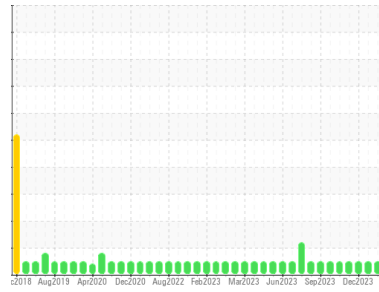




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
(16KM0A)
 Machine Id
429049-402451
 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	GFL0114052	GFL0103354	GFL0099978
Sample Date	Client Info	05 Apr 2024	02 Jan 2024	07 Dec 2023
Machine Age	hrs	15965	15713	15534
Oil Age	hrs	0	0	0
Oil Changed	Client Info	Not Changed	Not Changed	Not Changed
Sample Status		NORMAL	NORMAL	NORMAL

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 >165	42	1	6
Chromium	ppm ASTM D5185m >5	4	0	<1
Nickel	ppm ASTM D5185m >4	1	0	0
Titanium	ppm ASTM D5185m >2	<1	<1	0
Silver	ppm ASTM D5185m >2	<1	0	0
Aluminum	ppm ASTM D5185m >20	8	<1	<1
Lead	ppm ASTM D5185m >150	<1	<1	<1
Copper	ppm ASTM D5185m >90	2	<1	<1
Tin	ppm ASTM D5185m >5	1	1	0
Vanadium	ppm ASTM D5185m	<1	<1	0
Cadmium	ppm ASTM D5185m	<1	0	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	0	6	5
Barium	ppm ASTM D5185m 0	0	0	0
Molybdenum	ppm ASTM D5185m 60	59	61	60
Manganese	ppm ASTM D5185m 0	1	<1	0
Magnesium	ppm ASTM D5185m 1010	954	944	938
Calcium	ppm ASTM D5185m 1070	1161	1127	1102
Phosphorus	ppm ASTM D5185m 1150	1052	1060	998
Zinc	ppm ASTM D5185m 1270	1281	1251	1239
Sulfur	ppm ASTM D5185m 2060	3307	3188	3125

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >35	18	2	4
Sodium	ppm ASTM D5185m	7	2	4
Potassium	ppm ASTM D5185m >20	10	0	0

INFRA-RED

method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >7.5	0.7	0.1	0.2
Nitration	Abs/cm *ASTM D7624 >20	10.2	5.7	8.7
Sulfation	Abs/.1mm *ASTM D7415 >30	20.2	18.0	20.4

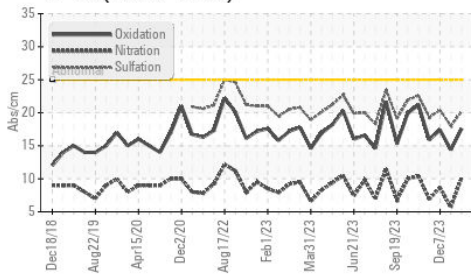
FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	17.6	14.4	17.4
Base Number (BN)	mg KOH/g ASTM D2896 9.8	7.5	8.5	7.6

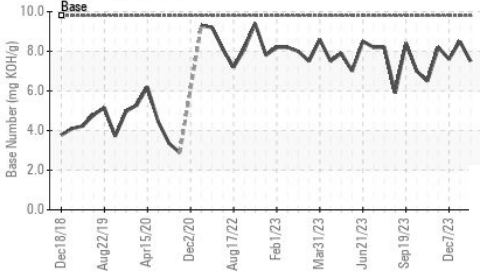


OIL ANALYSIS REPORT

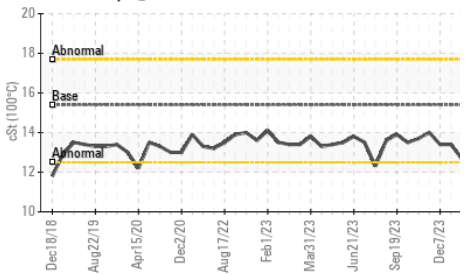
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

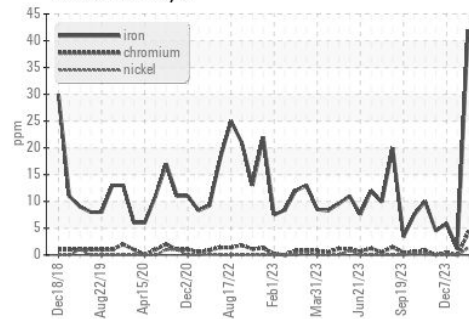


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

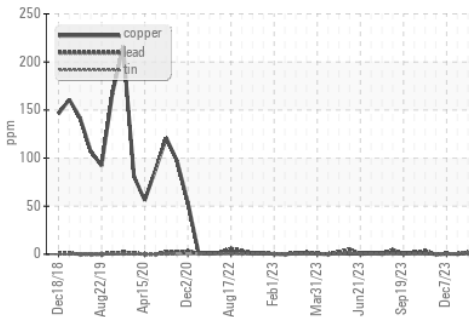
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	12.7	13.4

GRAPHS

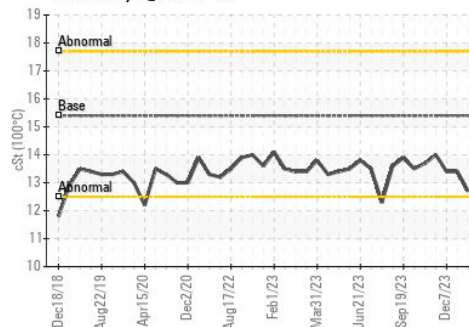
Ferrous Alloys



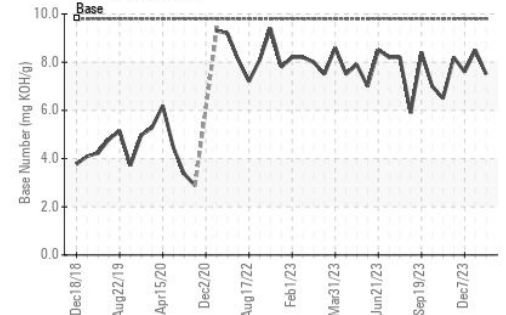
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : GFL0114052
 Lab Number : 06143655
 Unique Number : 10968463
 Test Package : FLEET

Received : 09 Apr 2024
 Tested : 10 Apr 2024
 Diagnosed : 12 Apr 2024 - Don Baldrige

GFL Environmental - 836 - Kansas City Hauling
 7801 East Truman Road
 Kansas City, MO
 US 64126
 Contact: Loyce Stewart
 loyce.stewart@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)