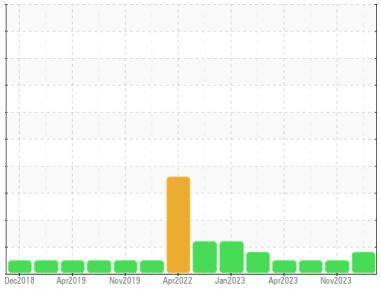
OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Machine Id
427093-402368
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

Cylinder, crank, or cam shaft wear is indicated. All other component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

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

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0103950**	GFL0100486	GFL0093230
Sample Date		Client Info		**04 Jan 2024**	16 Nov 2023	07 Sep 2023
Machine Age	hrs	Client Info		**15816**	15717	15541
Oil Age	hrs	Client Info		**15816**	15717	0
Oil Changed		Client Info		**Changed**	Not Changd	Not Changd
Sample Status				**ABNORMAL**	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
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

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>90	▲ **102**	75	50
Chromium	ppm	ASTM D5185m	>20	**4**	4	2
Nickel	ppm	ASTM D5185m	>2	**0**	0	0
Titanium	ppm	ASTM D5185m	>2	**0**	<1	0
Silver	ppm	ASTM D5185m	>2	**0**	0	0
Aluminum	ppm	ASTM D5185m	>20	**4**	4	4
Lead	ppm	ASTM D5185m	>40	**7**	6	2
Copper	ppm	ASTM D5185m	>330	**<1**	<1	<1
Tin	ppm	ASTM D5185m	>15	**0**	<1	<1
Vanadium	ppm	ASTM D5185m		**0**	0	<1
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	250	**0**	0	0
Barium	ppm	ASTM D5185m	10	**0**	0	0
Molybdenum	ppm	ASTM D5185m	100	**61**	64	60
Manganese	ppm	ASTM D5185m		**0**	1	<1
Magnesium	ppm	ASTM D5185m	450	**969**	1060	1012
Calcium	ppm	ASTM D5185m	3000	**1075**	1130	1093
Phosphorus	ppm	ASTM D5185m	1150	**981**	1082	1019
Zinc	ppm	ASTM D5185m	1350	**1242**	1352	1280
Sulfur	ppm	ASTM D5185m	4250	**2906**	3280	3619

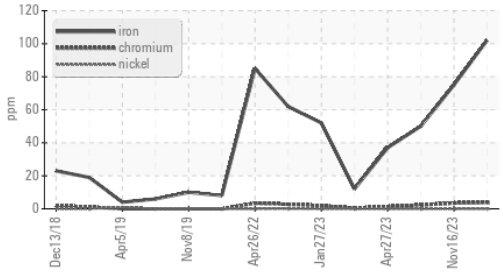
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**19**	17	12
Sodium	ppm	ASTM D5185m	>158	**4**	7	5
Potassium	ppm	ASTM D5185m	>20	**3**	3	2

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>6	**0.6**	0.6	0.3
Nitration	Abs/cm	*ASTM D7624	>20	**12.4**	12.4	9.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	**24.0**	22.9	19.0

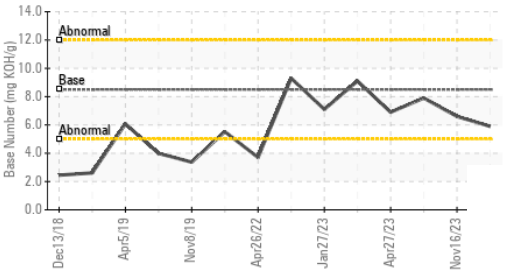
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**23.0**	21.5	16.1
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	**5.9**	6.6	7.9

OIL ANALYSIS REPORT

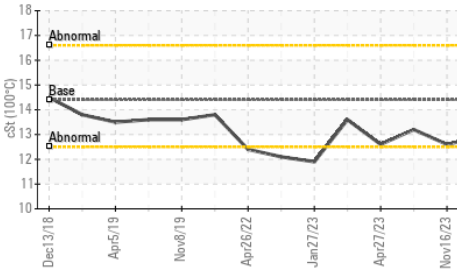
Ferrous Alloys



Base Number



Viscosity @ 100°C

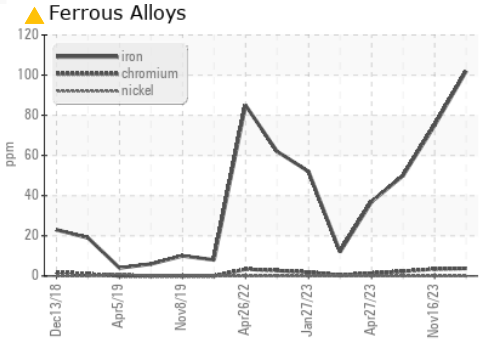


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	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
Free Water	scalar	*Visual		**NEG**	NEG	NEG

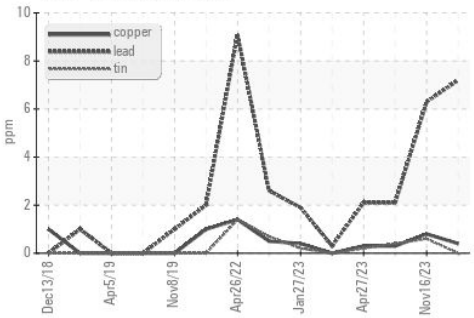
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.4	**12.9**	12.6	13.2

GRAPHS

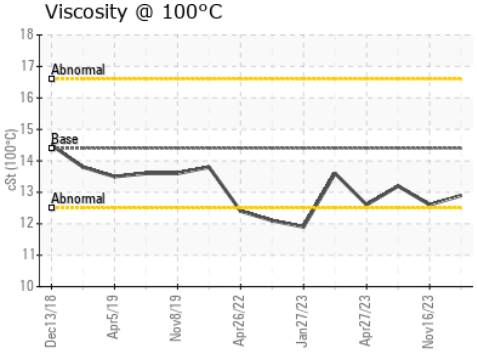
Ferrous Alloys



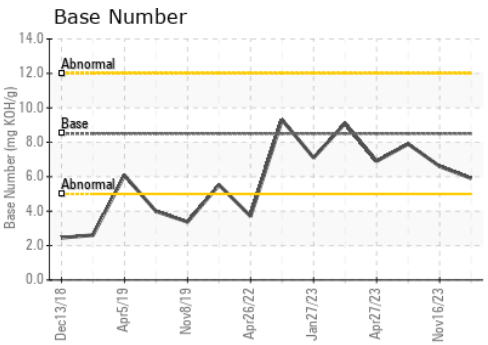
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory	: WearCheck USA - 501 Madison Ave., Cary, NC 27513		
Sample No.	: GFL0103950	**Recieved**	: 10 Jan 2024
Lab Number	: 06057258	**Diagnosed**	: 12 Jan 2024
Unique Number	: 10823207	**Diagnostician**	: Don Baldridge
Test Package	: FLEET		

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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T:
F:

Report Id: GFL865 [WUSCAR] 06057258 (Generated: 01/12/2024 14:14:29) Rev: 1

Submitted By: TECHNICIAN ACCOUNT