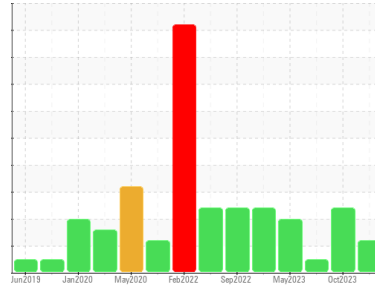




OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL



Machine Id
726044-310073
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

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	GFL0103929	GFL0093302	GFL0083450
Sample Date	Client Info	08 Jan 2024	17 Oct 2023	09 Aug 2023
Machine Age	hrs	18874	187857	17736
Oil Age	hrs	0	187857	17736
Oil Changed	Client Info	Changed	Changed	Not Changed
Sample Status		ABNORMAL	ABNORMAL	NORMAL

CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >5	<1.0	<1.0	0.9
Water	WC Method >0.2	NEG	NEG	NEG

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >80	22	24	5
Chromium	ppm ASTM D5185m >5	2	1	0
Nickel	ppm ASTM D5185m >2	<1	<1	0
Titanium	ppm ASTM D5185m	0	<1	<1
Silver	ppm ASTM D5185m >3	0	<1	0
Aluminum	ppm ASTM D5185m >30	19	2	0
Lead	ppm ASTM D5185m >30	<1	<1	0
Copper	ppm ASTM D5185m >150	4	20	<1
Tin	ppm ASTM D5185m >5	1	1	0
Vanadium	ppm ASTM D5185m	0	0	<1
Cadmium	ppm ASTM D5185m	0	<1	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	8	4	20
Barium	ppm ASTM D5185m 0	0	0	0
Molybdenum	ppm ASTM D5185m 60	58	61	55
Manganese	ppm ASTM D5185m 0	2	3	<1
Magnesium	ppm ASTM D5185m 1010	627	709	796
Calcium	ppm ASTM D5185m 1070	1574	1152	1326
Phosphorus	ppm ASTM D5185m 1150	757	643	897
Zinc	ppm ASTM D5185m 1270	1012	975	1070
Sulfur	ppm ASTM D5185m 2060	2471	2206	3247

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >20	8	11	3
Sodium	ppm ASTM D5185m	2	▲ 207	4
Potassium	ppm ASTM D5185m >20	▲ 84	▲ 84	0
Glycol	% *ASTM D2982	NEG	NEG	NEG

INFRA-RED

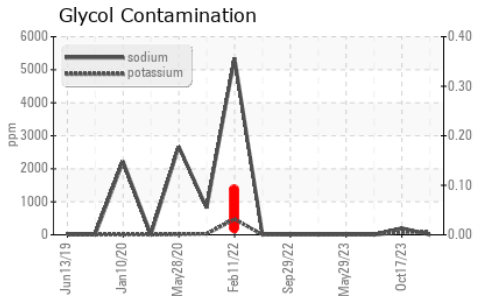
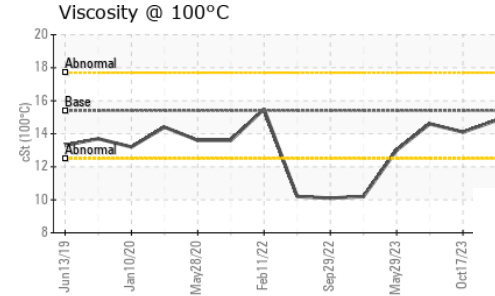
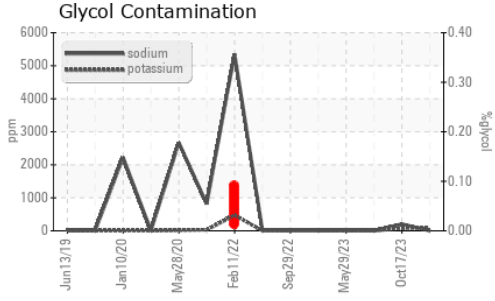
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	0	0.6	0.2
Nitration	Abs/cm *ASTM D7624 >20	11.3	11.1	6.1
Sulfation	Abs/.1mm *ASTM D7415 >30	22.1	21.6	18.1

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	18.8	20.0	14.5
Base Number (BN)	mg KOH/g ASTM D2896 9.8	4.0	6.1	8.7



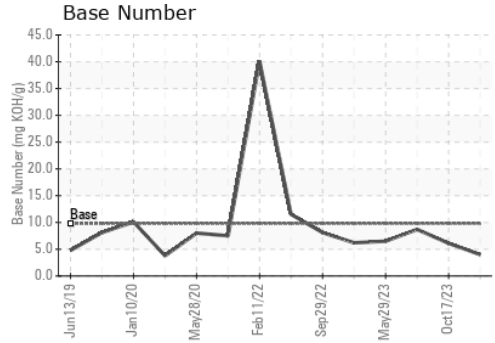
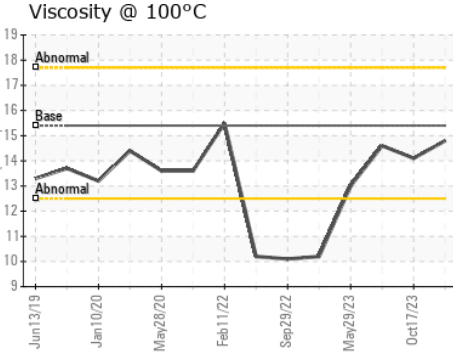
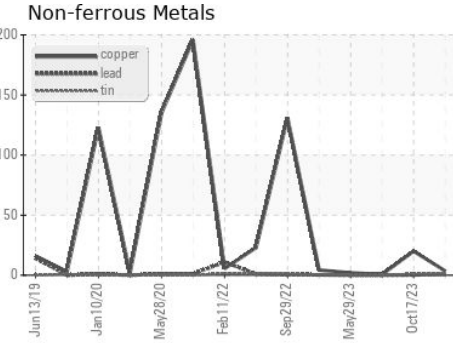
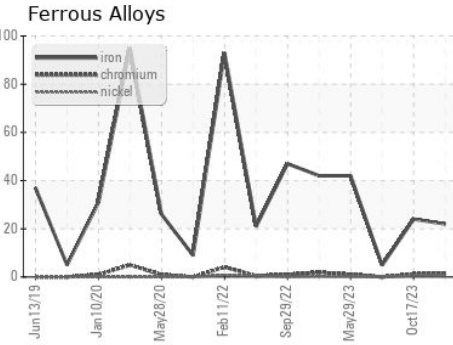
OIL ANALYSIS REPORT



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	14.8	14.1

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0103929 **Received** : 16 Jan 2024
Lab Number : 06060744 **Diagnosed** : 17 Jan 2024
Unique Number : 10832126 **Diagnostician** : Jonathan Hester
Test Package : FLEET (Additional Tests: Glycol)

GFL Environmental - 865 - East Mount Hauling
 7213 East Mount Houston Road
 Houston, TX
 US 77050
 Contact: Saul Castillo
 saul.castillo@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)