

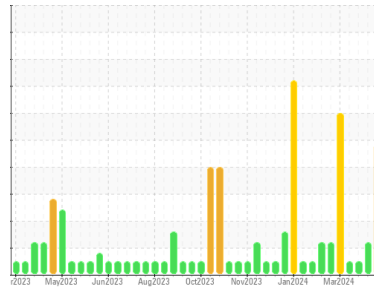


# OIL ANALYSIS REPORT



Machine Id  
**Grand Blanc CAT 4 GBLM04BE**  
 Component  
**Biogas Engine**  
 Fluid  
**CHEVRON HDAX 9500 GAS ENGINE OIL 40 (--- GAL)**

Sample Rating Trend



DEGRADATION



## DIAGNOSIS

### ▲ Recommendation

We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition. ( Customer Sample Comment: 800hr Oil Sample )

### Wear

All component wear rates are normal.

### ▲ Contamination

Elemental level of silicon (Si) above normal.

### ▲ Fluid Condition

The BN level is low. The AN level is acceptable for this fluid.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>WC0905672</b>	WC0905753	WC0905738
Sample Date	Client Info		<b>18 Apr 2024</b>	10 Apr 2024	03 Apr 2024
Machine Age	hrs	Client Info	<b>69082</b>	68870	68701
Oil Age	hrs	Client Info	<b>795</b>	0	0
Oil Changed	Client Info		<b>Not Chngd</b>	N/A	N/A
Sample Status			<b>SEVERE</b>	ABNORMAL	NORMAL

## CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>4.0	<b>&lt;1.0</b>	<1.0	<1.0
Water	WC Method	>.11	<b>NEG</b>	NEG	NEG
Glycol	WC Method		<b>NEG</b>	NEG	NEG

## WEAR METALS

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

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	<b>4</b>	3	3
Barium	ppm	ASTM D5185m	<b>1</b>	0	0
Molybdenum	ppm	ASTM D5185m	<b>2</b>	3	1
Manganese	ppm	ASTM D5185m	<b>1</b>	1	0
Magnesium	ppm	ASTM D5185m	<b>14</b>	10	8
Calcium	ppm	ASTM D5185m	<b>1984</b>	1786	1731
Phosphorus	ppm	ASTM D5185m	<b>286</b>	288	237
Zinc	ppm	ASTM D5185m	<b>360</b>	335	313
Sulfur	ppm	ASTM D5185m	<b>3698</b>	3317	3125

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >181	<b>▲ 187</b>	153	114
Sodium	ppm	ASTM D5185m >21	<b>2</b>	0	1
Potassium	ppm	ASTM D5185m >20	<b>0</b>	3	0

## INFRA-RED

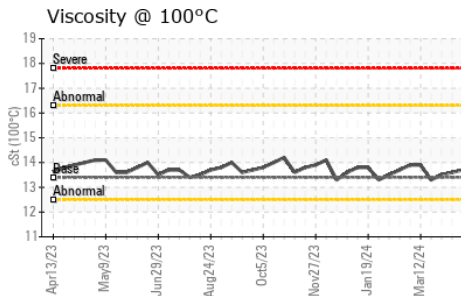
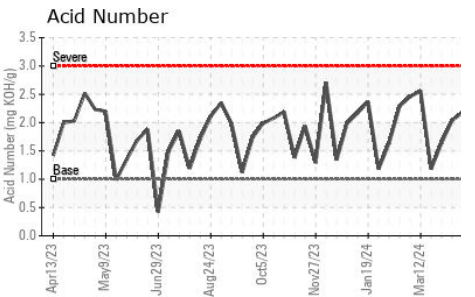
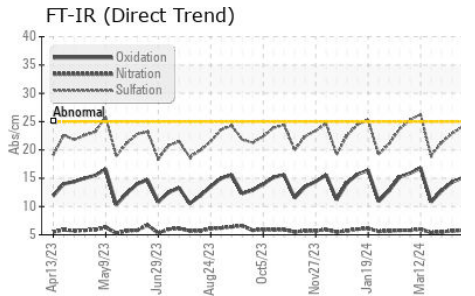
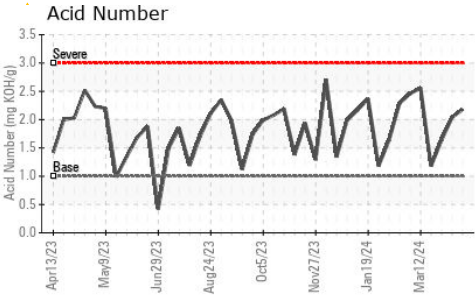
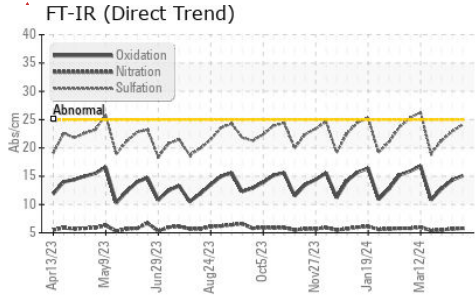
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	<b>0.1</b>	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	<b>5.8</b>	5.7	5.5
Sulfation	Abs/.1mm	*ASTM D7415	<b>24.1</b>	22.9	21.3

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	<b>15.1</b>	14.3	12.8
Acid Number (AN)	mg KOH/g	ASTM D8045 1.0	<b>2.18</b>	<b>▲ 2.04</b>	1.64
Base Number (BN)	mg KOH/g	ASTM D2896 5.4	<b>▲ 1.97</b>	2.22	2.56



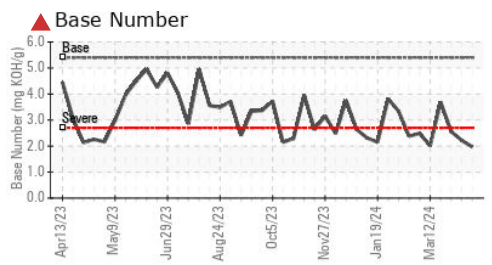
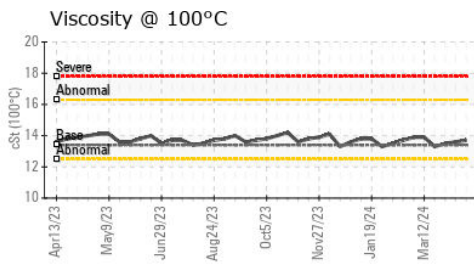
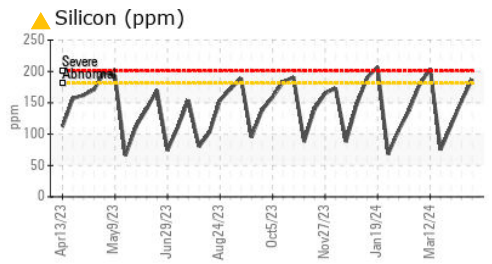
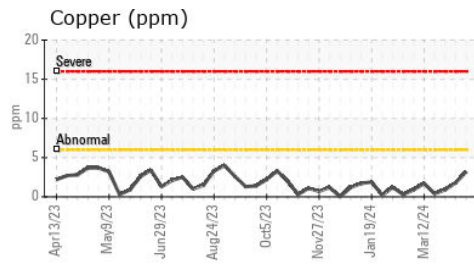
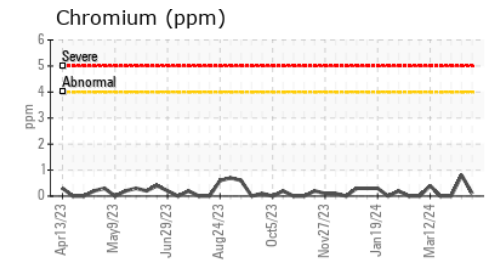
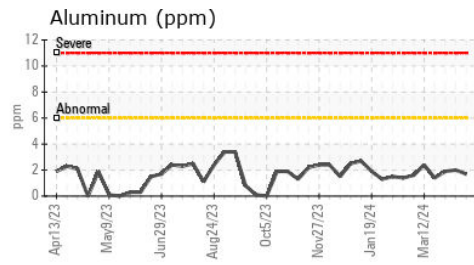
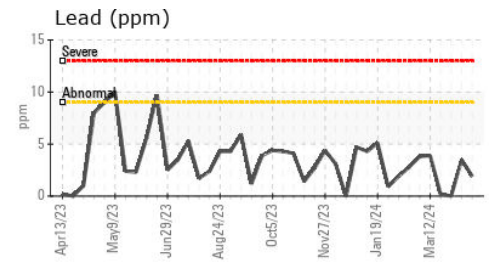
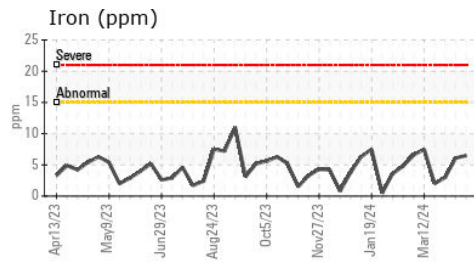
# OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2	
White Metal	scalar	*Visual	NONE	LIGHT	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
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	>.11	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	13.4	13.7	13.6	13.5

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0905672      **Received** : 22 Apr 2024  
**Lab Number** : 06156194      **Tested** : 23 Apr 2024  
**Unique Number** : 10991617      **Diagnosed** : 24 Apr 2024 - Sean Felton  
**Test Package** : MOB 2

**EDL NA Recips-Grand Blanc**  
 Grand Blanc Powerstation, 2361 West Grand Blanc Road  
 Grand Blanc, MI  
 US 48439  
 Contact: Tony Saint Marie  
 tony.saintmarie@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)