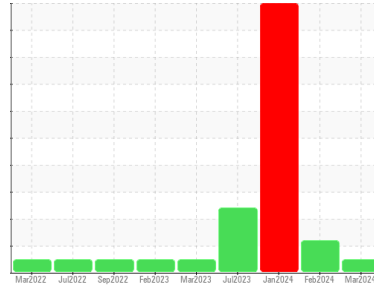




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
810034

Component
Diesel Engine

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

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. (Customer Sample Comment: This is a resample from coolant in oil, repairs were completed to correct this .)

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	GFL0092541	GFL0092531	GFL0100393
Sample Date	Client Info	07 Mar 2024	08 Feb 2024	16 Jan 2024
Machine Age	hrs	4425	4322	4186
Oil Age	hrs	59	136	576
Oil Changed	Client Info	Not Chngd	Not Chngd	Not Chngd
Sample Status		NORMAL	MARGINAL	SEVERE

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 >90	0	9	34
Chromium	ppm ASTM D5185m >20	<1	<1	2
Nickel	ppm ASTM D5185m >2	0	0	0
Titanium	ppm ASTM D5185m >2	0	0	0
Silver	ppm ASTM D5185m >2	0	0	0
Aluminum	ppm ASTM D5185m >20	2	4	13
Lead	ppm ASTM D5185m >40	0	0	0
Copper	ppm ASTM D5185m >330	0	6	2
Tin	ppm ASTM D5185m >15	0	<1	<1
Vanadium	ppm ASTM D5185m	0	0	<1
Cadmium	ppm ASTM D5185m	0	0	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	11	13	24
Barium	ppm ASTM D5185m 0	0	<1	0
Molybdenum	ppm ASTM D5185m 60	64	92	208
Manganese	ppm ASTM D5185m 0	0	<1	<1
Magnesium	ppm ASTM D5185m 1010	943	907	845
Calcium	ppm ASTM D5185m 1070	1113	956	956
Phosphorus	ppm ASTM D5185m 1150	1059	977	791
Zinc	ppm ASTM D5185m 1270	1245	1171	1122
Sulfur	ppm ASTM D5185m 2060	3566	3054	2983

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	3	11	▲ 34
Sodium	ppm ASTM D5185m	63	▲ 697	● 2245
Potassium	ppm ASTM D5185m >20	<1	12	▲ 36
Glycol	% *ASTM D2982	NEG	NEG	▲ 0.10

INFRA-RED

method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >6	0.2	0.3	1
Nitration	Abs/cm *ASTM D7624 >20	5.3	7.5	13.7
Sulfation	Abs/.1mm *ASTM D7415 >30	17.4	18.7	23.0

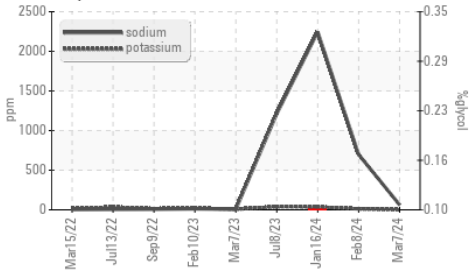
FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	13.3	13.9	17.8
Base Number (BN)	mg KOH/g ASTM D2896 9.8	9.1	10.5	9.2

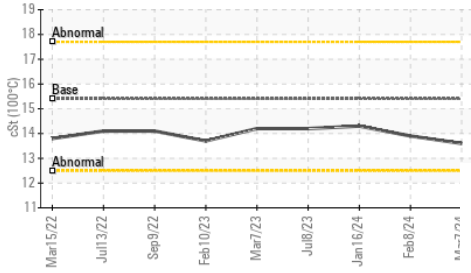


OIL ANALYSIS REPORT

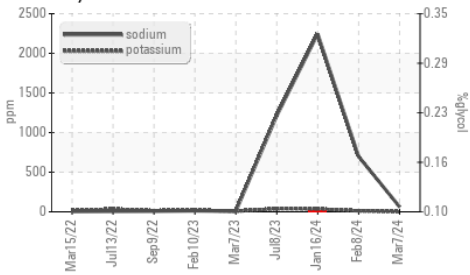
Glycol Contamination



Viscosity @ 100°C



Glycol Contamination

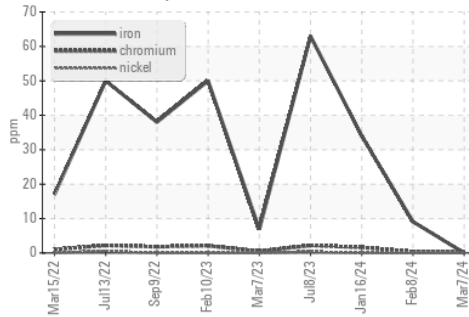


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

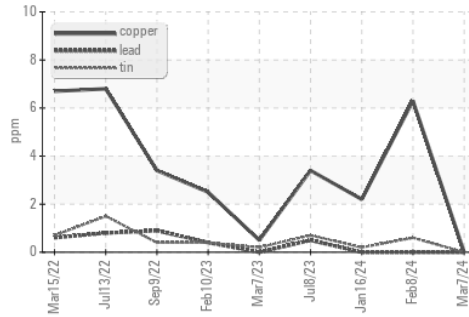
FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	15.4	13.6	13.9	14.3

GRAPHS

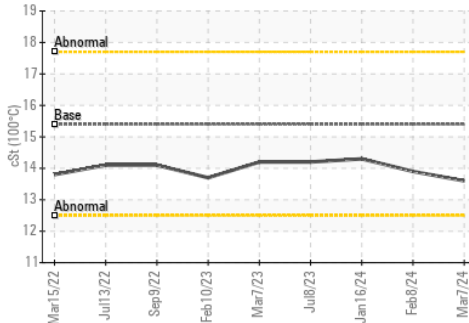
Ferrous Alloys



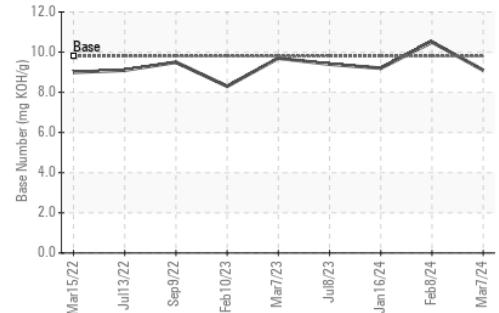
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0092541 **Received** : 12 Mar 2024
Lab Number : 06116463 **Tested** : 14 Mar 2024
Unique Number : 10925296 **Diagnosed** : 14 Mar 2024 - Jonathan Hester
Test Package : FLEET (Additional Tests: GLYCOL)

GFL Environmental - 935 - Omro HC
 250 Alder Avenue
 Omro, WI
 US 54963
 Contact: Tim Kieffer
 tim.kieffer@gflenv.com
 T: (608)219-0288
 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)