



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
JENBACHER GM01
Component
Biogas Engine
Fluid
MAHLER Q8 Mahler G8 SAE 40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0880297	WC0880320	WC0880325
Sample Date		Client Info		29 Jan 2024	24 Jan 2024	16 Jan 2024
Machine Age	hrs	Client Info		18923	18803	18622
Oil Age	hrs	Client Info		2901	2781	2600
Filter Age	hrs	Client Info		2901	2781	2600
Oil Changed		Client Info		N/A	N/A	Not Changd
Filter Changed		Client Info		N/A	N/A	Not Changd
Sample Status				NORMAL	NORMAL	ATTENTION

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>20	5	7	▲ 19
Chromium	ppm	ASTM D5185m	>5	<1	0	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m	>5	0	0	0
Aluminum	ppm	ASTM D5185m	>15	2	2	4
Lead	ppm	ASTM D5185m	>20	<1	<1	<1
Copper	ppm	ASTM D5185m	>15	<1	<1	<1
Tin	ppm	ASTM D5185m	>5	<1	0	<1
Vanadium	ppm	ASTM D5185m		<1	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

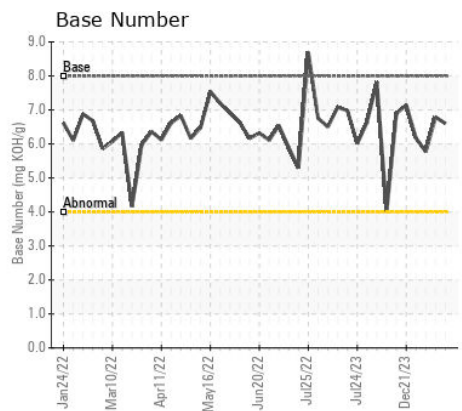
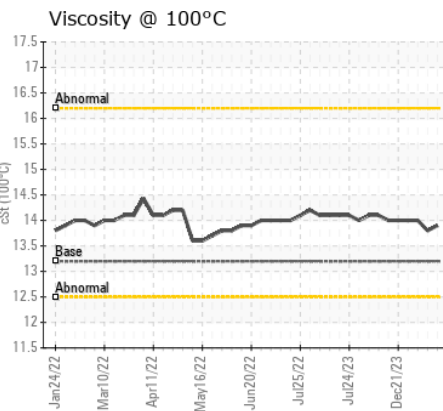
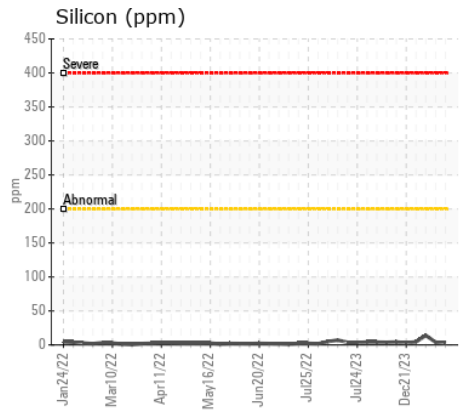
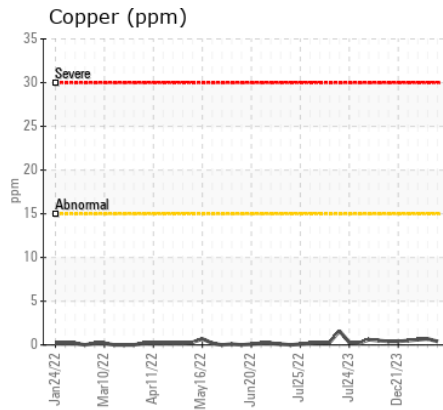
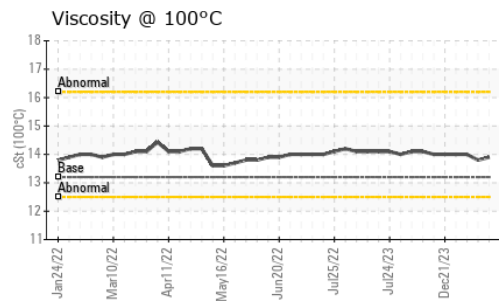
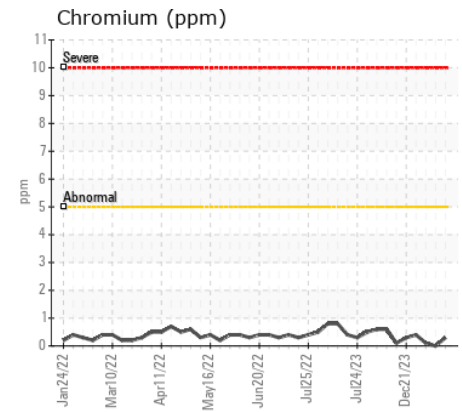
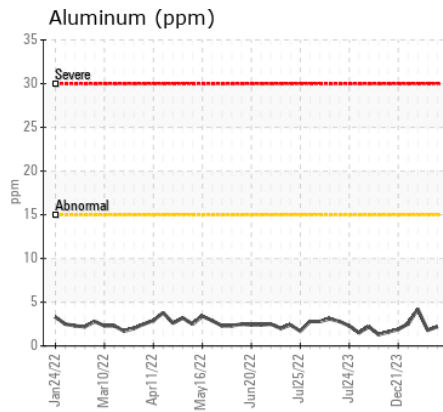
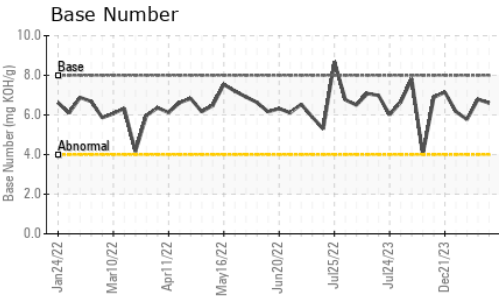
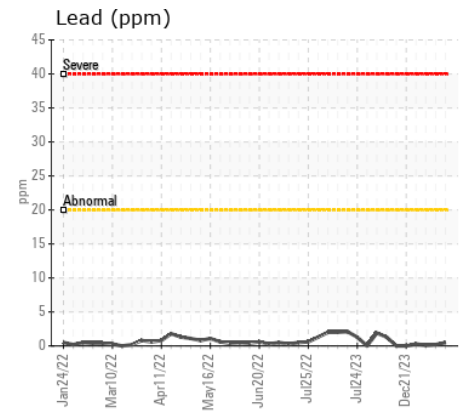
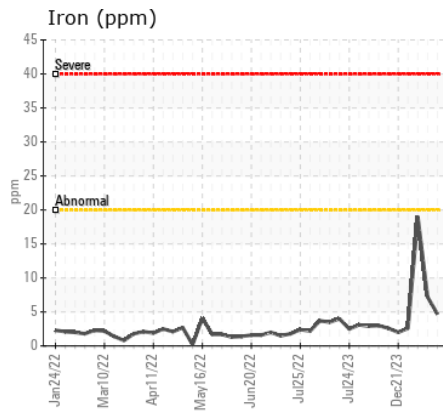
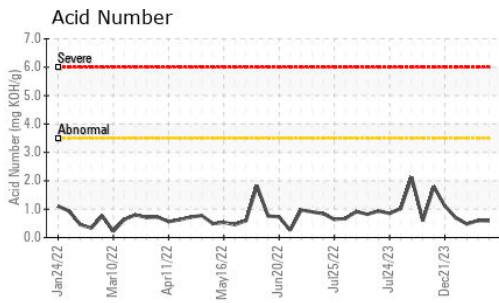
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>200	3	4	14
Potassium	ppm	ASTM D5185m	>20	<1	2	0
Fuel		WC Method	>4.0	<1.0	<1.0	<1.0
Water		WC Method	>.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>2	0	0	0
Nitration	Abs/cm	*ASTM D7624	>20	8.0	8.0	7.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	16.9	16.7	16.6
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	>.2	NEG	NEG	NEG

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.

Sodium	ppm	ASTM D5185m	>20	<1	0	2
Boron	ppm	ASTM D5185m		<1	1	2
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		1	1	1
Manganese	ppm	ASTM D5185m		<1	0	<1
Magnesium	ppm	ASTM D5185m		10	11	9
Calcium	ppm	ASTM D5185m		2176	2319	2209
Phosphorus	ppm	ASTM D5185m		460	484	447
Zinc	ppm	ASTM D5185m		510	555	497
Sulfur	ppm	ASTM D5185m		2430	2719	2588
Oxidation	Abs/.1mm	*ASTM D7414	>25	12.7	12.7	12.4
Acid Number (AN)	mg KOH/g	ASTM D8045		0.59	0.60	0.48
Base Number (BN)	mg KOH/g	ASTM D2896	8.0	6.60	6.79	5.77
Visc @ 100°C	cSt	ASTM D445	13.2	13.9	13.8	14.0



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0880297 **Received** : 31 Jan 2024
Lab Number : 06076429 **Diagnosed** : 02 Feb 2024
Unique Number : 10858520 **Diagnostician** : Don Baldrige
Test Package : MOB 2

ASB MAS GA LFG PLANT COGEN
 3791 BROWNS MILL RD SE
 ATLANTA, GA
 US 30354
 Contact: DEREK PAGE
 derek.page@cubedistrictenergy.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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