



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ATTENTION



Area
(C0719705)
Machine Id
713005
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 30 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0089611	GFL0089625	GFL0089588
Sample Date		Client Info		17 May 2024	28 Apr 2024	15 Dec 2023
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	N/A	Not Changd
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				ATTENTION	ATTENTION	ATTENTION

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>120	8	6	11
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>5	<1	<1	<1
Titanium	ppm	ASTM D5185m	>2	<1	<1	0
Silver	ppm	ASTM D5185m	>2	<1	<1	0
Aluminum	ppm	ASTM D5185m	>20	2	3	2
Lead	ppm	ASTM D5185m	>40	<1	1	0
Copper	ppm	ASTM D5185m	>330	1	1	<1
Tin	ppm	ASTM D5185m	>15	<1	1	<1
Vanadium	ppm	ASTM D5185m		<1	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

There is no indication of any contamination in the oil.

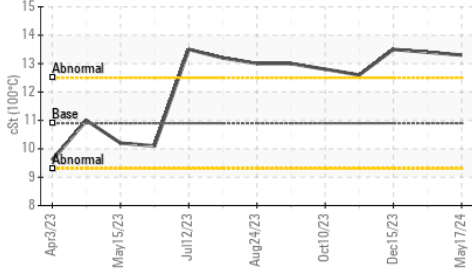
Silicon	ppm	ASTM D5185m	>25	5	6	5
Potassium	ppm	ASTM D5185m	>20	7	7	3
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>4	0.3	0.2	0.4
Nitration	Abs/cm	*ASTM D7624	>20	7.6	6.9	7.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.1	18.3	19.6
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

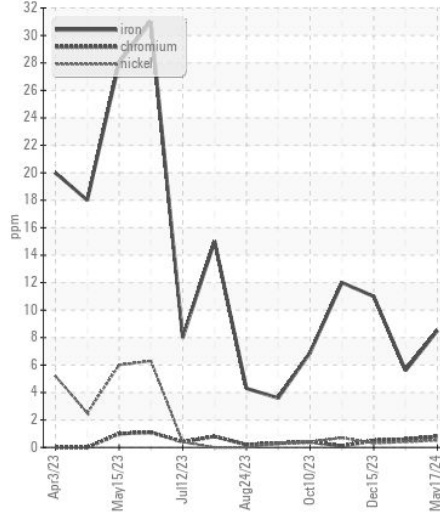
The oil viscosity is higher than normal. The BN result indicates that there is suitable alkalinity remaining in the oil.

Sodium	ppm	ASTM D5185m	>75	2	1	6
Boron	ppm	ASTM D5185m	250	2	3	3
Barium	ppm	ASTM D5185m	10	0	0	0
Molybdenum	ppm	ASTM D5185m	100	62	64	61
Manganese	ppm	ASTM D5185m		<1	0	<1
Magnesium	ppm	ASTM D5185m	450	919	958	937
Calcium	ppm	ASTM D5185m	3000	1060	1103	1002
Phosphorus	ppm	ASTM D5185m	1150	931	1156	1012
Zinc	ppm	ASTM D5185m	1350	1197	1269	1241
Sulfur	ppm	ASTM D5185m	4250	2929	3225	2997
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.4	14.4	15.7
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	7.6	7.2	7.1
Visc @ 100°C	cSt	ASTM D445	10.9	13.3	13.4	13.5

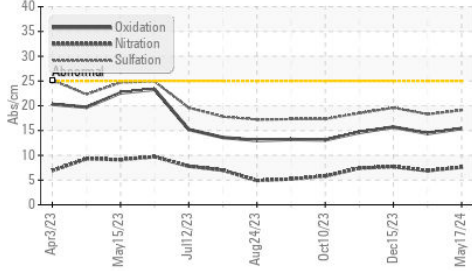
● Viscosity @ 100°C



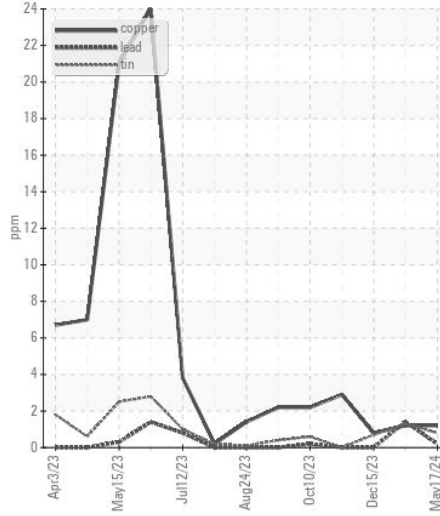
Ferrous Alloys



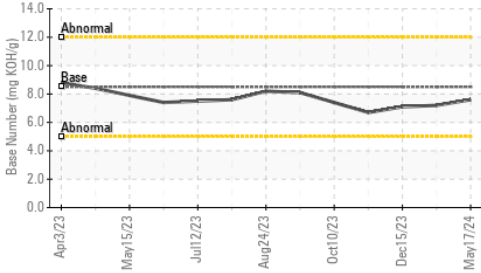
FT-IR (Direct Trend)



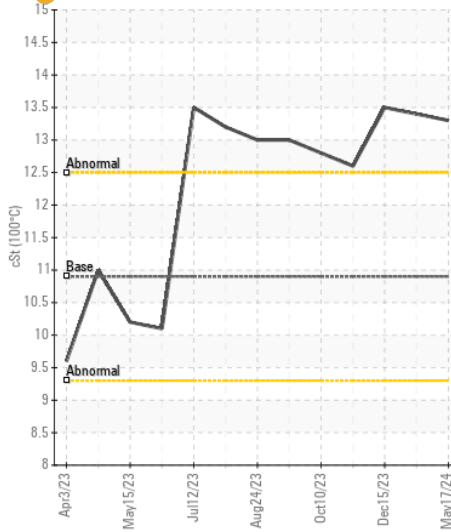
Non-ferrous Metals



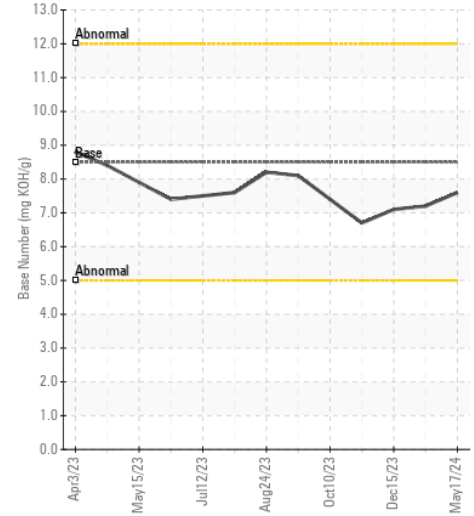
Base Number



● Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0089611
Lab Number : 06188726
Unique Number : 11045478
Test Package : FLEET

Received : 23 May 2024
Tested : 24 May 2024
Diagnosed : 28 May 2024 - Sean Felton

GFL Environmental - 732 - Thomaston Hauling
 2616 Waynansville Road
 Thomaston, GA
 US 30286
 Contact: WILLIAM BROWN
 william.brown@gflenv.com
 T: (706)936-4065
 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)