



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Area
(48064UA)
Machine Id
813051
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0113667	GFL0113674	GFL0113629
Sample Date		Client Info		24 Jun 2024	07 Jun 2024	01 Apr 2024
Machine Age	hrs	Client Info		1714	1606	1120
Oil Age	hrs	Client Info		108	551	521
Filter Age	hrs	Client Info		108	551	521
Oil Changed		Client Info		Changed	Changed	N/A
Filter Changed		Client Info		Changed	Changed	N/A
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>120	5	14	0
Chromium	ppm	ASTM D5185m	>20	<1	<1	0
Nickel	ppm	ASTM D5185m	>5	2	6	2
Titanium	ppm	ASTM D5185m	>2	0	<1	0
Silver	ppm	ASTM D5185m	>2	<1	<1	<1
Aluminum	ppm	ASTM D5185m	>20	2	2	<1
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	3	7	3
Tin	ppm	ASTM D5185m	>15	0	<1	<1
Vanadium	ppm	ASTM D5185m		<1	<1	0
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.

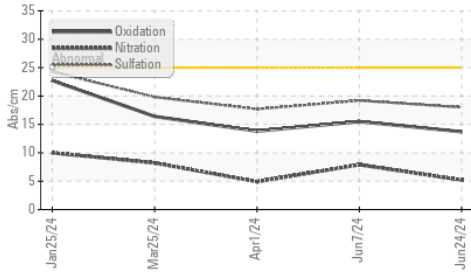
Silicon	ppm	ASTM D5185m	>25	4	6	4
Potassium	ppm	ASTM D5185m	>20	4	2	0
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>4	0.2	0.5	0.1
Nitration	Abs/cm	*ASTM D7624	>20	5.2	7.9	4.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.0	19.2	17.7
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

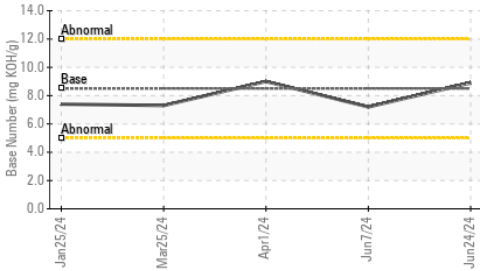
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>216	3	3	2
Boron	ppm	ASTM D5185m	250	5	4	5
Barium	ppm	ASTM D5185m	10	0	<1	0
Molybdenum	ppm	ASTM D5185m	100	57	59	50
Manganese	ppm	ASTM D5185m		1	<1	<1
Magnesium	ppm	ASTM D5185m	450	1016	956	896
Calcium	ppm	ASTM D5185m	3000	1134	1082	1019
Phosphorus	ppm	ASTM D5185m	1150	1089	1071	980
Zinc	ppm	ASTM D5185m	1350	1359	1223	1170
Sulfur	ppm	ASTM D5185m	4250	3962	2769	2976
Oxidation	Abs/.1mm	*ASTM D7414	>25	13.7	15.5	13.8
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	8.9	7.2	9.0
Visc @ 100°C	cSt	ASTM D445	14.4	14.2	13.9	14.3

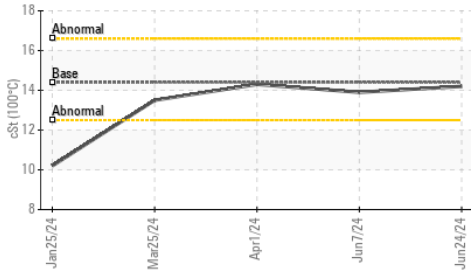
FT-IR (Direct Trend)



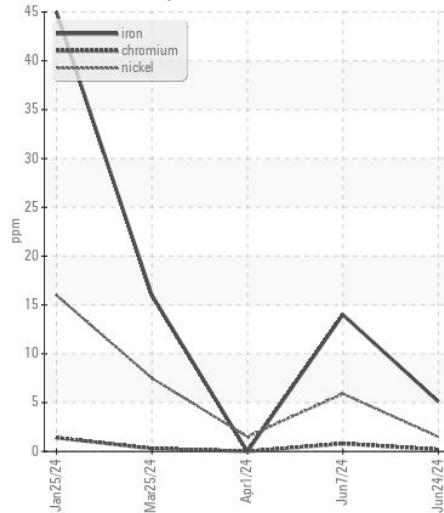
Base Number



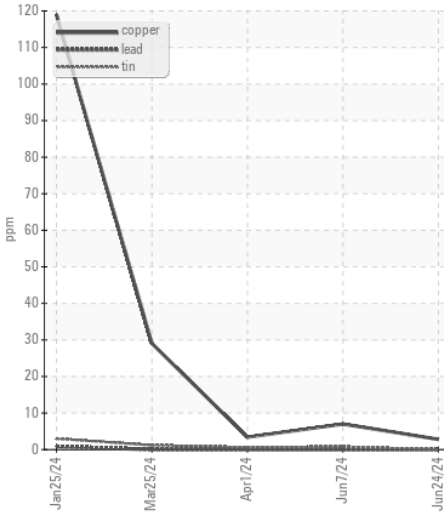
Viscosity @ 100°C



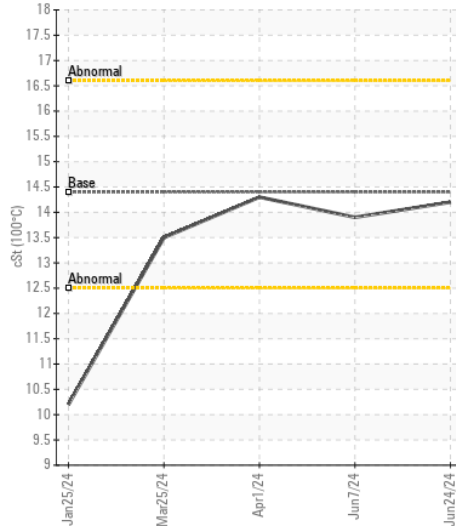
Ferrous Alloys



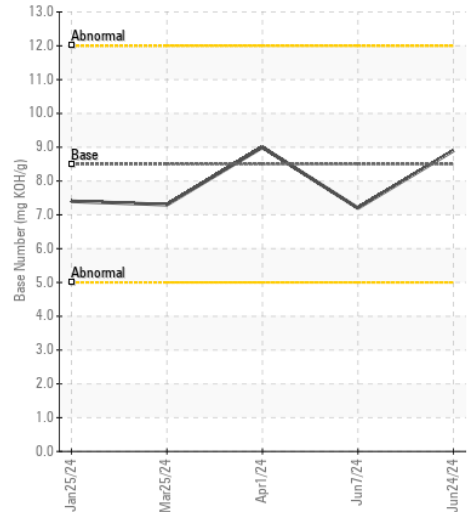
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : GFL0113667
 Lab Number : 06223030
 Unique Number : 11101227
 Test Package : FLEET

Received : 27 Jun 2024
 Tested : 28 Jun 2024
 Diagnosed : 28 Jun 2024 - Wes Davis

GFL Environmental - 654S - Midlothian
 12230 Deergrove Road
 Midlothian, VA
 US 23112
 Contact: Corbin Umphlet
 cumphlet@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)

T:
F: