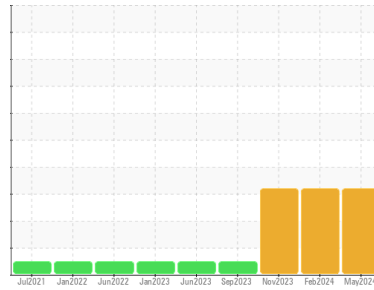




OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL



Machine Id

726019

Component

Diesel Engine

Fluid

CHEVRON DELO 400 XLE 15W40 (--- GAL)

DIAGNOSIS

Recommendation

We advise that you check for the source of the coolant leak. Check for low coolant level. We recommend an early resample to monitor this condition.

Wear

Cylinder, crank, or cam shaft wear is indicated.

Contamination

Sodium and/or potassium levels are high.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	GFL0104708	GFL0104586	GFL0096318
Sample Date	Client Info	30 May 2024	04 Feb 2024	28 Nov 2023
Machine Age	hrs	34229	34229	34152
Oil Age	hrs	32882	32882	0
Oil Changed	Client Info	Not Changed	Not Changed	Not Changed
Sample Status		ABNORMAL	ABNORMAL	ABNORMAL

CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >2.0	<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 >100	▲ 199	▲ 145	▲ 107
Chromium	ppm ASTM D5185m >20	12	13	8
Nickel	ppm ASTM D5185m >4	2	2	<1
Titanium	ppm ASTM D5185m	9	11	11
Silver	ppm ASTM D5185m >3	0	0	0
Aluminum	ppm ASTM D5185m >20	7	8	4
Lead	ppm ASTM D5185m >40	2	3	2
Copper	ppm ASTM D5185m >330	6	5	5
Tin	ppm ASTM D5185m >15	0	<1	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	63	31	28
Barium	ppm ASTM D5185m	0	0	2
Molybdenum	ppm ASTM D5185m	66	70	69
Manganese	ppm ASTM D5185m	2	1	<1
Magnesium	ppm ASTM D5185m	618	687	625
Calcium	ppm ASTM D5185m	1495	1547	1541
Phosphorus	ppm ASTM D5185m 760	809	732	650
Zinc	ppm ASTM D5185m 830	906	887	832
Sulfur	ppm ASTM D5185m 2770	3364	2930	3058

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	14	19	12
Sodium	ppm ASTM D5185m	▲ 205	▲ 212	▲ 167
Potassium	ppm ASTM D5185m >20	▲ 61	▲ 59	▲ 46
Glycol	% *ASTM D2982	NEG	NEG	NEG

INFRA-RED

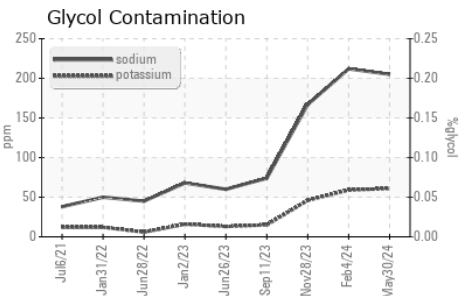
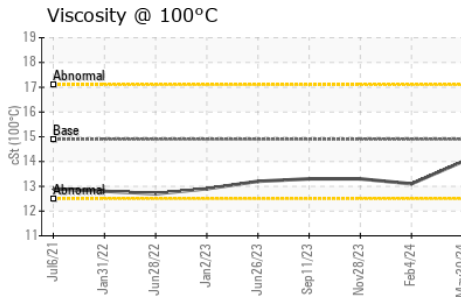
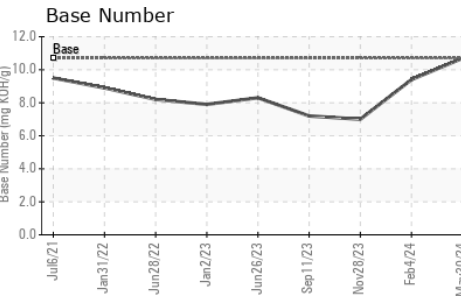
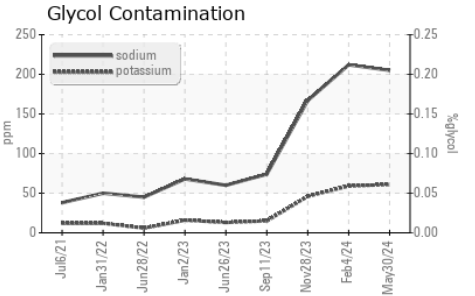
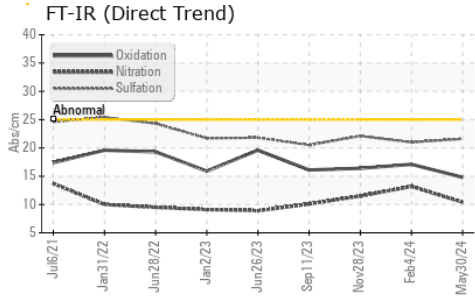
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	0.4	0.5	0.4
Nitration	Abs/cm *ASTM D7624 >20	10.4	13.2	11.5
Sulfation	Abs/.1mm *ASTM D7415 >30	21.6	21.0	22.1

