



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	ABNORMAL



Machine Id
WVTM01BE
Component
Biogas Engine
Fluid
MOBIL Pegasus™ 605 Ultra 40 (--- GAL)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. (Customer Sample Comment: Oil and filters changed)

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0895527	WC0895551	WC0895546
Sample Date		Client Info		18 Mar 2024	11 Mar 2024	05 Mar 2024
Machine Age	hrs	Client Info		114832	114684	114540
Oil Age	hrs	Client Info		969	821	677
Filter Age	hrs	Client Info		969	821	677
Oil Changed		Client Info		Changed	Not Changd	Not Changd
Filter Changed		Client Info		Changed	Not Changd	Not Changd
Sample Status				SEVERE	SEVERE	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>15	11	9	7
Chromium	ppm	ASTM D5185m	>4	0	<1	0
Nickel	ppm	ASTM D5185m	>2	0	<1	0
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>5	0	0	0
Aluminum	ppm	ASTM D5185m	>6	2	2	2
Lead	ppm	ASTM D5185m	>9	2	3	2
Copper	ppm	ASTM D5185m	>6	1	2	1
Tin	ppm	ASTM D5185m	>4	4	5	4
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

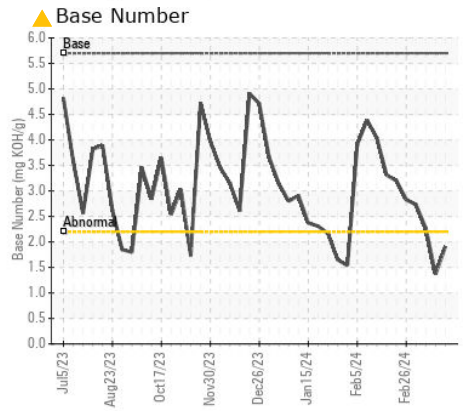
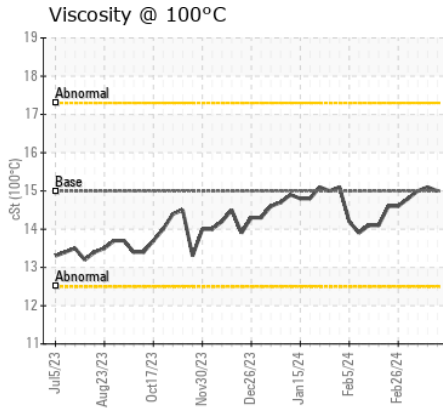
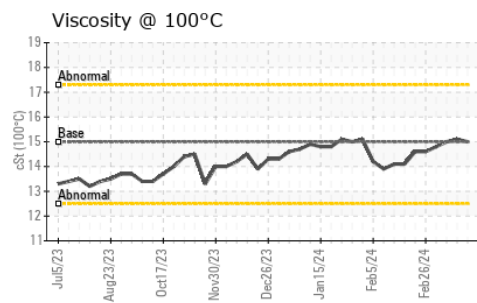
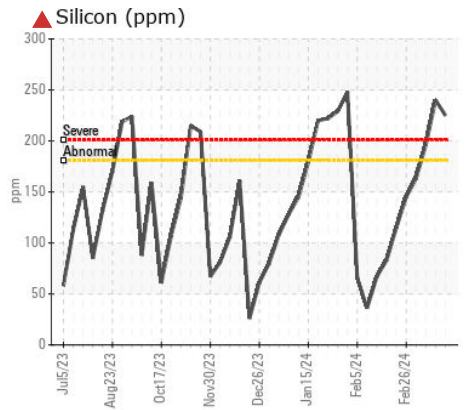
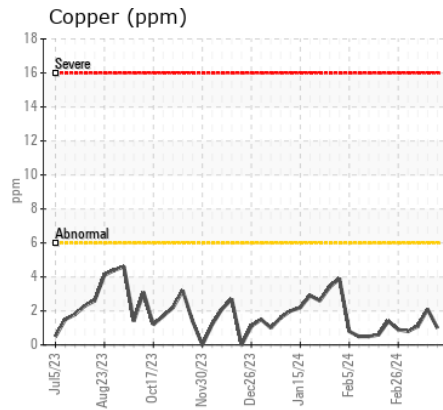
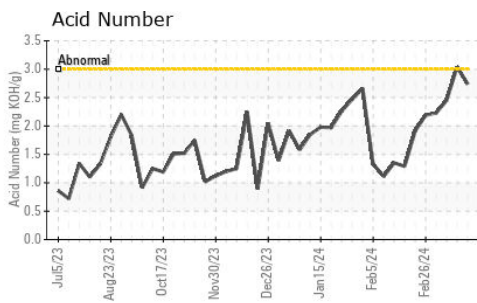
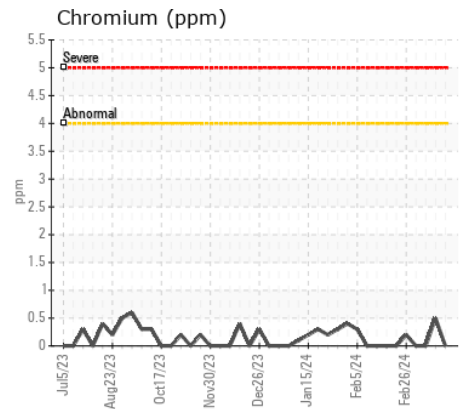
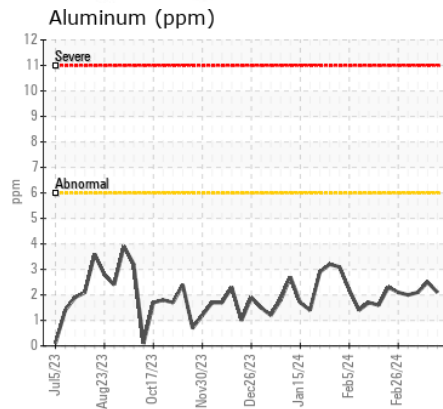
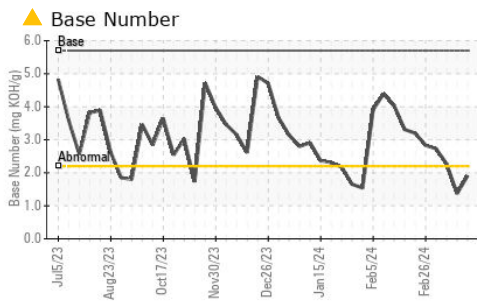
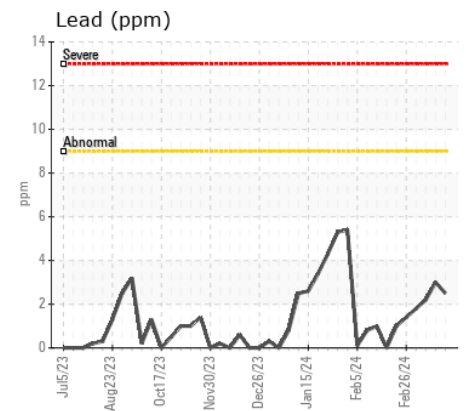
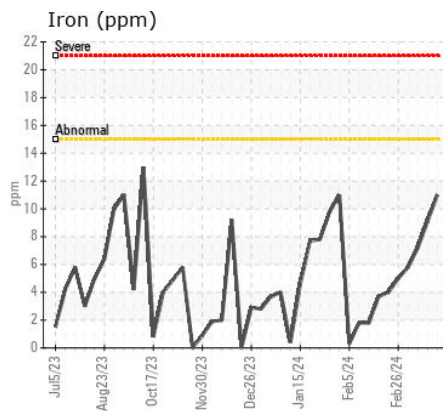
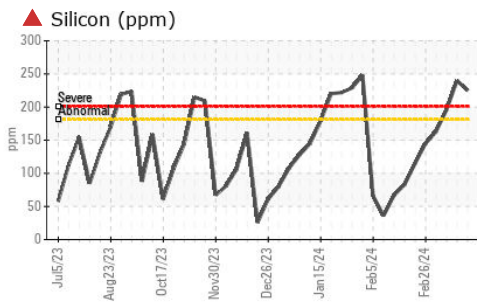
Elemental level of silicon (Si) above normal.

