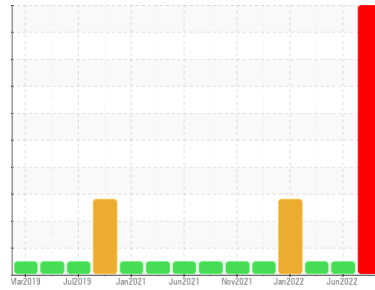




PROBLEM SUMMARY

Sample Rating Trend



WEAR



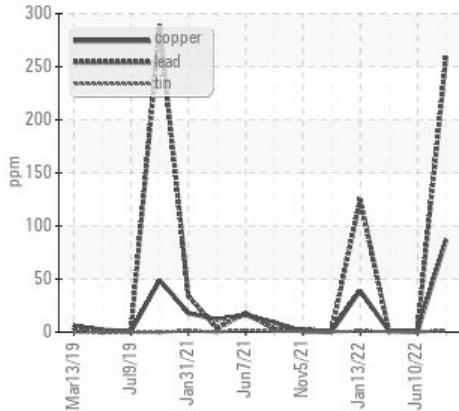
Machine Id
3811C

Component
Natural Gas Engine

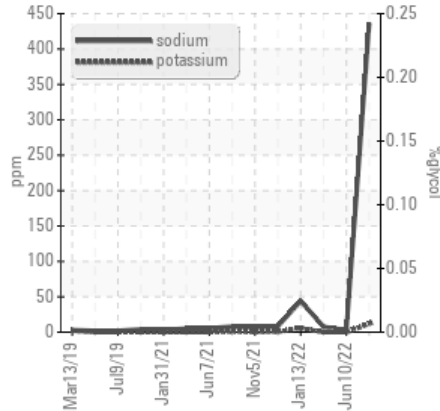
Fluid
CHEVRON DELO 400 NG (46 GAL)

COMPONENT CONDITION SUMMARY

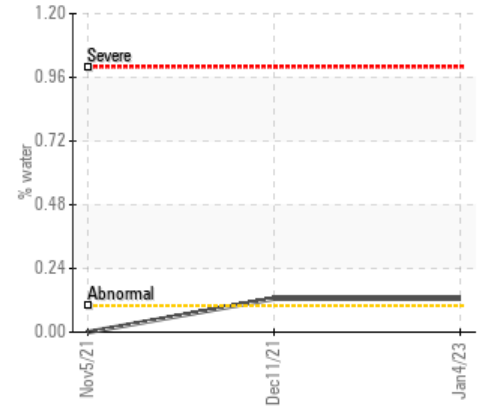
Non-ferrous Metals



Glycol Contamination



Water



RECOMMENDATION

We advise that you check for the source of the coolant leak. Check for low coolant level. We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	NORMAL	NORMAL
Lead	ppm	ASTM D5185m	>30	260	<1	1
Copper	ppm	ASTM D5185m	>35	87	<1	1
Sodium	ppm	ASTM D5185m		436	3	8
Potassium	ppm	ASTM D5185m	>20	12	0	0
Water	%	ASTM D6304	>0.1	0.126	---	---
ppm Water	ppm	ASTM D6304	>1000	1260	---	---
Base Number (BN)	mg KOH/g	ASTM D2896	6.1	0.9	8.1	6.1

Customer Id: GFL018
Sample No.: GFL0066797
Lab Number: 05732012
Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data:
Jonathan Hester +1 919-379-4092 x4092
jhester@wearcheckusa.com

To change component or sample information:
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Fluid	MISSED	Mar 24 2023	?	We recommend that you drain the oil and perform a filter service on this component if not already done.
Change Filter	MISSED	Mar 24 2023	?	We recommend that you drain the oil and perform a filter service on this component if not already done.
Resample	MISSED	Mar 24 2023	?	We recommend an early resample to monitor this condition.
Check Glycol Access	MISSED	Mar 24 2023	?	We advise that you check for the source of the coolant leak.

HISTORICAL DIAGNOSIS

10 Jun 2022 Diag: Wes Davis

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report



14 Apr 2022 Diag: Wes Davis

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report



13 Jan 2022 Diag: Jonathan Hester

DEGRADATION



We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition. Bearing and/or bushing wear is indicated. There is no indication of any contamination in the oil. The BN level is low. The condition of the oil is acceptable for the time in service.

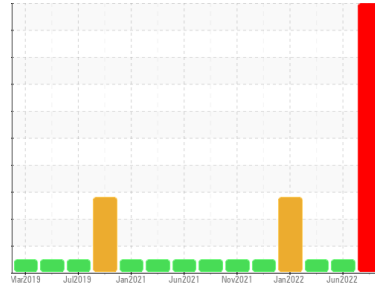
view report





OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id
3811C
 Component
Natural Gas Engine
 Fluid
CHEVRON DELO 400 NG (46 GAL)

DIAGNOSIS

Recommendation

We advise that you check for the source of the coolant leak. Check for low coolant level. We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition.

Wear

Bearing and/or bushing wear is indicated.

Contamination

Sodium and/or potassium levels are high. There is a light concentration of water present in the oil.

Fluid Condition

The BN level is low. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

SAMPLE INFORMATION

method	limit/base	current	history 1	history 2
Sample Number	Client Info	GFL0066797	GFL0042524	GFL0033109
Sample Date	Client Info	04 Jan 2023	10 Jun 2022	14 Apr 2022
Machine Age	hrs	30272	30272	30272
Oil Age	hrs	30272	547	722
Oil Changed	Client Info	Not Changed	Changed	Not Changed
Sample Status		SEVERE	NORMAL	NORMAL

WEAR METALS

method	limit/base	current	history 1	history 2	
Iron	ppm	ASTM D5185m >50	35	2	15
Chromium	ppm	ASTM D5185m >4	2	<1	<1
Nickel	ppm	ASTM D5185m >2	0	0	0
Titanium	ppm	ASTM D5185m	0	0	0
Silver	ppm	ASTM D5185m >3	0	<1	<1
Aluminum	ppm	ASTM D5185m >9	3	1	3
Lead	ppm	ASTM D5185m >30	260	<1	1
Copper	ppm	ASTM D5185m >35	87	<1	1
Tin	ppm	ASTM D5185m >4	1	<1	<1
Antimony	ppm	ASTM D5185m	---	---	---
Vanadium	ppm	ASTM D5185m	0	0	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

method	limit/base	current	history 1	history 2	
Boron	ppm	ASTM D5185m	14	50	21
Barium	ppm	ASTM D5185m	0	0	0
Molybdenum	ppm	ASTM D5185m	73	48	55
Manganese	ppm	ASTM D5185m	2	<1	<1
Magnesium	ppm	ASTM D5185m	794	561	636
Calcium	ppm	ASTM D5185m	1909	1500	1674
Phosphorus	ppm	ASTM D5185m 800	946	759	855
Zinc	ppm	ASTM D5185m 880	1297	907	1022
Sulfur	ppm	ASTM D5185m	3343	2512	2281

CONTAMINANTS

method	limit/base	current	history 1	history 2	
Silicon	ppm	ASTM D5185m >+100	11	4	5
Sodium	ppm	ASTM D5185m	436	3	8
Potassium	ppm	ASTM D5185m >20	12	0	0
Water	%	ASTM D6304 >0.1	0.126	---	---
ppm Water	ppm	ASTM D6304 >1000	1260	---	---

INFRA-RED

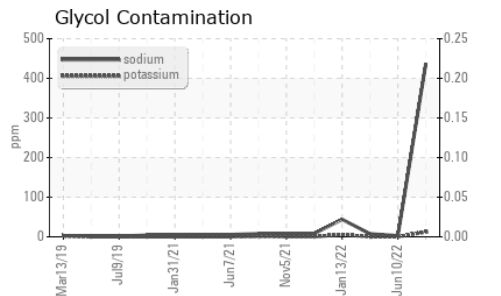
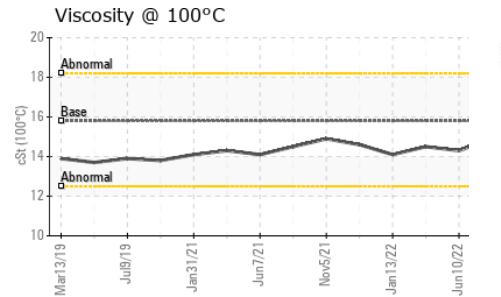
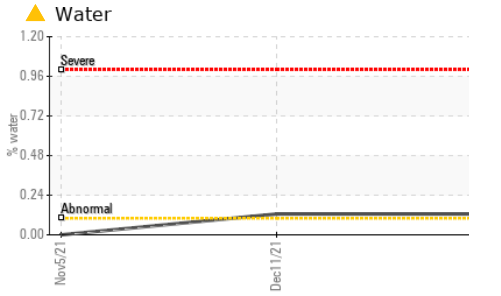
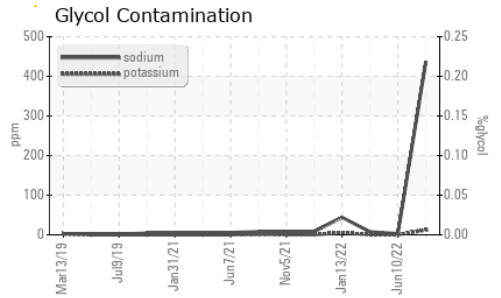
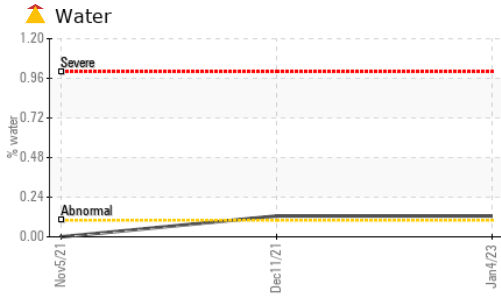
method	limit/base	current	history 1	history 2	
Soot %	%	*ASTM D7844	0.1	0	0.1
Nitration	Abs/cm	*ASTM D7624 >20	18.2	7.6	10.2
Sulfation	Abs/.1mm	*ASTM D7415 >30	35.7	19.5	22.1

