

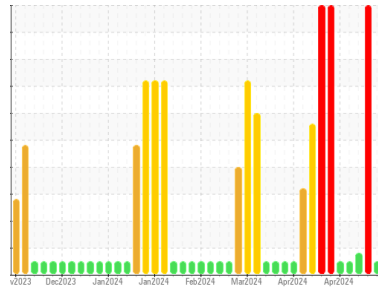


OIL ANALYSIS REPORT



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

Sample Rating Trend



NORMAL

DIAGNOSIS

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 acceptable for the time in service.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0839351	WC0839352	WC0839332
Sample Date	Client Info		15 Jul 2024	10 Jul 2024	02 Jul 2024
Machine Age	hrs	Client Info	117603	117483	117297
Oil Age	hrs	Client Info	164	690	591
Oil Changed	Client Info		N/A	Changed	Not Chngd
Sample Status			NORMAL	SEVERE	ABNORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>4.0	<1.0	<1.0	<1.0
Water	WC Method		NEG	NEG	NEG
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184		22	18	14
Iron	ppm	ASTM D5185m >14	3	12	11
Chromium	ppm	ASTM D5185m >3	<1	<1	<1
Nickel	ppm	ASTM D5185m	<1	0	<1
Titanium	ppm	ASTM D5185m	<1	0	<1
Silver	ppm	ASTM D5185m	0	0	<1
Aluminum	ppm	ASTM D5185m >5	3	4	3
Lead	ppm	ASTM D5185m >8	<1	2	2
Copper	ppm	ASTM D5185m >5	1	2	3
Tin	ppm	ASTM D5185m >3	2	▲ 6	▲ 5
Vanadium	ppm	ASTM D5185m	0	0	<1
Cadmium	ppm	ASTM D5185m	<1	0	<1

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	83	28	39
Barium	ppm	ASTM D5185m	<1	0	0
Molybdenum	ppm	ASTM D5185m	8	8	9
Manganese	ppm	ASTM D5185m	<1	0	<1
Magnesium	ppm	ASTM D5185m	56	58	60
Calcium	ppm	ASTM D5185m	1748	1746	1674
Phosphorus	ppm	ASTM D5185m	463	421	407
Zinc	ppm	ASTM D5185m	658	651	635
Sulfur	ppm	ASTM D5185m	5011	6231	4850

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >180	67	▲ 216	179
Sodium	ppm	ASTM D5185m >20	0	<1	0
Potassium	ppm	ASTM D5185m >20	2	<1	2

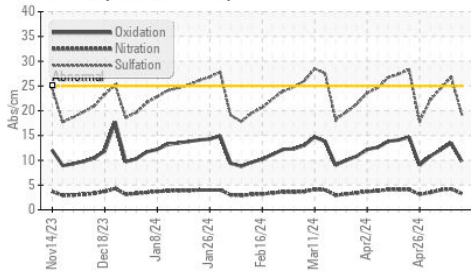
INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	0	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	3.3	4.2	4.0
Sulfation	Abs/.1mm	*ASTM D7415	19.5	26.8	24.5

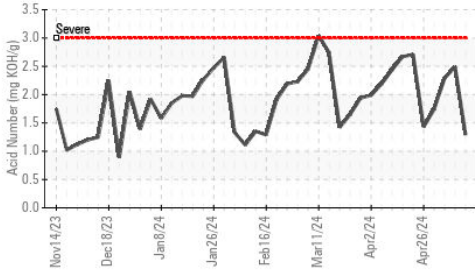


OIL ANALYSIS REPORT

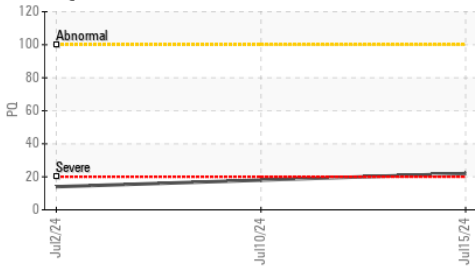
FT-IR (Direct Trend)



