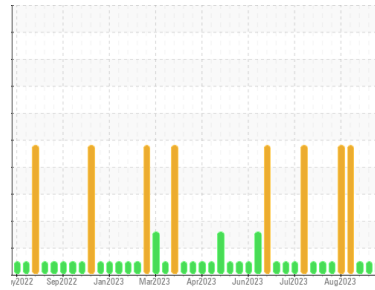




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
HBKM01BE
Component
Biogas Engine
Fluid
SHELL MYSELLA S5 S (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. (Customer Sample Comment: Top Up Amount: 30 GAL)

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		WC0775337	WC0775340	WC0775351
Sample Date	Client Info		25 Sep 2023	18 Sep 2023	11 Sep 2023
Machine Age	hrs	Client Info	105443	105281	105130
Oil Age	hrs	Client Info	432	270	119
Oil Changed	Client Info		Oil Added	Oil Added	Oil Added
Sample Status			NORMAL	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>4.0	<1.0	<1.0	<1.0
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >15	4	3	1
Chromium	ppm	ASTM D5185m >4	0	0	0
Nickel	ppm	ASTM D5185m >2	0	0	0
Titanium	ppm	ASTM D5185m	0	0	0
Silver	ppm	ASTM D5185m >5	0	0	0
Aluminum	ppm	ASTM D5185m >6	4	<1	0
Lead	ppm	ASTM D5185m >9	<1	<1	1
Copper	ppm	ASTM D5185m >6	1	<1	0
Tin	ppm	ASTM D5185m >4	3	2	<1
Vanadium	ppm	ASTM D5185m	0	0	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	2	1	3
Barium	ppm	ASTM D5185m	0	0	0
Molybdenum	ppm	ASTM D5185m	6	6	6
Manganese	ppm	ASTM D5185m	0	0	<1
Magnesium	ppm	ASTM D5185m	25	28	28
Calcium	ppm	ASTM D5185m	1538	1569	1593
Phosphorus	ppm	ASTM D5185m 300	338	333	334
Zinc	ppm	ASTM D5185m	396	400	399
Sulfur	ppm	ASTM D5185m	3095	3400	3412

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >181	156	108	54
Sodium	ppm	ASTM D5185m	<1	<1	<1
Potassium	ppm	ASTM D5185m >20	0	<1	2

INFRA-RED

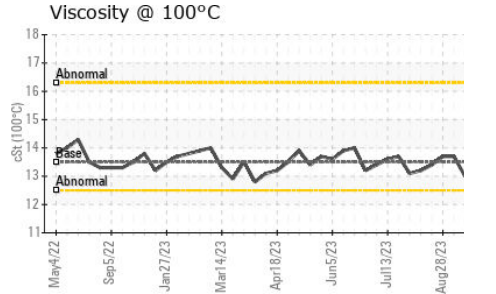
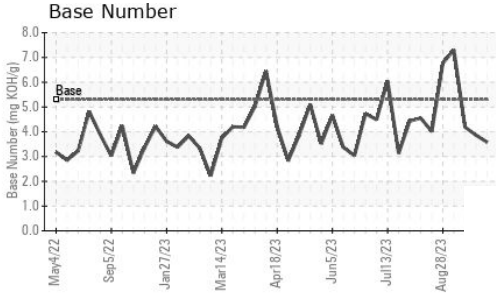
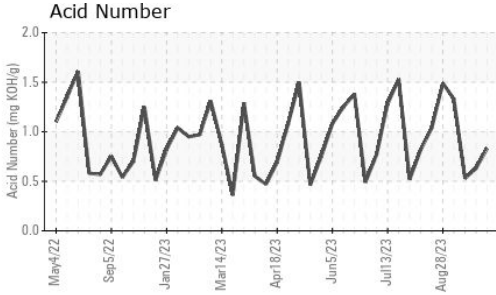
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	0	0	0
Nitration	Abs/cm	*ASTM D7624 >20	4.6	5.2	3.8
Sulfation	Abs/.1mm	*ASTM D7415 >30	20.0	21.9	17.5

