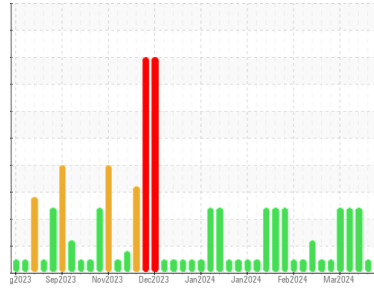




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



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

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 suitable for further service.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0895532	WC0895530	WC0895528
Sample Date	Client Info		25 Mar 2024	22 Mar 2024	19 Mar 2024
Machine Age	hrs	Client Info	44556	44478	44406
Oil Age	hrs	Client Info	242	164	92
Oil Changed	Client Info		Not Chngd	Not Chngd	Changed
Sample Status			NORMAL	NORMAL	ABNORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>4.0	<1.0	<1.0	<1.0
Water	WC Method	>0.11	NEG	NEG	NEG
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m	>15	2	2	8
Chromium	ppm	ASTM D5185m	>4	0	0	<1
Nickel	ppm	ASTM D5185m		0	0	0
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>6	1	2	3
Lead	ppm	ASTM D5185m	>9	0	<1	3
Copper	ppm	ASTM D5185m	>6	<1	<1	2
Tin	ppm	ASTM D5185m	>4	<1	1	4
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium	ppm	ASTM D5185m		0	0	0

ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m		<1	<1	<1
Barium	ppm	ASTM D5185m		0	0	2
Molybdenum	ppm	ASTM D5185m		0	<1	1
Manganese	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm	ASTM D5185m		5	23	7
Calcium	ppm	ASTM D5185m		1664	1645	1876
Phosphorus	ppm	ASTM D5185m		262	261	260
Zinc	ppm	ASTM D5185m		308	306	338
Sulfur	ppm	ASTM D5185m		3119	2699	3965

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>181	50	26	125
Sodium	ppm	ASTM D5185m	>21	<1	2	0
Potassium	ppm	ASTM D5185m	>20	2	2	3

INFRA-RED

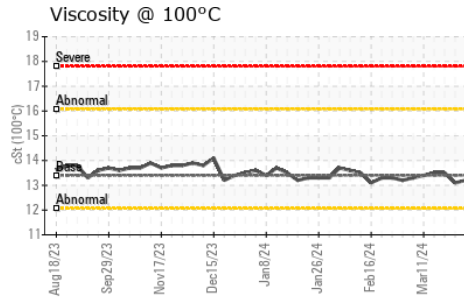
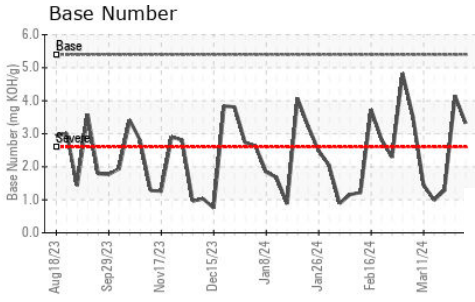
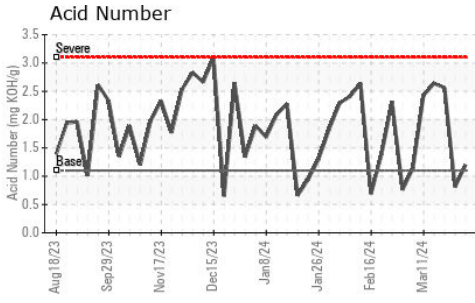
	method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844		0	0	0.1
Nitration	Abs/cm	*ASTM D7624		5.0	4.9	5.1
Sulfation	Abs./1mm	*ASTM D7415		19.7	17.2	26.3

FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Oxidation	Abs./1mm	*ASTM D7414		10.1	8.4	14.0
Acid Number (AN)	mg KOH/g	ASTM D8045	1.1	1.20	0.81	▲ 2.56
Base Number (BN)	mg KOH/g	ASTM D2896	5.4	3.32	4.15	▲ 1.29



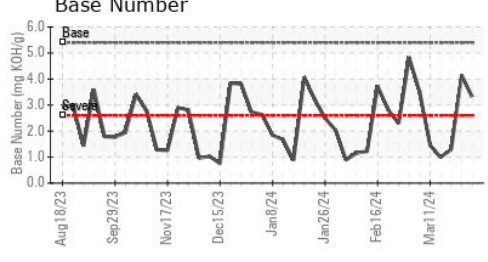
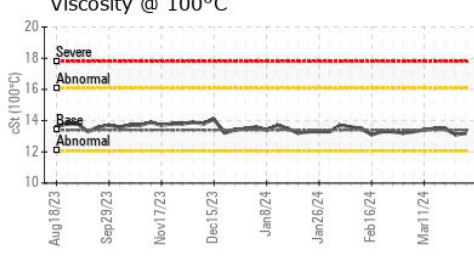
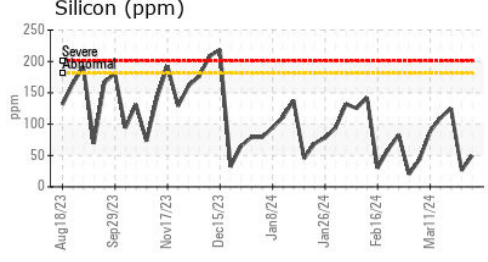
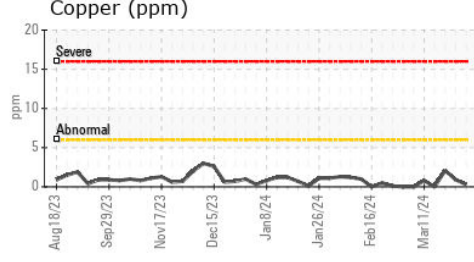
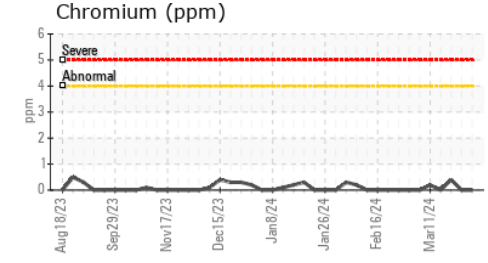
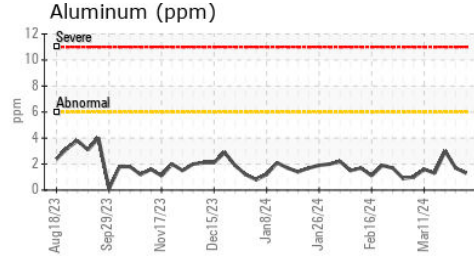
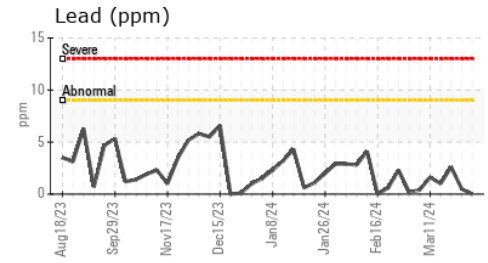
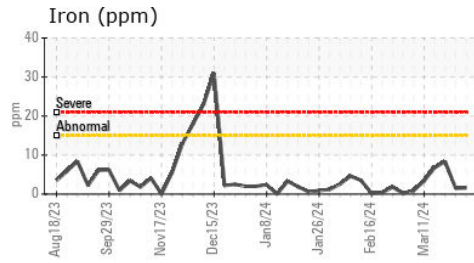
OIL ANALYSIS REPORT



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	>0.11	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	13.4	13.2	13.1	13.5

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0895532
Lab Number : **06130800**
Unique Number : 10950265
Test Package : MOB 2

Received : 27 Mar 2024
Tested : 28 Mar 2024
Diagnosed : 01 Apr 2024 - Jonathan Hester

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

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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