



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
JENBACHER GM02 (S/N 1144713)
 Component
Biogas Engine
 Fluid
MAHLER Q8 Mahler G8 SAE 40 (--- GAL)

RECOMMENDATION

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0944676	WC0914303	WC0914300
Sample Date		Client Info		24 Jun 2024	18 Jun 2024	10 Jun 2024
Machine Age	hrs	Client Info		51408	51402	51389
Oil Age	hrs	Client Info		1610	1604	1591
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

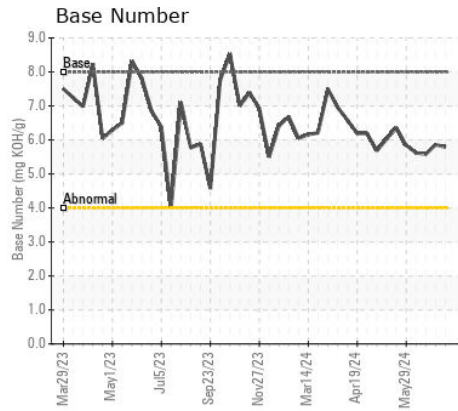
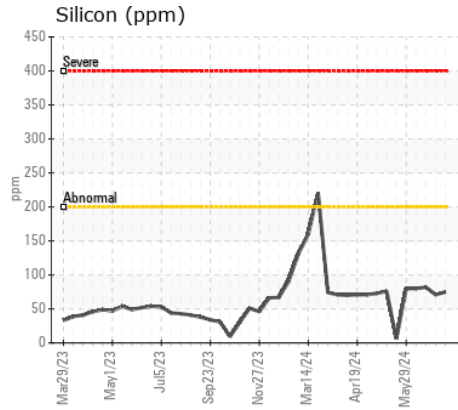
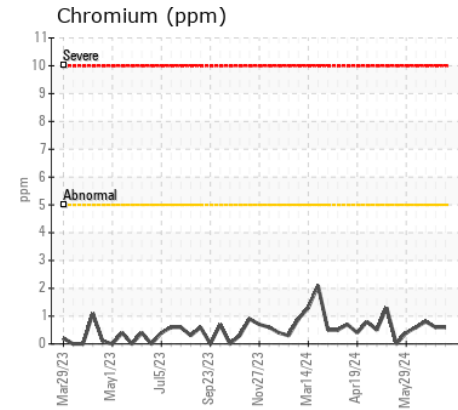
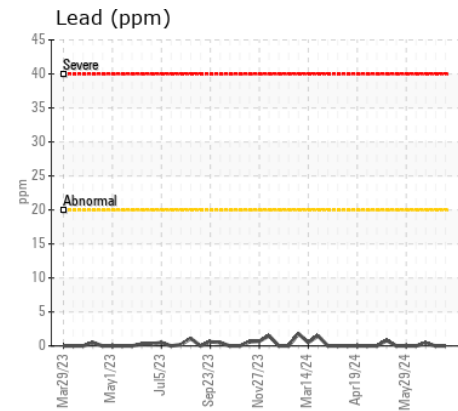
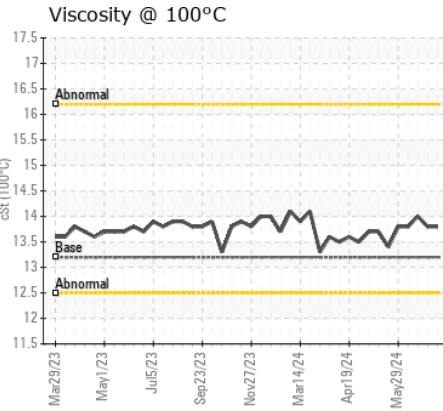
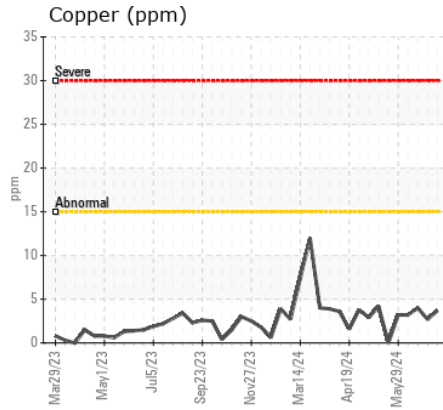
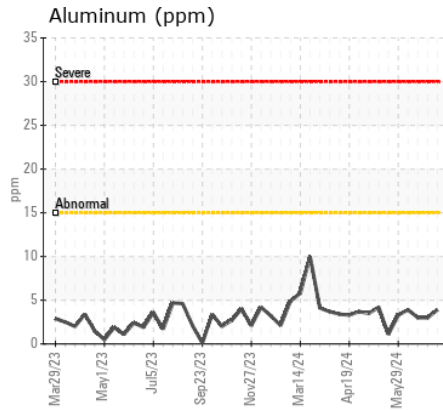
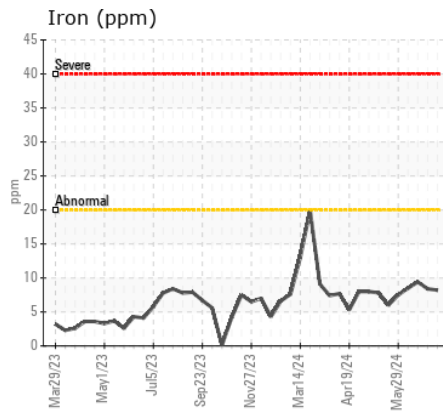
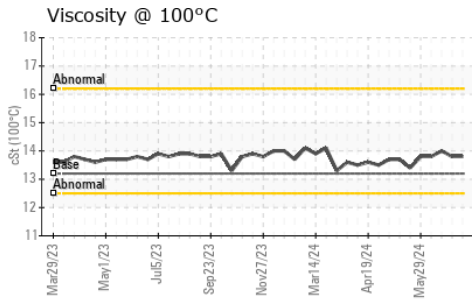
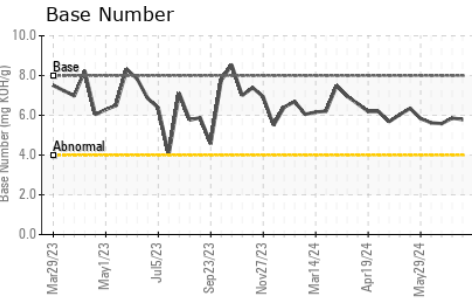
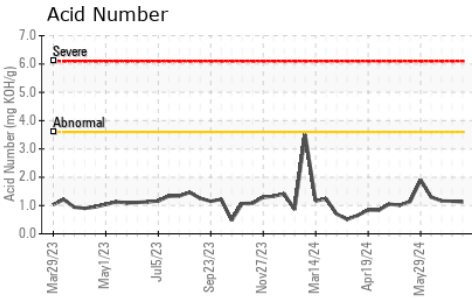
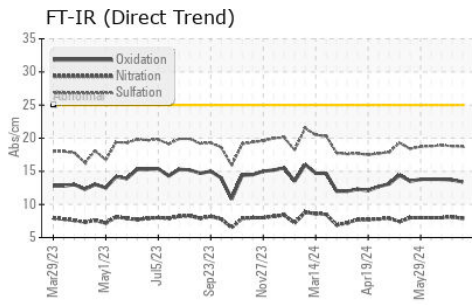
Iron	ppm	ASTM D5185m	>20	8	8	9
Chromium	ppm	ASTM D5185m	>5	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	<1	0	0
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	>5	0	0	0
Aluminum	ppm	ASTM D5185m	>15	4	3	3
Lead	ppm	ASTM D5185m	>20	0	0	<1
Copper	ppm	ASTM D5185m	>15	4	3	4
Tin	ppm	ASTM D5185m	>5	4	5	6
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	LIGHT	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

