



WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>NORMAL</b>

Machine Id  
**EX0069-323**  
 Component  
**Diesel Engine**  
 Fluid  
**CHEVRON DELO 400 XLE 15W40 (--- GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>GFL0116040</b>	GFL0097489	GFL0097466
Sample Date		Client Info		<b>11 Jun 2024</b>	01 Mar 2024	27 Nov 2023
Machine Age	hrs	Client Info		<b>6545</b>	6545	6545
Oil Age	hrs	Client Info		<b>6545</b>	6545	6545
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>N/A</b>	N/A	N/A
Filter Changed		Client Info		<b>N/A</b>	N/A	N/A
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>12</b>	6	10
Chromium	ppm	ASTM D5185m	>10	<b>&lt;1</b>	<1	0
Nickel	ppm	ASTM D5185m	>10	<b>&lt;1</b>	<1	0
Titanium	ppm	ASTM D5185m		<b>0</b>	<1	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>10	<b>9</b>	7	5
Lead	ppm	ASTM D5185m	>20	<b>0</b>	0	0
Copper	ppm	ASTM D5185m	>15	<b>10</b>	6	8
Tin	ppm	ASTM D5185m	>10	<b>&lt;1</b>	<1	<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**

There is no indication of any contamination in the oil.

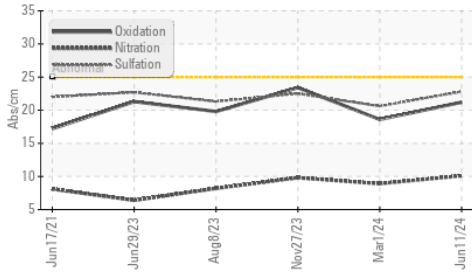
Silicon	ppm	ASTM D5185m	>20	<b>9</b>	6	8
Potassium	ppm	ASTM D5185m	>20	<b>9</b>	8	0
Fuel		WC Method	>6.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.3</b>	0.2	0.3
Nitration	Abs/cm	*ASTM D7624	>20	<b>10.1</b>	8.9	9.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>22.8</b>	20.6	22.5
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	>0.1	<b>NEG</b>	NEG	NEG

**FLUID CONDITION**

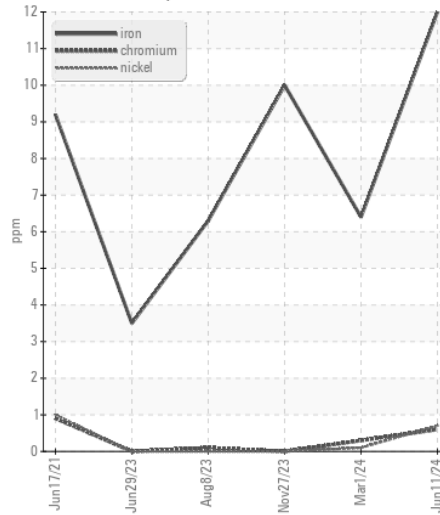
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>4</b>	2	2
Boron	ppm	ASTM D5185m		<b>82</b>	137	33
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>5</b>	4	41
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Magnesium	ppm	ASTM D5185m		<b>69</b>	64	526
Calcium	ppm	ASTM D5185m		<b>2264</b>	1993	1765
Phosphorus	ppm	ASTM D5185m	760	<b>962</b>	909	928
Zinc	ppm	ASTM D5185m	830	<b>1186</b>	1127	1170
Sulfur	ppm	ASTM D5185m	2770	<b>3878</b>	3466	2779
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>21.2</b>	18.6	23.4
Base Number (BN)	mg KOH/g	ASTM D2896	10.7	<b>6.2</b>	7.6	9.9
Visc @ 100°C	cSt	ASTM D445	14.9	<b>13.9</b>	14.0	13.0