FLUID DEGRADATION

method	limit/base	current	history 1	history 2	
Oxidation	Abs/.1mm	*ASTM D7414 >25	42.2	16.2	19.4
Base Number (BN)	mg KOH/g	ASTM D2896 6.1	0.9	8.1	6.1



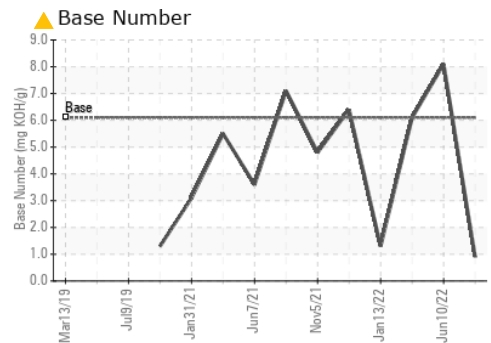
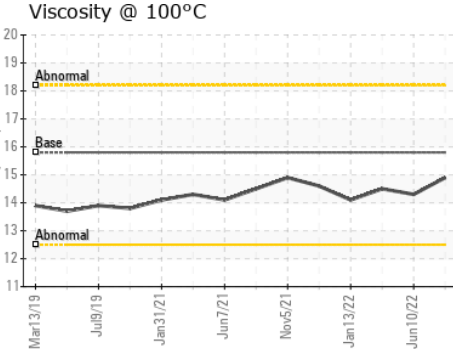
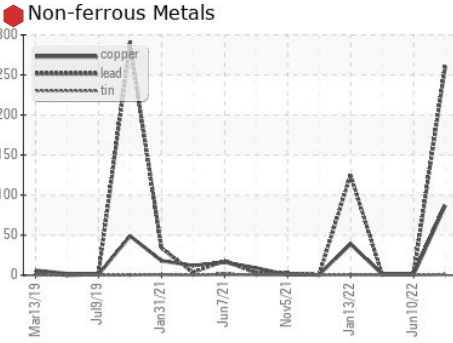
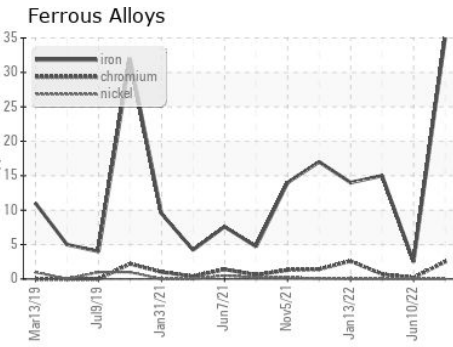
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history 1	history 2
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	>0.1	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history 1	history 2	
Visc @ 100°C	cSt	ASTM D445	15.8	14.9	14.3	14.5

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0066797 **Received** : 06 Jan 2023
Lab Number : 05732012 **Diagnosed** : 09 Jan 2023
Unique Number : 10281610 **Diagnostician** : Jonathan Hester
Test Package : FLEET (Additional Tests: Glycol, KF)

GFL Environmental - 018 - Fayetteville
 4621 Marracco Drive
 Hope Mills, NC
 US 28348
 Contact: Robert Carter
 robert.carter@gflenv.com
 T: (910)596-1170
 F:

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)