Silicon	ppm	ASTM D5185m	>200	75	71	82
Potassium	ppm	ASTM D5185m	>20	8	6	10
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	0.1	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	7.9	8.1	8.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.7	18.8	18.9
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

Sodium	ppm	ASTM D5185m	>20	17	15	14
Boron	ppm	ASTM D5185m		<1	<1	0
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		12	6	8
Calcium	ppm	ASTM D5185m		2522	2363	2442
Phosphorus	ppm	ASTM D5185m		449	398	405
Zinc	ppm	ASTM D5185m		522	465	505
Sulfur	ppm	ASTM D5185m		3164	2886	2947
Oxidation	Abs/.1mm	*ASTM D7414	>25	13.4	13.7	13.8
Acid Number (AN)	mg KOH/g	ASTM D8045		1.13	1.15	1.16
Base Number (BN)	mg KOH/g	ASTM D2896	8.0	5.79	5.86	5.58
Visc @ 100°C	cSt	ASTM D445	13.2	13.8	13.8	14.0



Certificate L2367

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

Sample No. : WC0944676

Lab Number : 06219904

Unique Number : 11098101

Test Package : MOB 2

Received : 25 Jun 2024

Tested : 26 Jun 2024

Diagnosed : 26 Jun 2024 - Sean Felton

PINE RIDGE

105 BAILEY JESTER RD

GRIFFIN, GA

US 30224

Contact: STEPHEN SAVAGE

stephen.savage@cubedistrictenergy.com

T:

F:

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)