



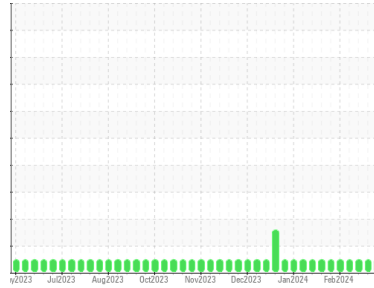
OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
HANM01BE (S/N 4EK00133)
 Component
Biogas Engine
 Fluid
CHEVRON HDAX 9500 GAS ENGINE OIL 40 (95 GAL)



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		WC0898128	WC0898133	WC0898137
Sample Date	Client Info		19 Mar 2024	13 Mar 2024	07 Mar 2024
Machine Age	hrs	Client Info	69611	69467	69325
Oil Age	hrs	Client Info	620	476	334
Oil Changed	Client Info		Not Chngd	Not Chngd	Not Chngd
Sample Status			NORMAL	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>4.0	<1.0	<1.0	<1.0
Water	WC Method	>0.1	NEG	NEG	NEG
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >15	2	2	0
Chromium	ppm	ASTM D5185m >4	<1	<1	<1
Nickel	ppm	ASTM D5185m >2	0	0	0
Titanium	ppm	ASTM D5185m	<1	0	0
Silver	ppm	ASTM D5185m >5	0	0	0
Aluminum	ppm	ASTM D5185m >6	3	2	2
Lead	ppm	ASTM D5185m >9	1	<1	<1
Copper	ppm	ASTM D5185m >14	1	<1	<1
Tin	ppm	ASTM D5185m >4	5	4	3
Vanadium	ppm	ASTM D5185m	<1	0	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	8	8	8
Barium	ppm	ASTM D5185m	1	0	0
Molybdenum	ppm	ASTM D5185m	3	2	2
Manganese	ppm	ASTM D5185m	<1	0	0
Magnesium	ppm	ASTM D5185m	15	15	15
Calcium	ppm	ASTM D5185m	2119	1875	1832
Phosphorus	ppm	ASTM D5185m	316	292	304
Zinc	ppm	ASTM D5185m	415	376	378
Sulfur	ppm	ASTM D5185m	2803	2247	2426

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >181	124	121	103
Sodium	ppm	ASTM D5185m	0	0	0
Potassium	ppm	ASTM D5185m >20	3	2	2

INFRA-RED

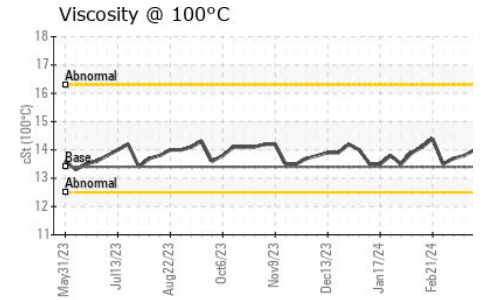
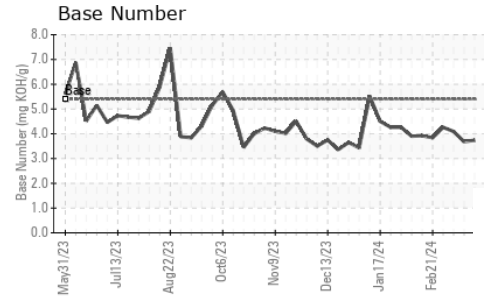
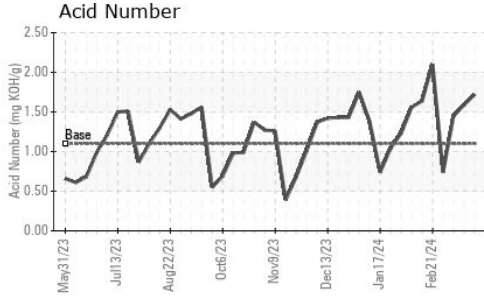
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	0.1	0.1	0.1
Nitration	Abs/cm	*ASTM D7624 >20	7.4	7.2	7.0
Sulfation	Abs/.1mm	*ASTM D7415 >30	21.6	20.8	19.7

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	16.8	15.8	14.5
Acid Number (AN)	mg KOH/g	ASTM D8045 1.1	1.72	1.59	1.45
Base Number (BN)	mg KOH/g	ASTM D2896 5.4	3.74	3.68	4.09



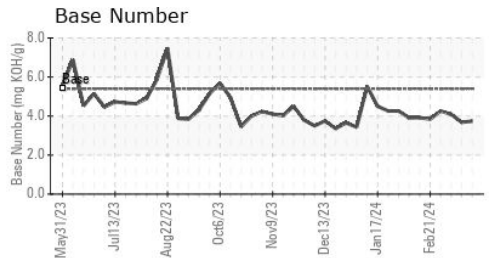
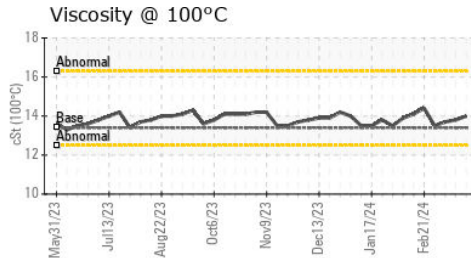
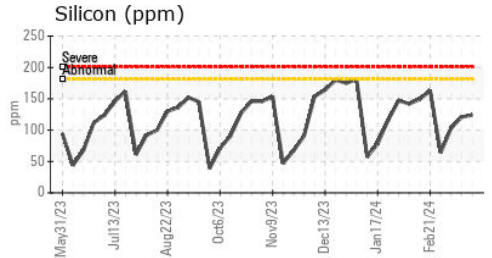
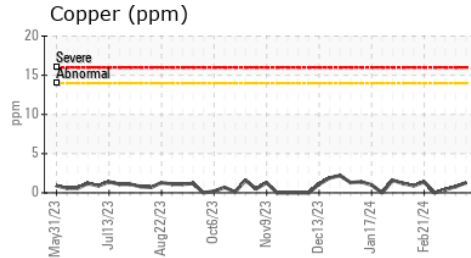
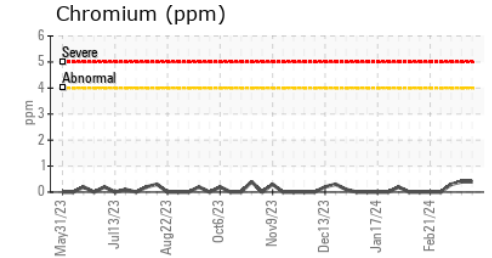
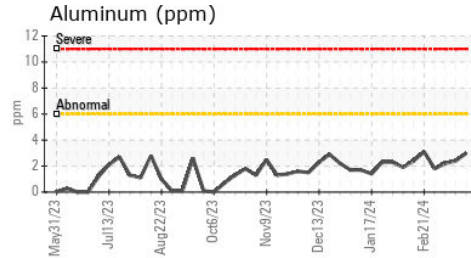
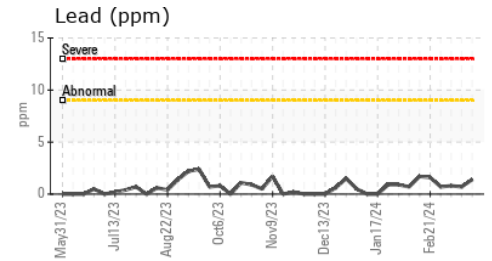
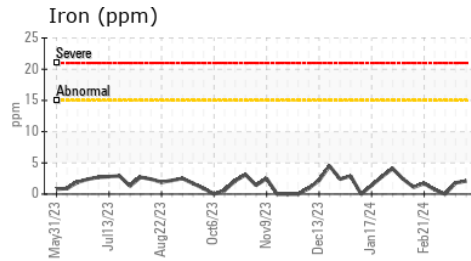
OIL ANALYSIS REPORT



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	13.4	14.0	13.8	13.7

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : WC0898128
 Lab Number : **06125124**
 Unique Number : 10939275
 Test Package : MOB 2

Received : 21 Mar 2024
 Tested : 25 Mar 2024
 Diagnosed : 25 Mar 2024 - Sean Felton

EDL NA Recips-Hancock County
 HANCOCK COUNTY POWER STATION, 3574 TOWNSHIP ROAD 142
 FINDLAY, OH
 US 45840
 Contact: TIM CUSICK
 tim.cusick@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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