



OIL ANALYSIS REPORT

Sample Rating Trend

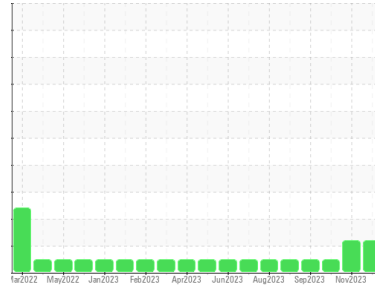
GLYCOL



Machine Id
726046-310041

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 suitable for further service.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	GFL0099919	GFL0099901	GFL0095133
Sample Date	Client Info	15 Dec 2023	22 Nov 2023	16 Oct 2023
Machine Age	hrs	14965	14829	14686
Oil Age	hrs	600	0	0
Oil Changed	Client Info	Changed	Not Changd	Not Changd
Sample Status		ATTENTION	ABNORMAL	NORMAL

CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >5	<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 >80	18	52	7
Chromium	ppm ASTM D5185m >5	<1	2	<1
Nickel	ppm ASTM D5185m >2	0	1	<1
Titanium	ppm ASTM D5185m	0	<1	0
Silver	ppm ASTM D5185m >3	0	0	0
Aluminum	ppm ASTM D5185m >30	8	7	2
Lead	ppm ASTM D5185m >30	0	<1	0
Copper	ppm ASTM D5185m >150	<1	1	<1
Tin	ppm ASTM D5185m >5	0	<1	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	9	13	0
Barium	ppm ASTM D5185m 0	0	1	0
Molybdenum	ppm ASTM D5185m 60	74	66	59
Manganese	ppm ASTM D5185m 0	0	1	<1
Magnesium	ppm ASTM D5185m 1010	1072	852	943
Calcium	ppm ASTM D5185m 1070	1143	1157	1007
Phosphorus	ppm ASTM D5185m 1150	1066	920	1053
Zinc	ppm ASTM D5185m 1270	1378	1130	1286
Sulfur	ppm ASTM D5185m 2060	3220	2982	3028

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >20	7	11	5
Sodium	ppm ASTM D5185m	▲ 121	▲ 183	12
Potassium	ppm ASTM D5185m >20	14	3	2
Glycol	% *ASTM D2982	NEG	NEG	NEG

INFRA-RED

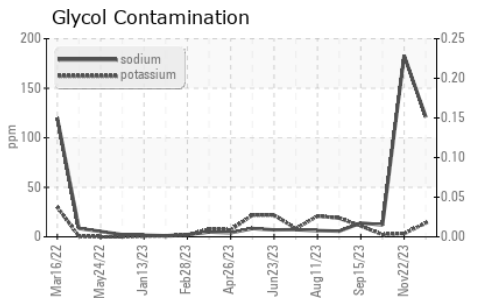
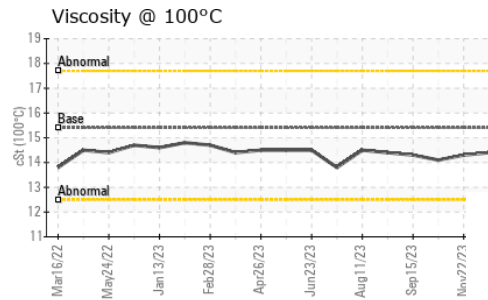
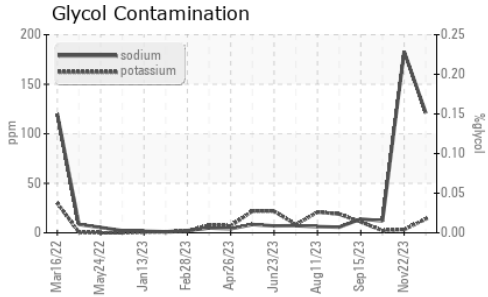
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	0.3	2.9	0.3
Nitration	Abs/cm *ASTM D7624 >20	7.7	15.0	8.2
Sulfation	Abs/.1mm *ASTM D7415 >30	19.4	28.0	20.1

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	15.6	23.6	16.8
Base Number (BN)	mg KOH/g ASTM D2896 9.8	8.5	6.7	8.1



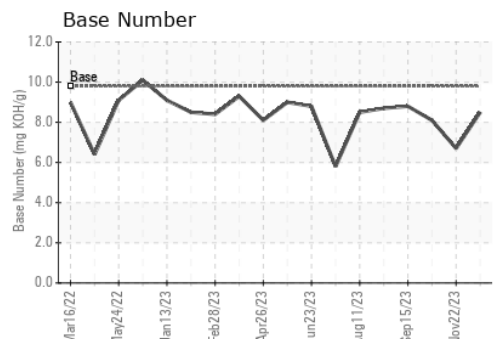
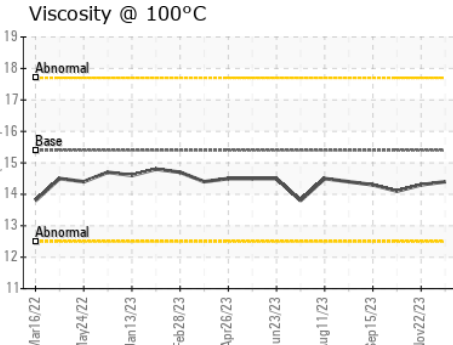
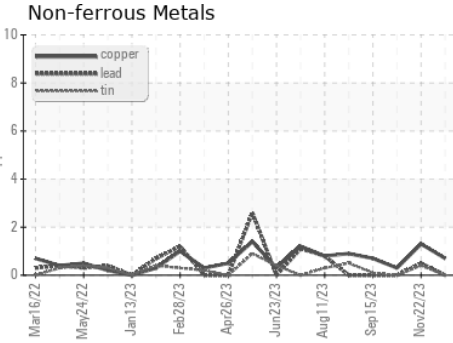
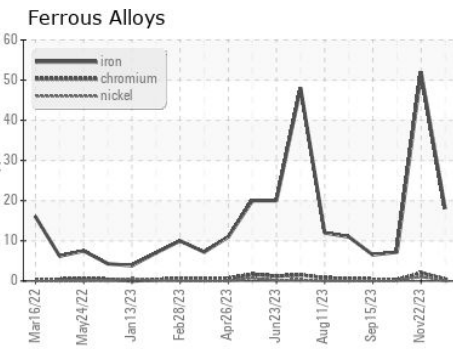
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VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
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	14.4	14.3

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0099919 **Received** : 20 Dec 2023
Lab Number : 06040202 **Diagnosed** : 22 Dec 2023
Unique Number : 10795431 **Diagnostician** : Jonathan Hester
Test Package : FLEET (Additional Tests: Glycol)

GFL Environmental - 836 - Kansas City Hauling
 7801 East Truman Road
 Kansas City, MO
 US 64126
 Contact: Robert Hart
 rhart@gflenv.com
 T: (580)461-1509
 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)