



Machine Id
920096-260369

Component
Diesel Engine

Fluid
CASTROL CRB Multi 15W-40 CK-4 (--- GAL)

RECOMMENDATION

We advise that you check the fuel injection system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0102460	GFL0102424	GFL0102541
Sample Date		Client Info		06 Jan 2024	15 Dec 2023	27 Nov 2023
Machine Age	hrs	Client Info		9050	8944	8807
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	N/A	N/A
Filter Changed		Client Info		Changed	N/A	N/A
Sample Status				SEVERE	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	9	4	9
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	<1	0
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	<1	1	2
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	<1	6	<1
Tin	ppm	ASTM D5185m	>15	0	0	0
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

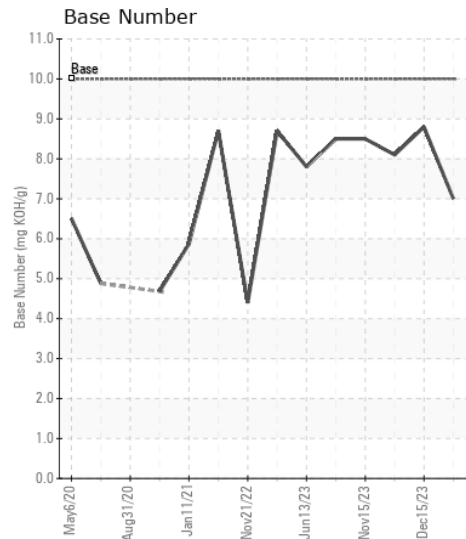
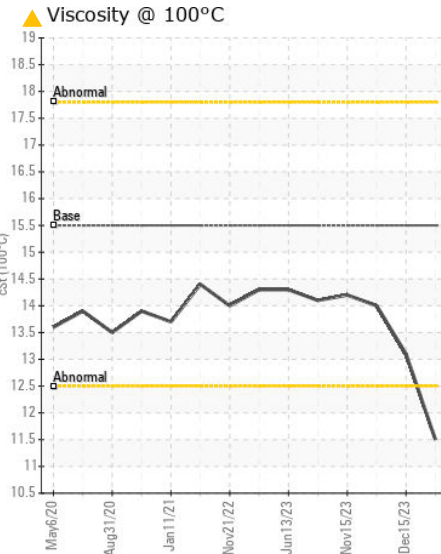
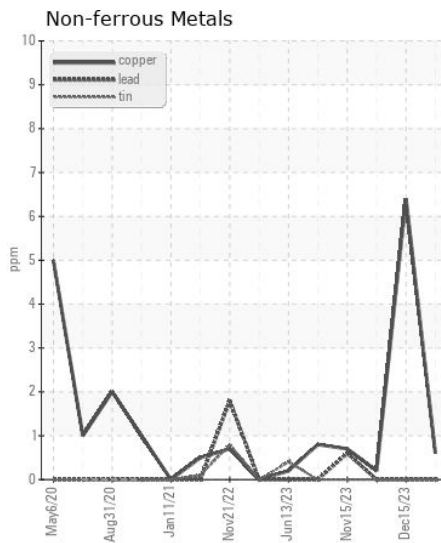
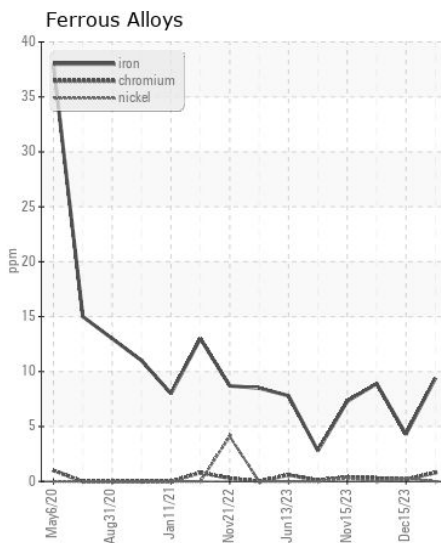
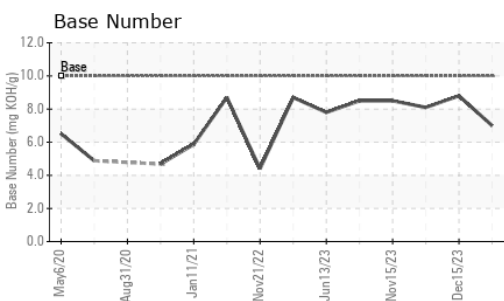
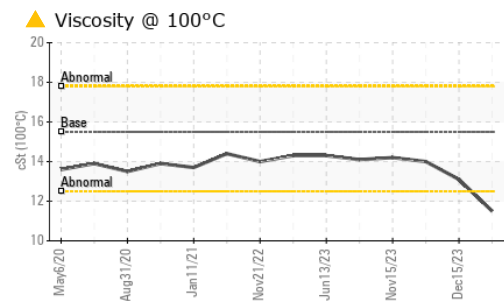
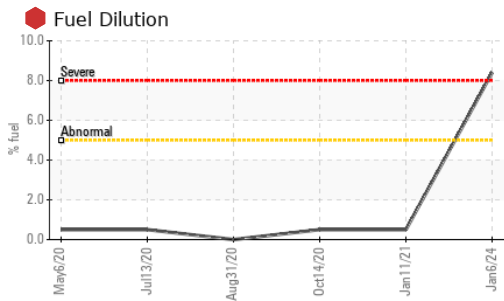
There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

Silicon	ppm	ASTM D5185m	>25	3	4	2
Potassium	ppm	ASTM D5185m	>20	<1	<1	4
Fuel	%	ASTM D3524	>5	8.4	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.5	0.2	0.5
Nitration	Abs/cm	*ASTM D7624	>20	7.6	5.1	6.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.5	17.7	19.1
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. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185m		3	4	0
Boron	ppm	ASTM D5185m		2	11	1
Barium	ppm	ASTM D5185m		0	<1	5
Molybdenum	ppm	ASTM D5185m		55	65	60
Manganese	ppm	ASTM D5185m		<1	<1	0
Magnesium	ppm	ASTM D5185m		863	871	874
Calcium	ppm	ASTM D5185m		967	1053	1056
Phosphorus	ppm	ASTM D5185m		928	1037	969
Zinc	ppm	ASTM D5185m		1125	1181	1140
Sulfur	ppm	ASTM D5185m		2732	3044	2979
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.8	13.4	14.4
Base Number (BN)	mg KOH/g	ASTM D2896	10	7.0	8.8	8.1
Visc @ 100°C	cSt	ASTM D445	15.5	11.5	13.1	14.0



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0102460 **Received** : 16 Jan 2024
Lab Number : 06061769 **Diagnosed** : 18 Jan 2024
Unique Number : 10833151 **Diagnostician** : Wes Davis
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

GFL Environmental - 837 - Harrison TS
 22820 S State Route 291
 Harrisonville, MO
 US 64701
 Contact: BRYAN SWANSON
 bryanswanson@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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F: