

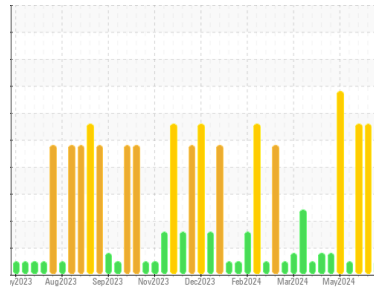


# OIL ANALYSIS REPORT



Machine Id  
**BRCM01BE (S/N GZJ00658)**  
 Component  
**Biogas Engine**  
 Fluid  
**CHEVRON HDAX 9500 GAS ENGINE OIL 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		<b>WC0938382</b>	WC0760839	WC0760838
Sample Date	Client Info		<b>07 Jun 2024</b>	04 Jun 2024	17 May 2024
Machine Age	hrs	Client Info	<b>77233</b>	77169	76740
Oil Age	hrs	Client Info	<b>23</b>	654	225
Oil Changed	Client Info		<b>Not Chngd</b>	Not Chngd	Not Chngd
Sample Status			<b>NORMAL</b>	SEVERE	SEVERE

## CONTAMINATION

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

## WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184		<b>15</b>	---	---
Iron	ppm	ASTM D5185m >14	<b>2</b>	2	4
Chromium	ppm	ASTM D5185m >3	<b>&lt;1</b>	0	<1
Nickel	ppm	ASTM D5185m	<b>0</b>	0	<1
Titanium	ppm	ASTM D5185m	<b>&lt;1</b>	0	<1
Silver	ppm	ASTM D5185m	<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185m >5	<b>2</b>	2	4
Lead	ppm	ASTM D5185m >8	<b>1</b>	<1	1
Copper	ppm	ASTM D5185m >5	<b>&lt;1</b>	<1	2
Tin	ppm	ASTM D5185m >3	<b>&lt;1</b>	▲ 5	▲ 5
Vanadium	ppm	ASTM D5185m	<b>&lt;1</b>	<1	<1
Cadmium	ppm	ASTM D5185m	<b>0</b>	0	<1

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	<b>18</b>	8	14
Barium	ppm	ASTM D5185m	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	<b>11</b>	12	17
Manganese	ppm	ASTM D5185m	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	<b>34</b>	29	26
Calcium	ppm	ASTM D5185m	<b>1769</b>	1910	2588
Phosphorus	ppm	ASTM D5185m	<b>288</b>	290	436
Zinc	ppm	ASTM D5185m	<b>346</b>	369	520
Sulfur	ppm	ASTM D5185m	<b>2185</b>	2781	4037

## CONTAMINANTS

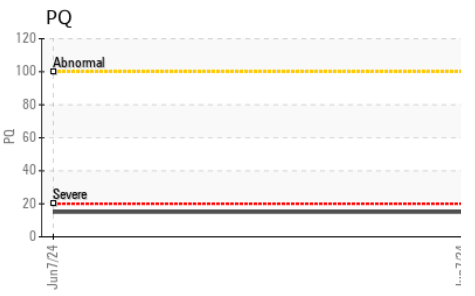
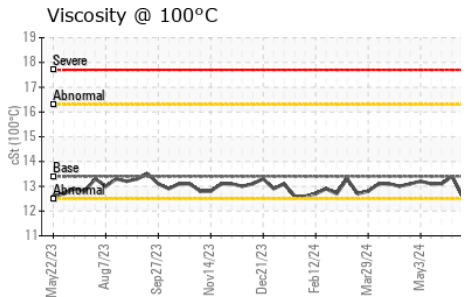
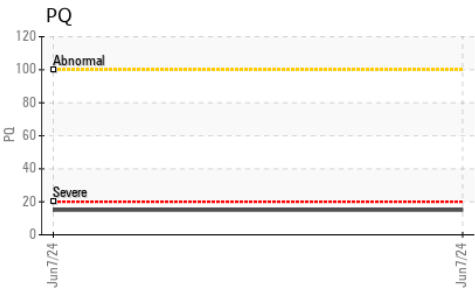
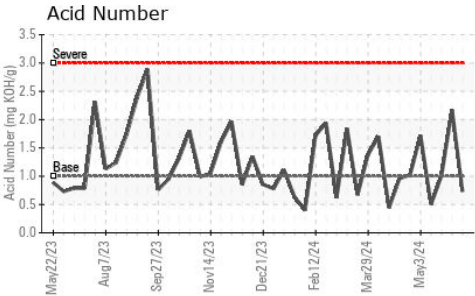
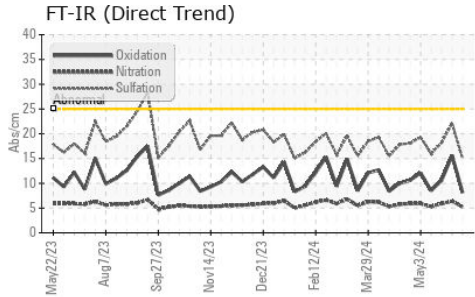
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >180	<b>41</b>	▲ 265	▲ 227
Sodium	ppm	ASTM D5185m >20	<b>2</b>	1	<1
Potassium	ppm	ASTM D5185m >20	<b>2</b>	4	8

## INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	<b>0</b>	0.1	0
Nitration	Abs/cm	*ASTM D7624	<b>5.2</b>	6.4	5.9
Sulfation	Abs/.1mm	*ASTM D7415	<b>15.0</b>	22.1	18.2



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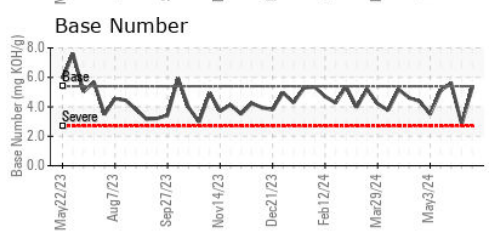
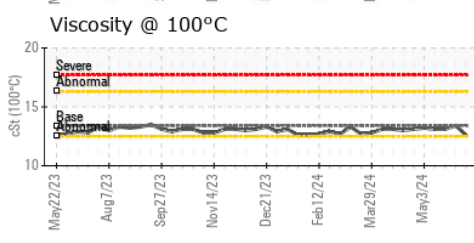
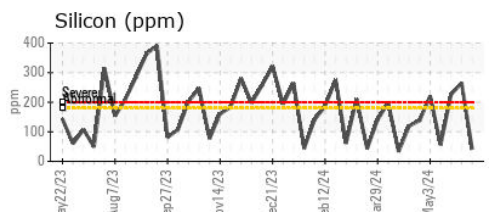
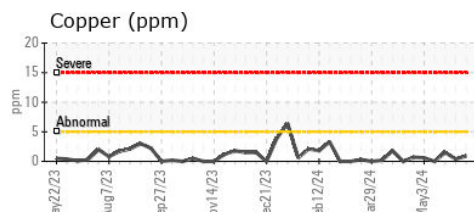
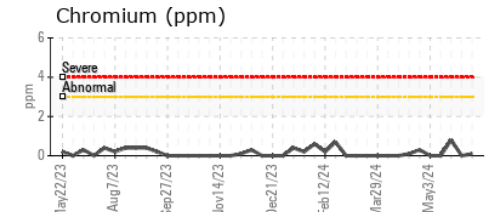
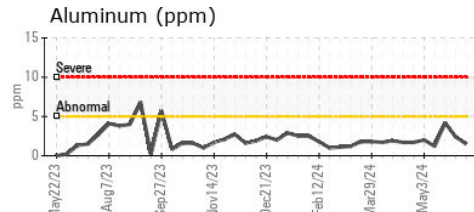
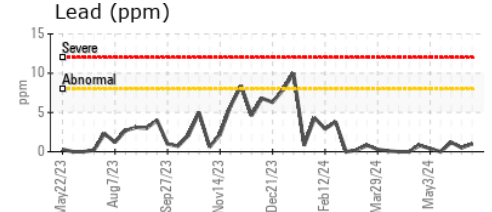
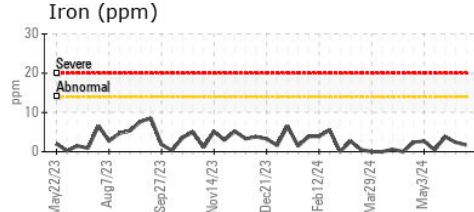


FLUID DEGRADATION	method	limit/base	current	history1	history2
Oxidation	Abs./1mm	*ASTM D7414	<b>8.1</b>	15.6	10.6
Acid Number (AN)	mg KOH/g	ASTM D8045	<b>1.0</b>	2.17	1.01
Base Number (BN)	mg KOH/g	ASTM D2896	<b>5.4</b>	2.83	5.61

VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	LIGHT	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	<b>NEG</b>	NEG	NEG
Free Water	scalar	*Visual	<b>NEG</b>	NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	<b>13.4</b>	13.4	13.1

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0938382      **Received** : 10 Jun 2024  
**Lab Number** : **06204877**      **Tested** : 12 Jun 2024  
**Unique Number** : 11072338      **Diagnosed** : 12 Jun 2024 - Don Baldrige  
**Test Package** : MOB 2 ( Additional Tests: pq )

**EDL NA Recips-Brown County**  
 BROWN COUNTY POWER STATION, 9427 BEYERS RD  
 GEORGETOWN, OH  
 US 45121  
 Contact: MITCHELL BUTLER  
 Mitchell.Butler@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)