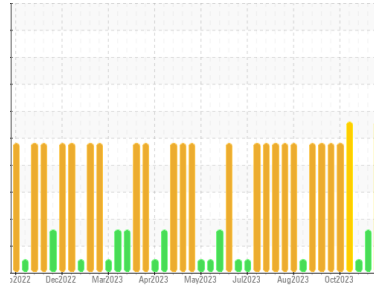




OIL ANALYSIS REPORT

Sample Rating Trend



DIRT



Machine Id
DECM01BE (S/N ZBA01290)
 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.

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.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0732869	WC0732917	WC0732915
Sample Date	Client Info		13 Nov 2023	30 Oct 2023	23 Oct 2023
Machine Age	hrs	Client Info	55349	55022	54853
Oil Age	hrs	Client Info	630	303	134
Oil Changed	Client Info		Not Chngd	Not Chngd	Not Chngd
Sample Status			SEVERE	ABNORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
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	▲ 38	10	2
Chromium	ppm	ASTM D5185m >4	<1	<1	0
Nickel	ppm	ASTM D5185m >2	<1	<1	0
Titanium	ppm	ASTM D5185m	0	<1	0
Silver	ppm	ASTM D5185m >5	0	0	0
Aluminum	ppm	ASTM D5185m >6	4	2	<1
Lead	ppm	ASTM D5185m >9	3	<1	0
Copper	ppm	ASTM D5185m >14	3	2	<1
Tin	ppm	ASTM D5185m >4	2	1	<1
Vanadium	ppm	ASTM D5185m	0	<1	0
Cadmium	ppm	ASTM D5185m	0	<1	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	5	5	5
Barium	ppm	ASTM D5185m	0	<1	0
Molybdenum	ppm	ASTM D5185m	2	3	2
Manganese	ppm	ASTM D5185m	1	<1	0
Magnesium	ppm	ASTM D5185m	20	20	17
Calcium	ppm	ASTM D5185m	1737	1799	1738
Phosphorus	ppm	ASTM D5185m	229	302	290
Zinc	ppm	ASTM D5185m	360	386	346
Sulfur	ppm	ASTM D5185m	2093	2521	1725

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >181	▲ 351	▲ 186	124
Sodium	ppm	ASTM D5185m	5	1	0
Potassium	ppm	ASTM D5185m >20	<1	3	0
Fuel	%	ASTM D3524 >4.0	<1.0	<1.0	<1.0

INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	0	0	0
Nitration	Abs/cm	*ASTM D7624 >20	7.1	6.1	5.7
Sulfation	Abs/.1mm	*ASTM D7415 >30	21.7	18.0	16.5

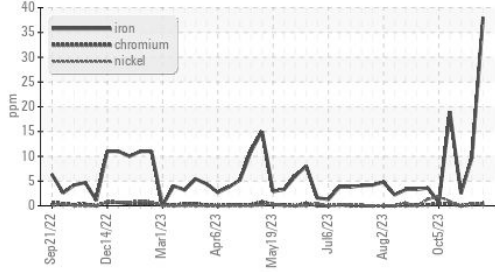
FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	13.3	11.5	9.6
Acid Number (AN)	mg KOH/g	ASTM D8045 1.2	1.48	0.77	0.22
Base Number (BN)	mg KOH/g	ASTM D2896 4.5	3.93	3.52	5.09



OIL ANALYSIS REPORT

▲ Ferrous Alloys

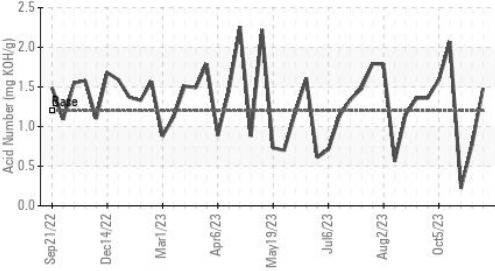


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

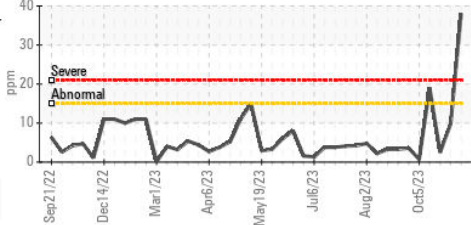
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.7	13.6	13.3

GRAPHS

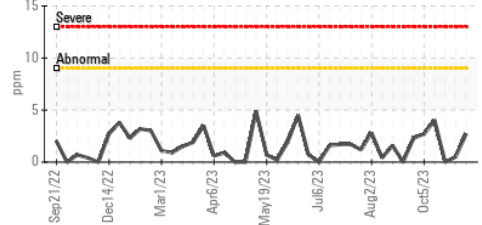
● Acid Number



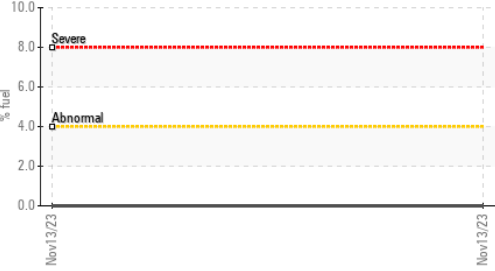
▲ Iron (ppm)



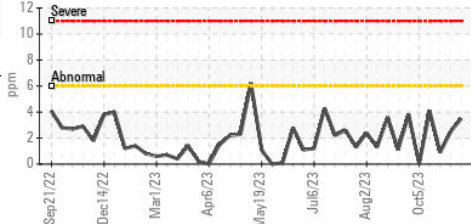
▲ Lead (ppm)



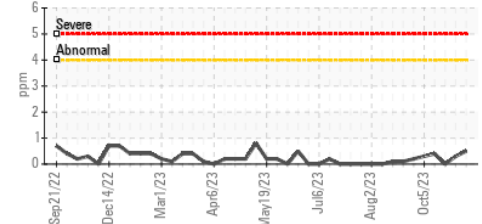
● Fuel Dilution



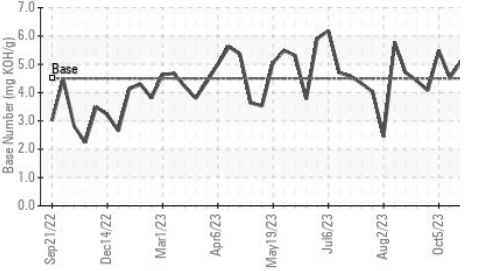
▲ Aluminum (ppm)



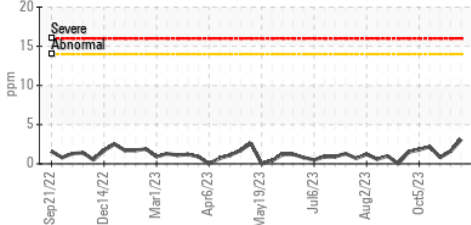
▲ Chromium (ppm)



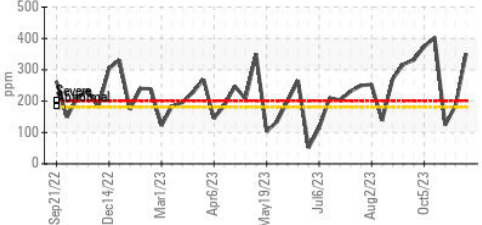
● Base Number



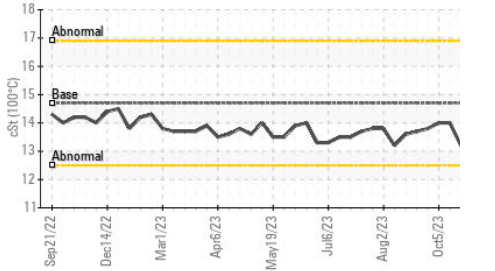
▲ Copper (ppm)



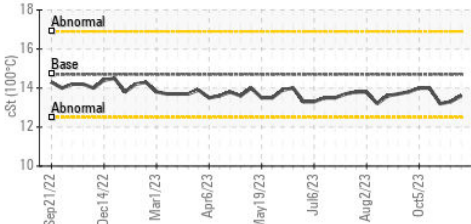
● Silicon (ppm)



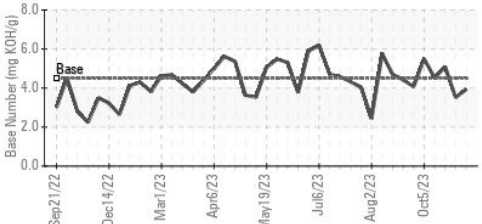
● Viscosity @ 100°C



● Viscosity @ 100°C



● Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0732869 **Received** : 15 Nov 2023
Lab Number : 06008514 **Diagnosed** : 05 Dec 2023
Unique Number : 10742276 **Diagnostician** : Doug Bogart
Test Package : MOB 2 (Additional Tests: FuelDilution, PercentFuel)

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

To discuss this sample report, contact Customer Service at 1-800-237-1369.

Contact: JEFF SUMMERS
 jeff.summers@energydevelopments.com

* - 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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