MOB II WEAR CHECK

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
ENG 4C
Component
Biogas Engine
Fluid
D-A Lubricant Blue Flame HB-5 40W (110 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

WEAR

All component wear rates are normal.

CONTAMINATION

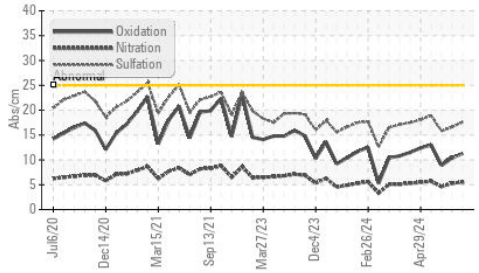
There is no indication of any contamination in the oil.

FLUID CONDITION

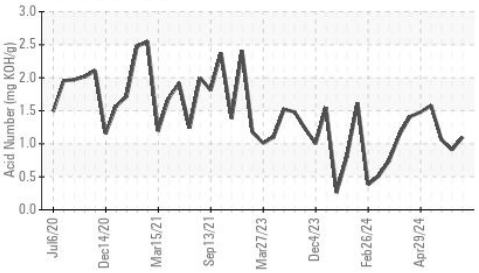
The BN result indicates that there is suitable alkalinity remaining in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		**WC0962712**	WC0962707	WC0935627
Sample Date		Client Info		**15 Jul 2024**	08 Jul 2024	24 Jun 2024
Machine Age	hrs	Client Info		**86231**	86063	85773
Oil Age	hrs	Client Info		**644**	476	146
Filter Age	hrs	Client Info		**644**	476	146
Oil Changed		Client Info		**N/A**	N/A	Changed
Filter Changed		Client Info		**N/A**	N/A	Changed
Sample Status				**NORMAL**	NORMAL	NORMAL
Iron	ppm	ASTM D5185m	>45	**7**	9	6
Chromium	ppm	ASTM D5185m	>2	**<1**	<1	<1
Nickel	ppm	ASTM D5185m	>2	**0**	<1	<1
Titanium	ppm	ASTM D5185m		**0**	0	<1
Silver	ppm	ASTM D5185m	>5	**0**	0	<1
Aluminum	ppm	ASTM D5185m	>10	**4**	5	2
Lead	ppm	ASTM D5185m	>5	**1**	3	3
Copper	ppm	ASTM D5185m	>14	**2**	3	2
Tin	ppm	ASTM D5185m	>13	**4**	4	2
Vanadium	ppm	ASTM D5185m		**0**	0	<1
White Metal	scalar	*Visual	NONE	**NONE**	LIGHT	LIGHT
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silicon	ppm	ASTM D5185m	>200	**188**	151	81
Potassium	ppm	ASTM D5185m	>20	**<1**	3	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**	0	0
Nitration	Abs/cm	*ASTM D7624	>20	**5.5**	5.3	4.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	**17.6**	16.6	15.8
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**	2	0
Boron	ppm	ASTM D5185m		**2**	2	2
Barium	ppm	ASTM D5185m		**0**	0	1
Molybdenum	ppm	ASTM D5185m		**4**	3	2
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m		**25**	13	10
Calcium	ppm	ASTM D5185m		**1648**	1517	1365
Phosphorus	ppm	ASTM D5185m		**371**	367	314
Zinc	ppm	ASTM D5185m		**476**	471	407
Sulfur	ppm	ASTM D5185m		**3369**	3432	2579
Oxidation	Abs/.1mm	*ASTM D7414	>25	**11.3**	10.4	8.9
Acid Number (AN)	mg KOH/g	ASTM D8045		**1.10**	0.91	1.06
Base Number (BN)	mg KOH/g	ASTM D2896		**3.73**	3.69	4.65
Visc @ 100°C	cSt	ASTM D445		**12.8**	13.1	13.22

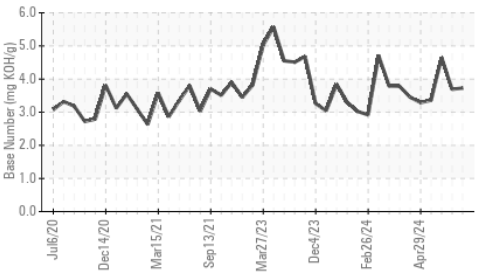
FT-IR (Direct Trend)



