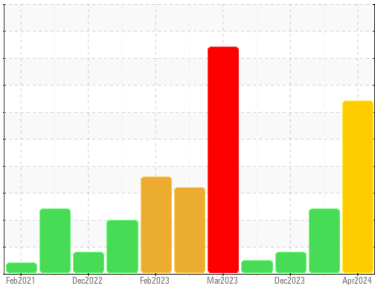
PROBLEM SUMMARY

Machine Id
723022-361626
Component
Diesel Engine
Fluid
CHEVRON DELO 400 LE 15W40 (--- GAL)

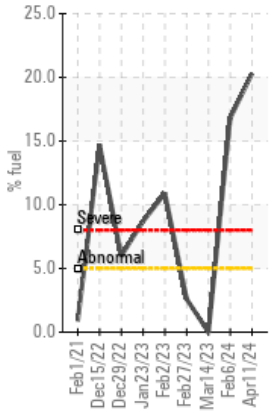
Sample Rating Trend



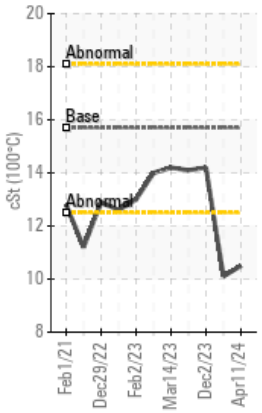
FUEL

COMPONENT CONDITION SUMMARY

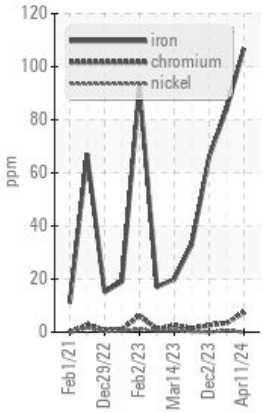
▲ Fuel Dilution



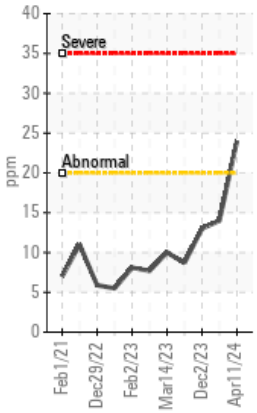
▲ Viscosity @ 100°



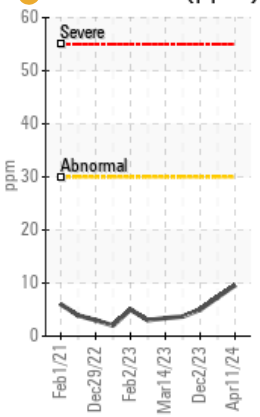
▲ Ferrous Alloys



▲ Silicon (ppm)



● Aluminum (ppm)



RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. We advise that you check the fuel injection system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				**SEVERE**	SEVERE	ABNORMAL
Iron	ppm	ASTM D5185m	>80	▲ **107**	84	66
Chromium	ppm	ASTM D5185m	>5	▲ **7**	3	3
Silicon	ppm	ASTM D5185m	>20	▲ **24**	14	13
Fuel	%	ASTM D3524	>5	▲ **20.3**	▲ 16.8	<1.0
Visc @ 100°C	cSt	ASTM D445	15.7	▲ **10.5**	▲ 10.1	14.2

Customer Id: GFL856
Sample No.: GFL0106895
Lab Number: 06151501
Test Package: FLEET

To manage this report scan the QR code

To discuss the diagnosis or test data:
Sean Felton +1 919-379-4092
sfelton@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
Resample	---	---	?	We recommend an early resample to monitor this condition.
Check Dirt Access	---	---	?	We advise that you check the air filter, air induction system, and any areas where dirt may enter the component.
Check Fuel/injector System	---	---	?	We advise that you check the fuel injection system.

