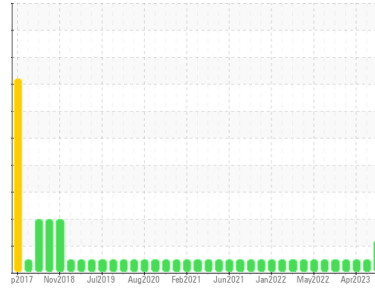




OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL



Area
GFL035
 Machine Id
2682

Component
Diesel Engine
 Fluid

PETRO CANADA DURON SHP 15W40 (38 QTS)

DIAGNOSIS

Recommendation

Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

Sodium and/or potassium levels are high. Test for glycol is negative.

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	GFL0085224	GFL0071603	GFL0071581
Sample Date	Client Info	04 Apr 2023	04 Apr 2023	04 Apr 2023
Machine Age	hrs	15774	15774	15774
Oil Age	hrs	600	600	600
Oil Changed	Client Info	Changed	Changed	Changed
Sample Status		ABNORMAL	NORMAL	NORMAL

CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >3.0	<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 >165	15	9	15
Chromium	ppm ASTM D5185m >5	<1	<1	<1
Nickel	ppm ASTM D5185m >4	0	0	0
Titanium	ppm ASTM D5185m >2	0	0	0
Silver	ppm ASTM D5185m >2	0	0	0
Aluminum	ppm ASTM D5185m >20	3	4	3
Lead	ppm ASTM D5185m >150	2	1	<1
Copper	ppm ASTM D5185m >90	2	<1	<1
Tin	ppm ASTM D5185m >5	<1	<1	<1
Vanadium	ppm ASTM D5185m	0	0	0
Cadmium	ppm ASTM D5185m	0	0	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	7	3	3
Barium	ppm ASTM D5185m 0	0	0	<1
Molybdenum	ppm ASTM D5185m 60	68	65	71
Manganese	ppm ASTM D5185m 0	<1	<1	<1
Magnesium	ppm ASTM D5185m 1010	900	893	1105
Calcium	ppm ASTM D5185m 1070	1097	1145	1243
Phosphorus	ppm ASTM D5185m 1150	1080	1051	1194
Zinc	ppm ASTM D5185m 1270	1257	1251	1469
Sulfur	ppm ASTM D5185m 2060	2928	3186	4057

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >35	10	5	6
Sodium	ppm ASTM D5185m	36	3	5
Potassium	ppm ASTM D5185m >20	▲ 63	3	2
Glycol	% *ASTM D2982	NEG	NEG	NEG

INFRA-RED

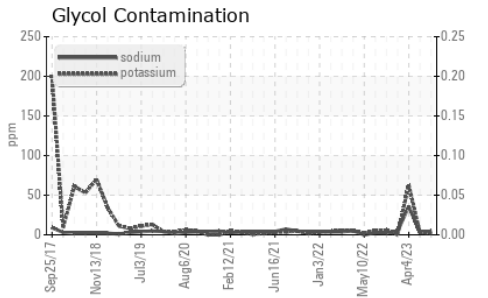
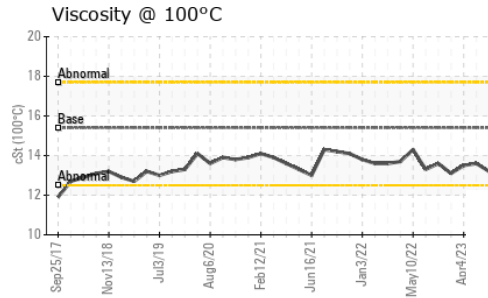
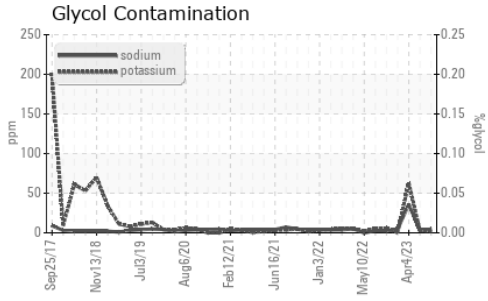
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >7.5	0.5	0.3	0.4
Nitration	Abs/cm *ASTM D7624 >20	9.7	8.0	9.4
Sulfation	Abs.1mm *ASTM D7415 >30	20.3	19.1	20.0

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs.1mm *ASTM D7414 >25	16.1	14.9	16.3
Base Number (BN)	mg KOH/g ASTM D2896 9.8	7.1	7.8	8.0



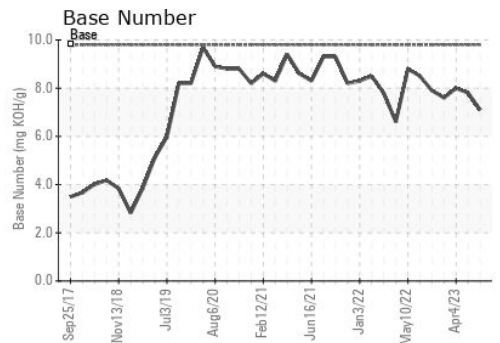
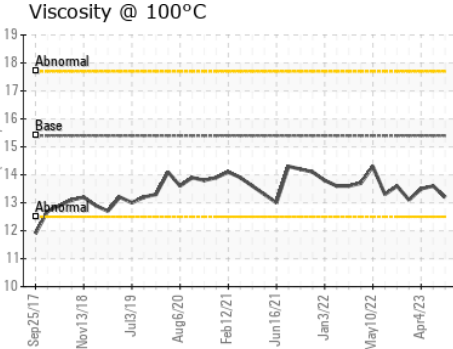
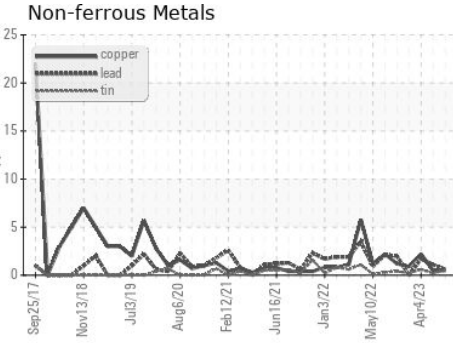
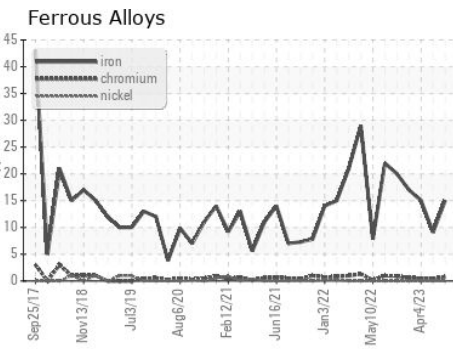
OIL ANALYSIS REPORT



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	13.2	13.6

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0085224 **Received** : 16 Jan 2024
Lab Number : 06060826 **Diagnosed** : 17 Jan 2024
Unique Number : 10832208 **Diagnostician** : Jonathan Hester
Test Package : FLEET (Additional Tests: Glycol)

GFL Environmental - 035 - Greensboro
 1236 Elon Place
 High Point, NC
 US 27263
 Contact: JORGE COSTA
 jorge.costa@gflenv.com
 T: (336)668-3712
 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)