



WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
922046
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 40 (40 QTS)

RECOMMENDATION

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		GFL0103891	GFL0071599	GFL0061670
Sample Date		Client Info		15 Jan 2024	24 May 2023	29 Dec 2022
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	600	600
Filter Age	hrs	Client Info		0	600	600
Oil Changed		Client Info		N/A	Changed	Changed
Filter Changed		Client Info		N/A	Changed	Changed
Sample Status				ABNORMAL	NORMAL	NORMAL

WEAR

Valve wear is indicated. All other component wear rates are normal.

Iron	ppm	ASTM D5185m	>120	28	12	7
Chromium	ppm	ASTM D5185m	>20	1	1	<1
Nickel	ppm	ASTM D5185m	>5	▲ 12	2	0
Titanium	ppm	ASTM D5185m	>2	<1	<1	0
Silver	ppm	ASTM D5185m	>2	0	<1	<1
Aluminum	ppm	ASTM D5185m	>20	6	3	2
Lead	ppm	ASTM D5185m	>40	<1	1	0
Copper	ppm	ASTM D5185m	>330	12	6	9
Tin	ppm	ASTM D5185m	>15	1	1	<1
Vanadium	ppm	ASTM D5185m		<1	0	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.

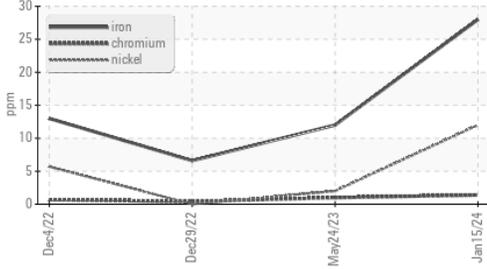
Silicon	ppm	ASTM D5185m	>25	8	10	6
Potassium	ppm	ASTM D5185m	>20	10	6	2
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>4	0.8	0.4	0.3
Nitration	Abs/cm	*ASTM D7624	>20	10.4	7.2	7.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.4	20.2	19.8
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

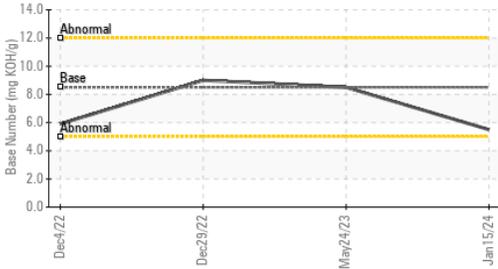
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>216	6	4	3
Boron	ppm	ASTM D5185m	250	7	15	18
Barium	ppm	ASTM D5185m	10	0	0	0
Molybdenum	ppm	ASTM D5185m	100	62	68	62
Manganese	ppm	ASTM D5185m		1	1	<1
Magnesium	ppm	ASTM D5185m	450	972	1023	855
Calcium	ppm	ASTM D5185m	3000	1121	1186	1156
Phosphorus	ppm	ASTM D5185m	1150	1014	1072	1013
Zinc	ppm	ASTM D5185m	1350	1270	1330	1118
Sulfur	ppm	ASTM D5185m	4250	2396	3473	3423
Oxidation	Abs/.1mm	*ASTM D7414	>25	19.8	15.5	15.3
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	5.5	8.5	9.0
Visc @ 100°C	cSt	ASTM D445	14.4	14.0	13.9	13.9

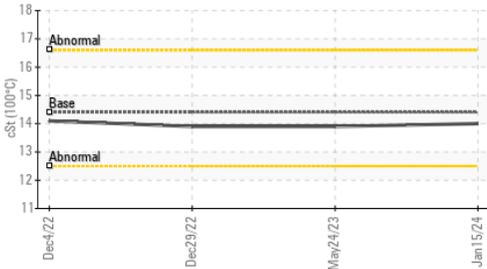
▲ Ferrous Alloys



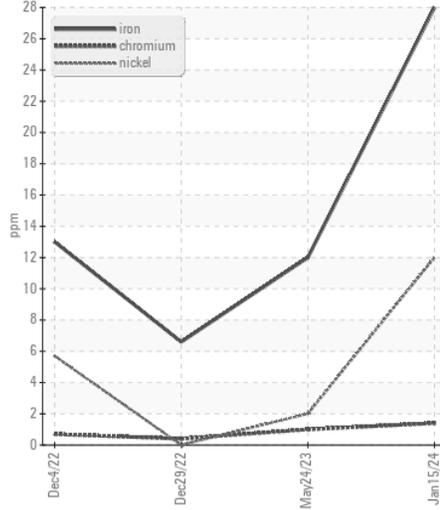
Base Number



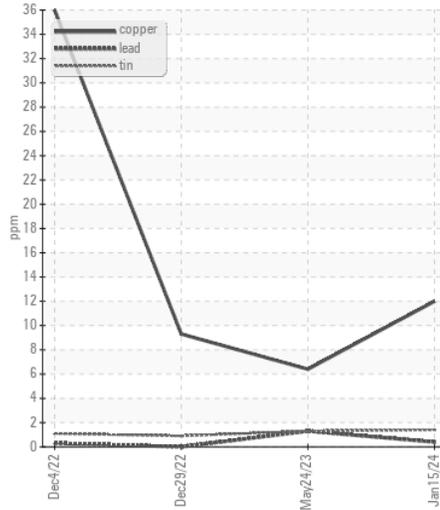
Viscosity @ 100°C



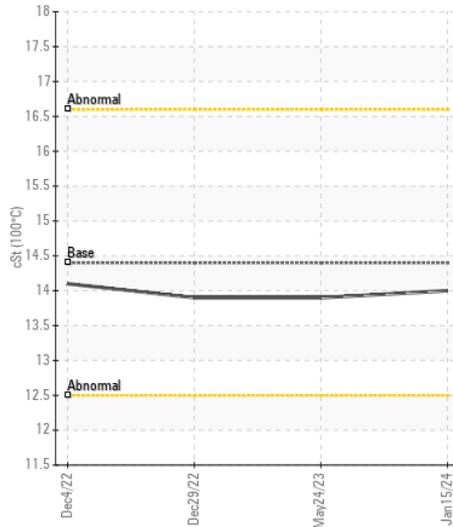
▲ Ferrous Alloys



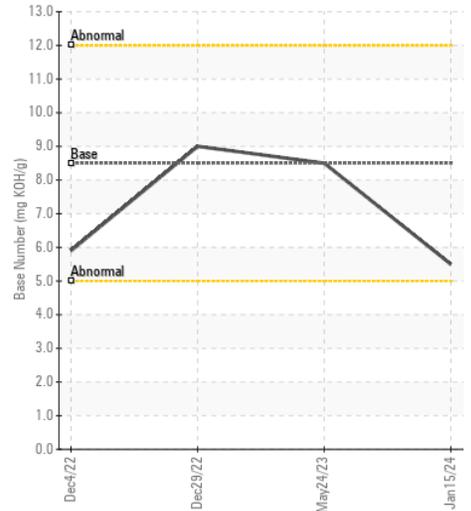
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0103891 **Received** : 19 Jan 2024
Lab Number : 06065353 **Diagnosed** : 22 Jan 2024
Unique Number : 10836735 **Diagnostician** : Don Baldridge
Test Package : FLEET

GFL Environmental - 045 - Tidewater
 3821 Cook Blvd.
 Chesapeake, VA
 US 23323

Contact: ELVIN RODRIGUEZ
 elvinrodriguez@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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