



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Area
(24564UA)
Machine Id
819013
Component
Diesel 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		GFL0121992	GFL0122052	GFL0111879
Sample Date		Client Info		25 Jun 2024	03 Jun 2024	16 Apr 2024
Machine Age	hrs	Client Info		11270	11150	11010
Oil Age	hrs	Client Info		10949	10969	181
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>120	45	29	21
Chromium	ppm	ASTM D5185m	>20	<1	<1	1
Nickel	ppm	ASTM D5185m	>5	2	0	2
Titanium	ppm	ASTM D5185m	>2	<1	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m	>20	10	8	5
Lead	ppm	ASTM D5185m	>40	13	8	3
Copper	ppm	ASTM D5185m	>330	4	2	2
Tin	ppm	ASTM D5185m	>15	2	2	2
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.

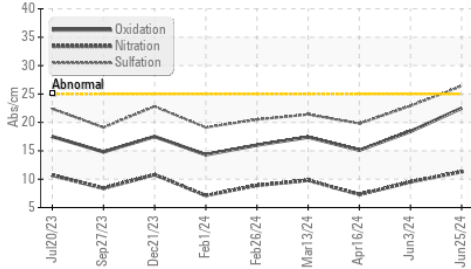
Silicon	ppm	ASTM D5185m	>25	19	18	13
Potassium	ppm	ASTM D5185m	>20	9	8	4
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>4	0.7	0.4	0.4
Nitration	Abs/cm	*ASTM D7624	>20	11.3	9.5	7.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	26.4	22.9	19.8
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

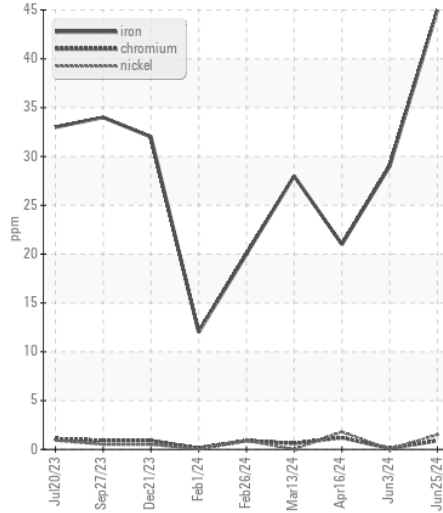
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>216	8	4	2
Boron	ppm	ASTM D5185m	250	14	20	19
Barium	ppm	ASTM D5185m	10	<1	<1	0
Molybdenum	ppm	ASTM D5185m	100	72	67	60
Manganese	ppm	ASTM D5185m		<1	1	1
Magnesium	ppm	ASTM D5185m	450	1152	991	888
Calcium	ppm	ASTM D5185m	3000	1405	1241	1135
Phosphorus	ppm	ASTM D5185m	1150	1345	1179	1088
Zinc	ppm	ASTM D5185m	1350	1622	1355	1212
Sulfur	ppm	ASTM D5185m	4250	3745	3474	3442
Oxidation	Abs/.1mm	*ASTM D7414	>25	22.5	18.4	15.1
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	6.9	7.5	8.5
Visc @ 100°C	cSt	ASTM D445	14.4	14.7	14.5	14.2

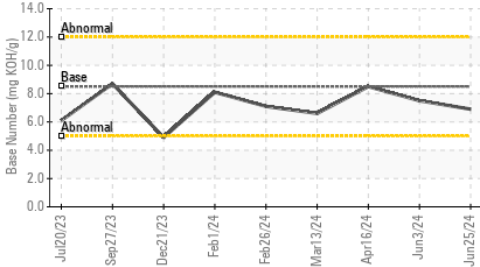
FT-IR (Direct Trend)



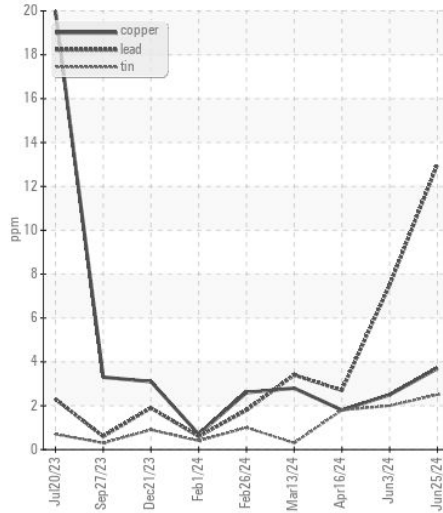
Ferrous Alloys



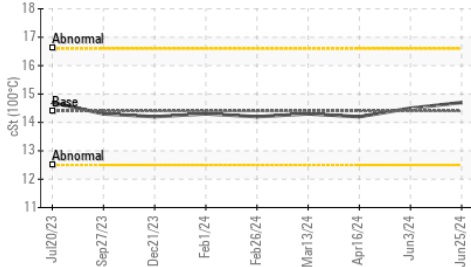
Base Number



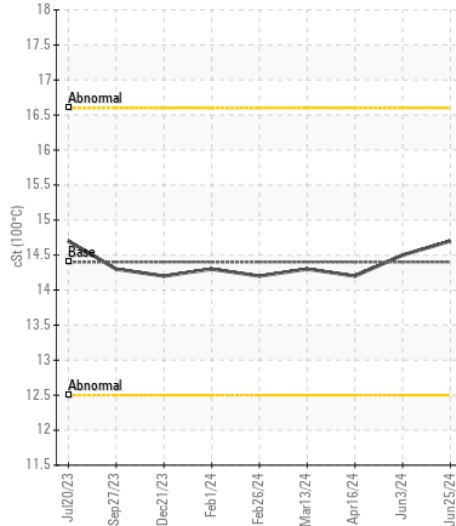
Non-ferrous Metals



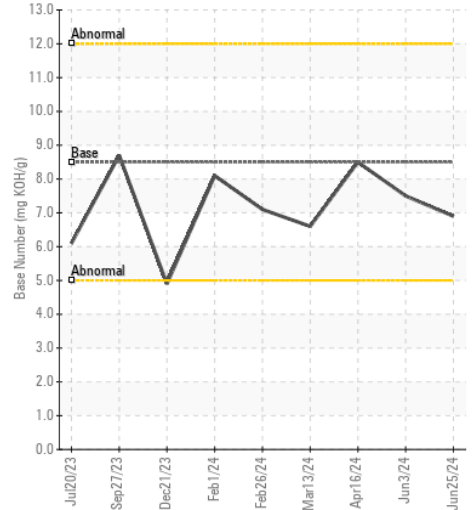
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

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

Sample No. : GFL0121992

Lab Number : 06222178

Unique Number : 11100375

Test Package : FLEET

Received : 27 Jun 2024

Tested : 28 Jun 2024

Diagnosed : 29 Jun 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)