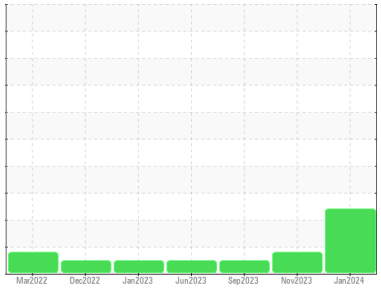
OIL ANALYSIS REPORT

Sample Rating Trend



DEGRADATION

Machine Id
927020-526
Component
Diesel Engine
Fluid
CHEVRON DELO 400 XLE 15W40 (9 GAL)

DIAGNOSIS

Recommendation
Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value.

Wear
All component wear rates are normal.

Contamination
There is a moderate concentration of glycol present in the oil. There is a moderate concentration of water present in the oil.

Fluid Condition
The oil viscosity is higher than normal. The BN level is low.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0096284**	GFL0096272	GFL0064437
Sample Date		Client Info		**30 Jan 2024**	28 Nov 2023	11 Sep 2023
Machine Age	hrs	Client Info		**29373**	28950	28772
Oil Age	hrs	Client Info		**1307**	0	294
Oil Changed		Client Info		**Changed**	Not Changd	Not Changd
Sample Status				**ABNORMAL**	ABNORMAL	NORMAL

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	>100	**53**	36	23
Chromium	ppm	ASTM D5185m	>20	**2**	2	2
Nickel	ppm	ASTM D5185m	>4	**0**	0	<1
Titanium	ppm	ASTM D5185m		**6**	4	4
Silver	ppm	ASTM D5185m	>3	**0**	0	0
Aluminum	ppm	ASTM D5185m	>20	**4**	4	3
Lead	ppm	ASTM D5185m	>40	**3**	0	1
Copper	ppm	ASTM D5185m	>330	**<1**	<1	<1
Tin	ppm	ASTM D5185m	>15	**<1**	0	1
Vanadium	ppm	ASTM D5185m		**0**	0	<1
Cadmium	ppm	ASTM D5185m		**0**	0	<1

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**97**	158	222
Barium	ppm	ASTM D5185m		**0**	2	0
Molybdenum	ppm	ASTM D5185m		**84**	99	100
Manganese	ppm	ASTM D5185m		**<1**	0	1
Magnesium	ppm	ASTM D5185m		**667**	623	699
Calcium	ppm	ASTM D5185m		**1485**	1457	1665
Phosphorus	ppm	ASTM D5185m	760	**693**	683	730
Zinc	ppm	ASTM D5185m	830	**829**	807	870
Sulfur	ppm	ASTM D5185m	2770	**2469**	2785	3133

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**5**	7	6
Sodium	ppm	ASTM D5185m		**2**	4	5
Potassium	ppm	ASTM D5185m	>20	**2**	3	4
Fuel	%	ASTM D3524	>5	**<1.0**	<1.0	<1.0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	▲ **4.9**	▲ 3.7	2.5
Nitration	Abs/cm	*ASTM D7624	>20	**17.4**	12.5	9.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	**37.4**	28.2	25.2

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**29.7**	19.0	16.3
Base Number (BN)	mg KOH/g	ASTM D2896	10.7	▲ **0.0**	6.2	8.0

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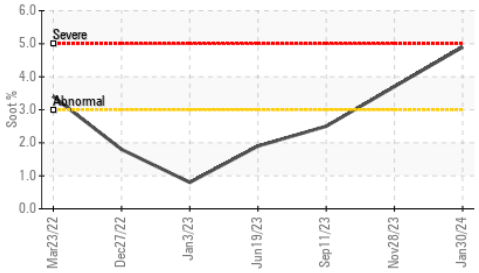
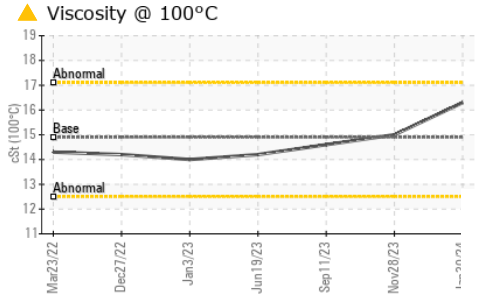
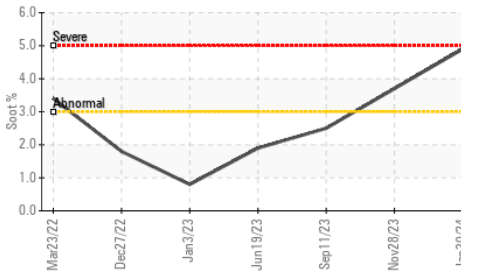
Soot %



Viscosity @ 100°C



Soot %

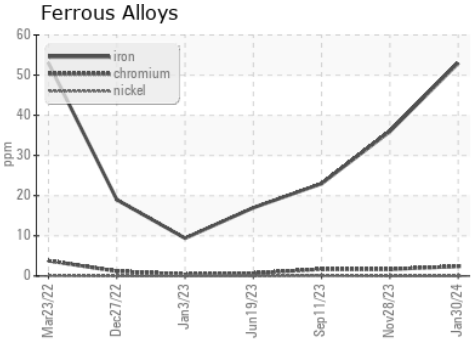


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

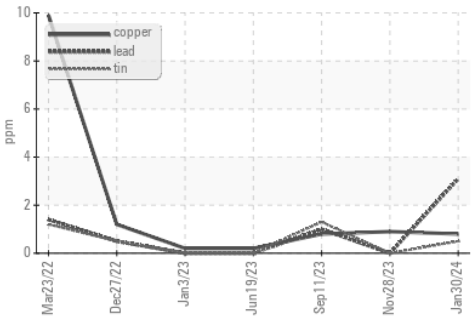
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.9	▲ **16.3**	15.0	14.6

GRAPHS

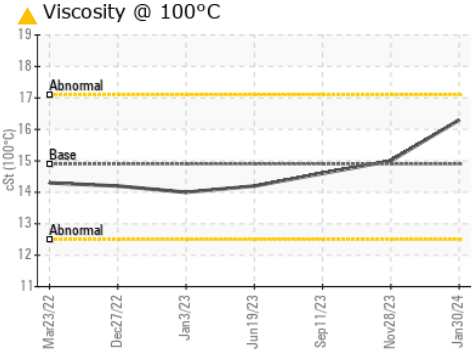
Ferrous Alloys



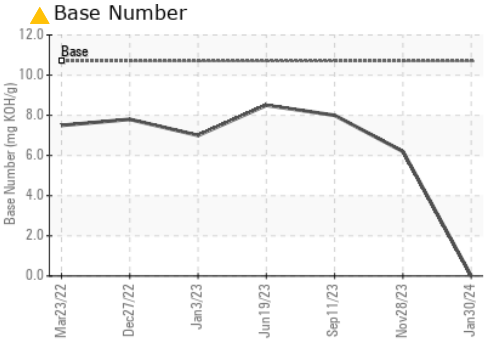
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0096284
Lab Number : 06080468
Unique Number : 10862559
Test Package : FLEET (Additional Tests: FuelDilution)

Received : 05 Feb 2024
Tested : 06 Feb 2024
Diagnosed : 08 Feb 2024 - Jonathan Hester

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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