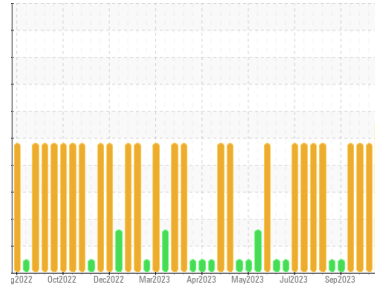




OIL ANALYSIS REPORT

Sample Rating Trend



DIRT



Machine Id
DECM02BE (S/N 4EK00128)
 Component
Biogas Engine
 Fluid
CHEVRON HDAX 6500 LFG GAS ENGINE OIL (100 GAL)

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 iron level is abnormal. All other component wear rates are normal.

Contamination

Elemental level of silicon (Si) above normal indicating ingress of seal material.

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		WC0732913	WC0732910	WC0732961
Sample Date	Client Info		13 Oct 2023	05 Oct 2023	22 Sep 2023
Machine Age	hrs	Client Info	56743	56551	56258
Oil Age	hrs	Client Info	1004	812	519
Oil Changed	Client Info		Not Chngd	Not Chngd	Not Chngd
Sample Status			SEVERE	SEVERE	SEVERE

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	▲ 19	<1	3
Chromium	ppm	ASTM D5185m >4	<1	<1	<1
Nickel	ppm	ASTM D5185m >2	<1	2	1
Titanium	ppm	ASTM D5185m	<1	0	0
Silver	ppm	ASTM D5185m >5	0	0	0
Aluminum	ppm	ASTM D5185m >6	4	0	3
Lead	ppm	ASTM D5185m >9	5	2	<1
Copper	ppm	ASTM D5185m >14	2	3	2
Tin	ppm	ASTM D5185m >4	2	2	2
Vanadium	ppm	ASTM D5185m	0	0	0
Cadmium	ppm	ASTM D5185m	<1	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	5	8	8
Barium	ppm	ASTM D5185m	3	0	2
Molybdenum	ppm	ASTM D5185m	2	5	2
Manganese	ppm	ASTM D5185m	<1	<1	<1
Magnesium	ppm	ASTM D5185m	14	24	20
Calcium	ppm	ASTM D5185m	2009	2390	1955
Phosphorus	ppm	ASTM D5185m	331	380	317
Zinc	ppm	ASTM D5185m	434	515	421
Sulfur	ppm	ASTM D5185m	2433	3353	2905

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >181	▲ 407	▲ 341	▲ 245
Sodium	ppm	ASTM D5185m	4	0	2
Potassium	ppm	ASTM D5185m >20	6	3	1

INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	0.1	0.1	0
Nitration	Abs/cm	*ASTM D7624 >20	7.5	6.8	6.3
Sulfation	Abs/.1mm	*ASTM D7415 >30	23.2	21.4	19.7

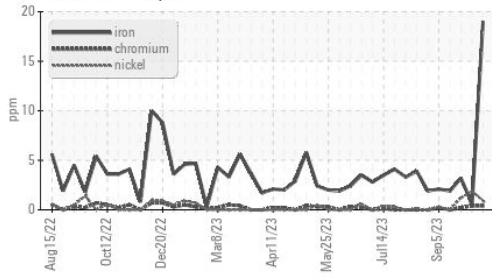
FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	16.7	14.5	11.9
Acid Number (AN)	mg KOH/g	ASTM D8045 1.2	2.13	1.34	1.05
Base Number (BN)	mg KOH/g	ASTM D2896 4.5	4.81	5.13	5.42



OIL ANALYSIS REPORT

▲ Ferrous Alloys

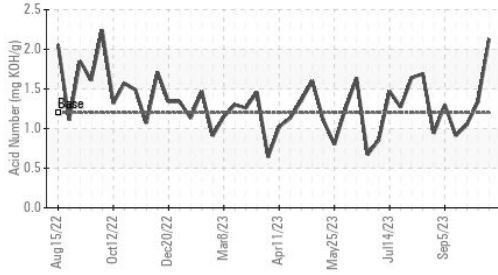


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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

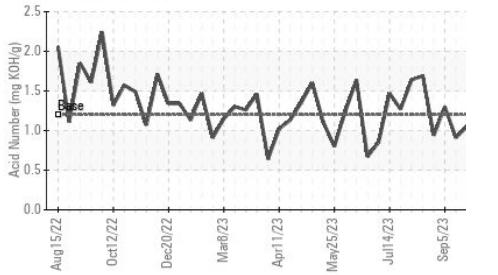
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.7	14.1	13.7

