

# **OIL ANALYSIS REPORT**

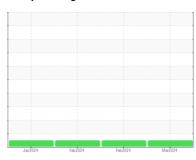
### Sample Rating Trend

# **NORMAL**



(48031UA) 834027

Component **Natural Gas Engine** NOT GIVEN (--- GAL)





### DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal for time on oil.

### Contamination

There is no indication of any contamination in the

### **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.

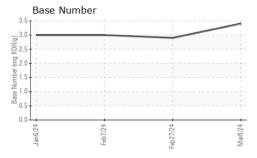
		Jan202	Feb 2024	Feb2024 M:	ar2024	
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0111820	GFL0111826	GFL0108247
Sample Date		Client Info		08 Mar 2024	27 Feb 2024	07 Feb 2024
Machine Age	hrs	Client Info		1234	1148	1033
Oil Age	hrs	Client Info		1234	1148	1033
Oil Changed		Client Info		Changed	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	60	71	66
Chromium	ppm	ASTM D5185m	>4	1	2	2
Nickel	ppm	ASTM D5185m	>2	2	3	3
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	>3	<1	0	<1
Aluminum	ppm	ASTM D5185m	>9	7	7	6
Lead	ppm	ASTM D5185m	>30	4	5	4
Copper	ppm	ASTM D5185m	>35	13	15	17
Tin	ppm	ASTM D5185m	>4	3	3	3
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		0	0	<1
	1-1-			•	Ü	
ADDITIVES	1-1-	method	limit/base	current	history1	history2
ADDITIVES Boron	ppm		limit/base			history2
		method	limit/base	current	history1	,
Boron	ppm	method ASTM D5185m	limit/base	current	history1	4
Boron Barium	ppm	method ASTM D5185m ASTM D5185m	limit/base	current 10 2	history1 4 0	4
Boron Barium Molybdenum	ppm ppm	method  ASTM D5185m  ASTM D5185m  ASTM D5185m	limit/base	current 10 2 64	history1 4 0 65	4 0 65
Boron Barium Molybdenum Manganese	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 10 2 64 12	history1  4  0  65  15	4 0 65 15
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 10 2 64 12 867	history1  4  0  65  15  1057	4 0 65 15 904
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 10 2 64 12 867 1537	history1  4  0 65 15 1057 1729	4 0 65 15 904 1460
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base	current 10 2 64 12 867 1537 864	history1  4  0 65 15 1057 1729 859	4 0 65 15 904 1460 824
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method  ASTM D5185m	limit/base	current  10 2 64 12 867 1537 864 1084	history1  4  0 65 15 1057 1729 859 1241	4 0 65 15 904 1460 824 1069
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m		current  10  2  64  12  867  1537  864  1084  2899	history1  4  0 65 15 1057 1729 859 1241 2717	4 0 65 15 904 1460 824 1069 2473
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method  ASTM D5185m	limit/base	current  10 2 64 12 867 1537 864 1084 2899 current	history1  4  0 65 15 1057 1729 859 1241 2717 history1	4 0 65 15 904 1460 824 1069 2473
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method  ASTM D5185m	limit/base	current  10 2 64 12 867 1537 864 1084 2899 current	history1  4  0  65  15  1057  1729  859  1241  2717  history1	4 0 65 15 904 1460 824 1069 2473 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method  ASTM D5185m	limit/base >+100	current  10  2  64  12  867  1537  864  1084  2899  current  22  8	history1  4  0 65 15 1057 1729 859 1241 2717 history1 27 28	4 0 65 15 904 1460 824 1069 2473 history2 29
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method  ASTM D5185m	limit/base >+100 >20	current  10 2 64 12 867 1537 864 1084 2899 current 22 8 20	history1  4  0 65 15 1057 1729 859 1241 2717 history1 27 28 20	4 0 65 15 904 1460 824 1069 2473 history2 29 2
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	method  ASTM D5185m	limit/base >+100 >20 limit/base	current  10  2  64  12  867  1537  864  1084  2899  current  22  8  20  current	history1  4  0 65 15 1057 1729 859 1241 2717 history1 27 28 20 history1	4 0 65 15 904 1460 824 1069 2473 history2 29 2 22 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method  ASTM D5185m  method  *ASTM D5185m  ASTM D5185m  ASTM D5185m  ASTM D5185m  ASTM D5185m  ASTM D5185m	limit/base >+100 >20 limit/base	current  10 2 64 12 867 1537 864 1084 2899 current 22 8 20 current 0	history1  4  0 65 15 1057 1729 859 1241 2717 history1 27 28 20 history1 0.1	4 0 65 15 904 1460 824 1069 2473 history2 29 2 22 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm	method ASTM D5185m  method ASTM D5185m ASTM D5185m  *ASTM D5185m ASTM D76185m ASTM D76185m ASTM D76185m ASTM D76185m	limit/base >+100 >20 limit/base >20	current  10 2 64 12 867 1537 864 1084 2899 current 22 8 20 current 0 14.0	history1  4  0 65 15 1057 1729 859 1241 2717 history1 27 28 20 history1 0.1 14.5	4 0 65 15 904 1460 824 1069 2473 history2 29 2 22 history2 0 13.9

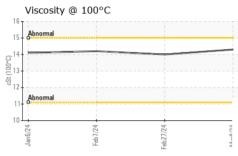
3.4

Base Number (BN) mg KOH/g ASTM D2896



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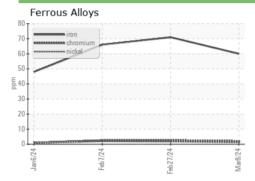


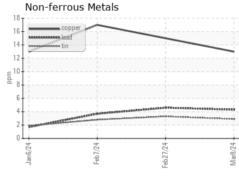


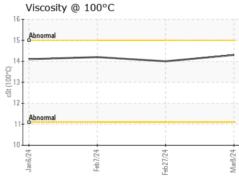
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
<b>Emulsified Water</b>	scalar	*Visual	>0.1	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG

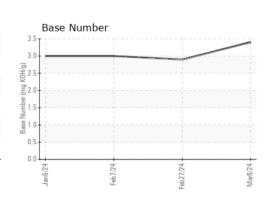
FLUID PROPERTIES		method			history2
Visc @ 100°C	cSt	ASTM D445	14.3	14.0	14.2

### **GRAPHS**













Laboratory Sample No.

Lab Number : 06116499 Unique Number : 10925332 Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : GFL0111820 Received : 12 Mar 2024 **Tested** : 14 Mar 2024

Diagnosed : 14 Mar 2024 - Don Baldridge

GFL Environmental - 652 - Fredericksburg Hauling

10954 Houser Drive Fredericksburg, VA US 22408

Contact: WILLIAM MILO wmilo@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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