



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
CATERPILLAR GM02
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		WC0870569	WC0870566	WC0870522
Sample Date		Client Info		31 Jan 2024	09 Jan 2024	04 Jan 2024
Machine Age	hrs	Client Info		67448	67396	67275
Oil Age	hrs	Client Info		14	427	306
Filter Age	hrs	Client Info		14	427	306
Oil Changed		Client Info		Changed	N/A	N/A
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	ABNORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>45	18	▲ 56	31
Chromium	ppm	ASTM D5185m	>2	0	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	<1	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>5	<1	0	0
Aluminum	ppm	ASTM D5185m	>10	2	3	4
Lead	ppm	ASTM D5185m	>5	<1	<1	<1
Copper	ppm	ASTM D5185m	>14	<1	2	0
Tin	ppm	ASTM D5185m	>13	<1	2	2
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

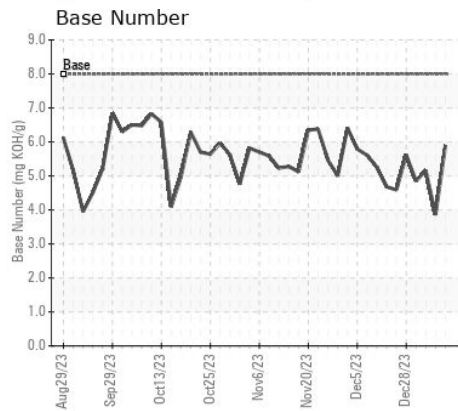
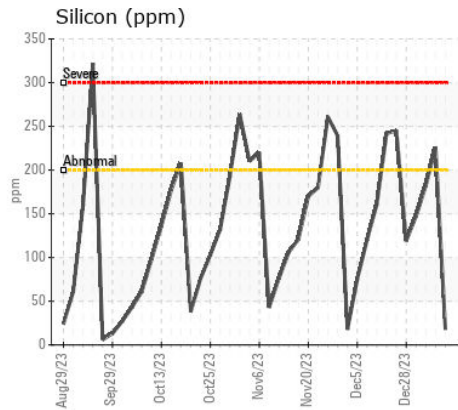
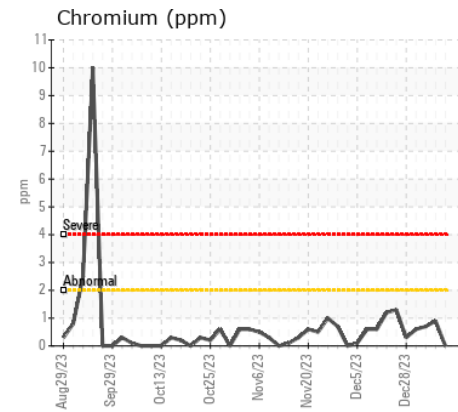
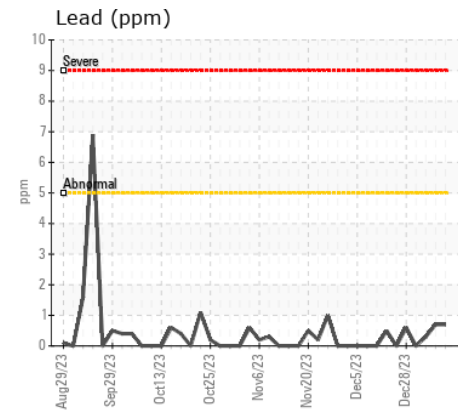
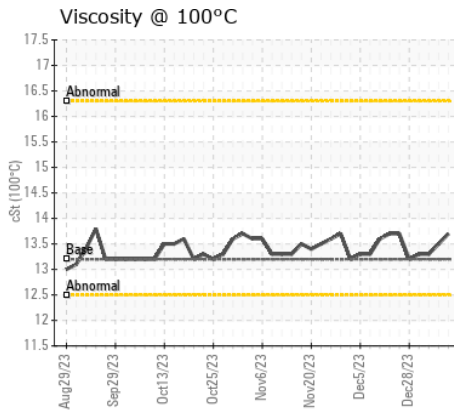
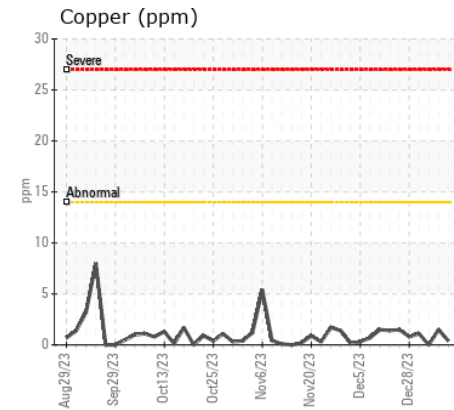
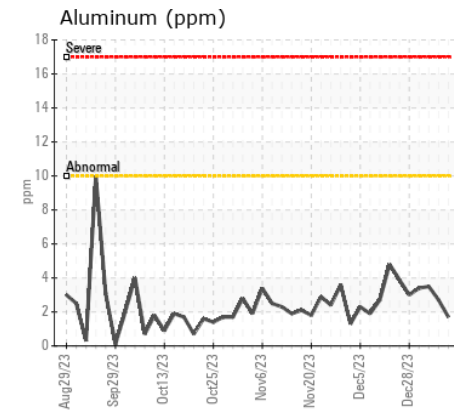
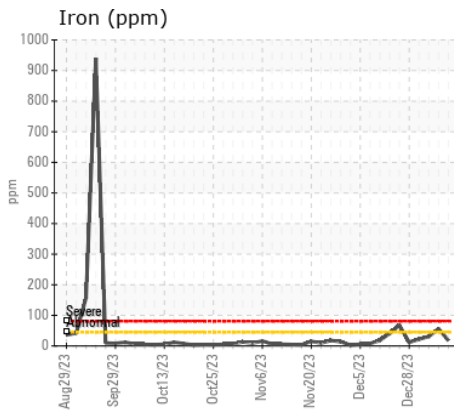
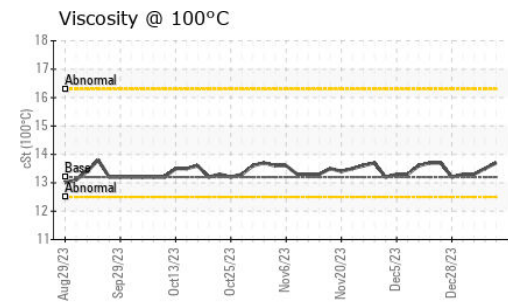
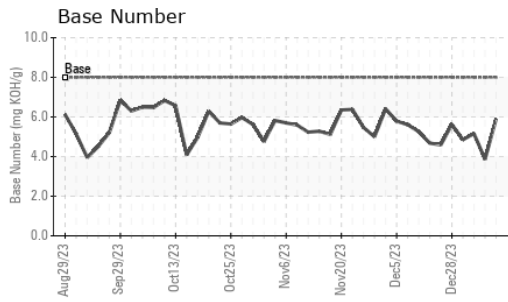
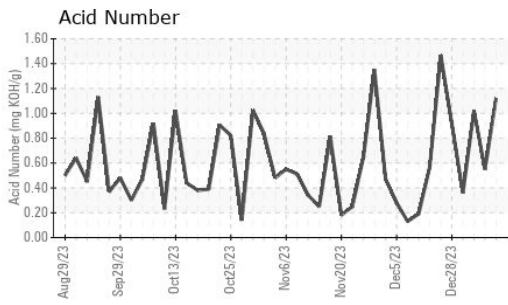
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>200	18	▲ 226	182
Potassium	ppm	ASTM D5185m	>20	0	2	0
Fuel		WC Method	>4.0	<1.0	<1.0	<1.0
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844		0	0	0
Nitration	Abs/cm	*ASTM D7624	>20	4.3	5.9	5.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	14.8	16.5	15.9
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	>0.1	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		23	0	0
Boron	ppm	ASTM D5185m		1	1	2
Barium	ppm	ASTM D5185m		<1	0	0
Molybdenum	ppm	ASTM D5185m		0	3	<1
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		11	11	11
Calcium	ppm	ASTM D5185m		1266	1466	1424
Phosphorus	ppm	ASTM D5185m		357	431	410
Zinc	ppm	ASTM D5185m		422	467	476
Sulfur	ppm	ASTM D5185m		1731	2056	2027
Oxidation	Abs/.1mm	*ASTM D7414	>25	8.4	11.8	11.0
Acid Number (AN)	mg KOH/g	ASTM D8045		1.12	0.549	1.02
Base Number (BN)	mg KOH/g	ASTM D2896	8.0	5.90	3.86	5.16
Visc @ 100°C	cSt	ASTM D445	13.2	13.7	13.5	13.3



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0870569 **Received** : 01 Feb 2024
Lab Number : 06077061 **Diagnosed** : 02 Feb 2024
Unique Number : 10859152 **Diagnostician** : Sean Felton
Test Package : MOB 2

OAK GROVE KS
 1150 E 700TH AVE
 ARCADIA, KS
 US 66711

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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