

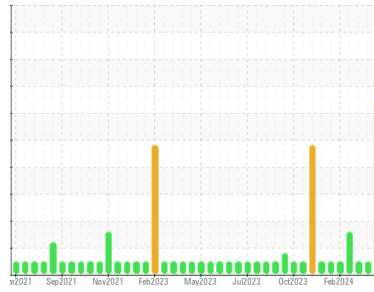


# OIL ANALYSIS REPORT



Machine Id  
**PECM02BE**  
 Component  
**Biogas Engine**  
 Fluid  
**CHEVRON HDAX 9500 GAS ENGINE OIL 40 (150 GAL)**

Sample Rating Trend



## 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.

### ▲ Wear

The lead level is abnormal. The tin level is abnormal.

### ▲ Contamination

Elemental level of silicon (Si) above normal.

### Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The AN level is acceptable for this fluid.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>WC0788388</b>	WC0788397	WC0788401
Sample Date	Client Info		<b>10 Jul 2024</b>	20 Mar 2024	01 Mar 2024
Machine Age	hrs	Client Info	<b>69564</b>	68930	68527
Oil Age	hrs	Client Info	<b>450</b>	480	45
Oil Changed	Client Info		<b>Not Chngd</b>	Not Chngd	Changed
Sample Status			<b>SEVERE</b>	NORMAL	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		<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>18</b>	---	---
Iron	ppm	ASTM D5185m >14	<b>10</b>	1	1
Chromium	ppm	ASTM D5185m >3	<b>&lt;1</b>	0	<1
Nickel	ppm	ASTM D5185m	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185m	<b>0</b>	0	<1
Silver	ppm	ASTM D5185m	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >5	<b>3</b>	2	3
Lead	ppm	ASTM D5185m >8	<b>▲ 6</b>	<1	<1
Copper	ppm	ASTM D5185m >5	<b>4</b>	1	1
Tin	ppm	ASTM D5185m >3	<b>▲ 5</b>	3	<1
Vanadium	ppm	ASTM D5185m	<b>0</b>	0	0
Cadmium	ppm	ASTM D5185m	<b>0</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	<b>13</b>	9	10
Barium	ppm	ASTM D5185m	<b>0</b>	0	<1
Molybdenum	ppm	ASTM D5185m	<b>8</b>	5	4
Manganese	ppm	ASTM D5185m	<b>&lt;1</b>	<1	0
Magnesium	ppm	ASTM D5185m	<b>26</b>	23	20
Calcium	ppm	ASTM D5185m	<b>2008</b>	1909	1734
Phosphorus	ppm	ASTM D5185m	<b>311</b>	302	289
Zinc	ppm	ASTM D5185m	<b>406</b>	364	338
Sulfur	ppm	ASTM D5185m	<b>3583</b>	3316	2086

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >180	<b>▲ 224</b>	133	42
Sodium	ppm	ASTM D5185m >20	<b>2</b>	2	0
Potassium	ppm	ASTM D5185m >20	<b>2</b>	3	2

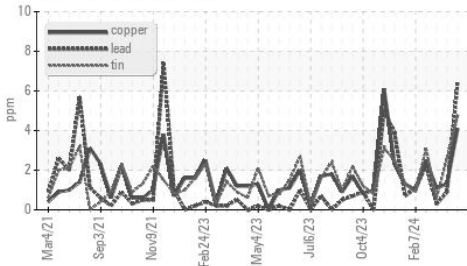
## INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	<b>0.1</b>	0	0
Nitration	Abs/cm	*ASTM D7624	<b>6.4</b>	6.0	5.1
Sulfation	Abs/.1mm	*ASTM D7415	<b>22.8</b>	20.6	15.6

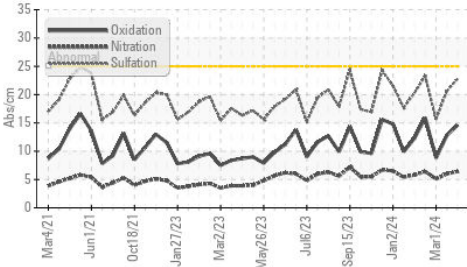


# OIL ANALYSIS REPORT

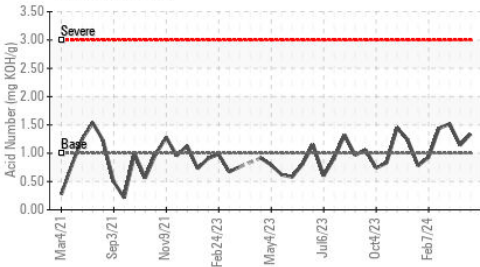
## Non-ferrous Metals



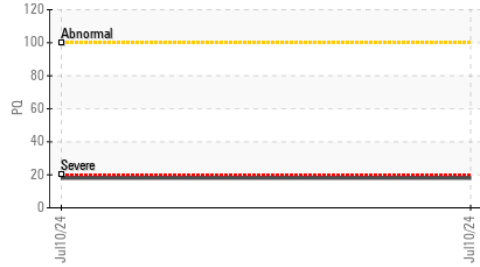
## FT-IR (Direct Trend)



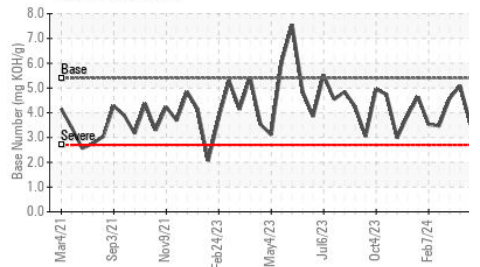
## Acid Number



## PQ



## Base Number



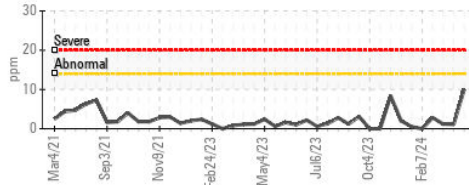
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	*ASTM D7414		<b>14.6</b>	12.8	8.8
Acid Number (AN)	mg KOH/g	ASTM D8045	1.0	<b>1.34</b>	1.14	1.52
Base Number (BN)	mg KOH/g	ASTM D2896	5.4	<b>3.54</b>	5.09	4.58

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

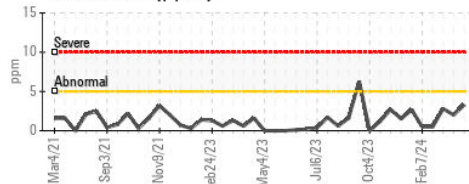
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	13.4	<b>13.7</b>	13.7	13.1

## GRAPHS

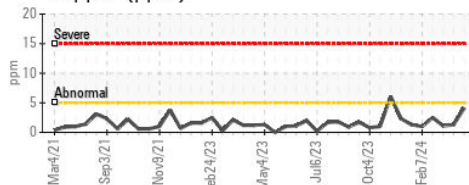
### Iron (ppm)



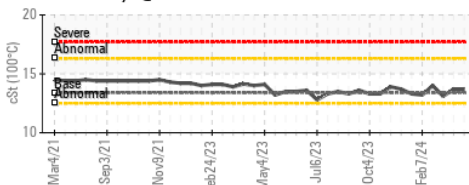
### Aluminum (ppm)



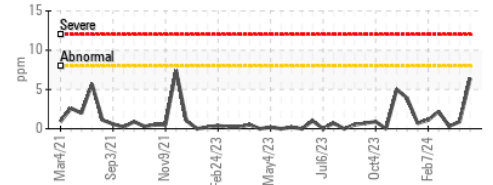
### Copper (ppm)



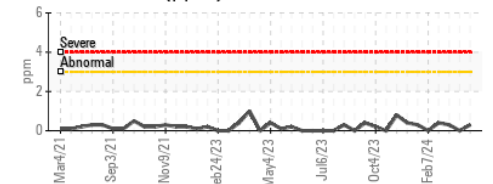
### Viscosity @ 100°C



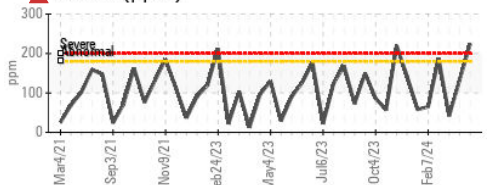
### Lead (ppm)



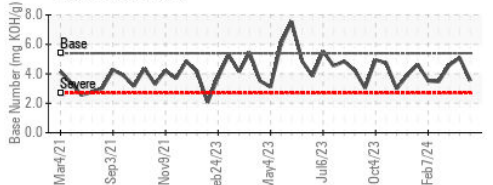
### Chromium (ppm)



### Silicon (ppm)



### Base Number



Certificate L2367

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

Sample No. : WC0788388

Lab Number : 06235108

Unique Number : 11123942

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 : 12 Jul 2024

Tested : 15 Jul 2024

Diagnosed : 15 Jul 2024 - Sean Felton

EDL NA Recips-Pecan Row

PECAN ROW POWER STATION, 2995 WHETHERINGTON LN

VALDOSTA, GA

US 31601

Contact: JASON JONES

jason.jones@energydi.com

T:

F: