



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

**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.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>GFL0106895</b>	GFL0092122	GFL0092088
Sample Date		Client Info		<b>11 Apr 2024</b>	06 Feb 2024	02 Dec 2023
Machine Age	hrs	Client Info		<b>19006</b>	18953	233406
Oil Age	hrs	Client Info		<b>5235</b>	600	228171
Filter Age	hrs	Client Info		<b>5235</b>	600	0
Oil Changed		Client Info		<b>Changed</b>	Changed	Not Changd
Filter Changed		Client Info		<b>Not Changd</b>	Changed	Not Changd
Sample Status				<b>SEVERE</b>	SEVERE	ABNORMAL

**WEAR**

Cylinder, crank, or cam shaft wear is indicated.

Iron	ppm	ASTM D5185m	>80	<b>▲ 107</b>	84	66
Chromium	ppm	ASTM D5185m	>5	<b>▲ 7</b>	3	3
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>30	<b>● 10</b>	7	5
Lead	ppm	ASTM D5185m	>30	<b>&lt;1</b>	3	2
Copper	ppm	ASTM D5185m	>150	<b>0</b>	5	7
Tin	ppm	ASTM D5185m	>5	<b>&lt;1</b>	2	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	<1	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

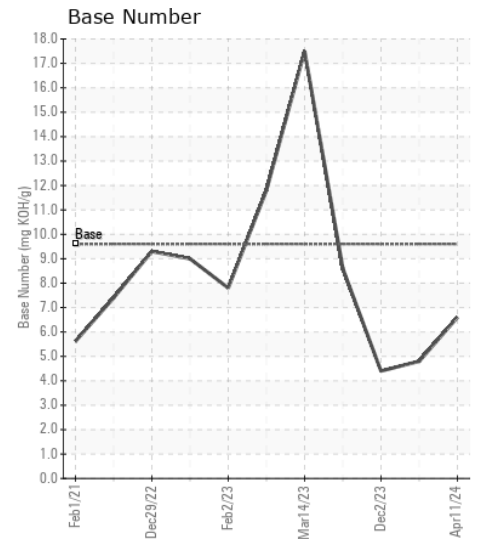
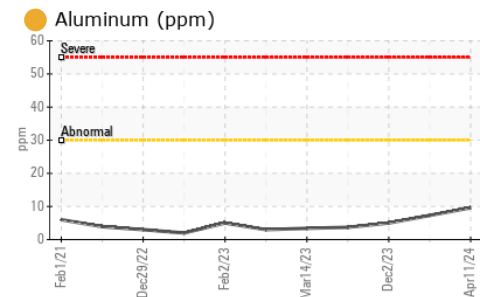
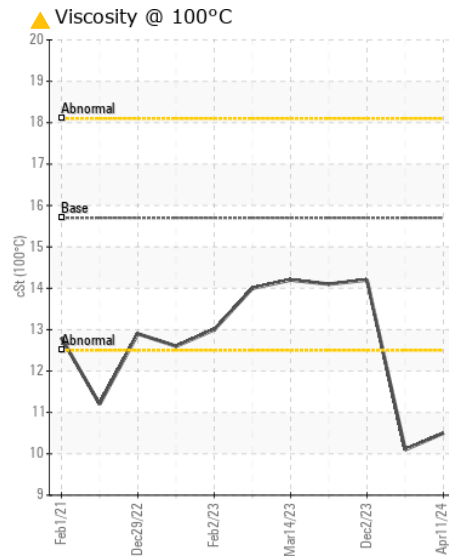
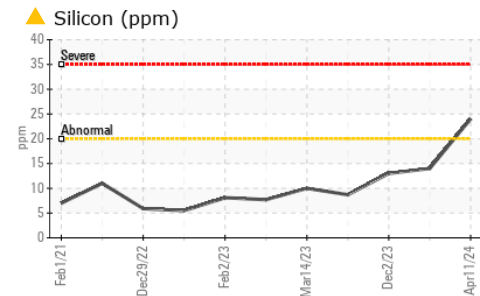
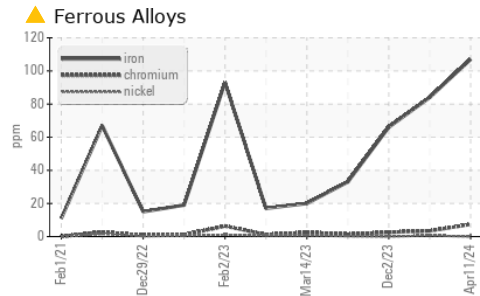
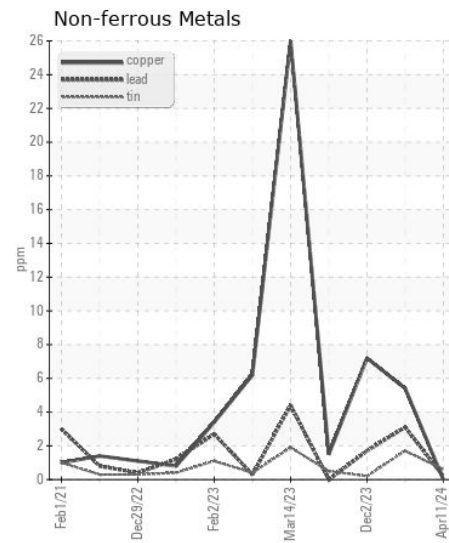
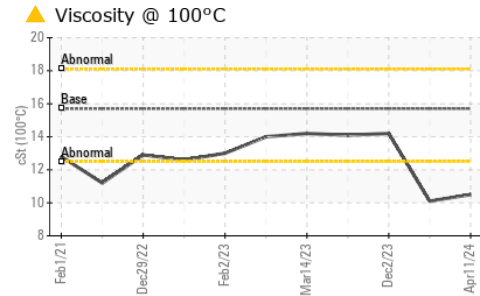
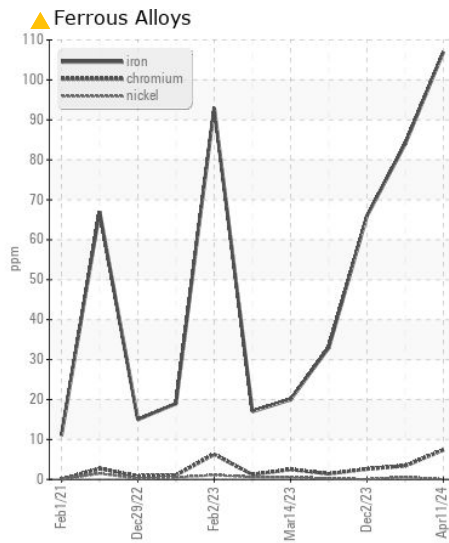
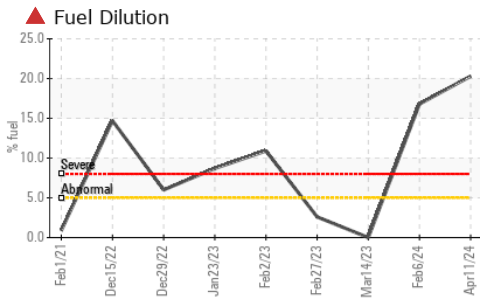
Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. There is a high amount of fuel present in the oil.

Silicon	ppm	ASTM D5185m	>20	<b>▲ 24</b>	14	13
Potassium	ppm	ASTM D5185m	>20	<b>1</b>	0	4
Fuel	%	ASTM D3524	>5	<b>▲ 20.3</b>	▲ 16.8	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>1.6</b>	1.5	▲ 4.2
Nitration	Abs/cm	*ASTM D7624	>20	<b>16.3</b>	16.0	16.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>26.0</b>	27.6	30.0
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	NEG	NEG

**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.

Sodium	ppm	ASTM D5185m		<b>10</b>	11	11
Boron	ppm	ASTM D5185m		<b>1</b>	10	1
Barium	ppm	ASTM D5185m		<b>0</b>	0	2
Molybdenum	ppm	ASTM D5185m		<b>45</b>	45	56
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Magnesium	ppm	ASTM D5185m		<b>693</b>	637	826
Calcium	ppm	ASTM D5185m		<b>787</b>	995	1014
Phosphorus	ppm	ASTM D5185m	1200	<b>746</b>	727	871
Zinc	ppm	ASTM D5185m	1300	<b>884</b>	911	1090
Sulfur	ppm	ASTM D5185m	3200	<b>2256</b>	1980	2589
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>30.3</b>	33.1	23.7
Base Number (BN)	mg KOH/g	ASTM D2896	9.6	<b>6.6</b>	4.8	4.4
Visc @ 100°C	cSt	ASTM D445	15.7	<b>▲ 10.5</b>	▲ 10.1	14.2



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0106895 **Received** : 17 Apr 2024  
**Lab Number** : 06151501 **Tested** : 22 Apr 2024  
**Unique Number** : 10981579 **Diagnosed** : 22 Apr 2024 - Sean Felton  
**Test Package** : FLEET ( Additional Tests: PercentFuel )

**GFL Environmental - 856 - Houston South**  
 8515 Highway 6 South  
 Houston, TX  
 US 77083  
 Contact: Apolinar Zacarias  
 pzacariascano@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)

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F: