MOB II WEAR CHECK

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
WVTM02BE
Component
Biogas Engine
Fluid
CHEVRON HDAX 9500 GAS ENGINE OIL 40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

WEAR

All component wear rates are normal.

CONTAMINATION

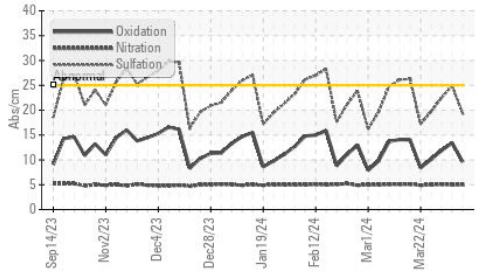
There is no indication of any contamination in the oil.

FLUID CONDITION

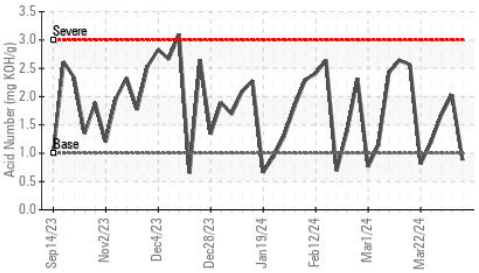
The BN result indicates that there is suitable alkalinity remaining in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		**WC0895538**	WC0895561	WC0895556
Sample Date		Client Info		**15 Apr 2024**	02 Apr 2024	29 Mar 2024
Machine Age	hrs	Client Info		**45047**	44740	44645
Oil Age	hrs	Client Info		**115**	332	237
Filter Age	hrs	Client Info		**115**	332	237
Oil Changed		Client Info		**Not Changd**	Not Changd	Not Changd
Filter Changed		Client Info		**Not Changd**	Not Changd	Not Changd
Sample Status				**NORMAL**	ABNORMAL	ABNORMAL
Iron	ppm	ASTM D5185m	>14	**<1**	2	<1
Chromium	ppm	ASTM D5185m	>3	**0**	0	0
Nickel	ppm	ASTM D5185m		**0**	0	0
Titanium	ppm	ASTM D5185m		**0**	<1	0
Silver	ppm	ASTM D5185m		**0**	0	0
Aluminum	ppm	ASTM D5185m	>5	**2**	2	2
Lead	ppm	ASTM D5185m	>8	**0**	0	<1
Copper	ppm	ASTM D5185m	>5	**<1**	<1	<1
Tin	ppm	ASTM D5185m	>3	**1**	1	2
Vanadium	ppm	ASTM D5185m		**0**	<1	0
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silicon	ppm	ASTM D5185m	>180	**41**	79	69
Potassium	ppm	ASTM D5185m	>20	**2**	0	0
Fuel		WC Method	>4.0	**<1.0**	<1.0	<1.0
Water		WC Method		**NEG**	NEG	NEG
Glycol		WC Method		**NEG**	NEG	NEG
Soot %	%	*ASTM D7844		**0**	0.1	0
Nitration	Abs/cm	*ASTM D7624		**5.0**	5.0	5.1
Sulfation	Abs/.1mm	*ASTM D7415		**19.4**	24.9	22.5
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		**NEG**	NEG	NEG
Sodium	ppm	ASTM D5185m	>20	**2**	1	<1
Boron	ppm	ASTM D5185m		**<1**	<1	1
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**0**	1	0
Manganese	ppm	ASTM D5185m		**<1**	0	<1
Magnesium	ppm	ASTM D5185m		**11**	20	0
Calcium	ppm	ASTM D5185m		**1636**	1763	1729
Phosphorus	ppm	ASTM D5185m		**277**	243	258
Zinc	ppm	ASTM D5185m		**308**	312	300
Sulfur	ppm	ASTM D5185m		**3396**	4133	3997
Oxidation	Abs/.1mm	*ASTM D7414		**9.6**	13.4	11.9
Acid Number (AN)	mg KOH/g	ASTM D8045	1.0	**0.88**	▲ 2.03	1.69
Base Number (BN)	mg KOH/g	ASTM D2896	5.4	**2.97**	▲ 1.37	▲ 1.03
Visc @ 100°C	cSt	ASTM D445	13.4	**13.2**	13.5	13.3

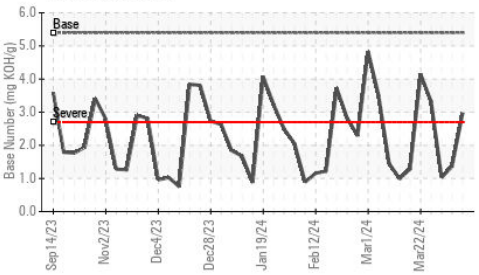
FT-IR (Direct Trend)



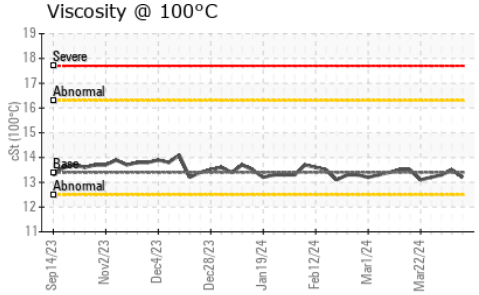
Acid Number



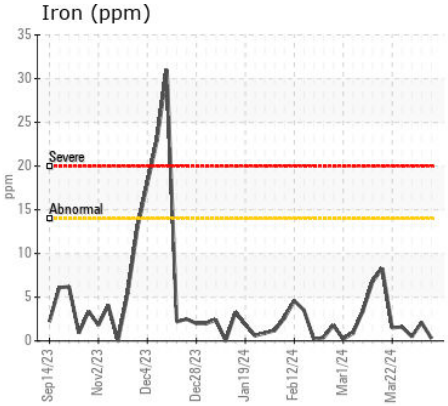
Base Number



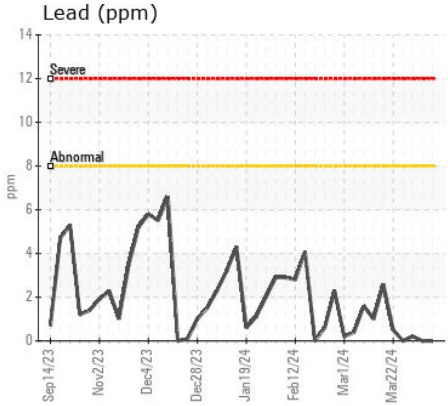
Viscosity @ 100°C



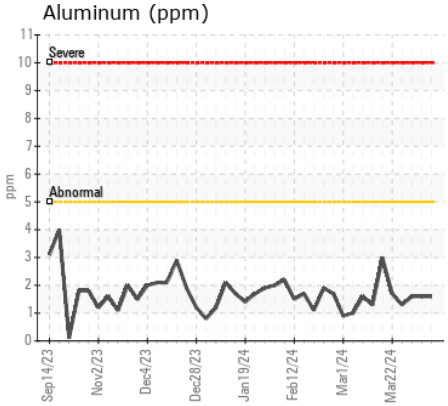
Iron (ppm)



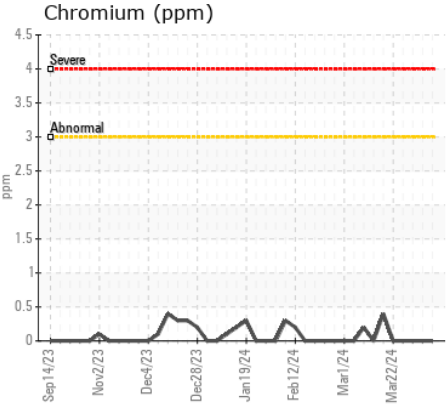
Lead (ppm)



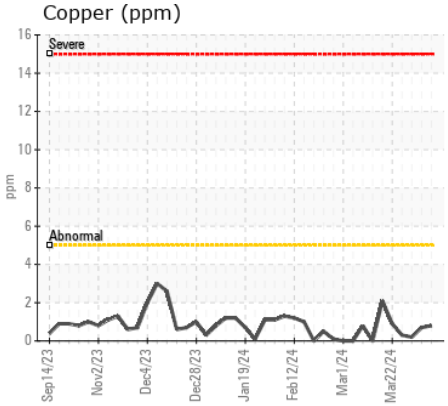
Aluminum (ppm)



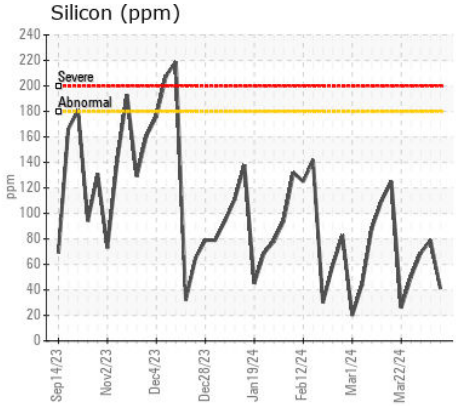
Chromium (ppm)



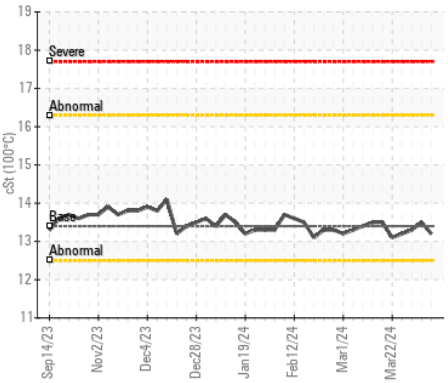
Copper (ppm)



Silicon (ppm)



Viscosity @ 100°C



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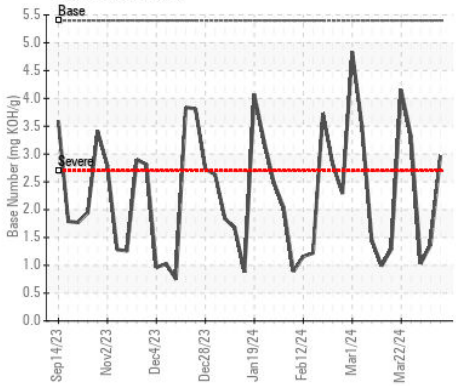

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0895538
Lab Number : 06152174
Unique Number : 10982252
Test Package : MOB 2

Received : 17 Apr 2024
Tested : 18 Apr 2024
Diagnosed : 22 Apr 2024 - Sean Felton

EDL NA Recips-Watervliet
Watervliet Powerstation, 3563 Hennessey Road
Watervliet, MI
US 49098
Contact: Scott Eastman
scott.eastman@edlenergy.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)