HISTORICAL DIAGNOSIS

FUEL

06 Feb 2024 Diag: Jonathan Hester
We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.All component wear rates are normal. There is a high amount of fuel present in the oil. Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

view report

SOOT

02 Dec 2023 Diag: Jonathan Hester
We recommend you service the filters on this component. Resample at the next service interval to monitor.All component wear rates are normal. There is an abnormal amount of solids and carbon present 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

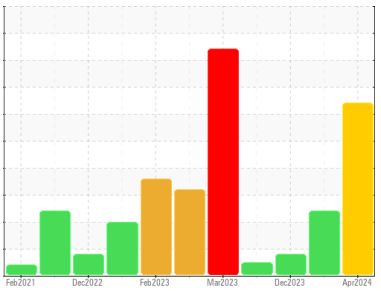
NORMAL

07 Jun 2023 Diag: Jonathan Hester
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

OIL ANALYSIS REPORT

Sample Rating Trend



FUEL

Machine Id
723022-361626
Component
Diesel Engine
Fluid
CHEVRON DELO 400 LE 15W40 (--- GAL)

DIAGNOSIS

Recommendation
We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. We advise that you check the fuel injection system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear
Cylinder, crank, or cam shaft wear is indicated.

Contamination
Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. There is a high amount of fuel present in the oil.

Fluid Condition
Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0106895**	GFL0092122	GFL0092088
Sample Date		Client Info		**11 Apr 2024**	06 Feb 2024	02 Dec 2023
Machine Age	hrs	Client Info		**19006**	18953	233406
Oil Age	hrs	Client Info		**5235**	600	228171
Oil Changed		Client Info		**Changed**	Changed	Not Changd
Sample Status				**SEVERE**	SEVERE	ABNORMAL

CONTAMINATION		method	limit/base	current	history1	history2
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	>80	▲ **107**	84	66
Chromium	ppm	ASTM D5185m	>5	▲ **7**	3	3
Nickel	ppm	ASTM D5185m	>2	**0**	<1	0
Titanium	ppm	ASTM D5185m		**<1**	<1	0
Silver	ppm	ASTM D5185m	>3	**0**	0	0
Aluminum	ppm	ASTM D5185m	>30	● **10**	7	5
Lead	ppm	ASTM D5185m	>30	**<1**	3	2
Copper	ppm	ASTM D5185m	>150	**0**	5	7
Tin	ppm	ASTM D5185m	>5	**<1**	2	<1
Vanadium	ppm	ASTM D5185m		**0**	<1	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**1**	10	1
Barium	ppm	ASTM D5185m		**0**	0	2
Molybdenum	ppm	ASTM D5185m		**45**	45	56
Manganese	ppm	ASTM D5185m		**<1**	<1	0
Magnesium	ppm	ASTM D5185m		**693**	637	826
Calcium	ppm	ASTM D5185m		**787**	995	1014
Phosphorus	ppm	ASTM D5185m	1200	**746**	727	871
Zinc	ppm	ASTM D5185m	1300	**884**	911	1090
Sulfur	ppm	ASTM D5185m	3200	**2256**	1980	2589

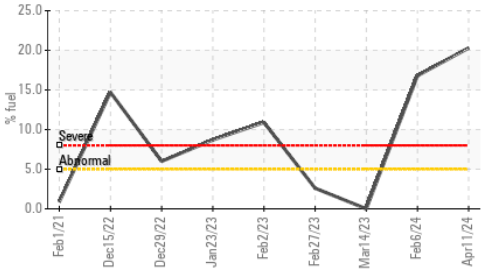
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>20	▲ **24**	14	13
Sodium	ppm	ASTM D5185m		**10**	11	11
Potassium	ppm	ASTM D5185m	>20	**1**	0	4
Fuel	%	ASTM D3524	>5	▲ **20.3**	▲ 16.8	<1.0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**1.6**	1.5	▲ 4.2
Nitration	Abs/cm	*ASTM D7624	>20	**16.3**	16.0	16.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	**26.0**	27.6	30.0

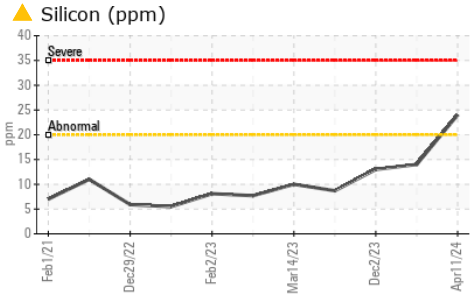
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**30.3**	33.1	23.7
Base Number (BN)	mg KOH/g	ASTM D2896	9.6	**6.6**	4.8	4.4

OIL ANALYSIS REPORT

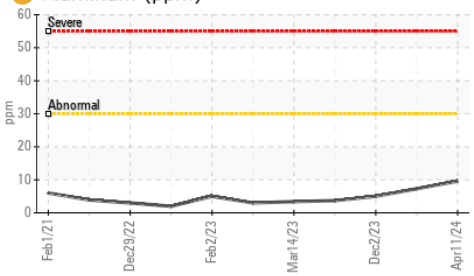
Fuel Dilution



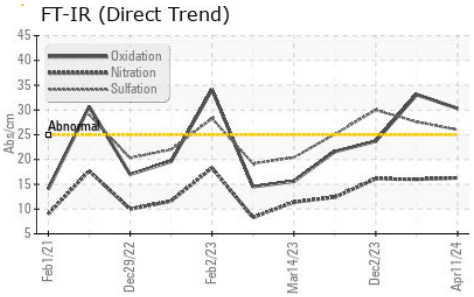
Silicon (ppm)



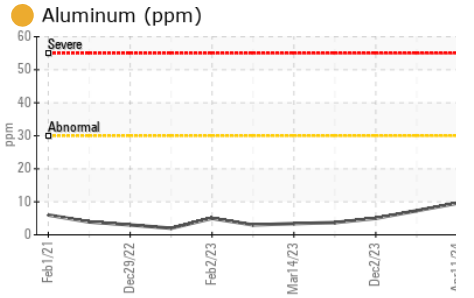
Aluminum (ppm)



FT-IR (Direct Trend)



Aluminum (ppm)

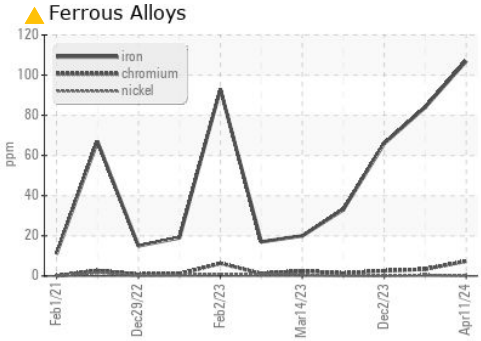


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	**NORML**	NORML	NORML
Odor	scalar	*Visual	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	**NEG**	NEG	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

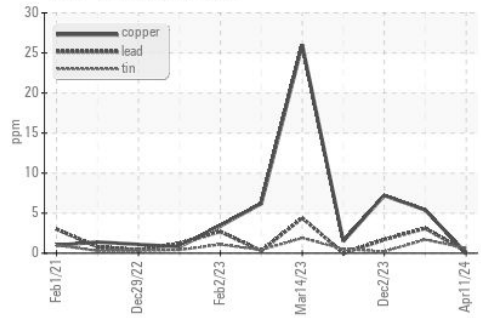
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.7	▲ **10.5**	▲ 10.1	14.2

GRAPHS

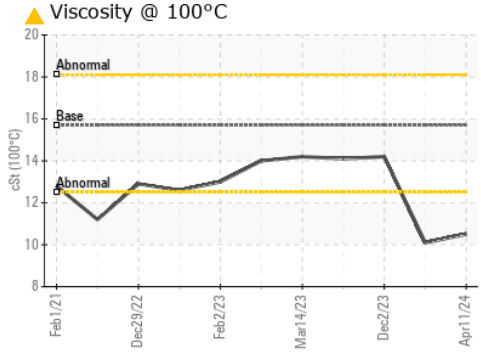
Ferrous Alloys



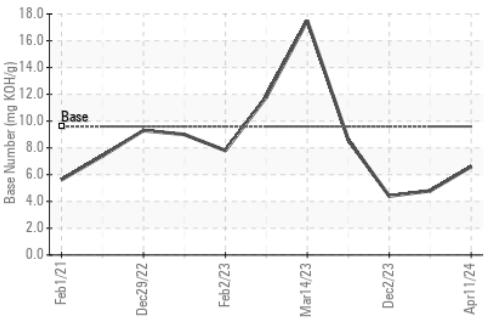
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0106895
Lab Number : 06151501
Unique Number : 10981579
Test Package : FLEET (Additional Tests: PercentFuel)

Received : 17 Apr 2024
Tested : 22 Apr 2024
Diagnosed : 22 Apr 2024 - Sean Felton

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)

GFL Environmental - 856 - Houston South
8515 Highway 6 South
Houston, TX
US 77083
Contact: Apolinar Zacarias
pzacariascano@gflenv.com
T:
F:

Report Id: GFL856 [WUSCAR] 06151501 (Generated: 04/23/2024 10:01:38) Rev: 1

Submitted By: Apolinar Zacarias