GRAPHS

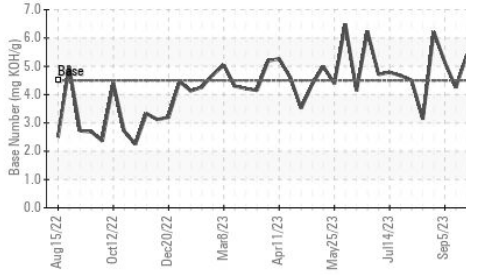
Acid Number



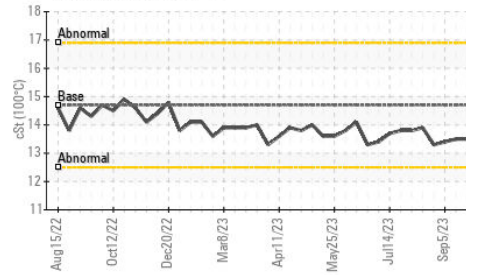
Acid Number



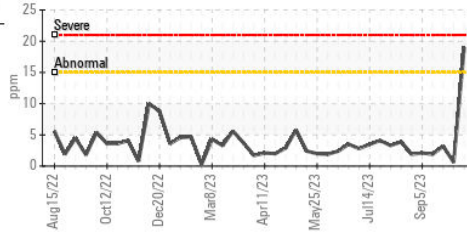
Base Number



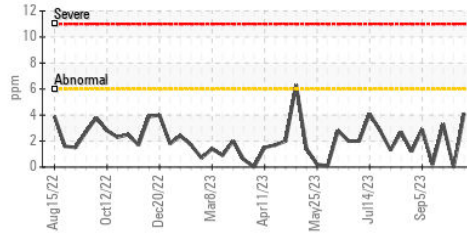
Viscosity @ 100°C



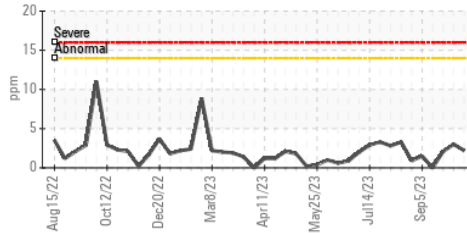
▲ Iron (ppm)



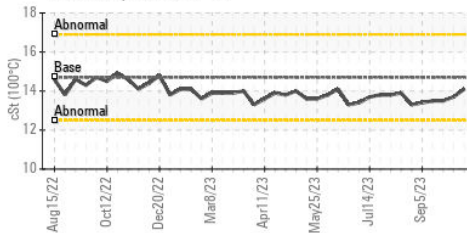
Aluminum (ppm)



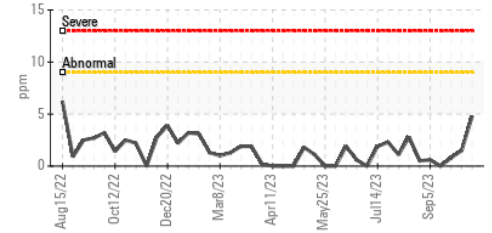
Copper (ppm)



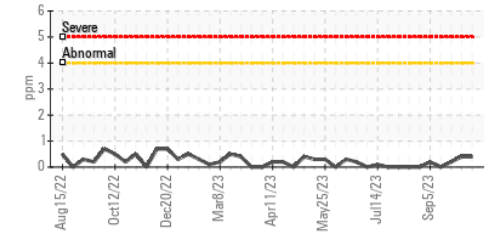
Viscosity @ 100°C



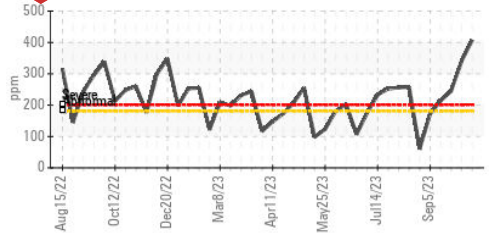
Lead (ppm)



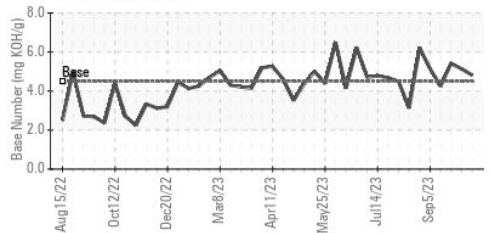
Chromium (ppm)



● Silicon (ppm)



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : WC0732913
 Lab Number : 05982011
 Unique Number : 10699306
 Test Package : MOB 2

Received : 17 Oct 2023
 Diagnosed : 19 Oct 2023
 Diagnostician : Sean Felton

EDL NA Recips-Decatur
 620 LANDFILL DRIVE
 TRINITY, AL
 US 35673

Contact: JEFF SUMMERS
 jeff.summers@energydevelopments.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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F: