



OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	SEVERE



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

RECOMMENDATION

We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0895537	WC0895536	WC0895562
Sample Date		Client Info		15 Apr 2024	11 Apr 2024	02 Apr 2024
Machine Age	hrs	Client Info		115499	115404	115189
Oil Age	hrs	Client Info		667	572	357
Filter Age	hrs	Client Info		667	572	357
Oil Changed		Client Info		Not Chngd	Not Chngd	Not Chngd
Filter Changed		Client Info		Not Chngd	Not Chngd	Not Chngd
Sample Status				SEVERE	SEVERE	NORMAL

WEAR

The tin level is abnormal.

Iron	ppm	ASTM D5185m	>14	6	5	4
Chromium	ppm	ASTM D5185m	>3	0	0	0
Nickel	ppm	ASTM D5185m		0	<1	0
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>5	3	2	2
Lead	ppm	ASTM D5185m	>8	2	<1	0
Copper	ppm	ASTM D5185m	>5	2	1	1
Tin	ppm	ASTM D5185m	>3	▲ 4	2	2
Vanadium	ppm	ASTM D5185m		0	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

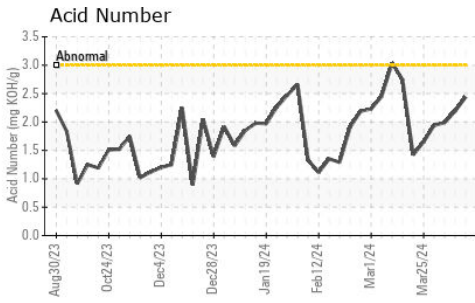
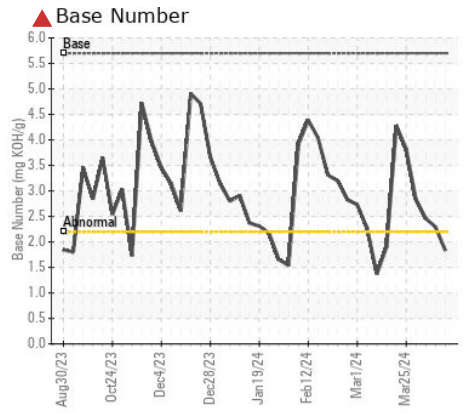
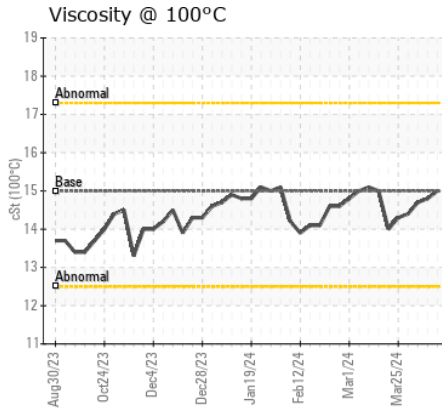
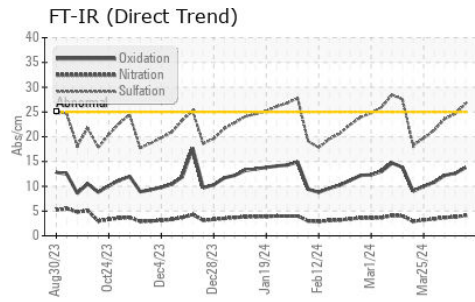
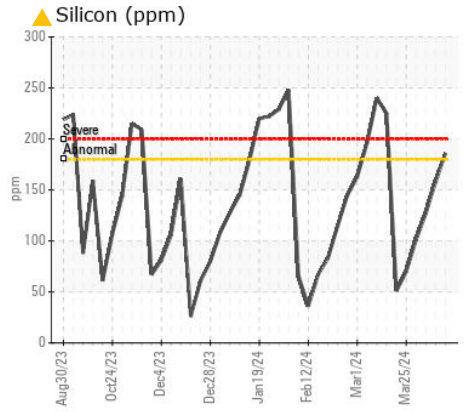
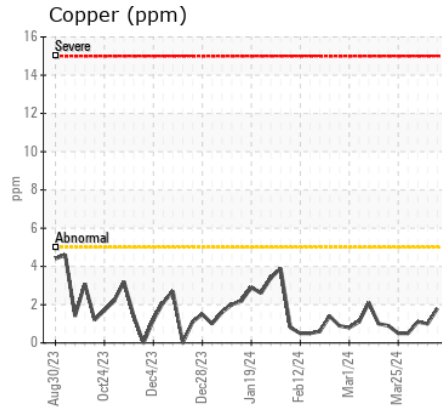
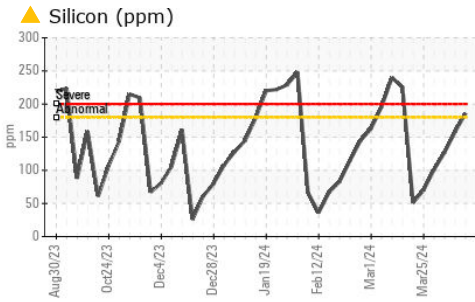
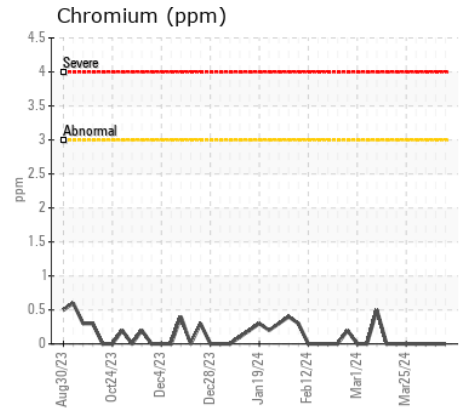
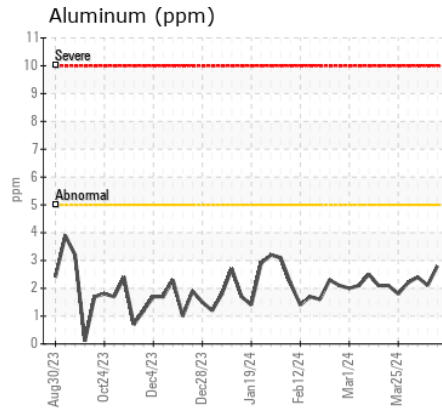
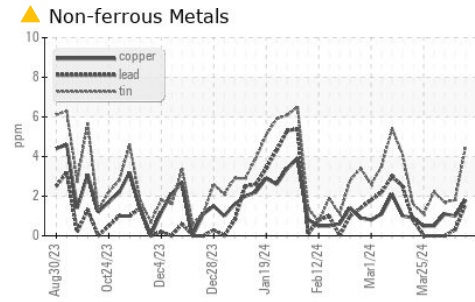
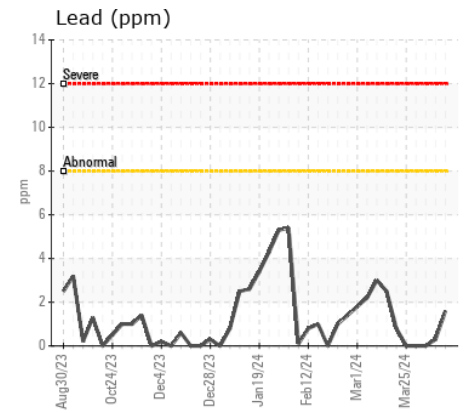
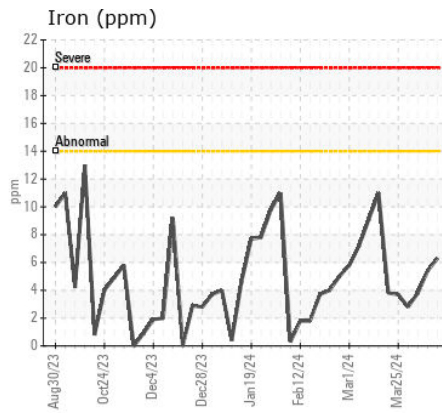
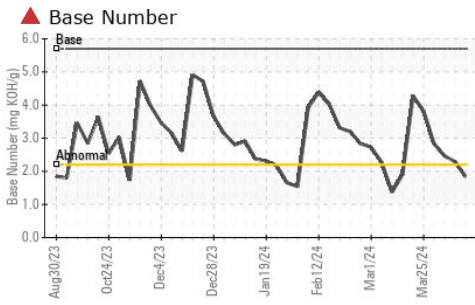
Elemental level of silicon (Si) above normal.

