



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ATTENTION

Area

(3472UA)

Machine Id

912070

Component

Diesel Engine

Fluid

CHEVRON DELO 400 MULTIGRADE 15W40 (--- GAL)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0070956	GFL0098246	GFL0083906
Sample Date		Client Info		17 Jun 2024	16 Nov 2023	03 Oct 2023
Machine Age	hrs	Client Info		2830	2476	2140
Oil Age	hrs	Client Info		0	2476	2140
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	N/A	N/A
Filter Changed		Client Info		Changed	N/A	N/A
Sample Status				ATTENTION	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	6	37	27
Chromium	ppm	ASTM D5185m	>20	0	<1	<1
Nickel	ppm	ASTM D5185m	>4	<1	0	<1
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>3	<1	0	0
Aluminum	ppm	ASTM D5185m	>20	3	11	8
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	2	5	4
Tin	ppm	ASTM D5185m	>15	<1	0	<1
Vanadium	ppm	ASTM D5185m		<1	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

Fuel content negligible. No other contaminants were detected in the oil.

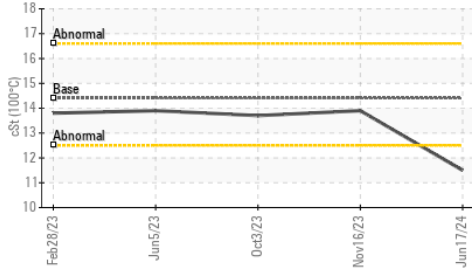
Silicon	ppm	ASTM D5185m	>25	7	9	9
Potassium	ppm	ASTM D5185m	>20	8	13	12
Fuel	%	ASTM D3524	>5	0.3	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.1	0.6	0.4
Nitration	Abs/cm	*ASTM D7624	>20	5.9	10.3	9.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	17.7	23.6	22.3
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

FLUID CONDITION

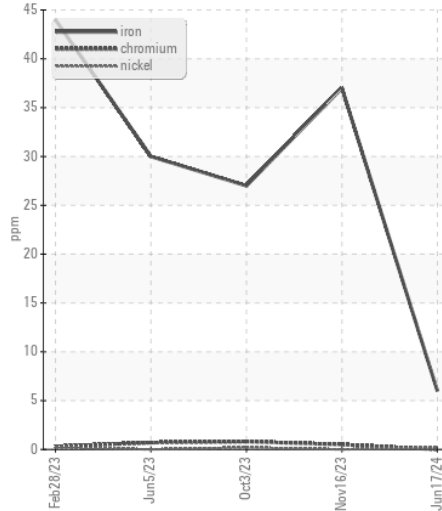
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Sodium	ppm	ASTM D5185m		4	<1	2
Boron	ppm	ASTM D5185m	151	110	2	1
Barium	ppm	ASTM D5185m	0.4	<1	<1	0
Molybdenum	ppm	ASTM D5185m	250	25	59	61
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	0	654	927	1014
Calcium	ppm	ASTM D5185m	2046	1358	1052	1142
Phosphorus	ppm	ASTM D5185m	1043	779	919	1010
Zinc	ppm	ASTM D5185m	943	861	1210	1293
Sulfur	ppm	ASTM D5185m	5012	3571	2450	2569
Oxidation	Abs/.1mm	*ASTM D7414	>25	11.6	21.2	19.4
Base Number (BN)	mg KOH/g	ASTM D2896	12.5	8.3	4.4	5.0
Visc @ 100°C	cSt	ASTM D445	14.4	11.5	13.9	13.7

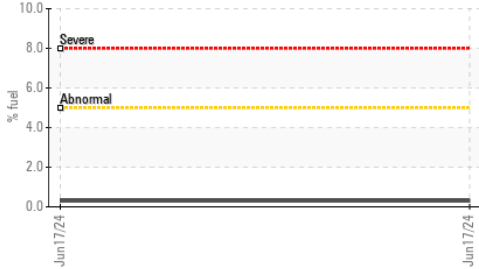
● Viscosity @ 100°C



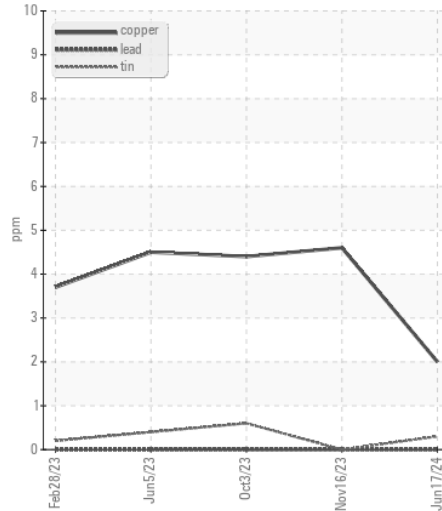
Ferrous Alloys



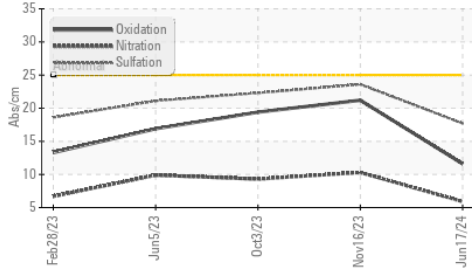
Fuel Dilution



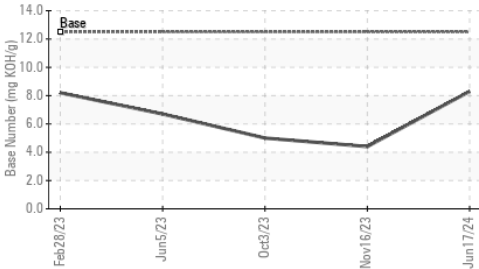
Non-ferrous Metals



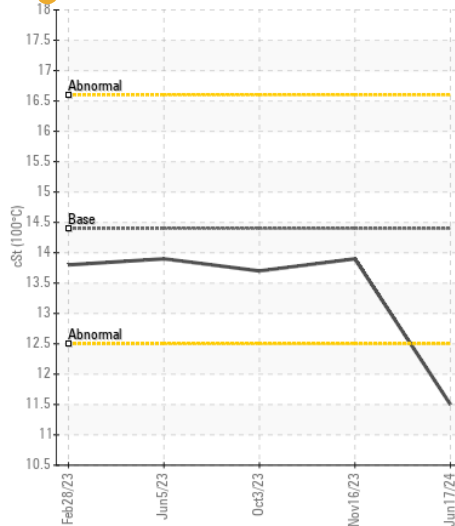
FT-IR (Direct Trend)



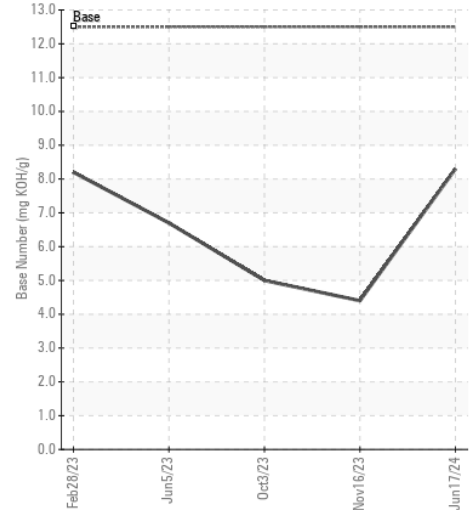
Base Number



● Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0070956
Lab Number : 06213260
Unique Number : 11086124
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

GFL Environmental - 657 - Charlottesville Hauling
 5498 Richmond Road
 Troy, VA
 US 22974
 Contact: Brian Ulickas
 bulickas@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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