



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
Coopersville CAT 5 CPVM05BE
Component
Biogas Engine
Fluid
CHEVRON HDAX 9500 GAS ENGINE OIL 40 (105 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0871529	WC0871553	WC0871555
Sample Date		Client Info		20 Feb 2024	08 Feb 2024	08 Feb 2024
Machine Age	hrs	Client Info		15240	22190	14945
Oil Age	hrs	Client Info		697	1	402
Filter Age	hrs	Client Info		697	1	402
Oil Changed		Client Info		Not Changed	Changed	Not Changed
Filter Changed		Client Info		Not Changed	Changed	Not Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>15	1	<1	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	3	<1	1
Lead	ppm	ASTM D5185m	>9	6	0	1
Copper	ppm	ASTM D5185m	>14	1	1	0
Tin	ppm	ASTM D5185m	>4	7	0	4
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

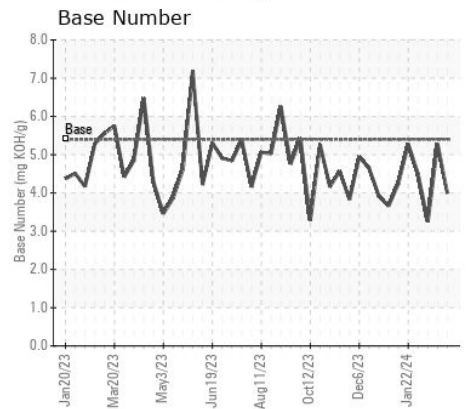
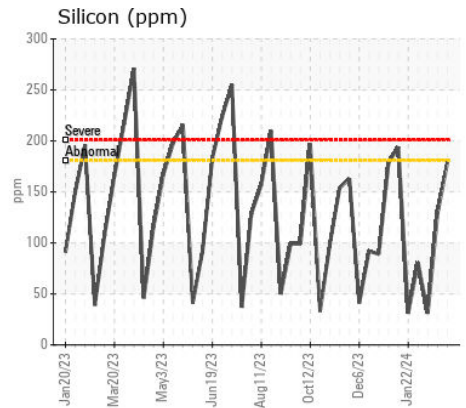
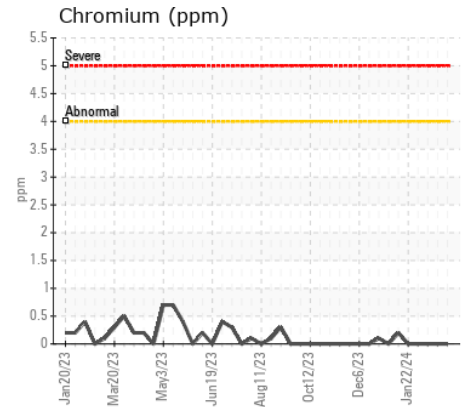
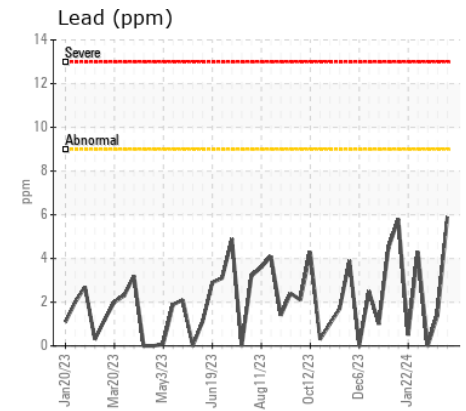
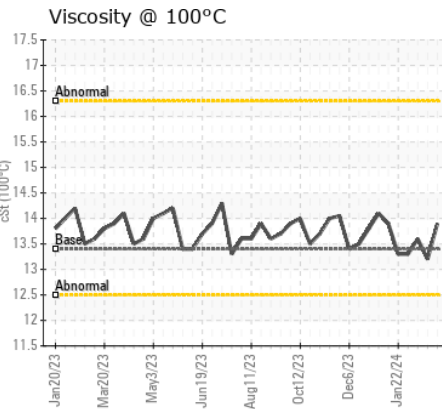
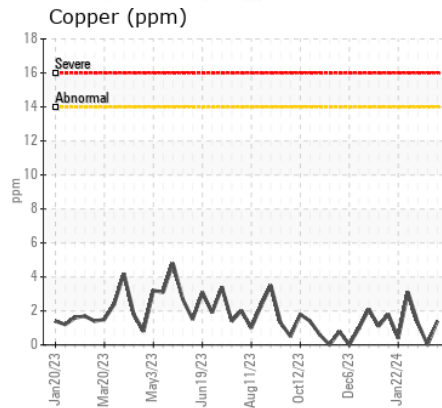
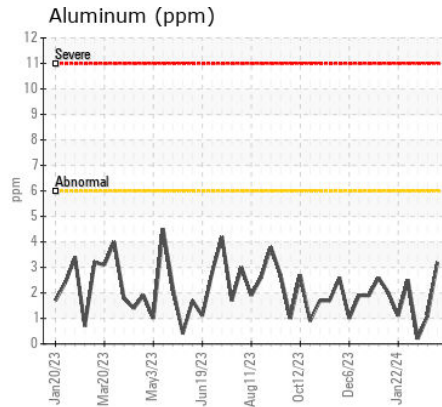
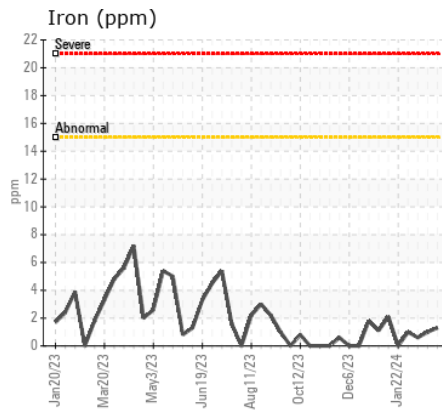
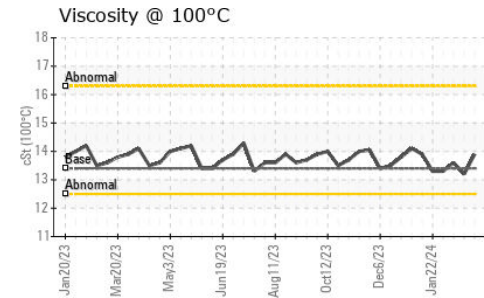
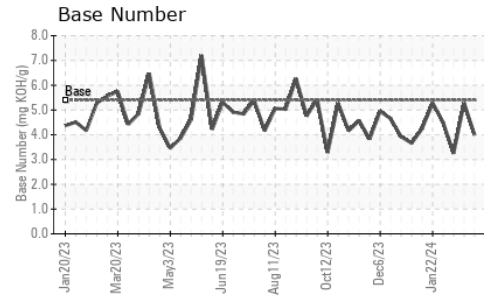
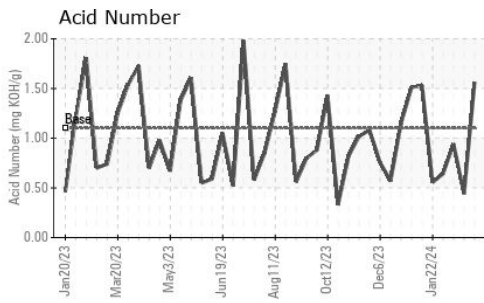
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>181	179	31	129
Potassium	ppm	ASTM D5185m	>20	1	0	0
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
Soot %	%	*ASTM D7844		0.1	0	0
Nitration	Abs/cm	*ASTM D7624	>20	7.5	5.4	6.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.7	15.1	17.6
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG	NEG

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.

Sodium	ppm	ASTM D5185m		<1	0	<1
Boron	ppm	ASTM D5185m		2	0	0
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		2	<1	2
Manganese	ppm	ASTM D5185m		<1	0	0
Magnesium	ppm	ASTM D5185m		10	6	19
Calcium	ppm	ASTM D5185m		1909	1781	1912
Phosphorus	ppm	ASTM D5185m		280	257	283
Zinc	ppm	ASTM D5185m		358	318	356
Sulfur	ppm	ASTM D5185m		1822	1508	1742
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.2	8.4	12.3
Acid Number (AN)	mg KOH/g	ASTM D8045	1.1	1.56	0.44	0.94
Base Number (BN)	mg KOH/g	ASTM D2896	5.4	3.99	5.28	3.25
Visc @ 100°C	cSt	ASTM D445	13.4	13.9	13.2	13.6



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0871529
Lab Number : 06100288
Unique Number : 10898518
Test Package : MOB 2

Received : 26 Feb 2024
Tested : 27 Feb 2024
Diagnosed : 28 Feb 2024 - Jonathan Hester

EDL NA Recips-Coopersville
 Coopersville Powerstation, 15362 68th Avenue
 Coopersville, MI
 US 49404

Contact: Daniel Young
 daniel.young@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)

T:
 F: