

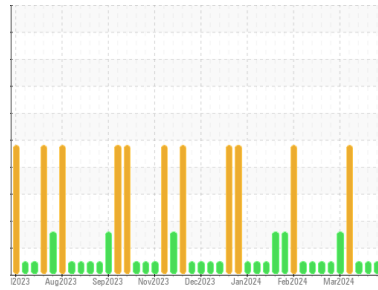


# OIL ANALYSIS REPORT



Machine Id  
**SJNM02BE**  
 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 suitable for further service.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>WC0865744</b>	WC0865686	WC0865720
Sample Date	Client Info		<b>18 Apr 2024</b>	11 Apr 2024	04 Apr 2024
Machine Age	hrs	Client Info	<b>115626</b>	115463	115295
Oil Age	hrs	Client Info	<b>498</b>	335	167
Oil Changed	Client Info		<b>Not Chngd</b>	Not Chngd	Not Chngd
Sample Status			<b>NORMAL</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
Iron	ppm	ASTM D5185m >14	<b>&lt;1</b>	1	0
Chromium	ppm	ASTM D5185m >3	<b>&lt;1</b>	0	0
Nickel	ppm	ASTM D5185m	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185m	<b>0</b>	0	0
Silver	ppm	ASTM D5185m	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >5	<b>2</b>	1	<1
Lead	ppm	ASTM D5185m >8	<b>2</b>	<1	<1
Copper	ppm	ASTM D5185m >5	<b>0</b>	<1	0
Tin	ppm	ASTM D5185m >3	<b>3</b>	<1	1
Vanadium	ppm	ASTM D5185m	<b>0</b>	<1	0
Cadmium	ppm	ASTM D5185m	<b>0</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	<b>4</b>	2	3
Barium	ppm	ASTM D5185m	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	<b>5</b>	5	4
Manganese	ppm	ASTM D5185m	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	<b>29</b>	22	30
Calcium	ppm	ASTM D5185m	<b>1956</b>	1906	1836
Phosphorus	ppm	ASTM D5185m	<b>308</b>	257	273
Zinc	ppm	ASTM D5185m	<b>366</b>	300	343
Sulfur	ppm	ASTM D5185m	<b>2529</b>	2088	1700

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >180	<b>168</b>	121	75
Sodium	ppm	ASTM D5185m >20	<b>2</b>	2	1
Potassium	ppm	ASTM D5185m >20	<b>0</b>	0	0

## INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	<b>0.1</b>	0.1	0
Nitration	Abs/cm	*ASTM D7624	<b>7.4</b>	7.3	6.3
Sulfation	Abs/.1mm	*ASTM D7415	<b>22.0</b>	20.9	18.8

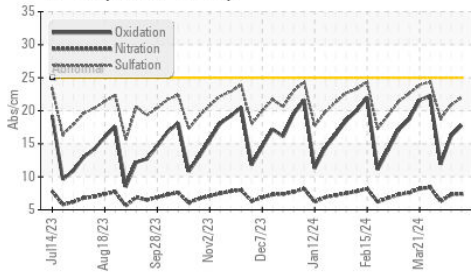
## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	<b>17.8</b>	16.2	11.9
Acid Number (AN)	mg KOH/g	ASTM D8045 1.0	<b>1.62</b>	1.46	0.68
Base Number (BN)	mg KOH/g	ASTM D2896 5.4	<b>3.81</b>	3.93	4.59



# OIL ANALYSIS REPORT

FT-IR (Direct Trend)

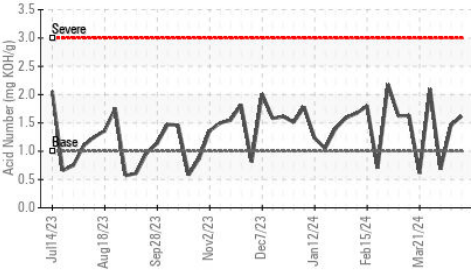


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	NEG	NEG	NEG
Free Water	scalar	*Visual	NEG	NEG	NEG

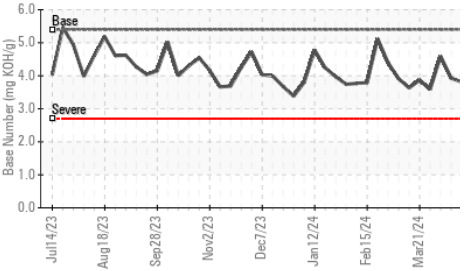
FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	13.4	<b>13.9</b>	13.8	13.5

## GRAPHS

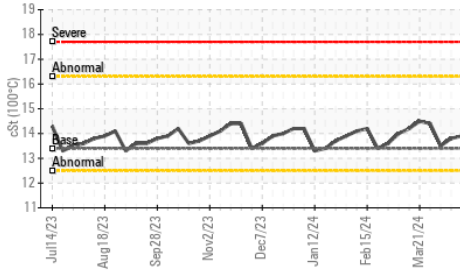
Acid Number



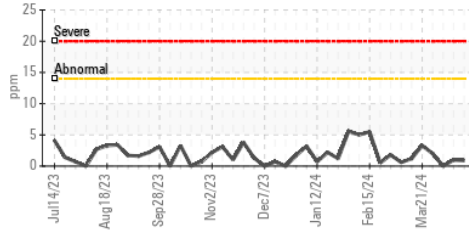
Base Number



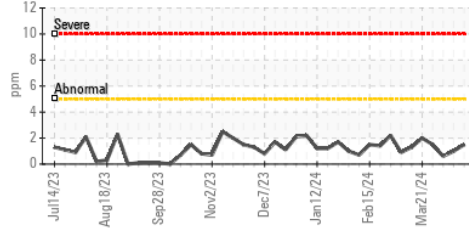
Viscosity @ 100°C



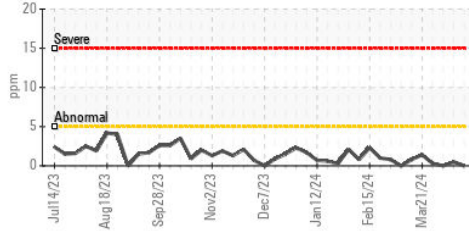
Iron (ppm)



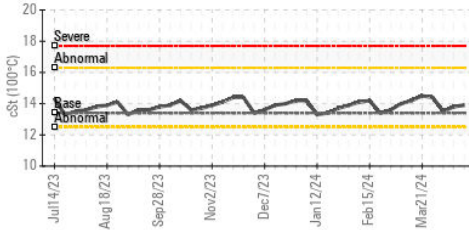
Aluminum (ppm)



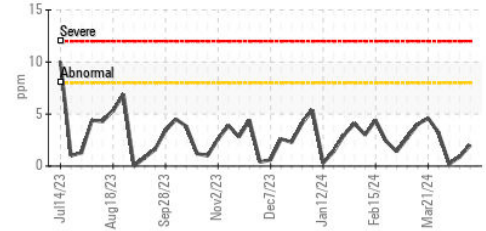
Copper (ppm)



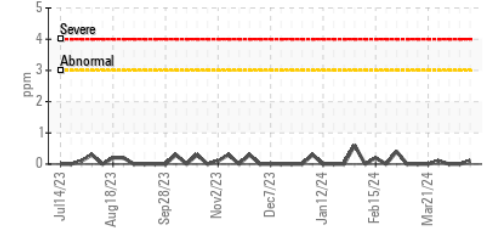
Viscosity @ 100°C



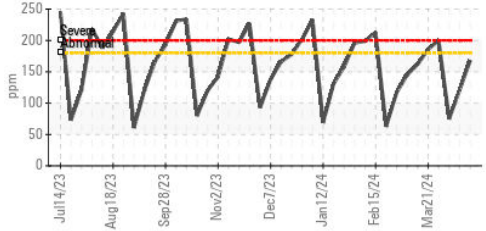
Lead (ppm)



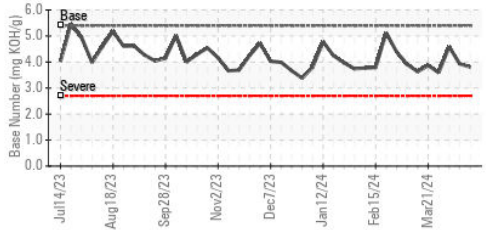
Chromium (ppm)



Silicon (ppm)



Base Number



Certificate L2367

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

Sample No. : WC0865744

Lab Number : 06157085

Unique Number : 10992508

Test Package : MOB 2

Received : 22 Apr 2024

Tested : 23 Apr 2024

Diagnosed : 25 Apr 2024 - Jonathan Hester

EDL NA Recips-South Jordan

South Jordan Powerstation, 10473 S. Bacchus Hwy.

South Jordan, UT

US 84095

Contact: Aaron Klein

aaron.klein@edlenergy.com

T:

F:

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)