



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
834029
Component
Natural Gas Engine
Fluid
DIESEL ENGINE OIL SAE 40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0127213	GFL0122090	GFL0116614
Sample Date		Client Info		04 Jul 2024	07 Jun 2024	15 May 2024
Machine Age	hrs	Client Info		2379	2354	2209
Oil Age	hrs	Client Info		2234	145	2209
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Not Changd	Changed
Filter Changed		Client Info		Changed	Not Changd	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>50	16	9	22
Chromium	ppm	ASTM D5185m	>4	1	<1	<1
Nickel	ppm	ASTM D5185m	>2	1	0	0
Titanium	ppm	ASTM D5185m		1	0	0
Silver	ppm	ASTM D5185m	>3	<1	0	<1
Aluminum	ppm	ASTM D5185m	>9	3	2	2
Lead	ppm	ASTM D5185m	>30	<1	0	0
Copper	ppm	ASTM D5185m	>35	2	1	5
Tin	ppm	ASTM D5185m	>4	<1	<1	0
Vanadium	ppm	ASTM D5185m		<1	0	<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.

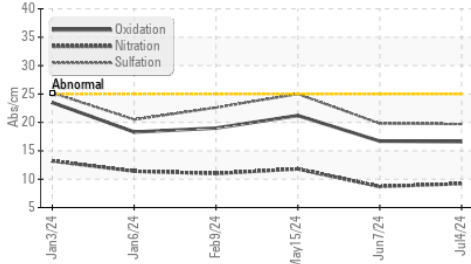
Silicon	ppm	ASTM D5185m	>+100	6	5	7
Potassium	ppm	ASTM D5185m	>20	3	2	1
Water		WC Method	>0.1	NEG	NEG	NEG
Soot %	%	*ASTM D7844		0	0	0.1
Nitration	Abs/cm	*ASTM D7624	>20	9.2	8.7	11.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.7	19.8	25.0
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	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	>0.1	NEG	NEG	NEG

FLUID CONDITION

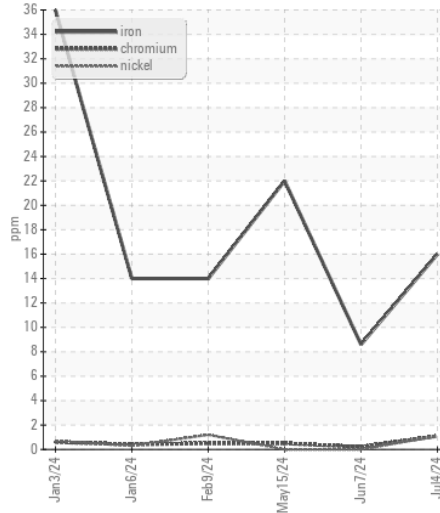
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>216	7	6	10
Boron	ppm	ASTM D5185m	250	22	31	4
Barium	ppm	ASTM D5185m	10	0	0	<1
Molybdenum	ppm	ASTM D5185m	100	57	58	59
Manganese	ppm	ASTM D5185m		2	0	2
Magnesium	ppm	ASTM D5185m	450	602	656	610
Calcium	ppm	ASTM D5185m	3000	1652	1785	1712
Phosphorus	ppm	ASTM D5185m	1150	814	942	758
Zinc	ppm	ASTM D5185m	1350	1029	1127	1000
Sulfur	ppm	ASTM D5185m	4250	2550	3368	2708
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.6	16.7	21.2
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	7.7	8.0	3.8
Visc @ 100°C	cSt	ASTM D445	14.4	14.7	14.8	14.7

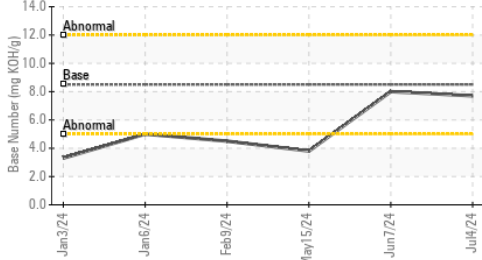
FT-IR (Direct Trend)



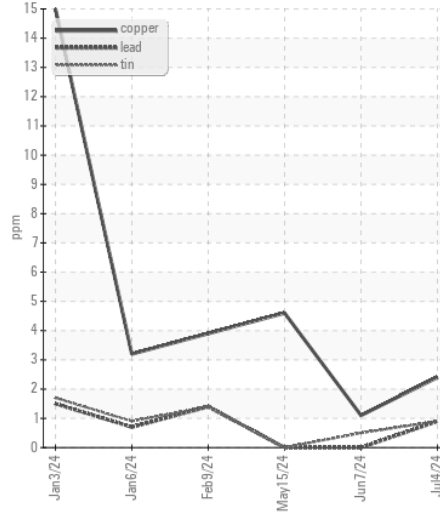
Ferrous Alloys



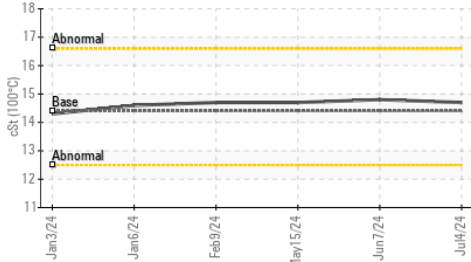
Base Number



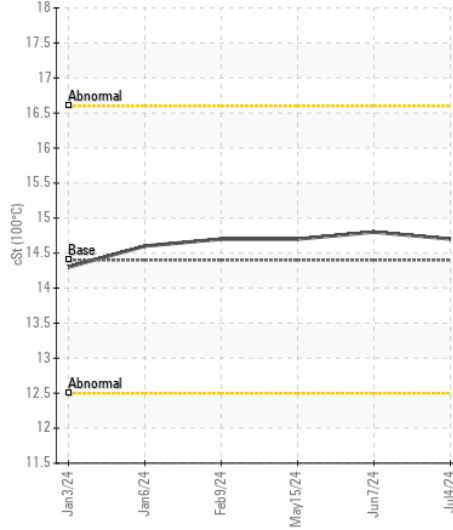
Non-ferrous Metals



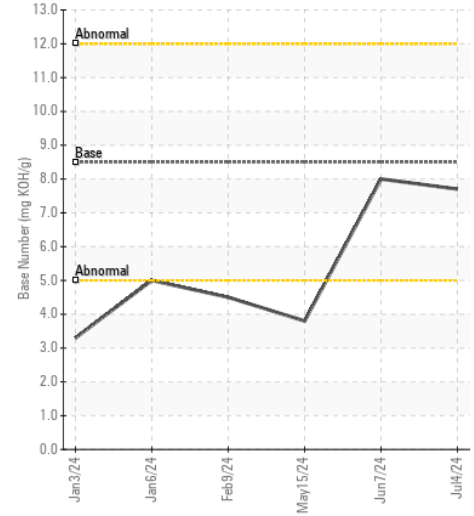
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : GFL0127213

Lab Number : 06229916

Unique Number : 11113409

Test Package : FLEET

Received : 08 Jul 2024

Tested : 09 Jul 2024

Diagnosed : 09 Jul 2024 - Don Baldrige

GFL Environmental - 652 - Fredericksburg Hauling

10954 Houser Drive

Fredericksburg, VA

US 22408

Contact: WILLIAM MILO

wmilo@gflenv.com

T:

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)