



OIL ANALYSIS REPORT

Sample Rating Trend

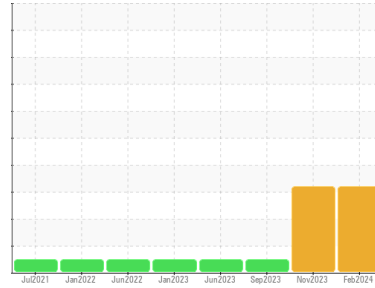
GLYCOL



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	GFL0104586	GFL0096318	GFL0064438
Sample Date	Client Info	04 Feb 2024	28 Nov 2023	11 Sep 2023
Machine Age	hrs	34229	34152	34065
Oil Age	hrs	32882	0	181
Oil Changed	Client Info	Not Changed	Not Changed	Not Changed
Sample Status		ABNORMAL	ABNORMAL	NORMAL

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	▲ 145	▲ 107	81
Chromium	ppm ASTM D5185m >20	13	8	6
Nickel	ppm ASTM D5185m >4	2	<1	<1
Titanium	ppm ASTM D5185m	11	11	10
Silver	ppm ASTM D5185m >3	0	0	0
Aluminum	ppm ASTM D5185m >20	8	4	6
Lead	ppm ASTM D5185m >40	3	2	<1
Copper	ppm ASTM D5185m >330	5	5	3
Tin	ppm ASTM D5185m >15	<1	0	<1
Vanadium	ppm ASTM D5185m	<1	0	<1
Cadmium	ppm ASTM D5185m	0	0	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m	31	28	44
Barium	ppm ASTM D5185m	0	2	0
Molybdenum	ppm ASTM D5185m	70	69	54
Manganese	ppm ASTM D5185m	1	<1	1
Magnesium	ppm ASTM D5185m	687	625	574
Calcium	ppm ASTM D5185m	1547	1541	1568
Phosphorus	ppm ASTM D5185m 760	732	650	595
Zinc	ppm ASTM D5185m 830	887	832	774
Sulfur	ppm ASTM D5185m 2770	2930	3058	3006

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	19	12	8
Sodium	ppm ASTM D5185m	▲ 212	▲ 167	74
Potassium	ppm ASTM D5185m >20	▲ 59	▲ 46	15
Glycol	% *ASTM D2982	NEG	NEG	NEG

INFRA-RED

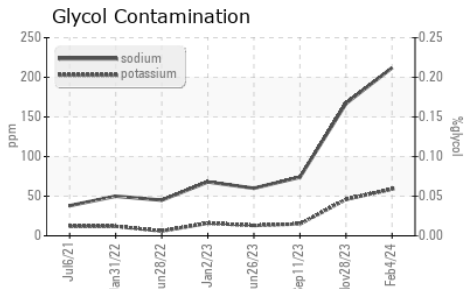
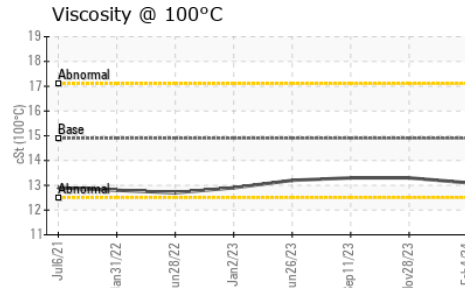
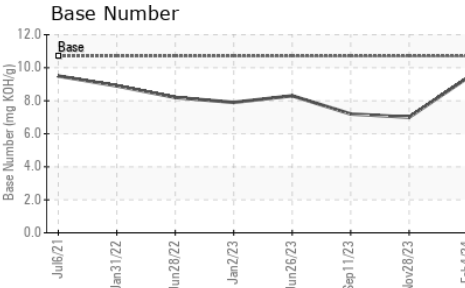
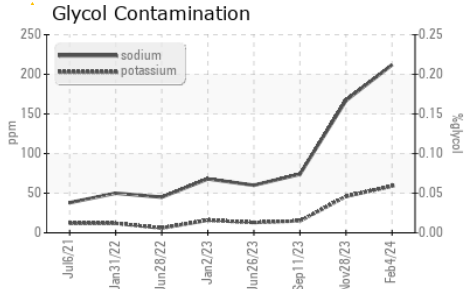
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	0.5	0.4	0.4
Nitration	Abs/cm *ASTM D7624 >20	13.2	11.5	10.1
Sulfation	Abs/.1mm *ASTM D7415 >30	21.0	22.1	20.5

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	17.1	16.4	16.1
Base Number (BN)	mg KOH/g ASTM D2896 10.7	9.4	7.0	7.2

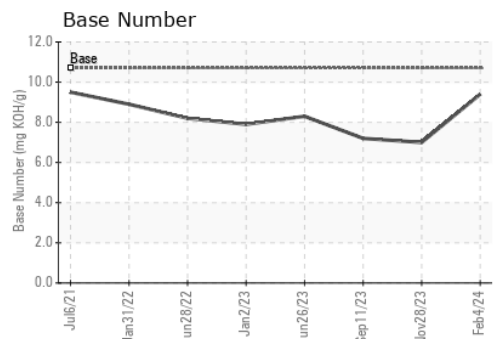
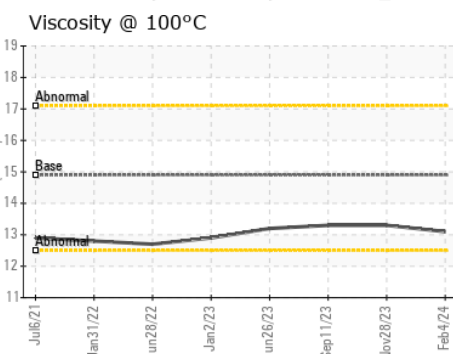
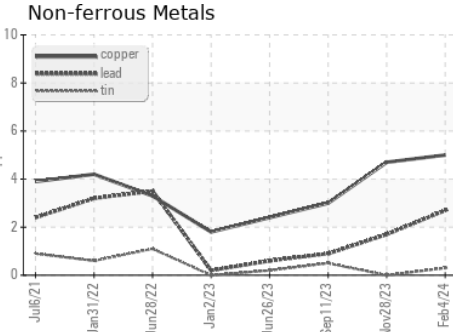
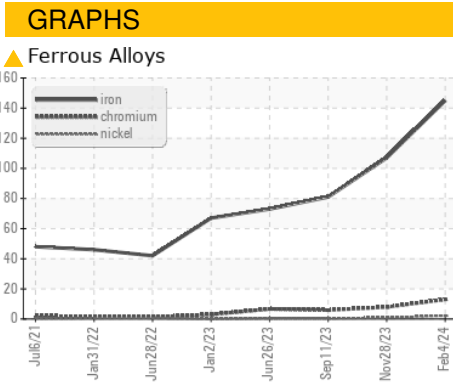


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PARAMETER	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.9	13.1	13.3



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0104586 **Received** : 08 Mar 2024
Lab Number : 06113383 **Tested** : 12 Mar 2024
Unique Number : 10916880 **Diagnosed** : 12 Mar 2024 - Jonathan Hester
Test Package : FLEET (Additional Tests: Glycol)

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