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	14.8	17.1	16.4
Base Number (BN)	mg KOH/g ASTM D2896 10.7	10.7	9.4	7.0



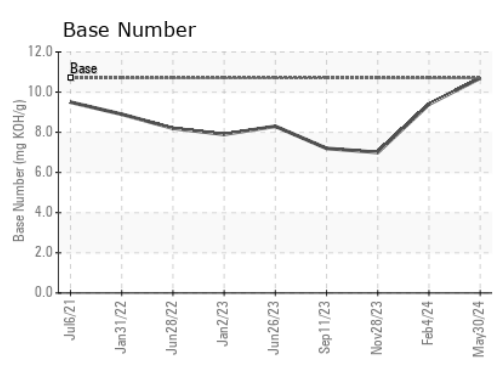
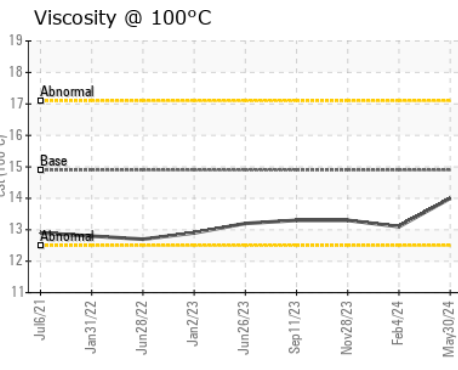
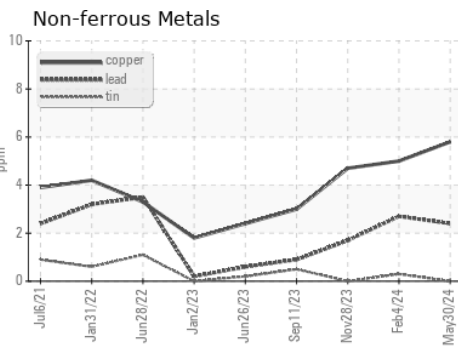
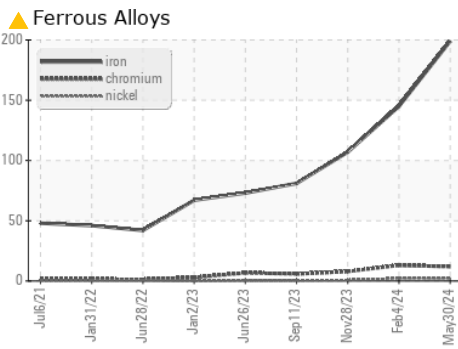
OIL ANALYSIS REPORT



PARAMETER	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

PARAMETER	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.9	14.0	13.1

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0104708
Lab Number : 06198793
Unique Number : 11060916
Test Package : FLEET (Additional Tests: Glycol)
Received : 04 Jun 2024
Tested : 06 Jun 2024
Diagnosed : 06 Jun 2024 - Jonathan Hester

GFL Environmental - 624 - Elmira Hauling
 10164 M-32
 Elmira, MI
 US 49730

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)