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	12.9	13.7	10.8
Acid Number (AN)	mg KOH/g	ASTM D8045	0.83	0.63	0.53
Base Number (BN)	mg KOH/g	ASTM D2896 5.3	3.58	3.86	4.19



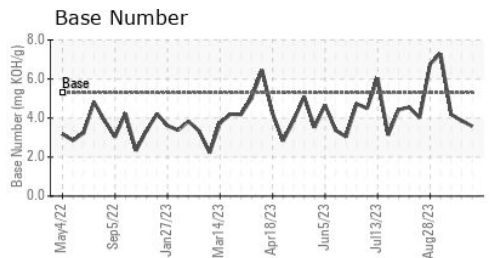
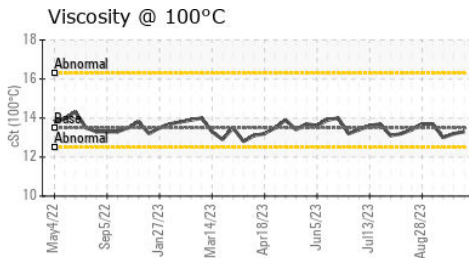
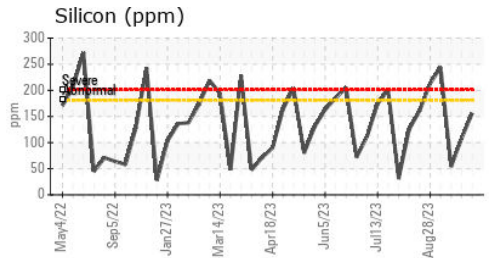
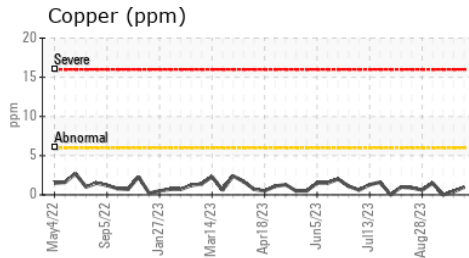
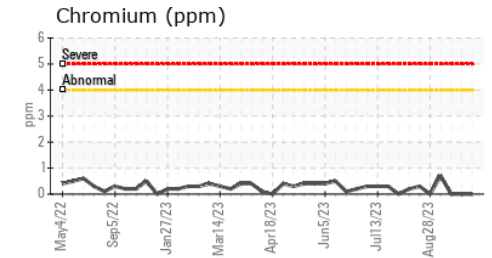
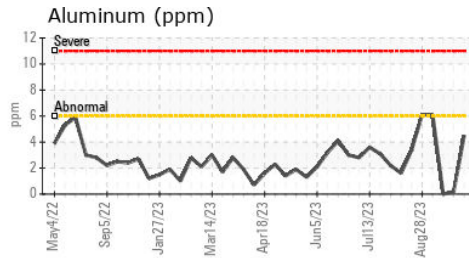
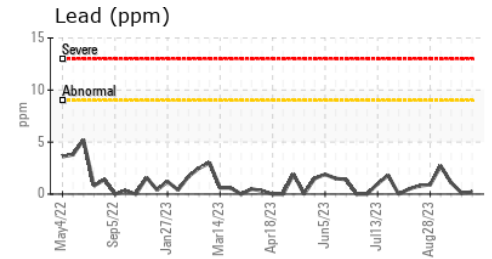
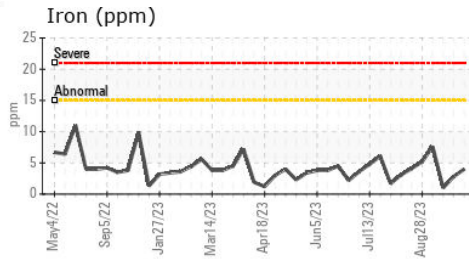
OIL ANALYSIS REPORT



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	>0.1	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	13.5	13.3	13.2

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : WC0775337
 Lab Number : 05962372
 Unique Number : 10668923
 Test Package : MOB 2

Received : 27 Sep 2023
 Diagnosed : 28 Sep 2023
 Diagnostician : Sean Felton

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)

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