MOB II WEAR CHECK

OIL ANALYSIS REPORT

WEAR	MARGINAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
CATERPILLAR GM01 - DA LUBRICANT BLUE FLAME HB-5 SAE 40 (S/N LGS00177)
Component
Biogas Engine
Fluid
D-A Lubricant Blue Flame HB-5 40W (140 GAL)

RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

WEAR

An increase in the iron level is noted. All other component wear rates are normal.

CONTAMINATION

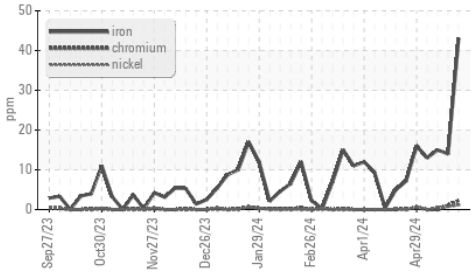
There is no indication of any contamination in the oil.

FLUID CONDITION

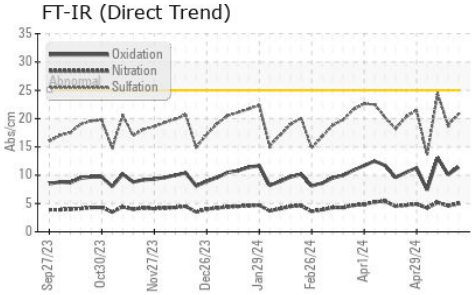
The BN result indicates that there is suitable alkalinity remaining in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0880166	WC0880165	WC0880164
Sample Date		Client Info		28 May 2024	20 May 2024	13 May 2024
Machine Age	hrs	Client Info		80412	80224	80060
Oil Age	hrs	Client Info		352	164	827
Filter Age	hrs	Client Info		352	164	827
Oil Changed		Client Info		Not Changd	Changed	Not Changd
Filter Changed		Client Info		Not Changd	Changed	Not Changd
Sample Status				MARGINAL	NORMAL	ABNORMAL
Iron	ppm	ASTM D5185m	>45	▲ 43	14	15
Chromium	ppm	ASTM D5185m	>2	2	1	0
Nickel	ppm	ASTM D5185m	>2	1	<1	<1
Titanium	ppm	ASTM D5185m		2	2	<1
Silver	ppm	ASTM D5185m	>5	0	<1	0
Aluminum	ppm	ASTM D5185m	>10	3	2	2
Lead	ppm	ASTM D5185m	>5	<1	<1	<1
Copper	ppm	ASTM D5185m	>14	5	3	2
Tin	ppm	ASTM D5185m	>13	3	2	4
Vanadium	ppm	ASTM D5185m		<1	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>200	158	75	169
Potassium	ppm	ASTM D5185m	>20	2	1	1
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		0.1	0.1	0
Nitration	Abs/cm	*ASTM D7624	>20	5.0	4.6	5.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.8	18.8	24.4
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
Sodium	ppm	ASTM D5185m		1	0	2
Boron	ppm	ASTM D5185m		7	5	4
Barium	ppm	ASTM D5185m		1	0	0
Molybdenum	ppm	ASTM D5185m		4	3	2
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		18	13	17
Calcium	ppm	ASTM D5185m		2608	1737	1784
Phosphorus	ppm	ASTM D5185m		489	331	323
Zinc	ppm	ASTM D5185m		577	378	387
Sulfur	ppm	ASTM D5185m		6366	4416	5072
Oxidation	Abs/.1mm	*ASTM D7414	>25	11.4	10.1	13.1
Acid Number (AN)	mg KOH/g	ASTM D8045		1.29	1.07	▲ 2.622
Base Number (BN)	mg KOH/g	ASTM D2896		3.58	4.06	▲ 2.58
Visc @ 100°C	cSt	ASTM D445		13.3	13.2	13.5

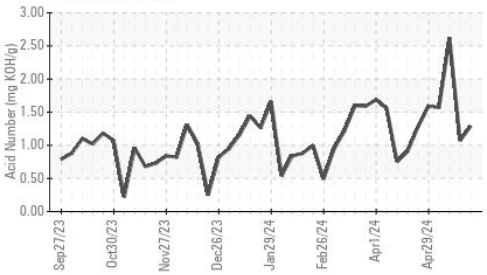
Ferrous Alloys



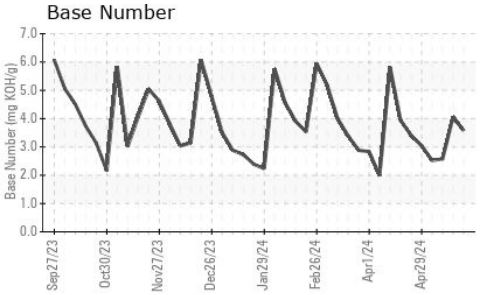
FT-IR (Direct Trend)



