



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	SEVERE



Machine Id
Grand Blanc CAT 4 GBLM04BE
Component
Biogas Engine
Fluid
CHEVRON HDAX 9500 GAS ENGINE OIL 40 (--- GAL)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. (Customer Sample Comment: 950hr End of Cycle Oil sample)

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0905701	WC0905672	WC0905753
Sample Date		Client Info		24 Apr 2024	18 Apr 2024	10 Apr 2024
Machine Age	hrs	Client Info		69243	69082	68870
Oil Age	hrs	Client Info		950	795	0
Filter Age	hrs	Client Info		950	795	0
Oil Changed		Client Info		Changed	Not Changd	N/A
Filter Changed		Client Info		Changed	Not Changd	N/A
Sample Status				SEVERE	SEVERE	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>15	8	6	6
Chromium	ppm	ASTM D5185m	>4	<1	<1	<1
Nickel	ppm	ASTM D5185m		0	0	1
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>6	3	2	2
Lead	ppm	ASTM D5185m	>9	3	2	4
Copper	ppm	ASTM D5185m	>6	2	3	2
Tin	ppm	ASTM D5185m	>4	2	3	3
Vanadium	ppm	ASTM D5185m		0	0	<1
White Metal	scalar	*Visual	NONE	NONE	LIGHT	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

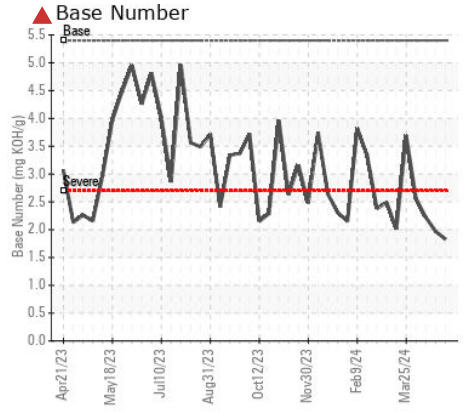
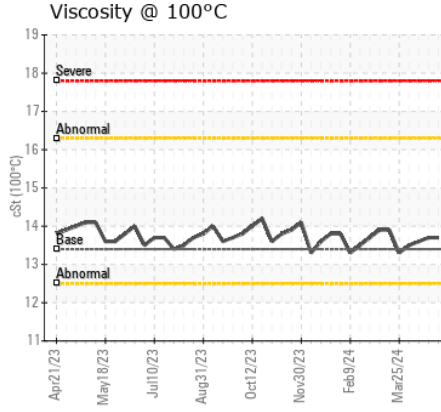
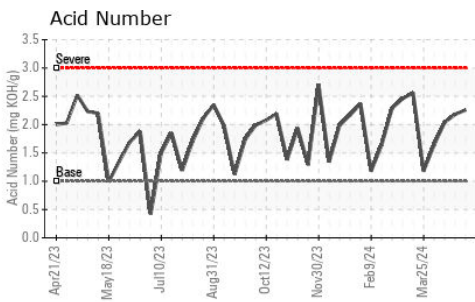
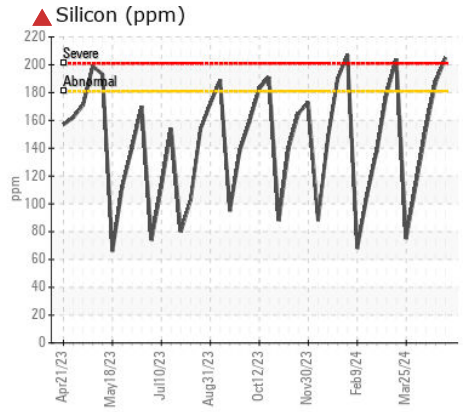
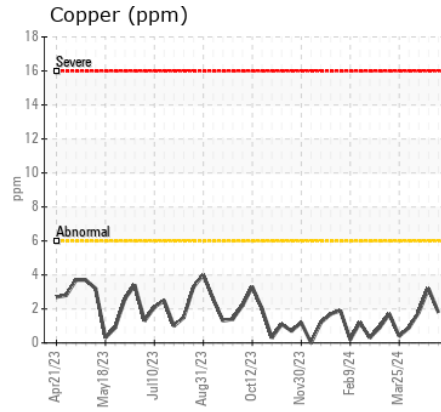
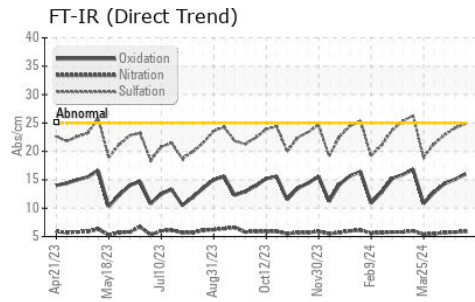
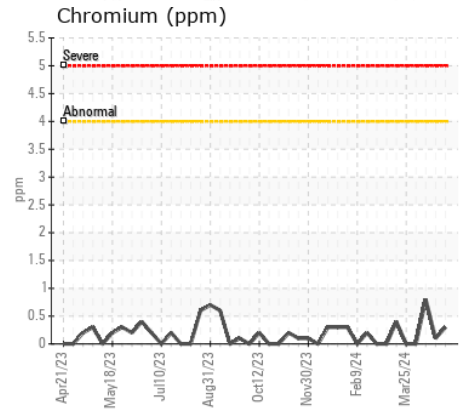
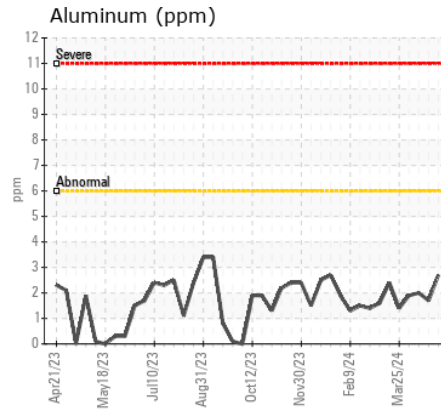
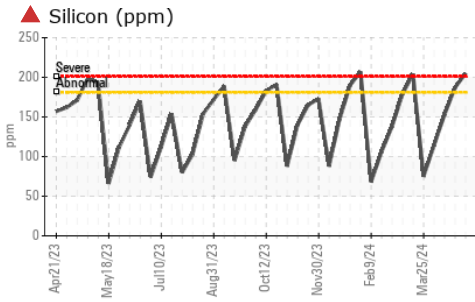
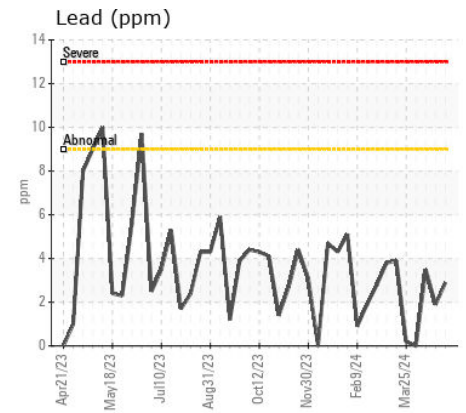
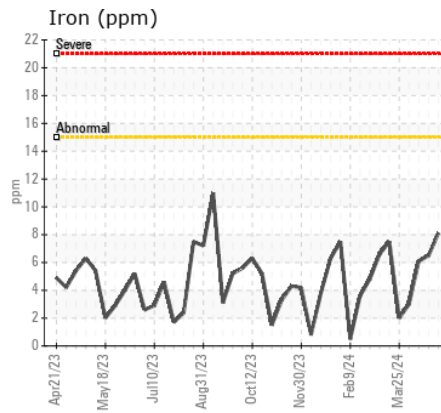
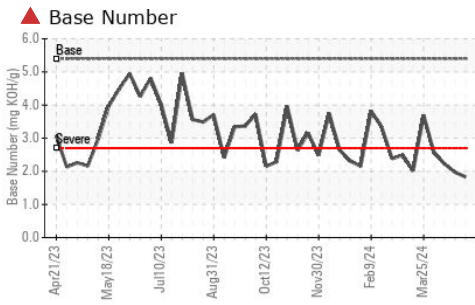
Elemental level of silicon (Si) above normal.

Silicon	ppm	ASTM D5185m	>181	▲ 205	▲ 187	153
Potassium	ppm	ASTM D5185m	>20	0	0	3
Fuel		WC Method	>4.0	<1.0	<1.0	<1.0
Water		WC Method	>.11	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844		0.1	0.1	0.1
Nitration	Abs/cm	*ASTM D7624		5.9	5.8	5.7
Sulfation	Abs/.1mm	*ASTM D7415		24.9	24.1	22.9
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	>.11	NEG	NEG	NEG

FLUID CONDITION

The BN level is low. The AN level is acceptable for this fluid.

Sodium	ppm	ASTM D5185m	>21	2	2	0
Boron	ppm	ASTM D5185m		2	4	3
Barium	ppm	ASTM D5185m		0	1	0
Molybdenum	ppm	ASTM D5185m		3	2	3
Manganese	ppm	ASTM D5185m		<1	1	1
Magnesium	ppm	ASTM D5185m		12	14	10
Calcium	ppm	ASTM D5185m		1965	1984	1786
Phosphorus	ppm	ASTM D5185m		278	286	288
Zinc	ppm	ASTM D5185m		347	360	335
Sulfur	ppm	ASTM D5185m		3705	3698	3317
Oxidation	Abs/.1mm	*ASTM D7414		16.0	15.1	14.3
Acid Number (AN)	mg KOH/g	ASTM D8045	1.0	2.26	2.18	▲ 2.04
Base Number (BN)	mg KOH/g	ASTM D2896	5.4	▲ 1.83	▲ 1.97	2.22
Visc @ 100°C	cSt	ASTM D445	13.4	13.7	13.7	13.6



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0905701
Lab Number : 06161680
Unique Number : 10997103
Test Package : MOB 2

Received : 26 Apr 2024
Tested : 29 Apr 2024
Diagnosed : 29 Apr 2024 - Sean Felton

EDL NA Recips-Grand Blanc
 Grand Blanc Powerstation, 2361 West Grand Blanc Road
 Grand Blanc, MI
 US 48439
 Contact: Tony Saint Marie
 tony.saintmarie@edlenergy.com
 T:
 F:

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)