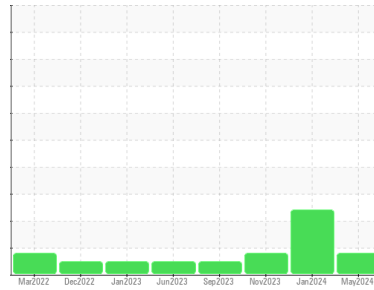




# OIL ANALYSIS REPORT

Sample Rating Trend



**SOOT**



Machine Id  
**927020-526**

Component  
**Diesel Engine**

Fluid  
**CHEVRON DELO 400 XLE 15W40 (9 GAL)**

## DIAGNOSIS

### Recommendation

We recommend you service the filters on this component. Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

There is an abnormal amount of solids and carbon present in the oil.

### Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>GFL0104711</b>	GFL0096284	GFL0096272
Sample Date	Client Info		<b>30 May 2024</b>	30 Jan 2024	28 Nov 2023
Machine Age	hrs	Client Info	<b>29878</b>	29373	28950
Oil Age	hrs	Client Info	<b>29373</b>	1307	0
Oil Changed	Client Info		<b>Not Changed</b>	Changed	Not Changed
Sample Status			<b>ABNORMAL</b>	ABNORMAL	ABNORMAL

## CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol	WC Method		<b>NEG</b>	NEG	NEG

## WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m	>100	<b>32</b>	53	36
Chromium	ppm	ASTM D5185m	>20	<b>2</b>	2	2
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m		<b>10</b>	6	4
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>2</b>	4	4
Lead	ppm	ASTM D5185m	>40	<b>0</b>	3	0
Copper	ppm	ASTM D5185m	>330	<b>&lt;1</b>	<1	<1
Tin	ppm	ASTM D5185m	>15	<b>0</b>	<1	0
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Cadmium	ppm	ASTM D5185m		<b>0</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m		<b>93</b>	97	158
Barium	ppm	ASTM D5185m		<b>0</b>	0	2
Molybdenum	ppm	ASTM D5185m		<b>49</b>	84	99
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Magnesium	ppm	ASTM D5185m		<b>632</b>	667	623
Calcium	ppm	ASTM D5185m		<b>1527</b>	1485	1457
Phosphorus	ppm	ASTM D5185m	760	<b>710</b>	693	683
Zinc	ppm	ASTM D5185m	830	<b>806</b>	829	807
Sulfur	ppm	ASTM D5185m	2770	<b>3170</b>	2469	2785

## CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>25	<b>0</b>	5	7
Sodium	ppm	ASTM D5185m		<b>5</b>	2	4
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	2	3
Fuel	%	ASTM D3524	>5	<b>&lt;1.0</b>	<1.0	<1.0

## INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844	>3	<b>▲ 3.9</b>	▲ 4.9	▲ 3.7
Nitration	Abs/cm	*ASTM D7624	>20	<b>12.0</b>	17.4	12.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>26.5</b>	37.4	28.2

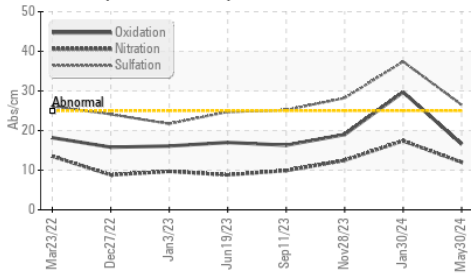
## FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>16.6</b>	29.7	19.0
Base Number (BN)	mg KOH/g	ASTM D2896	10.7	<b>4.3</b>	▲ 0.0	6.2

