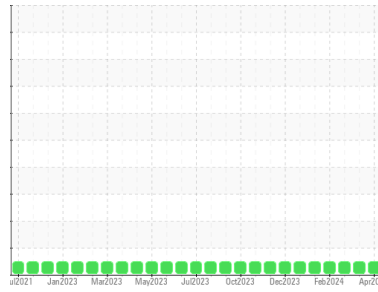




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
928052-172553
 Component
Diesel Engine
 Fluid
CHEVRON DELO 400 MULTIGRADE 15W40 (--- LTR)

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	GFL0103465	GFL0103460	GFL0103454	
Sample Date	Client Info	08 Apr 2024	21 Mar 2024	08 Mar 2024	
Machine Age	hrs	Client Info	18393	18277	18157
Oil Age	hrs	Client Info	3319	3203	3083
Oil Changed	Client Info	Changed	N/A	Not Changd	
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 >120	10	7	4
Chromium	ppm ASTM D5185m >20	<1	0	<1
Nickel	ppm ASTM D5185m >5	<1	0	0
Titanium	ppm ASTM D5185m >2	<1	<1	0
Silver	ppm ASTM D5185m >2	0	0	0
Aluminum	ppm ASTM D5185m >20	3	2	2
Lead	ppm ASTM D5185m >40	<1	0	<1
Copper	ppm ASTM D5185m >330	1	1	6
Tin	ppm ASTM D5185m >15	<1	0	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 151	14	16	22
Barium	ppm ASTM D5185m 0.4	0	<1	0
Molybdenum	ppm ASTM D5185m 250	73	65	71
Manganese	ppm ASTM D5185m	<1	0	0
Magnesium	ppm ASTM D5185m 0	962	830	811
Calcium	ppm ASTM D5185m 2046	1215	1078	1064
Phosphorus	ppm ASTM D5185m 1043	1037	842	902
Zinc	ppm ASTM D5185m 943	1312	1178	1087
Sulfur	ppm ASTM D5185m 5012	3747	3388	2925

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	5	4	4
Sodium	ppm ASTM D5185m	4	5	2
Potassium	ppm ASTM D5185m >20	2	2	3

INFRA-RED

method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >4	0.5	0.4	0.2
Nitration	Abs/cm *ASTM D7624 >20	7.1	6.6	5.4
Sulfation	Abs/.1mm *ASTM D7415 >30	17.8	17.5	17.1

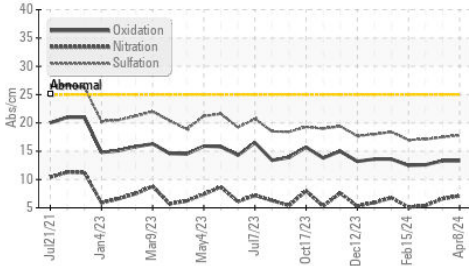
FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	13.3	13.3	12.6
Base Number (BN)	mg KOH/g ASTM D2896 12.5	7.9	8.2	8.5

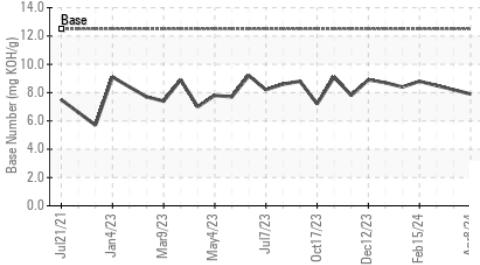


OIL ANALYSIS REPORT

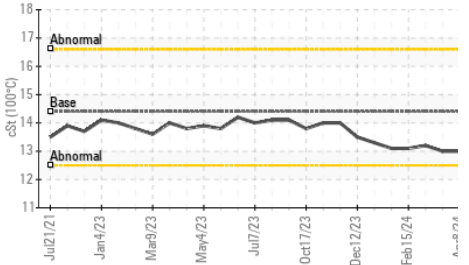
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

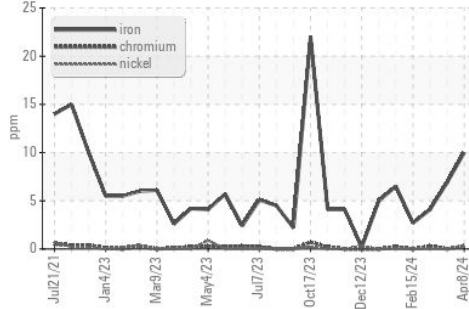


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

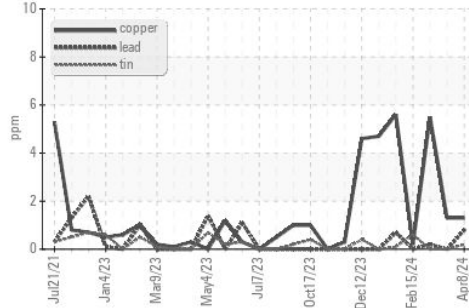
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.4	13.0	13.2

GRAPHS

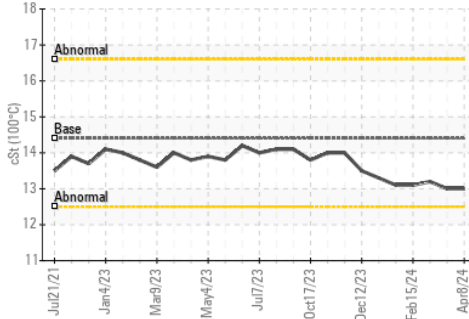
Ferrous Alloys



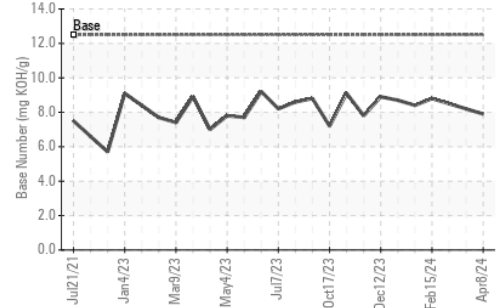
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : GFL0103465
 Lab Number : 06145706
 Unique Number : 10970514
 Test Package : FLEET

Received : 11 Apr 2024
 Tested : 12 Apr 2024
 Diagnosed : 14 Apr 2024 - Don Baldrige

GFL Environmental - 180 - Tuscaloosa Hauling
 4701 12TH ST NE
 Tuscaloosa, AL
 US 35404

Contact: FREDERICK ROGERS
 fred.rogers@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)

T:
F: