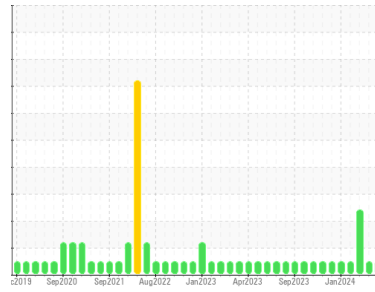




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
(D582HW)

Machine Id
10681

Component
Diesel Engine

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

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

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	GFL0099022	GFL0098876	GFL0098872
Sample Date	Client Info	25 Mar 2024	12 Mar 2024	19 Feb 2024
Machine Age	hrs Client Info	19347	19082	19082
Oil Age	hrs Client Info	18768	18768	18768
Oil Changed	Client Info	Changed	N/A	N/A
Sample Status		NORMAL	NORMAL	ABNORMAL

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
Glycol	WC Method	NEG	NEG	NEG

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >75	28	8	45
Chromium	ppm ASTM D5185m >5	<1	0	1
Nickel	ppm ASTM D5185m >4	<1	0	<1
Titanium	ppm ASTM D5185m >2	<1	<1	<1
Silver	ppm ASTM D5185m >2	0	0	0
Aluminum	ppm ASTM D5185m >15	2	2	3
Lead	ppm ASTM D5185m >25	0	0	<1
Copper	ppm ASTM D5185m >100	<1	<1	1
Tin	ppm ASTM D5185m >4	0	0	0
Vanadium	ppm ASTM D5185m	<1	<1	0
Cadmium	ppm ASTM D5185m	0	0	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	<1	6	<1
Barium	ppm ASTM D5185m 0	0	0	0
Molybdenum	ppm ASTM D5185m 60	62	56	67
Manganese	ppm ASTM D5185m 0	<1	<1	<1
Magnesium	ppm ASTM D5185m 1010	1016	939	994
Calcium	ppm ASTM D5185m 1070	1258	1106	1392
Phosphorus	ppm ASTM D5185m 1150	1101	1003	1134
Zinc	ppm ASTM D5185m 1270	1381	1268	1362
Sulfur	ppm ASTM D5185m 2060	3842	3802	3198

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	6	3	9
Sodium	ppm ASTM D5185m	42	3	▲ 94
Potassium	ppm ASTM D5185m >20	36	3	▲ 78

INFRA-RED

method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >6	0.6	0.1	0.9
Nitration	Abs/cm *ASTM D7624 >20	10.3	6.2	13.2
Sulfation	Abs/.1mm *ASTM D7415 >30	22.1	17.8	24.6

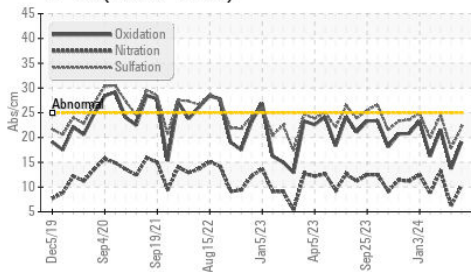
FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	19.1	13.7	21.6
Base Number (BN)	mg KOH/g ASTM D2896 9.8	7.6	8.0	7.0

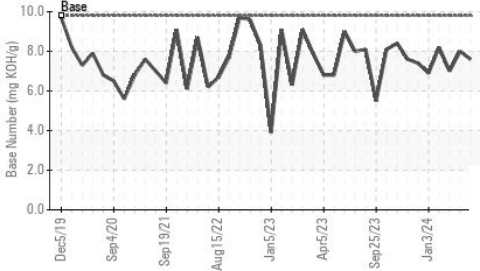


OIL ANALYSIS REPORT

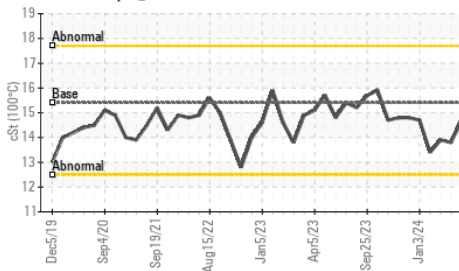
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

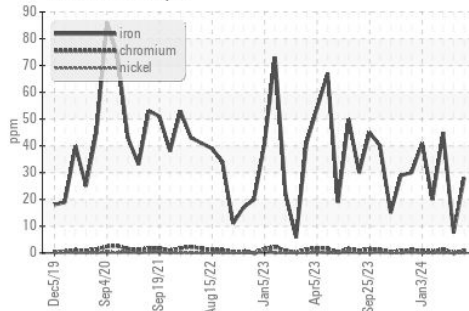


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

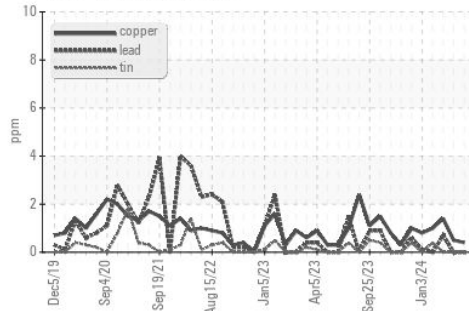
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.7	13.8

GRAPHS

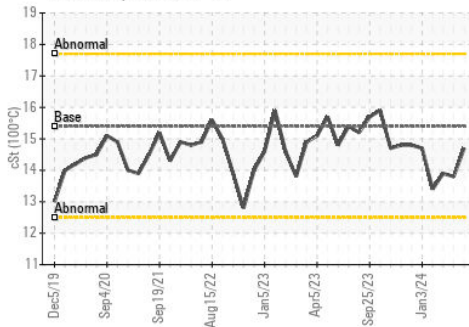
Ferrous Alloys



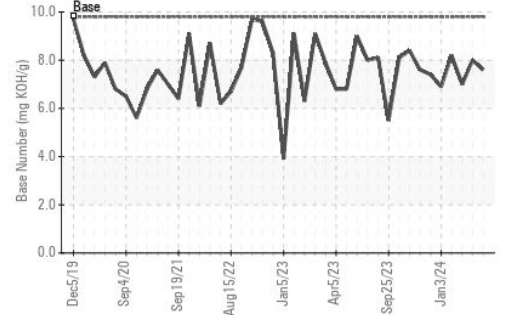
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : GFL0099022
 Lab Number : 06142066
 Unique Number : 10966874
 Test Package : FLEET

Received : 08 Apr 2024
 Tested : 09 Apr 2024
 Diagnosed : 09 Apr 2024 - Wes Davis

GFL Environmental - 084 - Clarksville
 699 Jack Miller Boulevard
 Clarksville, TN
 US 37042

Contact: ROBERT THIBAUT
 robert.thibault@gflenv.com

T: (931)552-7276

F: (931)572-9674

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)