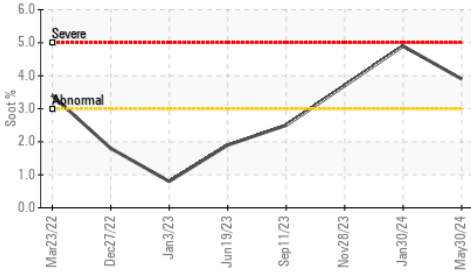


# OIL ANALYSIS REPORT

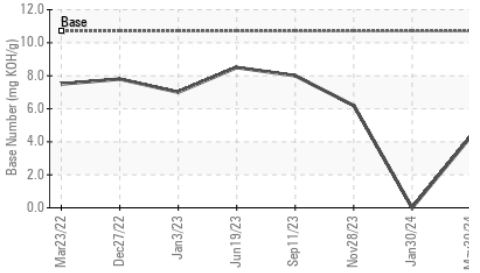
▲ FT-IR (Direct Trend)



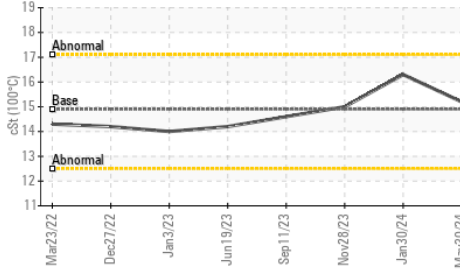
▲ Soot %



Base Number



Viscosity @ 100°C

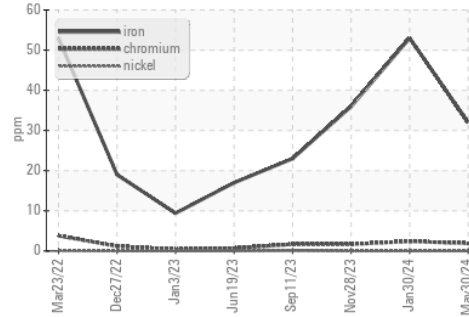


PARAMETER	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

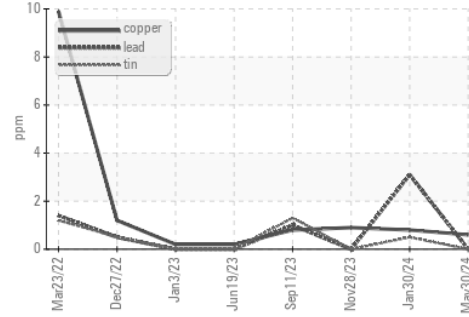
FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	14.9	15.2	▲ 16.3	15.0

## GRAPHS

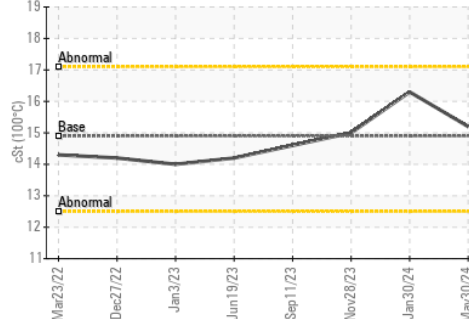
Ferrous Alloys



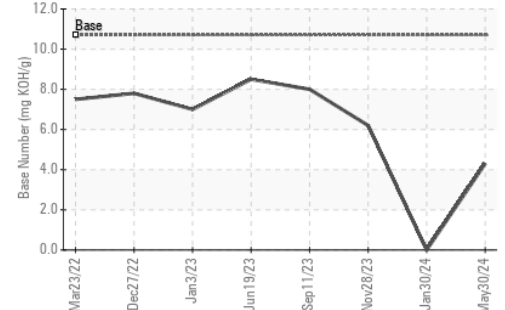
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : GFL0104711

Lab Number : 06198809

Unique Number : 11060932

Test Package : FLEET ( Additional Tests : FuelDilution )

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)

Received : 04 Jun 2024

Tested : 05 Jun 2024

Diagnosed : 05 Jun 2024 - Jonathan Hester

GFL Environmental - 624 - Elmira Hauling

10164 M-32

Elmira, MI

US 49730

Contact: ANDY GROBASKI

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