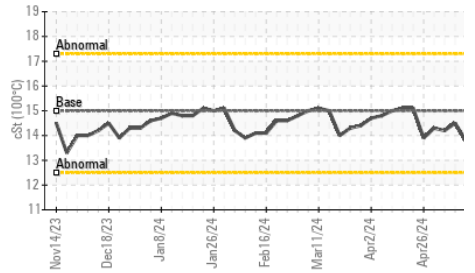
Acid Number



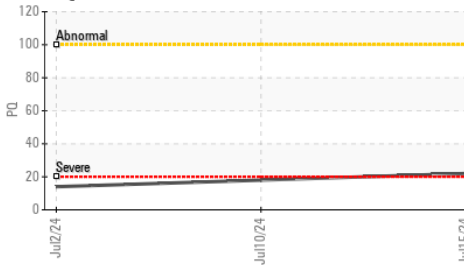
PQ



Viscosity @ 100°C



PQ



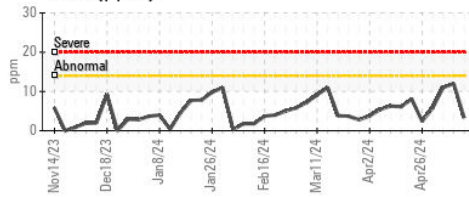
FLUID DEGRADATION	method	limit/base	current	history1	history2
Oxidation	Abs./1mm	*ASTM D7414	9.8	13.5	12.1
Acid Number (AN)	mg KOH/g	ASTM D8045	1.29	2.49	2.29
Base Number (BN)	mg KOH/g	ASTM D2896	4.08	▲ 2.03	2.83

VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	NEG	NEG	NEG
Free Water	scalar	*Visual	NEG	NEG	NEG

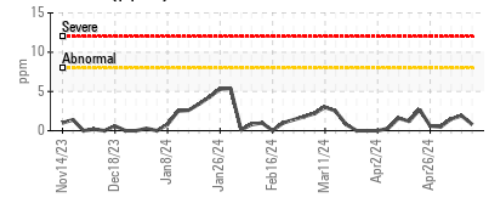
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15	13.8	14.5

GRAPHS

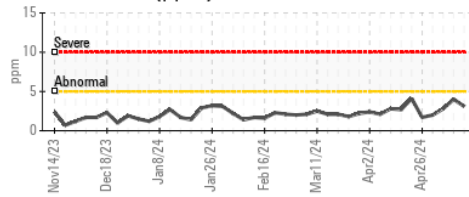
Iron (ppm)



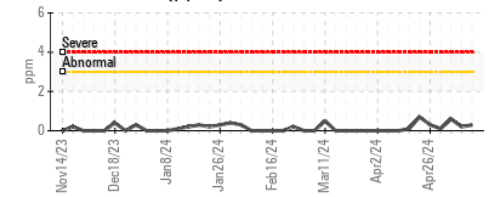
Lead (ppm)



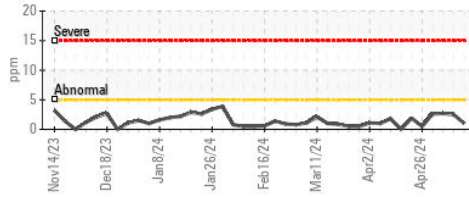
Aluminum (ppm)



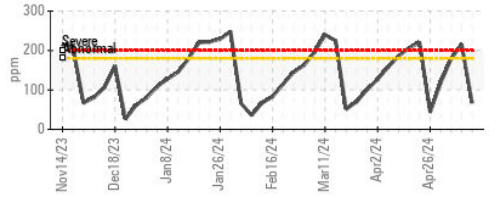
Chromium (ppm)



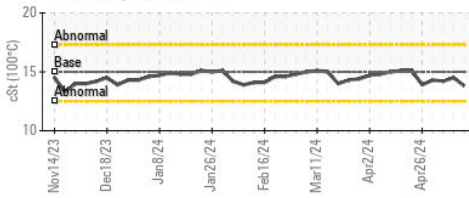
Copper (ppm)



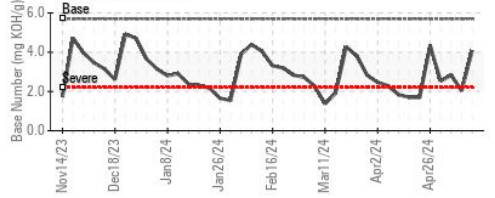
Silicon (ppm)



Viscosity @ 100°C



Base Number



Certificate L2367

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

Sample No. : WC0839351

Lab Number : 06239312

Unique Number : 11128146

Test Package : MOB 2 (Additional Tests: PQ)

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)

Received : 17 Jul 2024

Tested : 18 Jul 2024

Diagnosed : 19 Jul 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: