

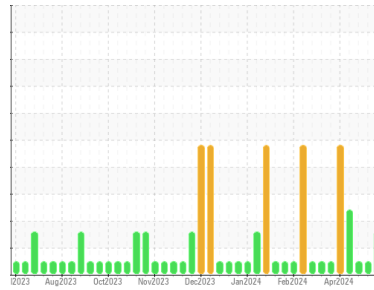


# OIL ANALYSIS REPORT



Machine Id  
**HBKM02BE**  
 Component  
**Biogas Engine**  
 Fluid  
**SHELL MYSELLA S5 S (48 GAL)**

Sample Rating Trend



## DIAGNOSIS

**Recommendation**  
 No corrective action is recommended at this time. Resample at the next service interval to monitor. ( Customer Sample Comment: Top Up Amount: 30 GAL )

**Wear**  
 All component wear rates are normal.

**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. 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>WC0775172</b>	WC0775164	WC0775179
Sample Date	Client Info		<b>10 May 2024</b>	29 Apr 2024	25 Apr 2024
Machine Age	hrs	Client Info	<b>106573</b>	106324	106228
Oil Age	hrs	Client Info	<b>500</b>	251	155
Oil Changed	Client Info		<b>Oil Added</b>	Oil Added	Oil Added
Sample Status			<b>ABNORMAL</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>4</b>	2	2
Chromium	ppm	ASTM D5185m >3	<b>0</b>	0	0
Nickel	ppm	ASTM D5185m	<b>0</b>	0	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>3</b>	2	2
Lead	ppm	ASTM D5185m >8	<b>0</b>	0	<1
Copper	ppm	ASTM D5185m >5	<b>1</b>	4	<1
Tin	ppm	ASTM D5185m >3	<b>2</b>	2	<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>0</b>	5	4
Barium	ppm	ASTM D5185m	<b>0</b>	<1	0
Molybdenum	ppm	ASTM D5185m	<b>5</b>	5	5
Manganese	ppm	ASTM D5185m	<b>0</b>	1	0
Magnesium	ppm	ASTM D5185m	<b>20</b>	19	18
Calcium	ppm	ASTM D5185m	<b>1821</b>	1592	1533
Phosphorus	ppm	ASTM D5185m 300	<b>371</b>	350	341
Zinc	ppm	ASTM D5185m	<b>462</b>	414	414
Sulfur	ppm	ASTM D5185m	<b>3741</b>	3341	3373

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >180	<b>▲ 193</b>	95	68
Sodium	ppm	ASTM D5185m >20	<b>2</b>	1	1
Potassium	ppm	ASTM D5185m >20	<b>0</b>	0	0

## INFRA-RED

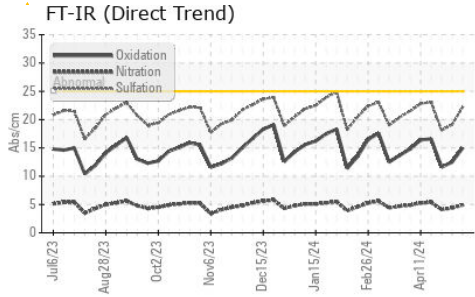
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	<b>0</b>	0.1	0
Nitration	Abs/cm	*ASTM D7624	<b>4.9</b>	4.4	4.1
Sulfation	Abs/.1mm	*ASTM D7415	<b>22.2</b>	19.1	18.1

## FLUID DEGRADATION

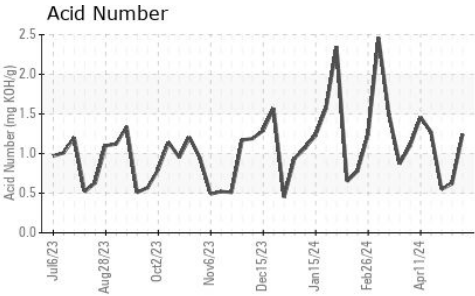
	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	<b>15.0</b>	12.5	11.6
Acid Number (AN)	mg KOH/g	ASTM D8045	<b>1.24</b>	0.62	0.55
Base Number (BN)	mg KOH/g	ASTM D2896 5.3	<b>3.12</b>	3.83	4.02



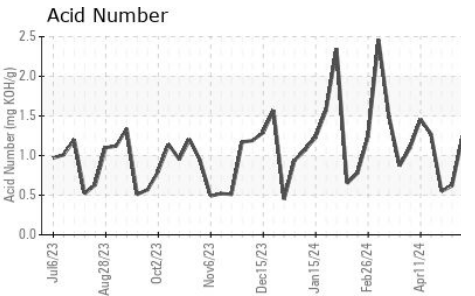
# OIL ANALYSIS REPORT



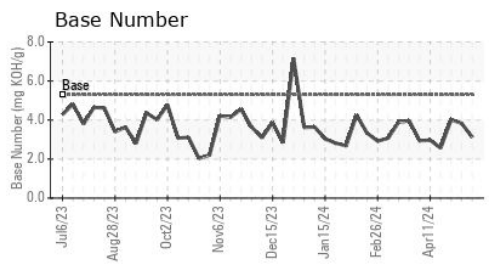
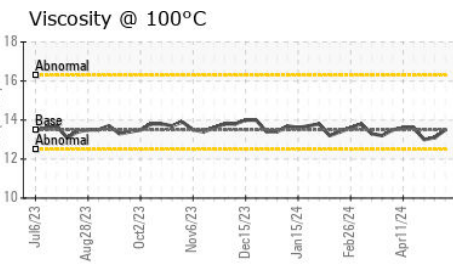
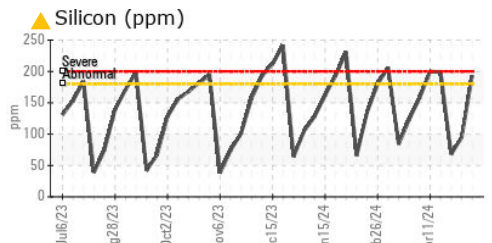
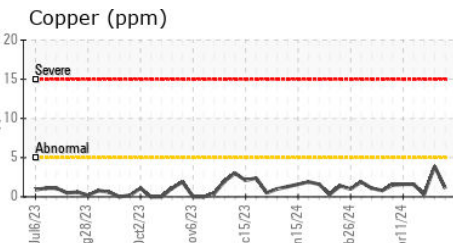
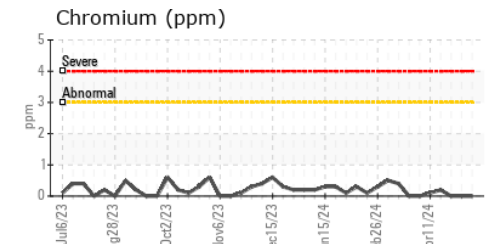
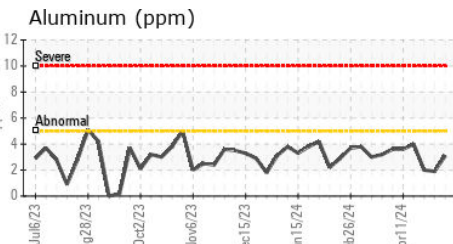
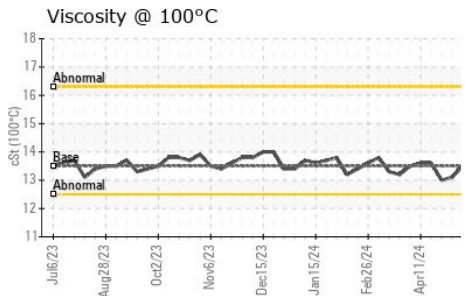
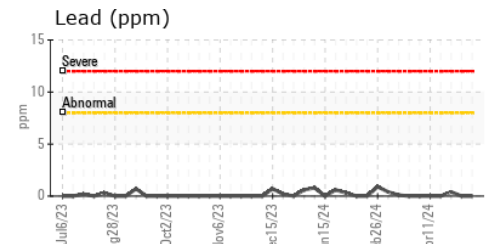
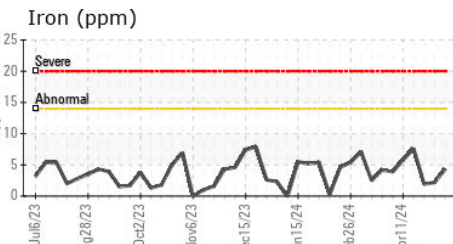
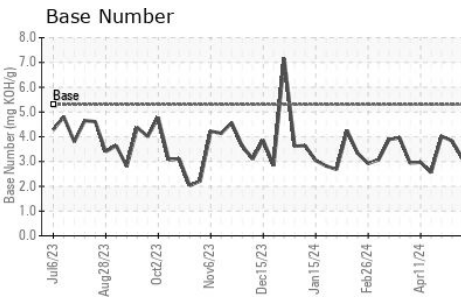
PARAMETER	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	LIGHT	LIGHT
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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	13.5	13.1	13.0



### GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0775172 **Received** : 14 May 2024  
**Lab Number** : 06178992 **Tested** : 15 May 2024  
**Unique Number** : 11030318 **Diagnosed** : 16 May 2024 - Don Baldrige  
**Test Package** : MOB 2

**EDL NA Recips-Honeybrook**  
 Honey Brook Powerstation, 481 S. Churchtown Road  
 Narvon, PA  
 US 17555-9574  
 Contact: Christian Adames  
 Christian.Adames@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)