Silicon	ppm	ASTM D5185m	>180	▲ 186	158	127
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	0
Nitration	Abs/cm	*ASTM D7624		4.1	3.8	3.7
Sulfation	Abs/.1mm	*ASTM D7415		26.7	24.6	23.6
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

FLUID CONDITION

The BN level is low. The AN level is acceptable for this fluid. The oil is no longer serviceable.

Sodium	ppm	ASTM D5185m	>20	2	2	1
Boron	ppm	ASTM D5185m		45	62	44
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		1	2	2
Manganese	ppm	ASTM D5185m		<1	0	0
Magnesium	ppm	ASTM D5185m		20	14	16
Calcium	ppm	ASTM D5185m		1697	1659	1647
Phosphorus	ppm	ASTM D5185m		424	369	333
Zinc	ppm	ASTM D5185m		606	503	546
Sulfur	ppm	ASTM D5185m		6062	4699	5256
Oxidation	Abs/.1mm	*ASTM D7414		13.8	12.6	12.2
Acid Number (AN)	mg KOH/g	ASTM D8045		2.44	2.19	1.99
Base Number (BN)	mg KOH/g	ASTM D2896	5.7	▲ 1.83	▲ 2.29	2.46
Visc @ 100°C	cSt	ASTM D445	15	15.0	14.8	14.7



Certificate L2367

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

Sample No. : WC0895537

Lab Number : 06152173

Unique Number : 10982251

Test Package : MOB 2

Received : 17 Apr 2024

Tested : 18 Apr 2024

Diagnosed : 22 Apr 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)