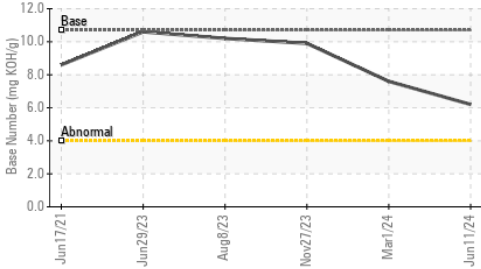
**FT-IR (Direct Trend)**



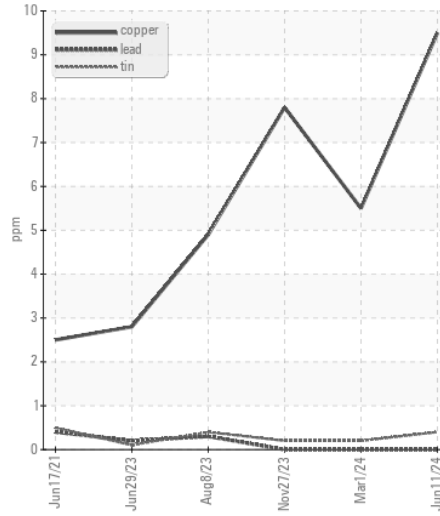
**Ferrous Alloys**



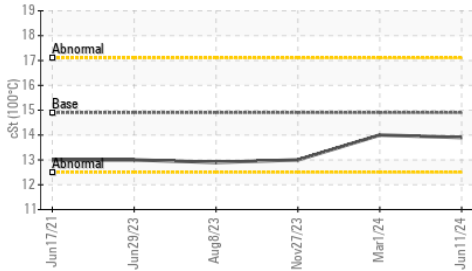
**Base Number**



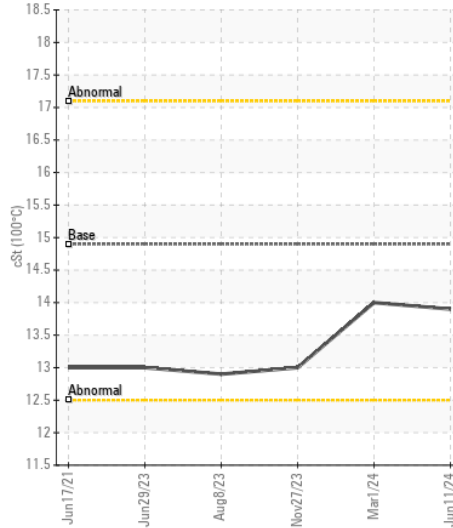
**Non-ferrous Metals**



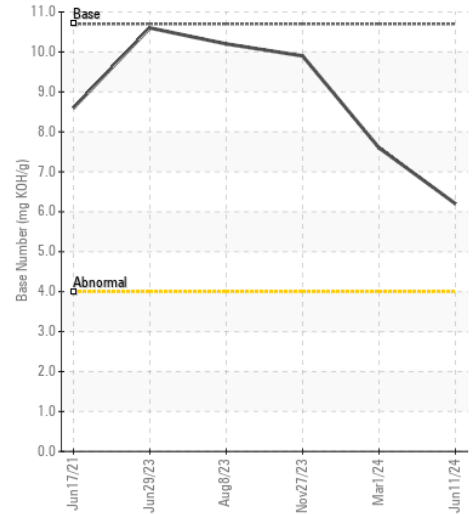
**Viscosity @ 100°C**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0116040 **Received** : 17 Jun 2024  
**Lab Number** : 06211344 **Tested** : 19 Jun 2024  
**Unique Number** : 11084208 **Diagnosed** : 19 Jun 2024 - Don Baldrige  
**Test Package** : FLEET

**GFL Environmental - 641 - Alpena**  
 1241 KING SETTLEMENT RD  
 ALPENA, MI  
 US 49707  
 Contact: DYLAN TOLAN  
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 T: (989)854-7203  
 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)