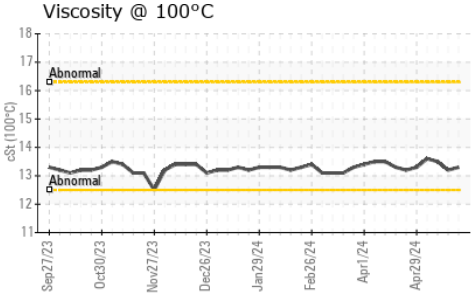
Acid Number



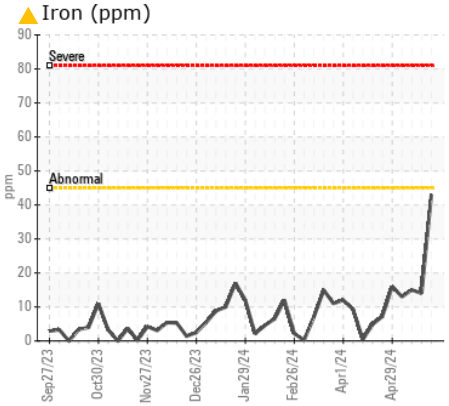
Base Number



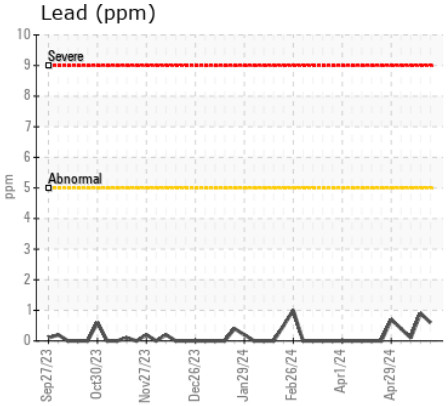
Viscosity @ 100°C



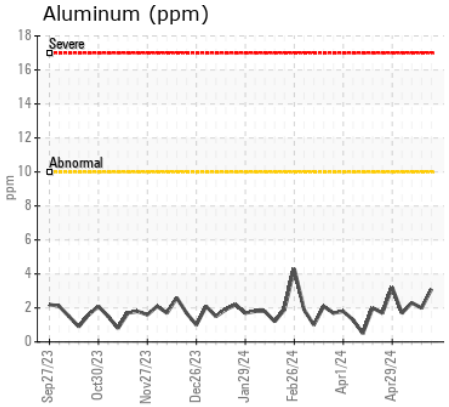
Iron (ppm)



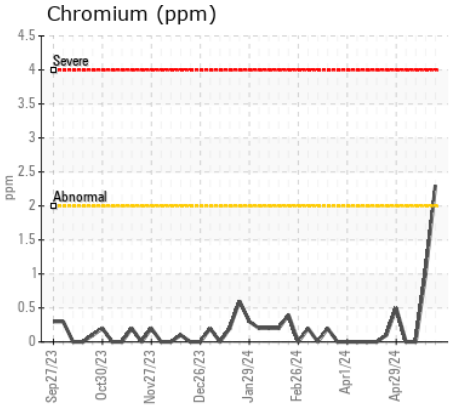
Lead (ppm)



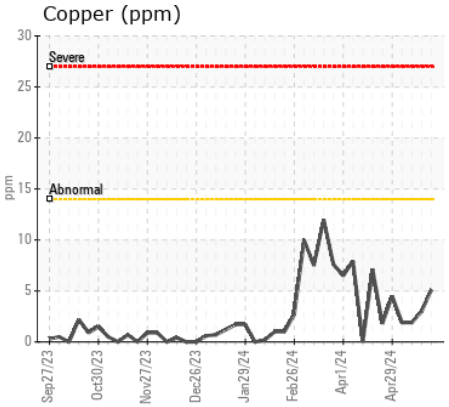
Aluminum (ppm)



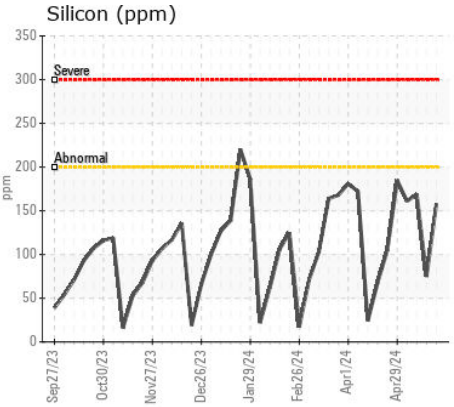
Chromium (ppm)



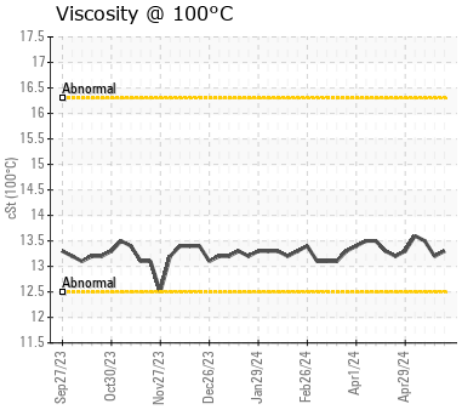
Copper (ppm)



Silicon (ppm)



Viscosity @ 100°C



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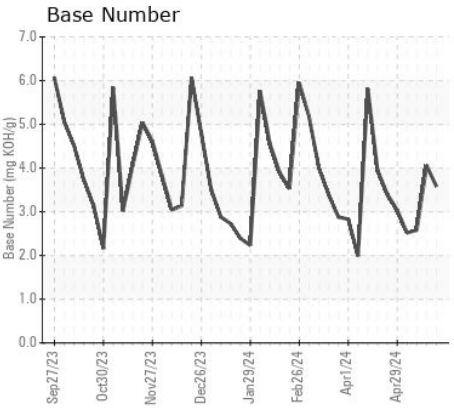

Certificate L2367

Laboratory	: WearCheck USA - 501 Madison Ave., Cary, NC 27513		
Sample No.	: WC0880166	**Received**	: 29 May 2024
Lab Number	: 06194685	**Tested**	: 31 May 2024
Unique Number	: 11056808	**Diagnosed**	: 31 May 2024 - Don Baldridge
Test Package	: MOB 2		

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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