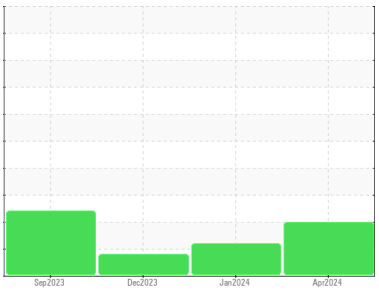
OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Machine Id
INTERNATIONAL 125060-SWV6517
Component
Diesel Engine
Fluid
MOBIL DELVAC ELITE 15W40 (--- GAL)

DIAGNOSIS

Recommendation
The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear
Aluminum ppm levels are marginal. All other component wear rates are normal.

Contamination
There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

Fluid Condition
The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0111261**	GFL0111351	GFL0095486
Sample Date		Client Info		**04 Apr 2024**	25 Jan 2024	27 Dec 2023
Machine Age	hrs	Client Info		**20945**	20395	20193
Oil Age	hrs	Client Info		**550**	500	500
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**ABNORMAL**	ABNORMAL	ABNORMAL

CONTAMINATION		method	limit/base	current	history1	history2
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	>100	**38**	9	26
Chromium	ppm	ASTM D5185m	>20	**1**	<1	<1
Nickel	ppm	ASTM D5185m	>4	**<1**	0	0
Titanium	ppm	ASTM D5185m		**<1**	<1	0
Silver	ppm	ASTM D5185m	>3	**0**	0	0
Aluminum	ppm	ASTM D5185m	>20	▲ **15**	5	9
Lead	ppm	ASTM D5185m	>40	**<1**	0	0
Copper	ppm	ASTM D5185m	>330	**2**	<1	2
Tin	ppm	ASTM D5185m	>15	**<1**	0	<1
Vanadium	ppm	ASTM D5185m		**<1**	0	0
Cadmium	ppm	ASTM D5185m		**<1**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**51**	105	49
Barium	ppm	ASTM D5185m		**0**	1	10
Molybdenum	ppm	ASTM D5185m		**139**	117	115
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m		**685**	608	656
Calcium	ppm	ASTM D5185m		**1280**	1111	1216
Phosphorus	ppm	ASTM D5185m		**722**	662	701
Zinc	ppm	ASTM D5185m		**856**	752	777
Sulfur	ppm	ASTM D5185m		**3186**	2839	3012

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**8**	5	8
Sodium	ppm	ASTM D5185m		**1**	2	2
Potassium	ppm	ASTM D5185m	>20	**14**	1	6
Fuel	%	ASTM D3524	>2.0	▲ **3.8**	▲ 3.7	▲ 2.2

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.5**	0.2	0.4
Nitration	Abs/cm	*ASTM D7624	>20	**11.7**	9.9	11.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	**20.8**	17.7	20.6

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**20.0**	15.7	19.7
Base Number (BN)	mg KOH/g	ASTM D2896	10.7	**5.4**	6.4	5.4

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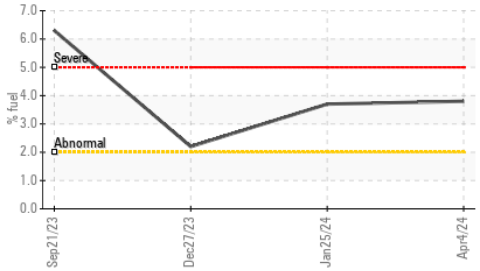
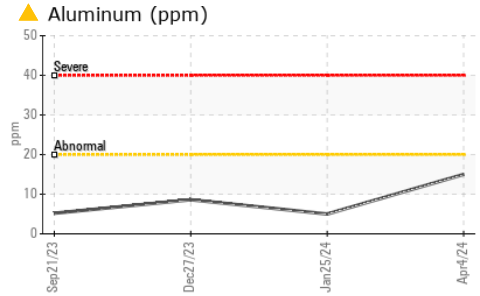
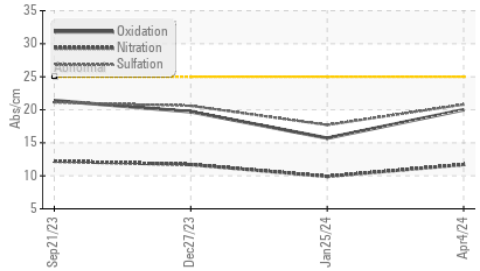
Fuel Dilution



Aluminum (ppm)



FT-IR (Direct Trend)



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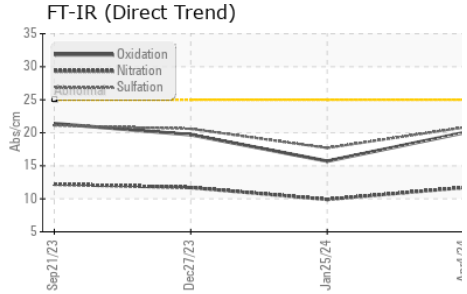
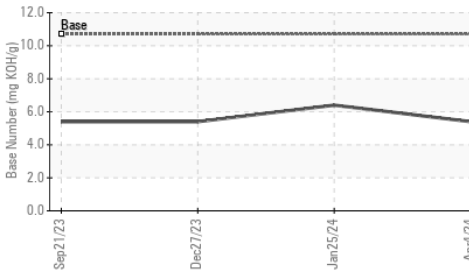


Base Number

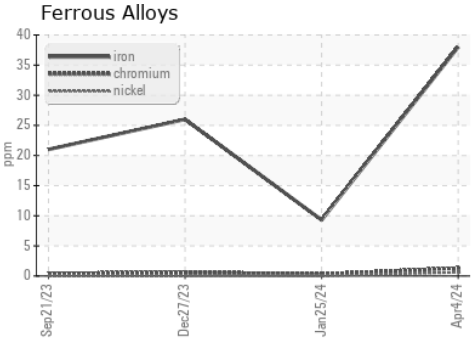


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

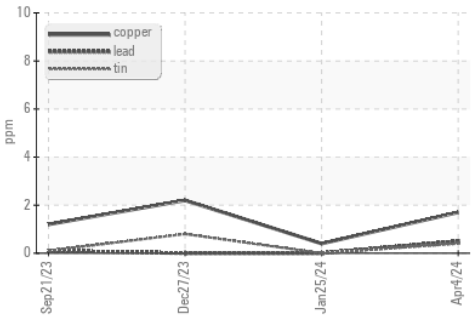
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.2	▲ **12.4**	▲ 12.4	13.0

GRAPHS

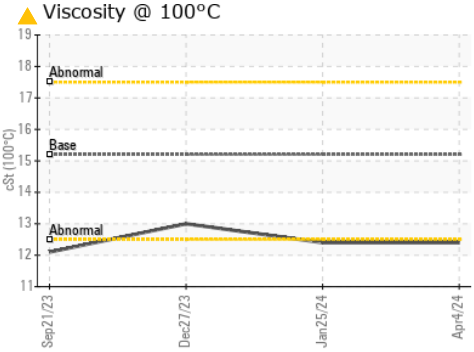
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



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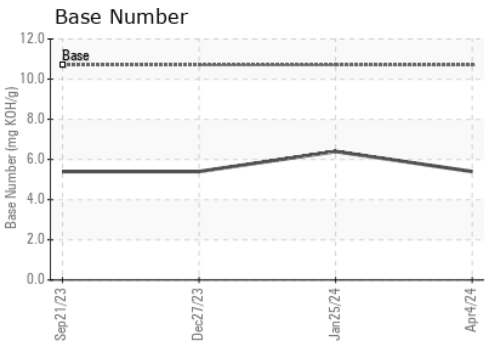

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0111261
Lab Number : 06148324
Unique Number : 10978402
Test Package : FLEET (Additional Tests: PercentFuel)

Received : 15 Apr 2024
Tested : 17 Apr 2024
Diagnosed : 17 Apr 2024 - Wes Davis

GFL Environmental - 981 - Port Arthur Hauling
1000 S Business Park Dr
Port Arthur, TX
US 77640
Contact: MICHAEL KAY
mkay@gflenv.com
T: (336)660-9331
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)

Report Id: GFL981 [WUSCAR] 06148324 (Generated: 04/17/2024 16:37:28) Rev: 1

Submitted By: MICHAEL KAY