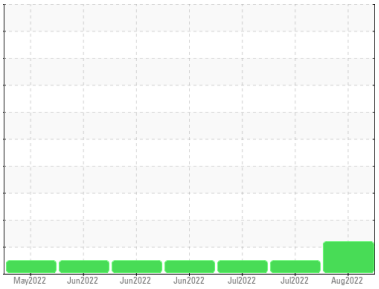
OIL ANALYSIS REPORT

Sample Rating Trend



VISUAL METAL

Machine Id
1203037
Component
Biogas Engine
Fluid
Q8G8 (--- GAL)

DIAGNOSIS

Recommendation
We recommend you service the filters on this component. Resample at the next service interval to monitor.

Wear
Moderate concentration of visible metal present. All component wear rates are normal.

Contamination
There is no indication of any contamination in the oil.

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		**WC0655435**	WC0655529	WC0655448
Sample Date		Client Info		**15 Aug 2022**	25 Jul 2022	05 Jul 2022
Machine Age	hrs	Client Info		**1677**	1299	1018
Oil Age	hrs	Client Info		**1677**	1299	1018
Oil Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**ABNORMAL**	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>4.0	**<1.0**	<1.0	<1.0
Glycol		WC Method		**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>45	**4**	7	6
Chromium	ppm	ASTM D5185m	>2	**<1**	<1	<1
Nickel	ppm	ASTM D5185m	>2	**0**	0	0
Titanium	ppm	ASTM D5185m		**0**	0	<1
Silver	ppm	ASTM D5185m		**0**	0	0
Aluminum	ppm	ASTM D5185m	>10	**3**	4	4
Lead	ppm	ASTM D5185m	>5	**<1**	<1	<1
Copper	ppm	ASTM D5185m	>14	**2**	1	1
Tin	ppm	ASTM D5185m	>13	**3**	4	3
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	<1

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**4**	6	2
Barium	ppm	ASTM D5185m		**0**	0	2
Molybdenum	ppm	ASTM D5185m		**2**	2	2
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m		**8**	12	11
Calcium	ppm	ASTM D5185m		**2051**	2426	2256
Phosphorus	ppm	ASTM D5185m		**440**	508	464
Zinc	ppm	ASTM D5185m		**492**	599	558
Sulfur	ppm	ASTM D5185m		**2447**	3380	2946

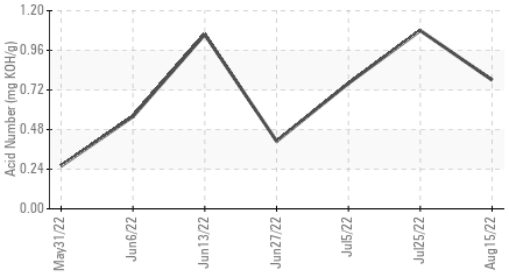
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>200	**16**	15	15
Sodium	ppm	ASTM D5185m		**11**	8	10
Potassium	ppm	ASTM D5185m	>20	**5**	4	9

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844		**0**	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	**8.1**	8.2	7.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	**17.9**	18.4	16.6

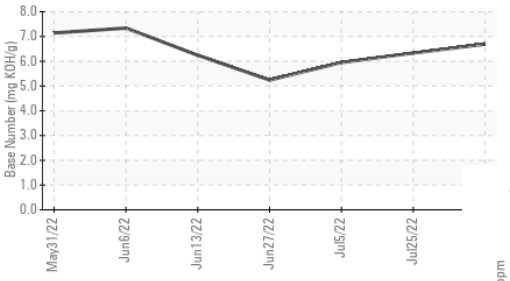
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**12.6**	12.8	11.7
Acid Number (AN)	mg KOH/g	ASTM D8045		**0.78**	1.08	0.76
Base Number (BN)	mg KOH/g	ASTM D2896		**6.69**	6.33	5.95

OIL ANALYSIS REPORT

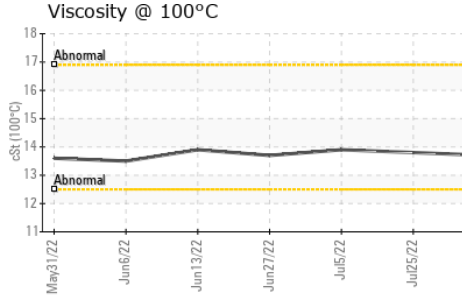
Acid Number



Base Number



Viscosity @ 100°C

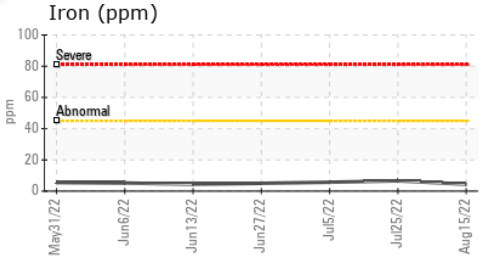


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	▲ **MODER**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	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
Free Water	scalar	*Visual		**NEG**	NEG	NEG

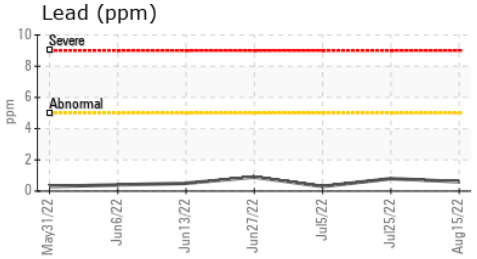
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445		**13.7**	13.8	13.9

GRAPHS

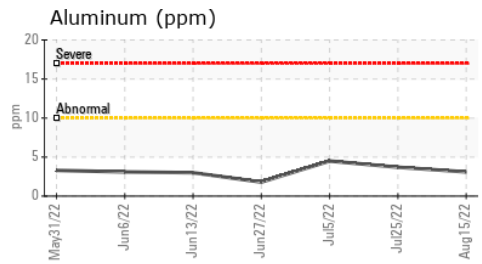
Iron (ppm)



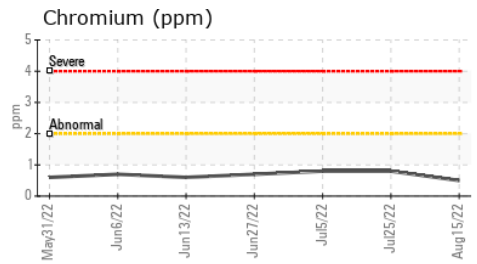
Lead (ppm)



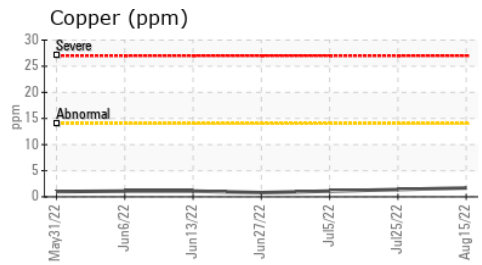
Aluminum (ppm)



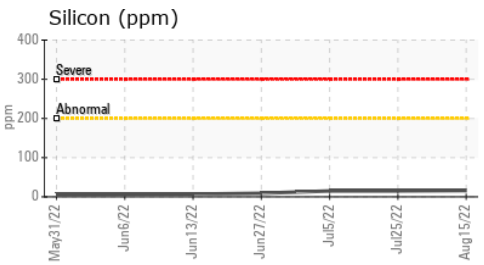
Chromium (ppm)



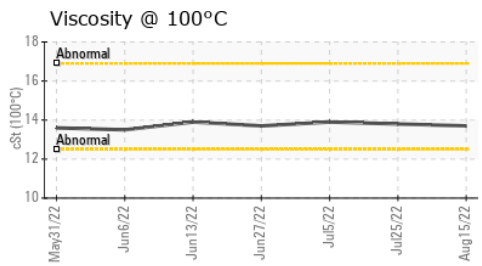
Copper (ppm)



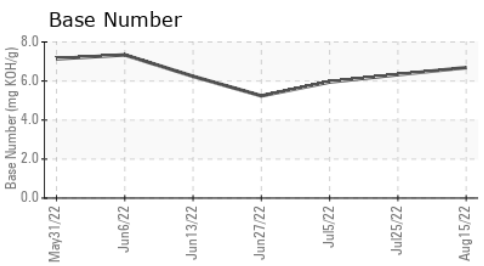
Silicon (ppm)



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0655435
Lab Number : 05619027
Unique Number : 10098534
Test Package : MOB 2

Received : 16 Aug 2022
Diagnosed : 18 Aug 2022
Diagnostician : Don Baldridge

OAK GROVE GA
967 CARL-BETHLEHEM RD
WINDER, GA
US 30680
Contact: MATT DICKENS

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)

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