Silicon	ppm	ASTM D5185m	>181	▲ 225	▲ 240	▲ 196
Potassium	ppm	ASTM D5185m	>20	0	1	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		0.1	0.1	0
Nitration	Abs/cm	*ASTM D7624	>20	4.0	4.1	3.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	27.5	28.5	26.0
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 level is low. The AN level is acceptable for this fluid.

Sodium	ppm	ASTM D5185m		11	13	16
Boron	ppm	ASTM D5185m		48	44	44
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		2	4	3
Manganese	ppm	ASTM D5185m		0	0	0
Magnesium	ppm	ASTM D5185m		17	19	16
Calcium	ppm	ASTM D5185m		1857	1680	1745
Phosphorus	ppm	ASTM D5185m		424	389	384
Zinc	ppm	ASTM D5185m		643	617	582
Sulfur	ppm	ASTM D5185m		6141	5255	5089
Oxidation	Abs/.1mm	*ASTM D7414	>25	13.8	14.7	13.0
Acid Number (AN)	mg KOH/g	ASTM D8045		2.74	▲ 3.04	▲ 2.45
Base Number (BN)	mg KOH/g	ASTM D2896	5.7	▲ 1.91	▲ 1.37	▲ 2.27
Visc @ 100°C	cSt	ASTM D445	15	15.0	15.1	15.0



Certificate L2367

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

Sample No. : WC0895527

Lab Number : 06123879

Unique Number : 10938030

Test Package : MOB 2

Received : 20 Mar 2024

Tested : 21 Mar 2024

Diagnosed : 22 Mar 2024 - Don Baldrige

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)