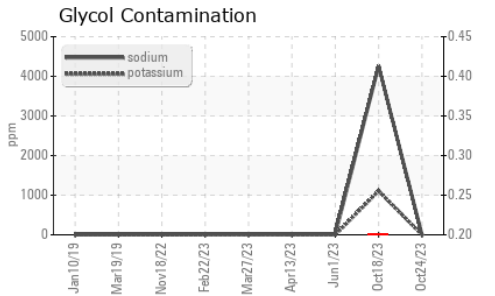
OIL ANALYSIS REPORT



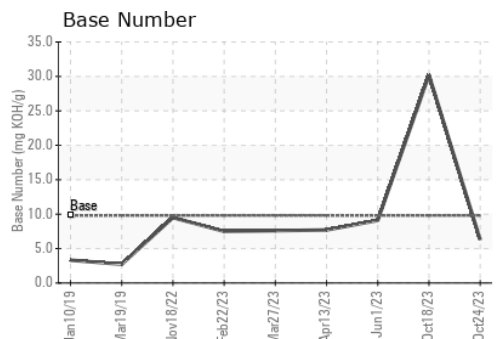
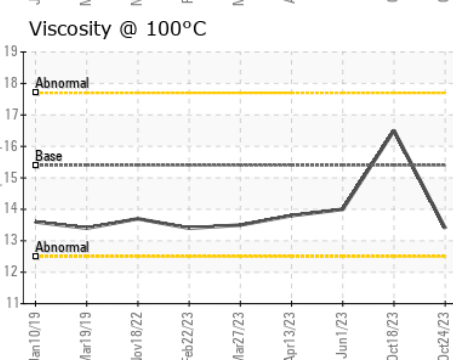
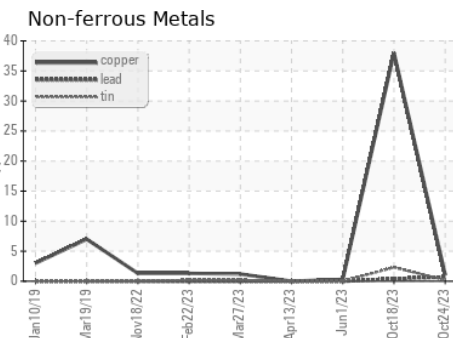
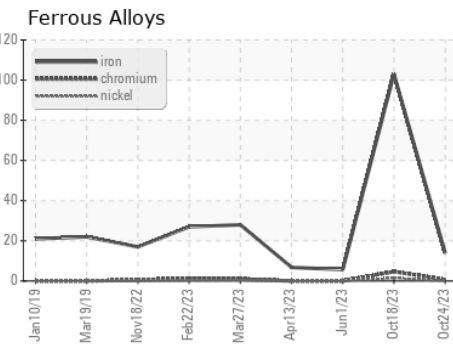
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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	13.4	16.5	14.0



GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0088078 **Received** : 06 Nov 2023
Lab Number : 05999560 **Diagnosed** : 08 Nov 2023
Unique Number : 10727920 **Diagnostician** : Jonathan Hester
Test Package : FLEET

GFL Environmental - 820 - Joplin Hauling
 3700 West 7th Street
 Joplin, MO
 US 64801
 Contact: James Jarrett
 jjarrett@gflenv.com
 T: (417)310-2802
 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)