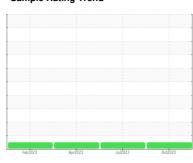


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id **821056**

Component

Diesel Engine

Diesel Engine Oil (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil

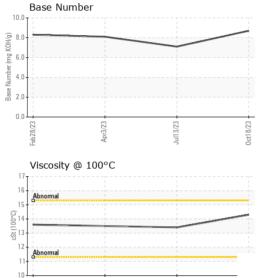
Fluid Condition

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

		Feb 202	3 Apr2023	Jul2023 0	ct2023	
SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0083909	GFL0083857	GFL0061553
Sample Date		Client Info		18 Oct 2023	13 Jul 2023	03 Apr 2023
Machine Age	hrs	Client Info		5830	0	0
Oil Age	hrs	Client Info		5830	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>110	4	20	47
Chromium	ppm	ASTM D5185m	>4	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	<1	<1
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	2	4	8
Lead	ppm	ASTM D5185m	>45	<1	0	<1
Copper	ppm	ASTM D5185m		<1	2	4
Tin	ppm	ASTM D5185m	>4	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 27	history1	history2
	ppm		limit/base	27 0		
Boron		ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	27	4	12
Boron Barium Molybdenum Manganese	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	27 0 61 0	4 0 64 <1	12 0 61 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	27 0 61 0 898	4 0 64 <1 904	12 0 61 <1 773
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	27 0 61 0 898 1110	4 0 64 <1 904 1146	12 0 61 <1 773 1090
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	27 0 61 0 898 1110 1070	4 0 64 <1 904 1146 1027	12 0 61 <1 773 1090 937
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	27 0 61 0 898 1110 1070	4 0 64 <1 904 1146 1027 1227	12 0 61 <1 773 1090 937 1150
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		27 0 61 0 898 1110 1070 1215 3737	4 0 64 <1 904 1146 1027 1227 2867	12 0 61 <1 773 1090 937 1150 2707
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base	27 0 61 0 898 1110 1070 1215 3737 current	4 0 64 <1 904 1146 1027 1227 2867 history1	12 0 61 <1 773 1090 937 1150 2707 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base	27 0 61 0 898 1110 1070 1215 3737 current	4 0 64 <1 904 1146 1027 1227 2867 history1	12 0 61 <1 773 1090 937 1150 2707 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base >30	27 0 61 0 898 1110 1070 1215 3737 current 2 0	4 0 64 <1 904 1146 1027 1227 2867 history1 3 0	12 0 61 <1 773 1090 937 1150 2707 history2 8 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base >30 >20	27 0 61 0 898 1110 1070 1215 3737 current 2 0 2	4 0 64 <1 904 1146 1027 1227 2867 history1 3 0 6	12 0 61 <1 773 1090 937 1150 2707 history2 8 2 19
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base >30 >20 limit/base	27 0 61 0 898 1110 1070 1215 3737 current 2 0 2	4 0 64 <1 904 1146 1027 1227 2867 history1 3 0 6	12 0 61 <1 773 1090 937 1150 2707 history2 8 2 19 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m method *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base >30 >20 limit/base >3	27 0 61 0 898 1110 1070 1215 3737 current 2 0 2 current	4 0 64 <1 904 1146 1027 1227 2867 history1 3 0 6 history1 0.4	12 0 61 <1 773 1090 937 1150 2707 history2 8 2 19 history2 0.6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm	ASTM D5185m method *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base >30 >20 limit/base >3 >20	27 0 61 0 898 1110 1070 1215 3737 current 2 0 2 current 0.1 4.5	4 0 64 <1 904 1146 1027 1227 2867 history1 3 0 6 history1 0.4 8.5	12 0 61 <1 773 1090 937 1150 2707 history2 8 2 19 history2 0.6 9.1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m method *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base >30 >20 limit/base >3 >20	27 0 61 0 898 1110 1070 1215 3737 current 2 0 2 current	4 0 64 <1 904 1146 1027 1227 2867 history1 3 0 6 history1 0.4	12 0 61 <1 773 1090 937 1150 2707 history2 8 2 19 history2 0.6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm	ASTM D5185m method *ASTM D5185m *ASTM D5185m *ASTM D5185m *ASTM D5185m *ASTM D5185m *ASTM D5185m *ASTM D7844 *ASTM D7624 *ASTM D76145	limit/base >30 >20 limit/base >3 >20	27 0 61 0 898 1110 1070 1215 3737 current 2 0 2 current 0.1 4.5	4 0 64 <1 904 1146 1027 1227 2867 history1 3 0 6 history1 0.4 8.5	12 0 61 <1 773 1090 937 1150 2707 history2 8 2 19 history2 0.6 9.1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm	ASTM D5185m method *ASTM D5185m *ASTM D5185m *ASTM D5185m *ASTM D5185m *ASTM D5185m *ASTM D5185m *ASTM D7844 *ASTM D7624 *ASTM D76145	limit/base >30	27 0 61 0 898 1110 1070 1215 3737 current 2 0 2 current 0.1 4.5 16.7	4 0 64 <1 904 1146 1027 1227 2867 history1 3 0 6 history1 0.4 8.5 20.2	12 0 61 <1 773 1090 937 1150 2707 history2 8 2 19 history2 0.6 9.1 20.5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE	ppm	ASTM D5185m method *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method *ASTM D7844 *ASTM D7844 *ASTM D7844 *ASTM D7624 *ASTM D7844	limit/base >30 >20 limit/base >3 >20 s>20 limit/base	27 0 61 0 898 1110 1070 1215 3737 current 2 0 2 current 0.1 4.5 16.7 current	4 0 64 <1 904 1146 1027 1227 2867 history1 3 0 6 history1 0.4 8.5 20.2 history1	12 0 61 <1 773 1090 937 1150 2707 history2 8 2 19 history2 0.6 9.1 20.5 history2



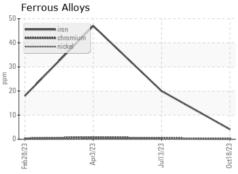
OIL ANALYSIS REPORT

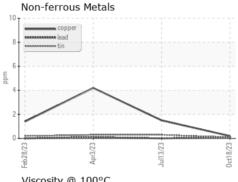


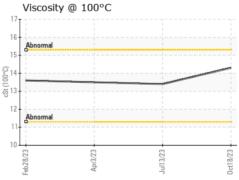
White Metal scalar Yellow Metal scalar Precipitate scalar	*Visual *Visual	NONE NONE	NONE NONE	NONE NONE	NONE NONE
Precipitate scalar	*Visual				NONE
<u> </u>	1.000.	NONE			
0.14	43.77		NONE	NONE	NONE
Silt scalar	*Visual	NONE	NONE	NONE	NONE
Debris scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt scalar	*Visual	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

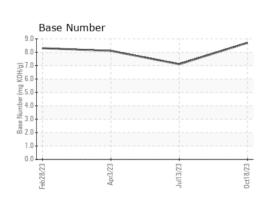
FLUID PROP	EHILES	method		HISTORY	riistoryz
Visc @ 100°C	cSt	ASTM D445	14.3	13.4	13.5

GRAPHS











Certificate L2367

Laboratory Sample No.

Lab Number Unique Number : 10708900 Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : GFL0083909 : 05986238

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.

Received Diagnosed Diagnostician : Don Baldridge

: 23 Oct 2023 : 25 Oct 2023 GFL Environmental - 652 - Fredericksburg Hauling

10954 Houser Drive Fredericksburg, VA US 22408

Contact: WILLIAM MILO

wmilo@gflenv.com T:

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

F: