



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Machine Id
JENBACHER E2 - LEE COUNTY

Component
Biogas Engine

Fluid
CONOCO EL MAR LA4 EXD (180 GAL)

RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0896467	WC0896455	WC0896452
Sample Date		Client Info		12 Jun 2024	03 Jun 2024	18 May 2024
Machine Age	hrs	Client Info		28566	28337	28127
Oil Age	hrs	Client Info		7701	7472	7262
Filter Age	hrs	Client Info		7701	7472	7262
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				ABNORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>20	4	5	5
Chromium	ppm	ASTM D5185m	>5	<1	<1	1
Nickel	ppm	ASTM D5185m	>2	0	0	<1
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	>5	0	0	<1
Aluminum	ppm	ASTM D5185m	>15	9	9	9
Lead	ppm	ASTM D5185m	>20	0	<1	2
Copper	ppm	ASTM D5185m	>15	<1	<1	1
Tin	ppm	ASTM D5185m	>5	<1	<1	2
Vanadium	ppm	ASTM D5185m		0	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

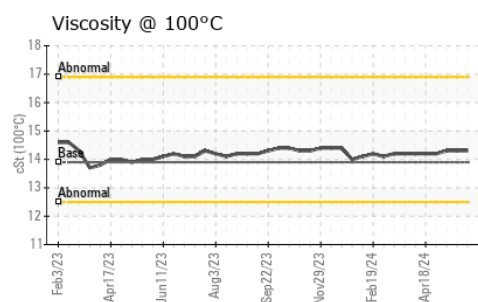
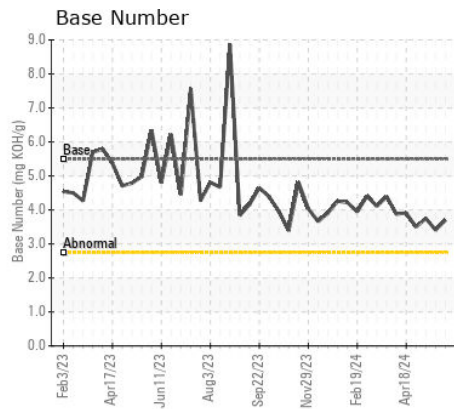
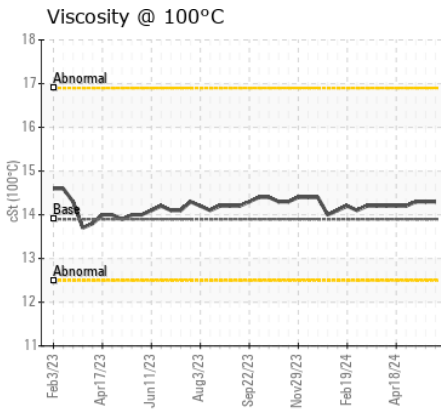
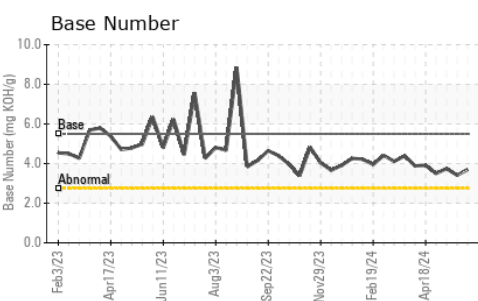
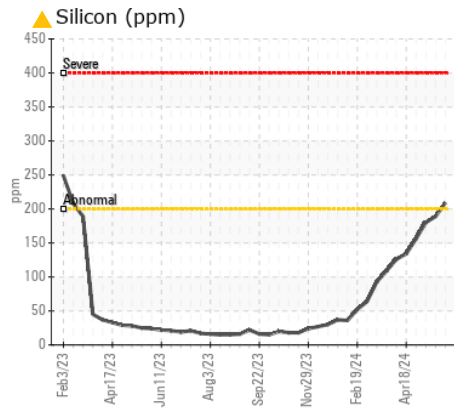
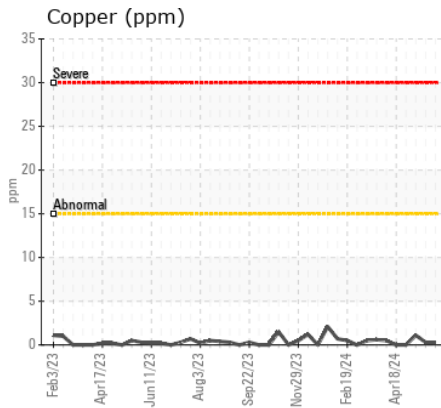
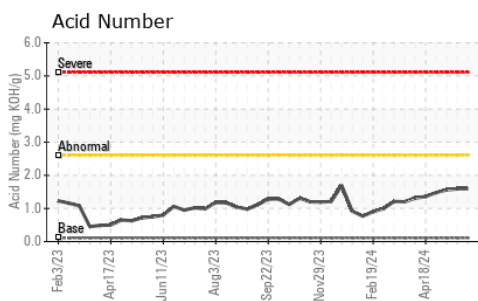
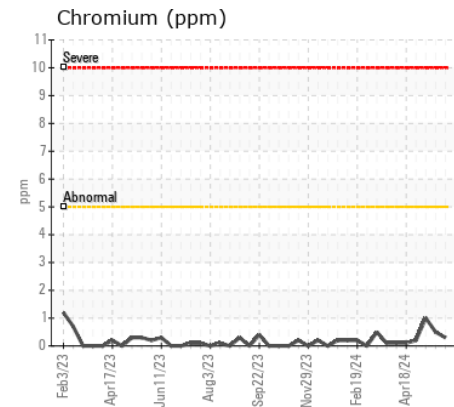
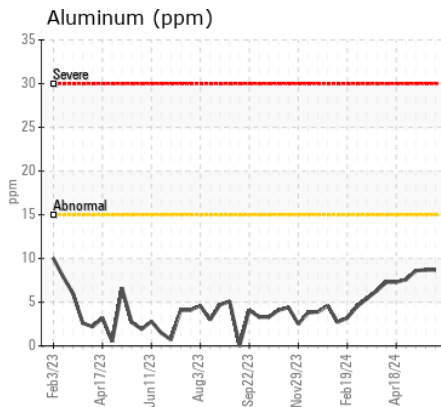
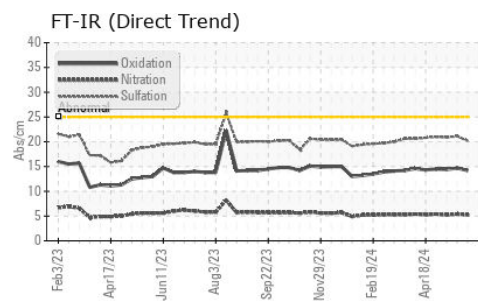
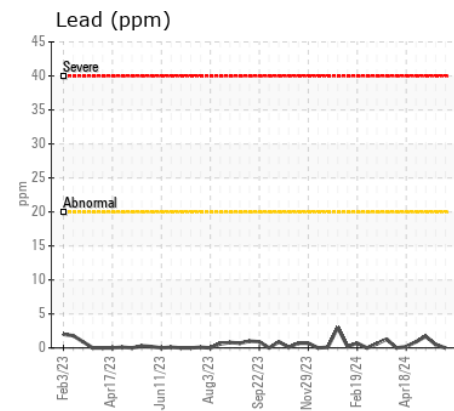
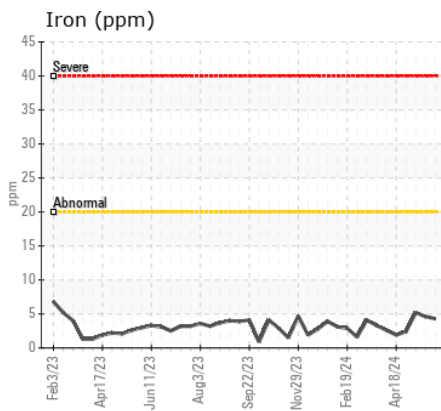
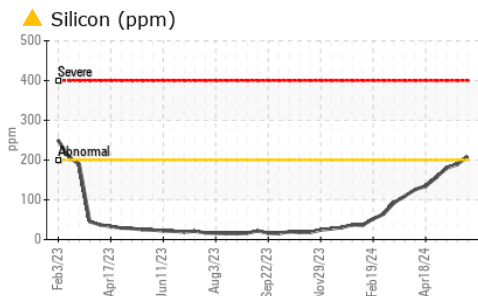
Elemental level of silicon (Si) above normal.

Silicon	ppm	ASTM D5185m	>200	▲ 209	189	180
Potassium	ppm	ASTM D5185m	>20	0	0	3
Fuel		WC Method	>4.0	<1.0	<1.0	<1.0
Water		WC Method	>.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>2	0.1	0	0
Nitration	Abs/cm	*ASTM D7624	>20	5.2	5.4	5.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.2	21.1	20.9
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	>.2	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	>20	3	2	2
Boron	ppm	ASTM D5185m		0	0	1
Barium	ppm	ASTM D5185m		0	<1	0
Molybdenum	ppm	ASTM D5185m		<1	<1	1
Manganese	ppm	ASTM D5185m		0	0	0
Magnesium	ppm	ASTM D5185m		6	6	7
Calcium	ppm	ASTM D5185m	1500	2081	1920	1843
Phosphorus	ppm	ASTM D5185m	280	336	320	341
Zinc	ppm	ASTM D5185m	330	440	440	451
Sulfur	ppm	ASTM D5185m		3861	3722	3718
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.2	14.7	14.4
Acid Number (AN)	mg KOH/g	ASTM D8045	0.11	1.59	1.59	1.56
Base Number (BN)	mg KOH/g	ASTM D2896	5.5	3.70	3.41	3.75
Visc @ 100°C	cSt	ASTM D445	13.9	14.3	14.3	14.3



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0896467
Lab Number : 06213658
Unique Number : 11086522
Test Package : MOB 2

SANTEE COOPER / LEE COUNTY LANDFILL
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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)