

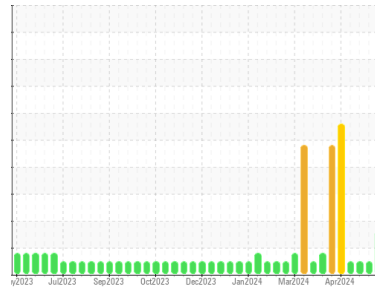


OIL ANALYSIS REPORT



Machine Id
Grand Blanc CAT 2 GBLM02BE
 Component
Biogas Engine
 Fluid
CHEVRON HDAX 9500 GAS ENGINE OIL 40 (--- GAL)

Sample Rating Trend



DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor. (Customer Sample Comment: 800hr Oil Sample)

Wear

All component wear rates are normal.

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. The condition of the oil is suitable for further service.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0905707	WC0905715	WC0905720
Sample Date	Client Info		29 May 2024	22 May 2024	13 May 2024
Machine Age	hrs	Client Info	13363	13177	12985
Oil Age	hrs	Client Info	805	0	425
Oil Changed	Client Info		Not Chngd	N/A	Not Chngd
Sample Status			ABNORMAL	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>4.0	<1.0	<1.0	<1.0
Water	WC Method	>.11	NEG	NEG	NEG
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

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

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	53	39	21
Barium	ppm	ASTM D5185m	0	0	0
Molybdenum	ppm	ASTM D5185m	3	3	2
Manganese	ppm	ASTM D5185m	<1	<1	<1
Magnesium	ppm	ASTM D5185m	18	17	13
Calcium	ppm	ASTM D5185m	1785	1836	1734
Phosphorus	ppm	ASTM D5185m	320	308	273
Zinc	ppm	ASTM D5185m	410	410	349
Sulfur	ppm	ASTM D5185m	3907	4090	3447

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >181	▲ 187	145	114
Sodium	ppm	ASTM D5185m >21	<1	1	<1
Potassium	ppm	ASTM D5185m >20	0	<1	0

INFRA-RED

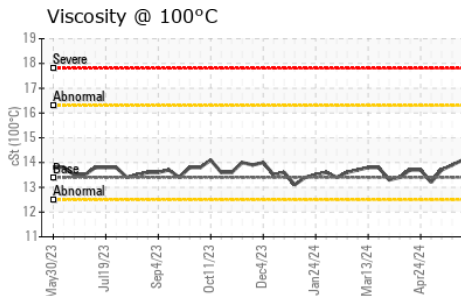
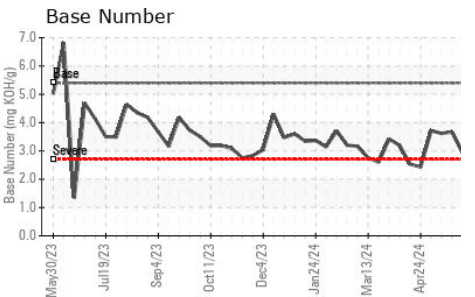
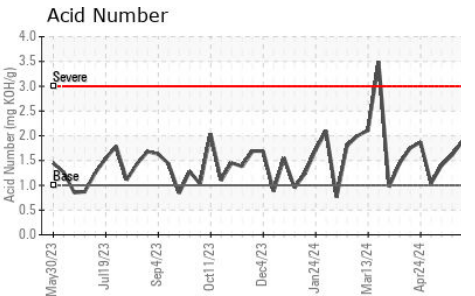
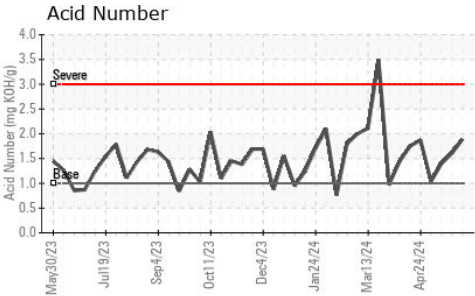
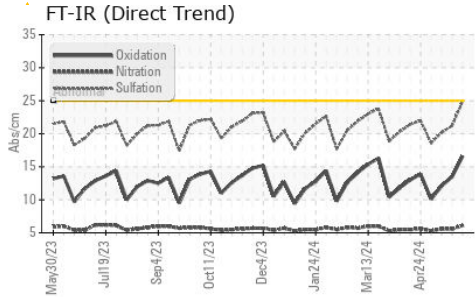
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	0.1	0.1	0
Nitration	Abs/cm	*ASTM D7624	6.1	5.6	5.6
Sulfation	Abs/.1mm	*ASTM D7415	24.9	21.2	20.2

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	16.6	13.5	12.1
Acid Number (AN)	mg KOH/g	ASTM D8045 1.0	1.89	1.61	1.40
Base Number (BN)	mg KOH/g	ASTM D2896 5.4	2.94	3.67	3.62



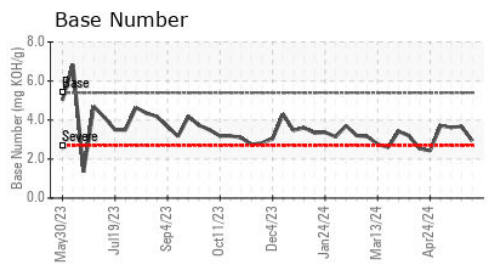
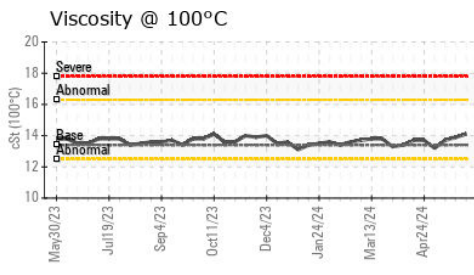
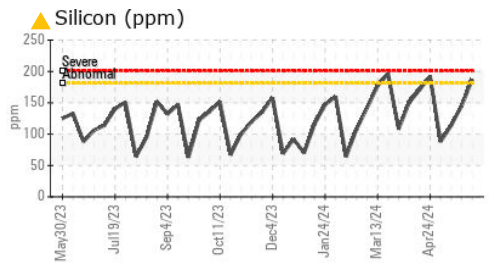
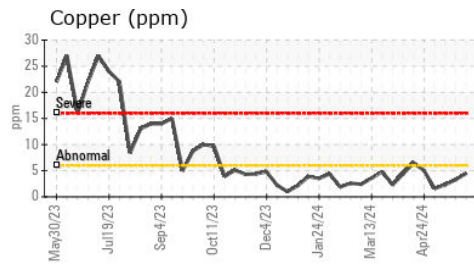
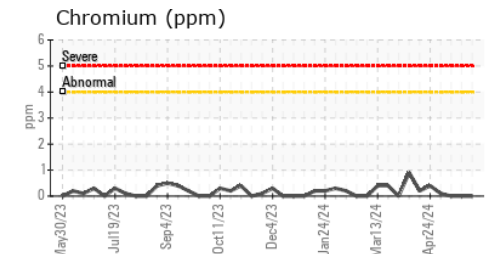
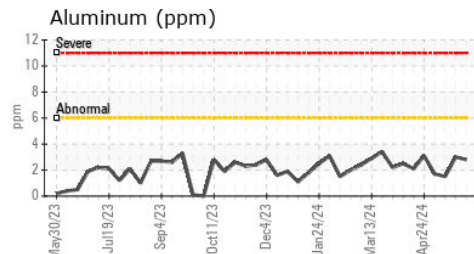
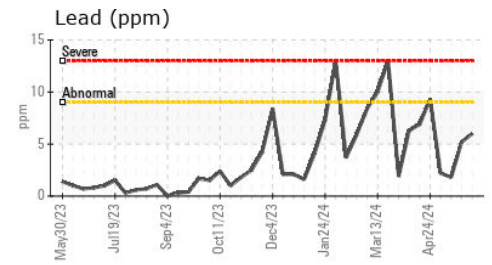
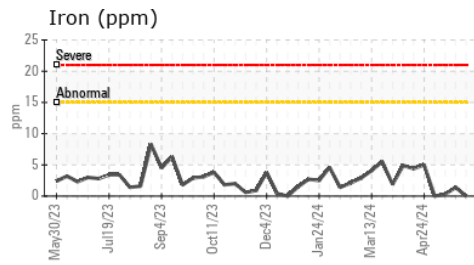
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	LIGHT	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	>.11	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	13.4	14.1	13.9

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0905707
Lab Number : 06197881
Unique Number : 11060004
Test Package : MOB 2
Received : 03 Jun 2024
Tested : 04 Jun 2024
Diagnosed : 04 Jun 2024 - Don Baldrige

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

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)