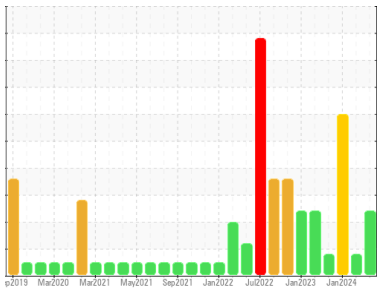
OIL ANALYSIS REPORT

Area
(YA152758) GFL035
Machine Id
12069
Component
Diesel Engine
Fluid
CHEVRON DELO 400 LE 15W40 (32 QTS)

Sample Rating Trend



DIRT

DIAGNOSIS

Recommendation
We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
Fuel content negligible. Elemental level of silicon (Si) above normal indicating ingress of seal material.

Fluid Condition
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0116512**	GFL0085179	GFL0102311
Sample Date		Client Info		**22 May 2024**	23 Jan 2024	04 Jan 2024
Machine Age	hrs	Client Info		**0**	0	8469
Oil Age	hrs	Client Info		**600**	600	600
Oil Changed		Client Info		**Not Changd**	Not Changd	Changed
Sample Status				**ABNORMAL**	ABNORMAL	SEVERE

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	>90	**38**	13	68
Chromium	ppm	ASTM D5185m	>20	**1**	<1	3
Nickel	ppm	ASTM D5185m	>2	**<1**	0	<1
Titanium	ppm	ASTM D5185m	>2	**<1**	0	<1
Silver	ppm	ASTM D5185m	>2	**<1**	0	0
Aluminum	ppm	ASTM D5185m	>20	**7**	4	10
Lead	ppm	ASTM D5185m	>40	**1**	<1	<1
Copper	ppm	ASTM D5185m	>330	**52**	0	1
Tin	ppm	ASTM D5185m	>15	**1**	<1	<1
Vanadium	ppm	ASTM D5185m		**<1**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**31**	3	4
Barium	ppm	ASTM D5185m		**5**	0	0
Molybdenum	ppm	ASTM D5185m		**34**	55	54
Manganese	ppm	ASTM D5185m		**3**	<1	<1
Magnesium	ppm	ASTM D5185m		**440**	872	814
Calcium	ppm	ASTM D5185m		**2069**	994	916
Phosphorus	ppm	ASTM D5185m	1200	**789**	1001	908
Zinc	ppm	ASTM D5185m	1300	**945**	1172	1071
Sulfur	ppm	ASTM D5185m	3200	**2981**	2876	2291

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**31**	7	25
Sodium	ppm	ASTM D5185m		**8**	11	41
Potassium	ppm	ASTM D5185m	>20	**12**	4	6
Fuel	%	ASTM D3524	>3.0	**1.3**	4.5	9.5

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>6	**0.4**	0.3	0.8
Nitration	Abs/cm	*ASTM D7624	>20	**8.2**	7.8	15.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	**21.6**	18.9	27.9

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**19.1**	15.5	30.7
Base Number (BN)	mg KOH/g	ASTM D2896	9.6	**8.8**	8.0	2.6

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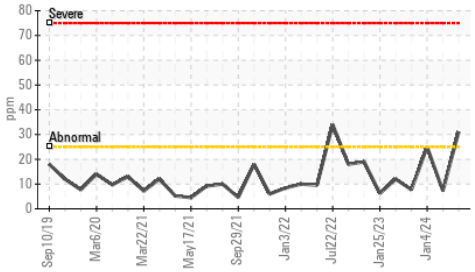
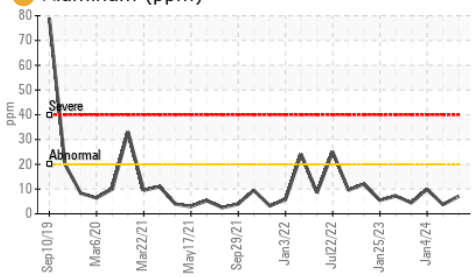
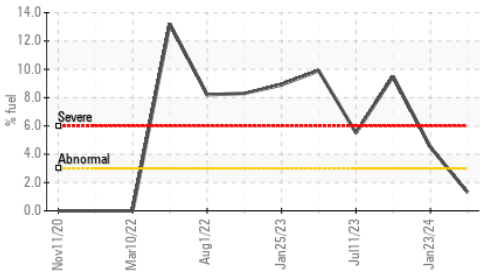
Silicon (ppm)



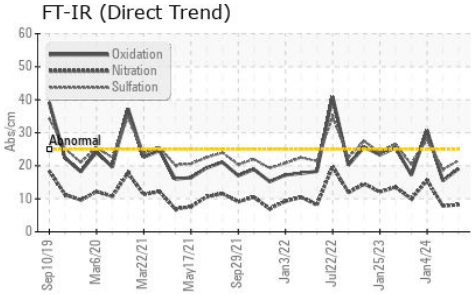
Aluminum (ppm)



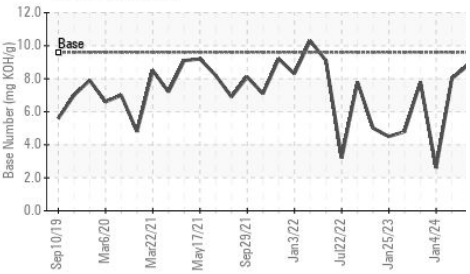
Fuel Dilution



FT-IR (Direct Trend)



Base Number

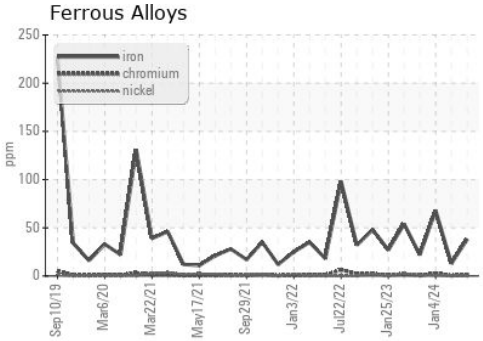


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

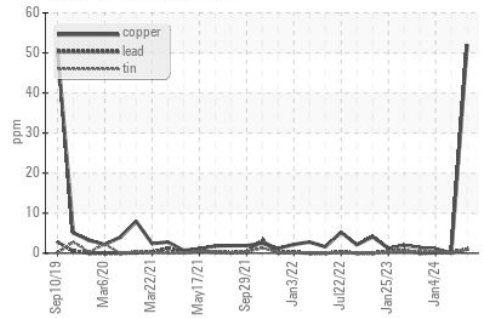
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.7	**13.3**	12.8	▲ 11.9

GRAPHS

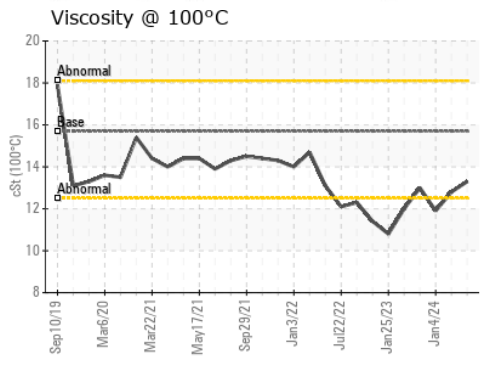
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



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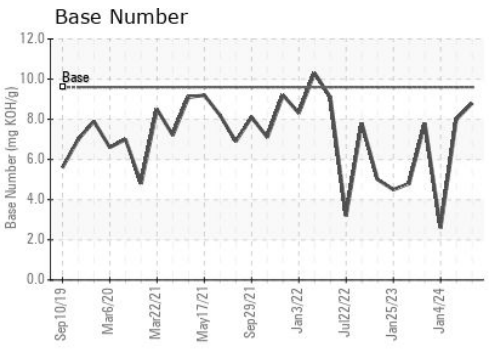

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0116512
Lab Number : 06191447
Unique Number : 11048199
Test Package : FLEET (Additional Tests: PercentFuel)

Received : 24 May 2024
Tested : 30 May 2024
Diagnosed : 30 May 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)

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