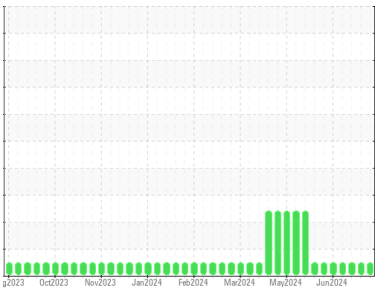
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Machine Id
E-2 (S/N 1144675)
Component
Biogas Engine
Fluid
MAHLER Q8 Mahler G8 SAE 40 (--- GAL)

DIAGNOSIS

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0914352**	WC0914349	WC0914347
Sample Date		Client Info		**08 Jul 2024**	01 Jul 2024	25 Jun 2024
Machine Age	hrs	Client Info		**13949**	13827	13692
Oil Age	hrs	Client Info		**1519**	1397	1262
Oil Changed		Client Info		**Not Changd**	Not Changd	Not Changd
Sample Status				**NORMAL**	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
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

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

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**<1**	<1	<1
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**2**	2	3
Manganese	ppm	ASTM D5185m		**<1**	0	<1
Magnesium	ppm	ASTM D5185m		**11**	12	12
Calcium	ppm	ASTM D5185m		**2374**	2433	2537
Phosphorus	ppm	ASTM D5185m		**416**	438	437
Zinc	ppm	ASTM D5185m		**495**	511	540
Sulfur	ppm	ASTM D5185m		**2473**	3093	2839

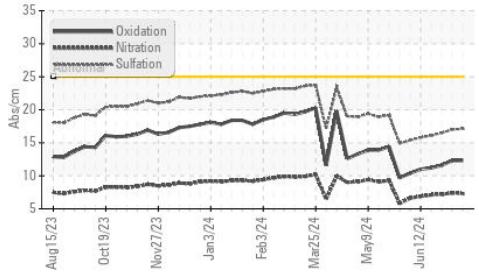
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>200	**20**	18	21
Sodium	ppm	ASTM D5185m		**11**	15	15
Potassium	ppm	ASTM D5185m	>20	**4**	4	4

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844		**0**	0	0
Nitration	Abs/cm	*ASTM D7624	>20	**7.3**	7.4	7.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	**17.1**	17.0	16.5

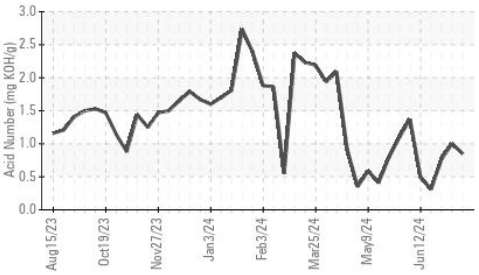
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**12.3**	12.3	11.6
Acid Number (AN)	mg KOH/g	ASTM D8045		**0.85**	1.00	0.77
Base Number (BN)	mg KOH/g	ASTM D2896	8.0	**6.53**	6.61	6.78

OIL ANALYSIS REPORT

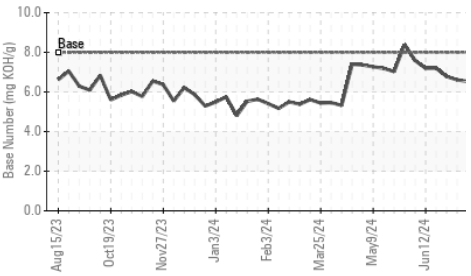
FT-IR (Direct Trend)



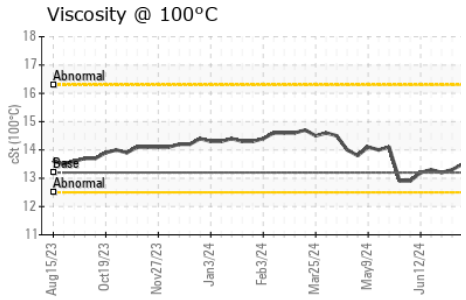
Acid Number



Base Number



Viscosity @ 100°C

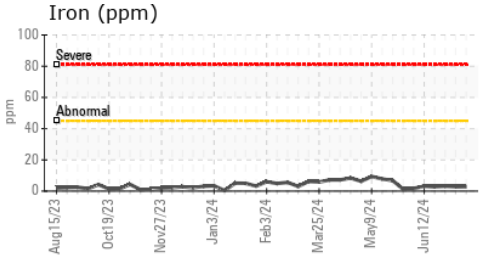


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

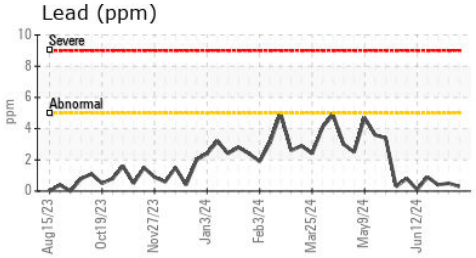
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	13.2	**13.5**	13.3	13.2

GRAPHS

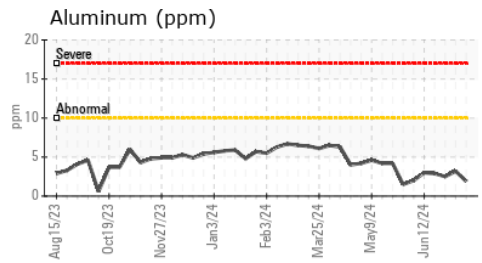
Iron (ppm)



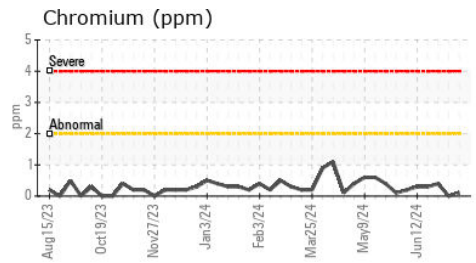
Lead (ppm)



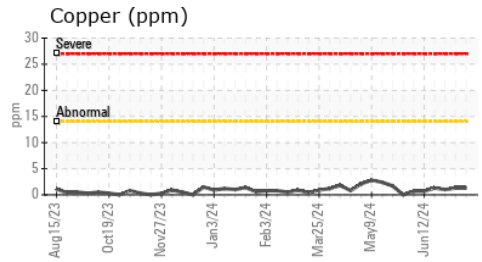
Aluminum (ppm)



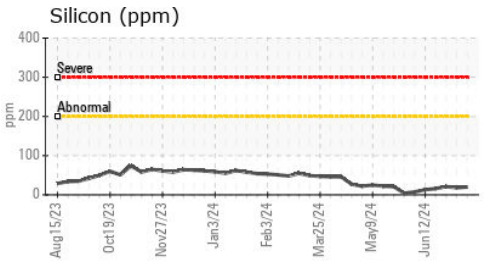
Chromium (ppm)



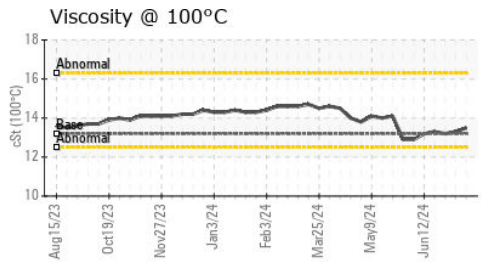
Copper (ppm)



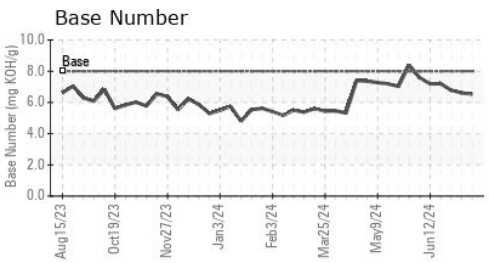
Silicon (ppm)



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0914352
Lab Number : 06234011
Unique Number : 11122845
Test Package : MOB 2

Received : 11 Jul 2024
Tested : 12 Jul 2024
Diagnosed : 13 Jul 2024 - Don Baldridge

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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