



# OIL ANALYSIS REPORT

WEAR	<b>ABNORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>ABNORMAL</b>



Machine Id  
**WVTM03BE**

Component  
**Biogas Engine**

Fluid  
**CHEVRON HDAX 9500 GAS ENGINE OIL 40 (--- GAL)**

## RECOMMENDATION

We recommend that you drain the oil and perform a filter service on this component if not already done. Resample at the next service interval to monitor. ( Customer Sample Comment: Oil sample only )

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0785348</b>	WC0785359	WC0629432
Sample Date		Client Info		<b>05 Feb 2024</b>	11 Jan 2024	03 Jan 2024
Machine Age	hrs	Client Info		<b>33180</b>	32783	32575
Oil Age	hrs	Client Info		<b>605</b>	208	727
Filter Age	hrs	Client Info		<b>605</b>	208	727
Oil Changed		Client Info		<b>Not Changd</b>	Not Changd	Changed
Filter Changed		Client Info		<b>Not Changd</b>	Not Changd	Changed
Sample Status				<b>ABNORMAL</b>	NORMAL	ABNORMAL

## WEAR

The iron level is abnormal. All other component wear rates are normal.

Iron	ppm	ASTM D5185m	>15	<b>▲ 19</b>	6	<b>▲ 19</b>
Chromium	ppm	ASTM D5185m	>4	<b>&lt;1</b>	<1	0
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m		<b>0</b>	<1	0
Silver	ppm	ASTM D5185m	>5	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>6	<b>2</b>	2	2
Lead	ppm	ASTM D5185m	>9	<b>&lt;1</b>	<1	<1
Copper	ppm	ASTM D5185m	>14	<b>2</b>	2	3
Tin	ppm	ASTM D5185m	>4	<b>4</b>	2	5
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

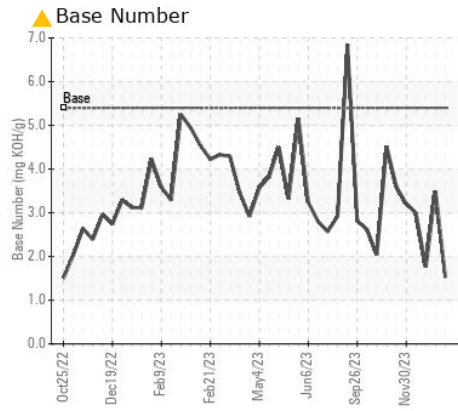
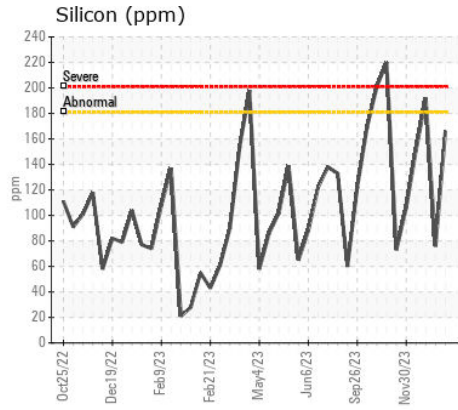
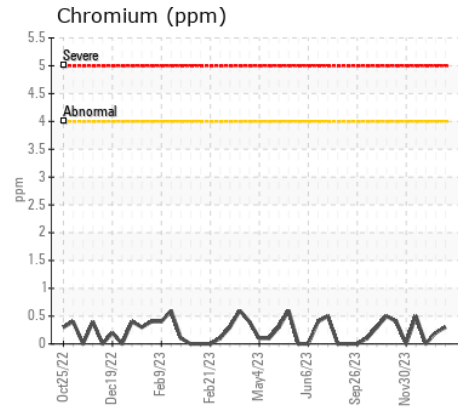
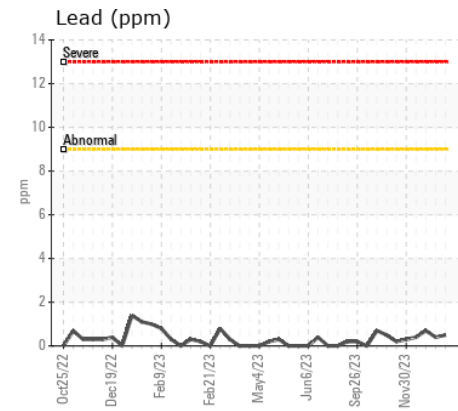
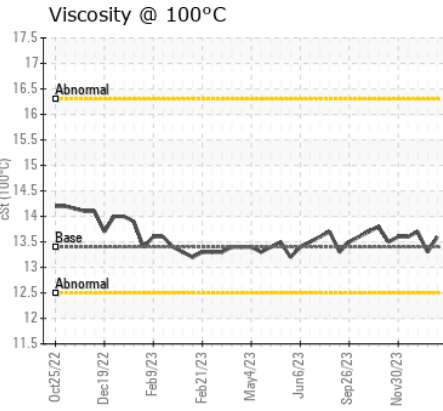
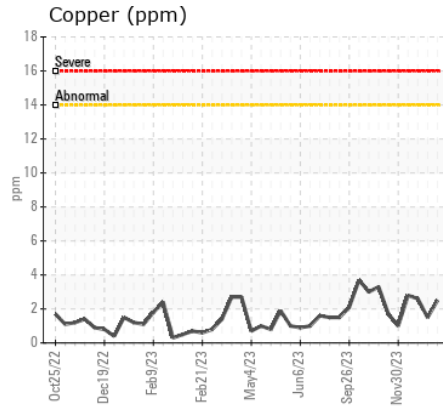
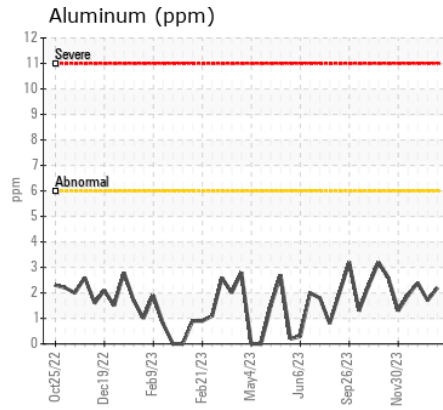
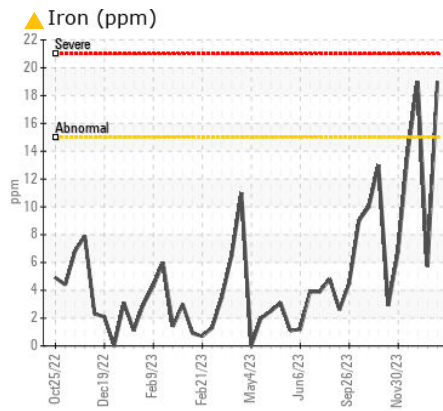
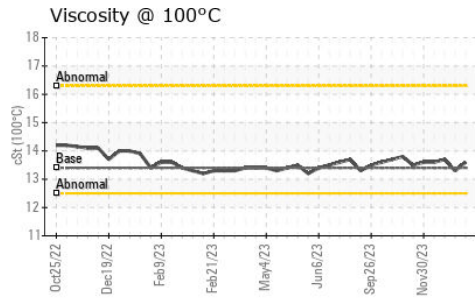
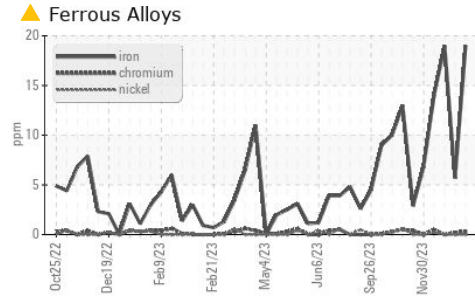
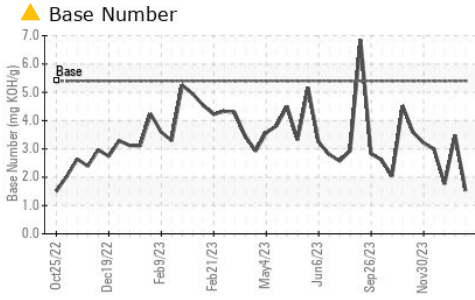
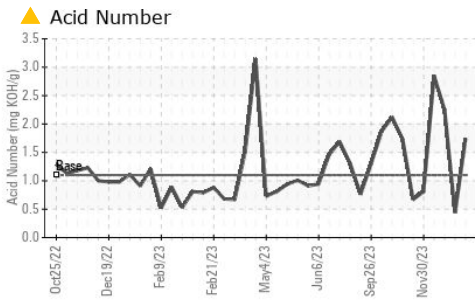
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>181	<b>166</b>	76	<b>▲ 192</b>
Potassium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	2	0
Fuel		WC Method	>4.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844		<b>0</b>	0	0
Nitration	Abs/cm	*ASTM D7624	>20	<b>4.8</b>	4.7	4.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>23.2</b>	18.1	23.7
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	<b>NEG</b>	NEG	NEG

## FLUID CONDITION

The AN level is above the recommended limit. The BN level is low.

Sodium	ppm	ASTM D5185m		<b>0</b>	0	0
Boron	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Barium	ppm	ASTM D5185m		<b>1</b>	<1	0
Molybdenum	ppm	ASTM D5185m		<b>2</b>	2	1
Manganese	ppm	ASTM D5185m		<b>0</b>	0	0
Magnesium	ppm	ASTM D5185m		<b>5</b>	18	8
Calcium	ppm	ASTM D5185m		<b>1596</b>	1629	1804
Phosphorus	ppm	ASTM D5185m		<b>257</b>	305	257
Zinc	ppm	ASTM D5185m		<b>312</b>	299	337
Sulfur	ppm	ASTM D5185m		<b>3440</b>	3047	4002
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>10.9</b>	8.4	11.3
Acid Number (AN)	mg KOH/g	ASTM D8045	1.1	<b>▲ 1.74</b>	0.44	<b>▲ 2.25</b>
Base Number (BN)	mg KOH/g	ASTM D2896	5.4	<b>▲ 1.52</b>	3.49	<b>▲ 1.76</b>
Visc @ 100°C	cSt	ASTM D445	13.4	<b>13.6</b>	13.3	13.7



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0785348  
**Lab Number** : 06082698  
**Unique Number** : 10870143  
**Test Package** : MOB 2

**Received** : 07 Feb 2024  
**Tested** : 08 Feb 2024  
**Diagnosed** : 09 Feb 2024 - Sean Felton

**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)

T:  
F: