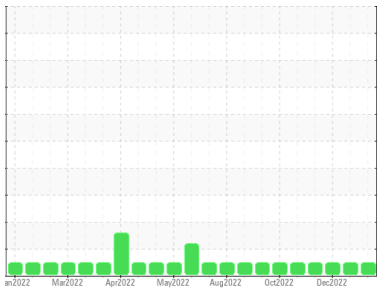
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Machine Id
LGS00178
Component
Biogas Engine
Fluid
Q8 G8 MAHLER SAE 40 (141 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 AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0660867**	WC0660865	WC0660863
Sample Date		Client Info		**17 Jan 2023**	14 Dec 2022	07 Dec 2022
Machine Age	hrs	Client Info		**59799**	59114	58955
Oil Age	hrs	Client Info		**110**	282	595
Oil Changed		Client Info		**N/A**	Changed	N/A
Sample Status				**NORMAL**	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>4.0	**<1.0**	<1.0	<1.0
Glycol		WC Method		**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>45	**3**	8	4
Chromium	ppm	ASTM D5185m	>2	**<1**	<1	<1
Nickel	ppm	ASTM D5185m	>2	**<1**	0	<1
Titanium	ppm	ASTM D5185m		**0**	0	0
Silver	ppm	ASTM D5185m	>5	**0**	0	<1
Aluminum	ppm	ASTM D5185m	>10	**2**	3	3
Lead	ppm	ASTM D5185m	>5	**1**	<1	<1
Copper	ppm	ASTM D5185m	>14	**1**	2	1
Tin	ppm	ASTM D5185m	>13	**<1**	2	<1
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**0**	0	<1
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**<1**	<1	<1
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m		**6**	5	8
Calcium	ppm	ASTM D5185m		**2219**	2098	1994
Phosphorus	ppm	ASTM D5185m		**426**	394	352
Zinc	ppm	ASTM D5185m		**450**	436	421
Sulfur	ppm	ASTM D5185m		**3463**	4115	2950

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>200	**53**	115	54
Sodium	ppm	ASTM D5185m		**<1**	2	2
Potassium	ppm	ASTM D5185m	>20	**2**	0	0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844		**0**	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	**5.0**	5.6	6.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	**15.9**	19.8	17.1

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**8.7**	10.1	9.5
Acid Number (AN)	mg KOH/g	ASTM D8045		**0.77**	0.88	0.76
Base Number (BN)	mg KOH/g	ASTM D2896		**5.94**	5.56	6.17

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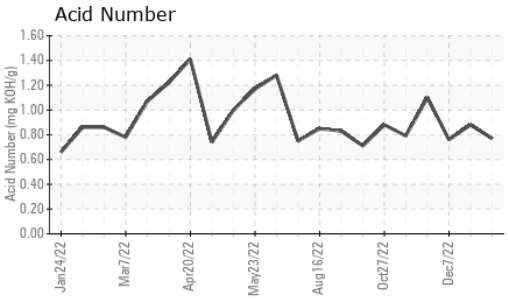
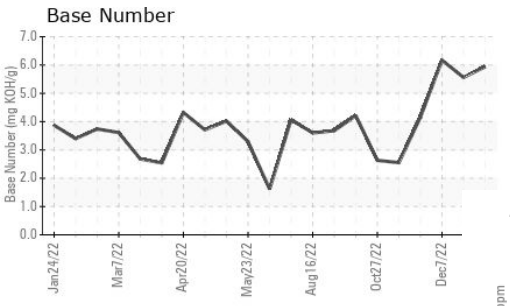
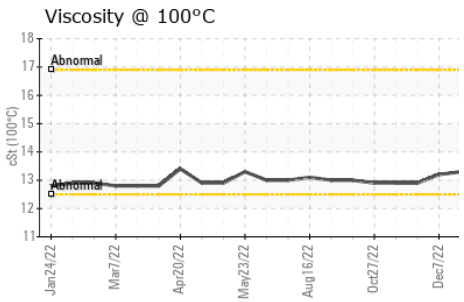


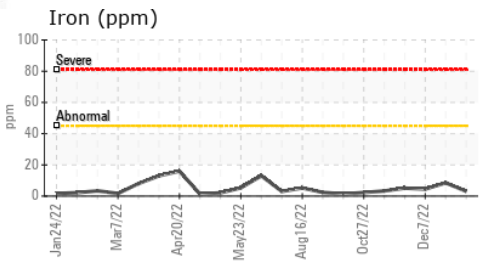


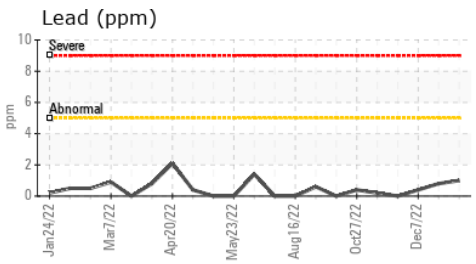


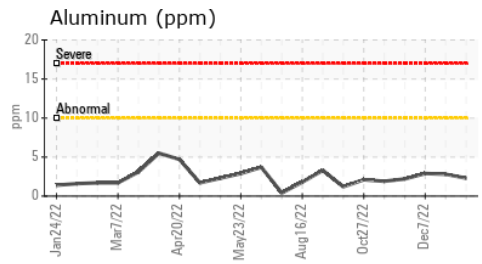
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

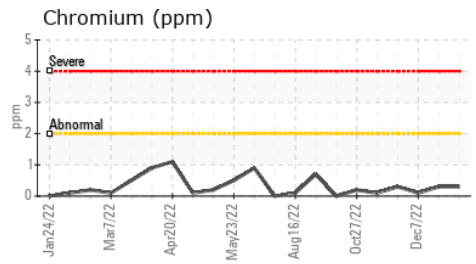
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445		**13.1**	13.3	13.2

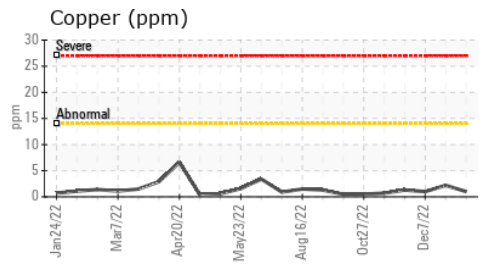
GRAPHS

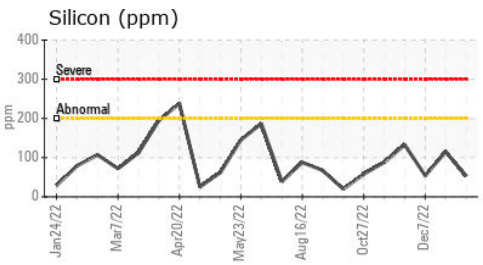


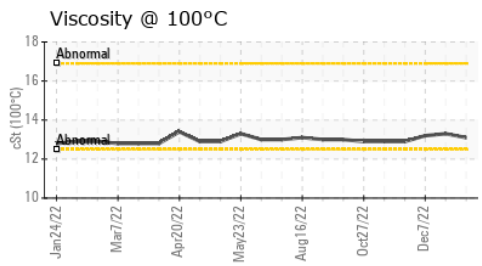


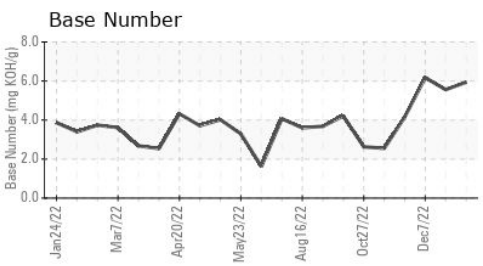












Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0660867
Lab Number : 05744268
Unique Number : 10298867
Test Package : MOB 2

Received : 19 Jan 2023
Diagnosed : 23 Jan 2023
Diagnostician : Sean Felton

Certificate L2367

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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