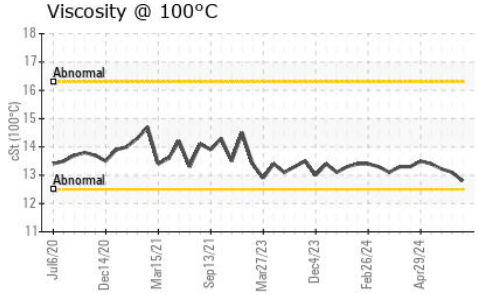
Acid Number



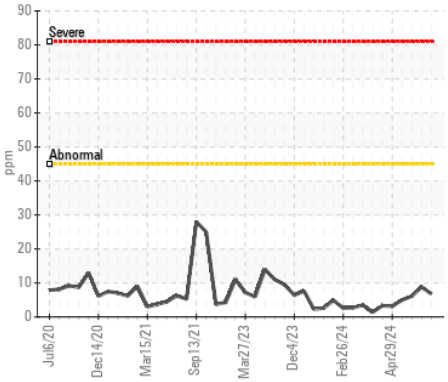
Base Number



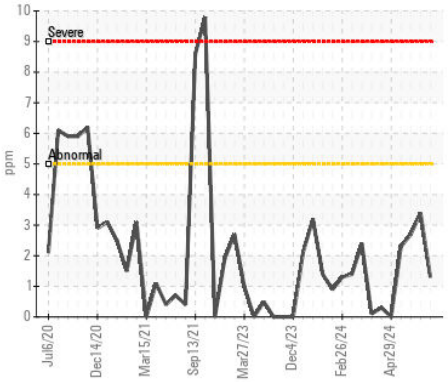
Viscosity @ 100°C



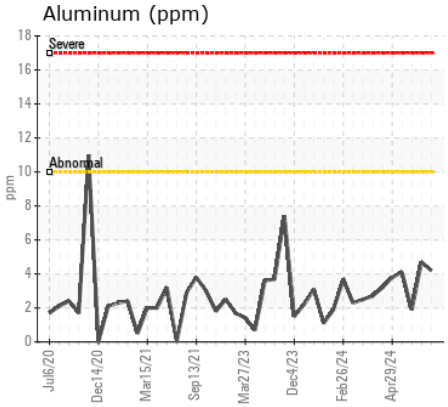
Iron (ppm)



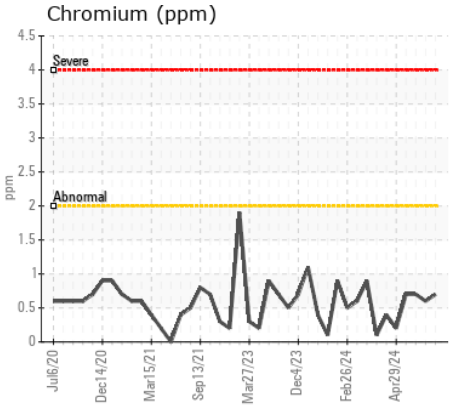
Lead (ppm)



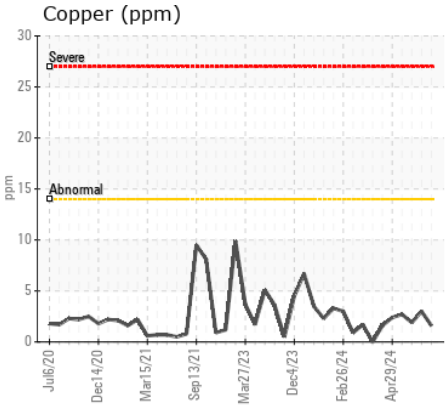
Aluminum (ppm)



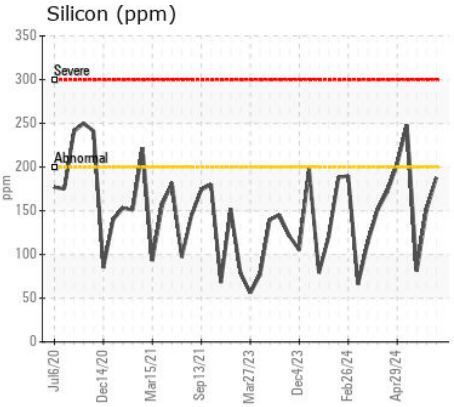
Chromium (ppm)



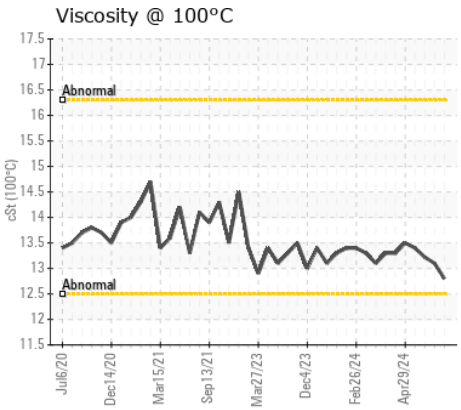
Copper (ppm)



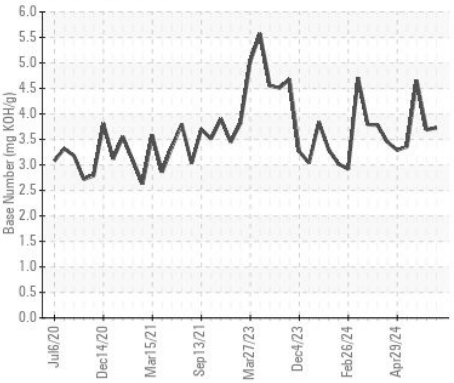
Silicon (ppm)



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0962712
Lab Number : 06239640
Unique Number : 11128474
Test Package : MOB 2

Received : 17 Jul 2024
Tested : 18 Jul 2024
Diagnosed : 19 Jul 2024 - Sean Felton

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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