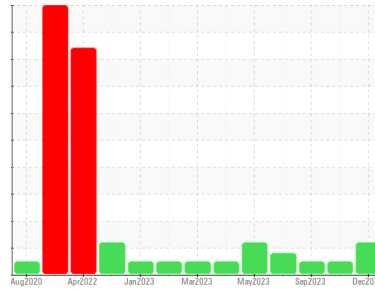




OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL



Machine Id
828018-1064

Component
Diesel Engine

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

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. 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	GFL0103866	GFL0097361	GFL0089555
Sample Date	Client Info	29 Dec 2023	10 Oct 2023	15 Sep 2023
Machine Age	hrs	Client Info	11571	13826
Oil Age	hrs	Client Info	340	9294
Oil Changed	Client Info	N/A	N/A	N/A
Sample Status		ABNORMAL	NORMAL	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 >100	13	60	59
Chromium	ppm ASTM D5185m >20	<1	2	2
Nickel	ppm ASTM D5185m >4	0	<1	<1
Titanium	ppm ASTM D5185m	0	<1	<1
Silver	ppm ASTM D5185m >3	0	0	0
Aluminum	ppm ASTM D5185m >20	2	7	5
Lead	ppm ASTM D5185m >40	0	0	0
Copper	ppm ASTM D5185m >330	<1	5	4
Tin	ppm ASTM D5185m >15	0	<1	0
Vanadium	ppm ASTM D5185m	0	<1	0
Cadmium	ppm ASTM D5185m	0	0	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	7	3	6
Barium	ppm ASTM D5185m 0	0	12	<1
Molybdenum	ppm ASTM D5185m 60	63	63	67
Manganese	ppm ASTM D5185m 0	<1	1	1
Magnesium	ppm ASTM D5185m 1010	925	975	1031
Calcium	ppm ASTM D5185m 1070	1056	1062	1166
Phosphorus	ppm ASTM D5185m 1150	1033	991	1108
Zinc	ppm ASTM D5185m 1270	1256	1262	1351
Sulfur	ppm ASTM D5185m 2060	3075	2776	3549

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	6	14	14
Sodium	ppm ASTM D5185m	8	8	9
Potassium	ppm ASTM D5185m >20	▲ 64	29	23
Glycol	% *ASTM D2982	NEG	NEG	NEG

INFRA-RED

method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	0.3	1.2	0.5
Nitration	Abs/cm *ASTM D7624 >20	6.7	11.0	11.6
Sulfation	Abs/.1mm *ASTM D7415 >30	18.6	22.3	25.4

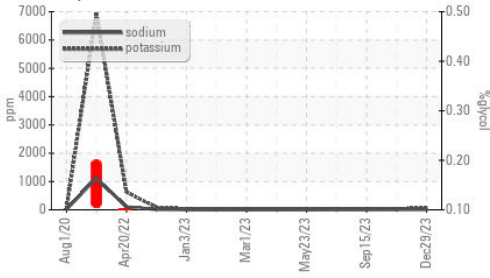
FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	14.4	18.3	19.5
Base Number (BN)	mg KOH/g ASTM D2896 9.8	8.8	6.2	8.1

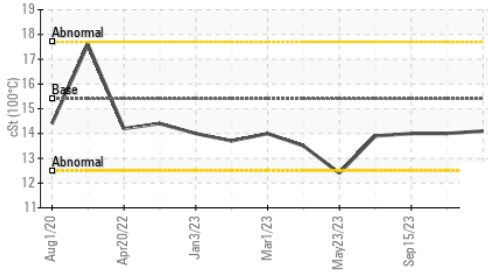


OIL ANALYSIS REPORT

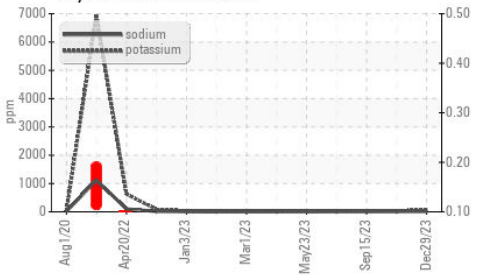
Glycol Contamination



Viscosity @ 100°C



Glycol Contamination

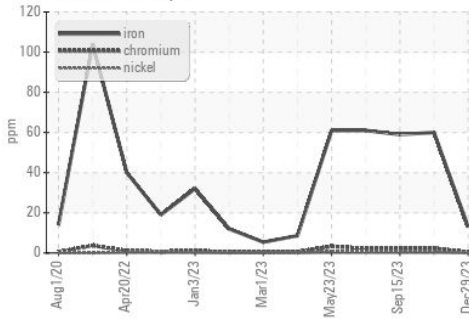


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

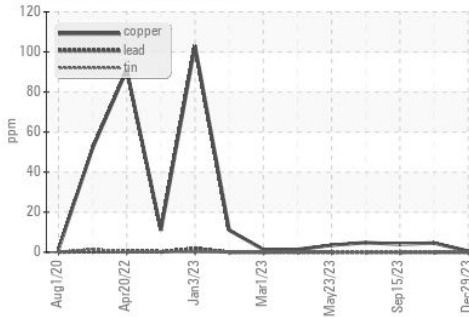
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.1	14.0

GRAPHS

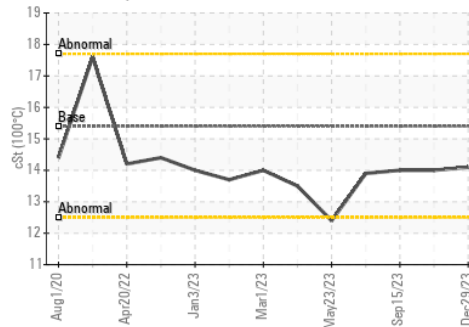
Ferrous Alloys



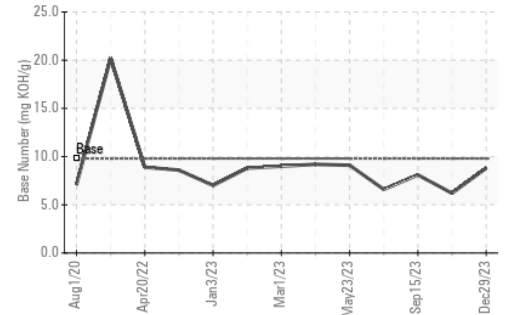
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : GFL0103866
 Lab Number : 06051396
 Unique Number : 10817345
 Test Package : FLEET (Additional Tests: Glycol)

GFL Environmental - 654S - Midlothian
 12230 Deergrove Road
 Midlothian, VA
 US 23112
 Contact: Corbin Umphlet
 cumphlet@gflenv.com

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)

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F: