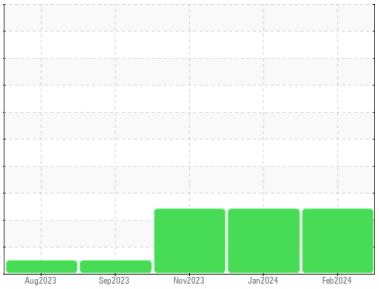
OIL ANALYSIS REPORT

OIL DIAGNOSTICS

Sample Rating Trend



DEGRADATION

Machine Id
2086
Component
Natural Gas Engine
Fluid
LO-ASH ENGINE OIL SAE 40 (--- GAL)

DIAGNOSIS

Recommendation
The oil is near the end of it`s useful service life, recommend schedule an oil change. We recommend an early resample to monitor this condition.

Wear
All component wear rates are normal.

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

Fluid Condition
The AN level is above the recommended limit. The BN level is low.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PCA0111223**	PCA0111225	PCA0111222
Sample Date		Client Info		**09 Feb 2024**	12 Jan 2024	28 Nov 2023
Machine Age	hrs	Client Info		**70184**	69506	68690
Oil Age	hrs	Client Info		**6443**	5765	4949
Oil Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**ABNORMAL**	ABNORMAL	ABNORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.1	**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	**9**	9	5
Chromium	ppm	ASTM D5185m	>4	**<1**	1	<1
Nickel	ppm	ASTM D5185m	>2	**<1**	0	0
Titanium	ppm	ASTM D5185m		**0**	0	0
Silver	ppm	ASTM D5185m	>3	**0**	0	0
Aluminum	ppm	ASTM D5185m	>9	**2**	1	<1
Lead	ppm	ASTM D5185m	>30	**2**	2	<1
Copper	ppm	ASTM D5185m	>35	**7**	7	4
Tin	ppm	ASTM D5185m	>4	**<1**	<1	0
Vanadium	ppm	ASTM D5185m		**0**	<1	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	37	**2**	2	<1
Barium	ppm	ASTM D5185m	12	**0**	0	0
Molybdenum	ppm	ASTM D5185m	200	**4**	5	3
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m	5	**15**	14	13
Calcium	ppm	ASTM D5185m	1600	**1446**	1489	1418
Phosphorus	ppm	ASTM D5185m	300	**291**	303	295
Zinc	ppm	ASTM D5185m	400	**416**	403	400
Sulfur	ppm	ASTM D5185m	2600	**2347**	2392	2457

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>+100	**2**	2	2
Sodium	ppm	ASTM D5185m		**6**	8	2
Potassium	ppm	ASTM D5185m	>20	**1**	0	0
Fuel	%	ASTM D3524	>4.0	**0.2**	0.2	0.0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844		**0.1**	0	0
Nitration	Abs/cm	*ASTM D7624	>20	**8.2**	8.0	7.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	**22.7**	22.5	21.2

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**21.6**	21.3	19.0
Acid Number (AN)	mg KOH/g	ASTM D8045		▲ **3.07**	▲ 2.58	▲ 2.44
Base Number (BN)	mg KOH/g	ASTM D2896	3.0	▲ **2.15**	▲ 1.75	▲ 1.99

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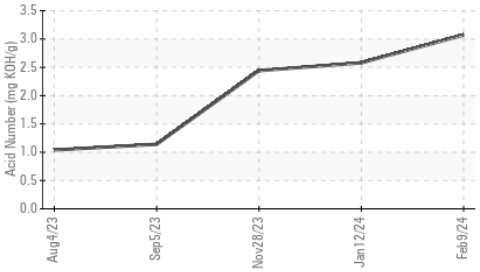
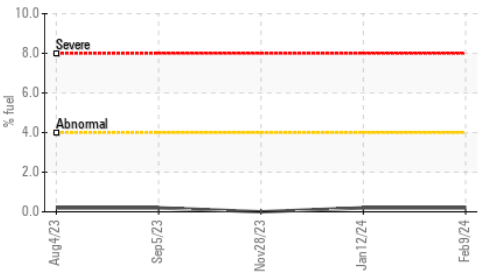
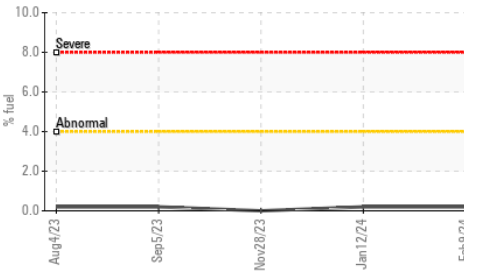
Acid Number



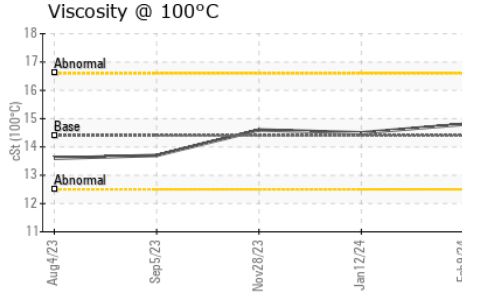
Fuel Dilution



Fuel Dilution



Viscosity @ 100°C

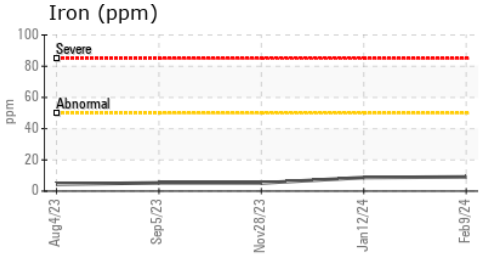


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

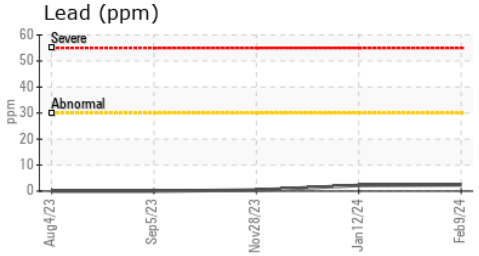
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.4	**14.8**	14.5	14.6

GRAPHS

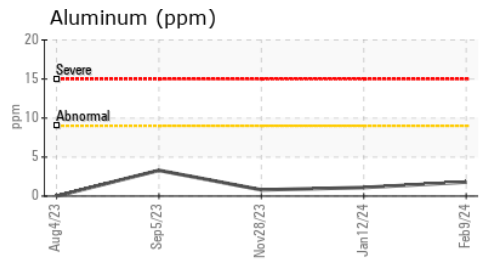
Iron (ppm)



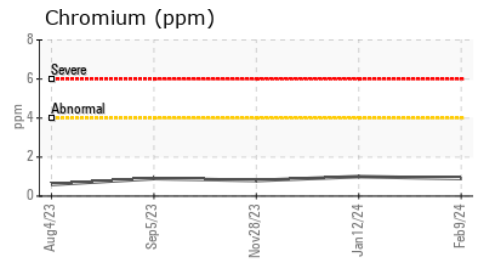
Lead (ppm)



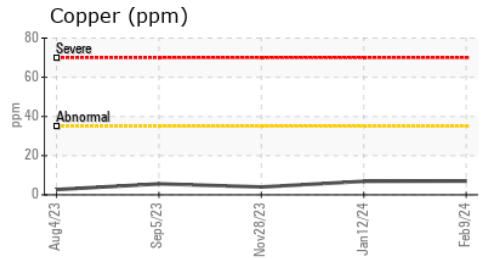
Aluminum (ppm)



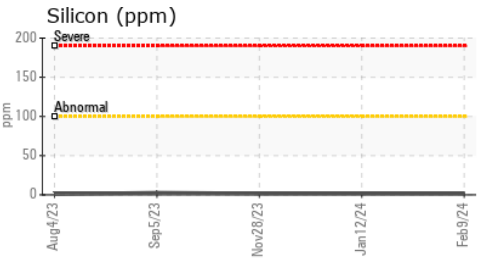
Chromium (ppm)



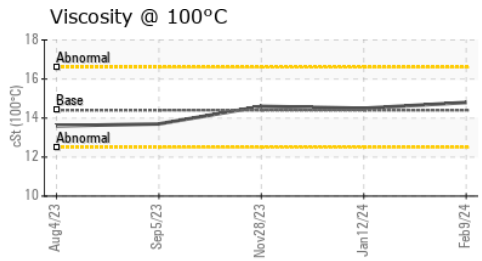
Copper (ppm)



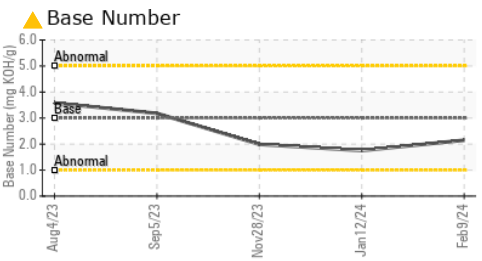
Silicon (ppm)



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0111223 **Received** : 23 Feb 2024
Lab Number : 06098615 **Tested** : 27 Feb 2024
Unique Number : 10896845 **Diagnosed** : 27 Feb 2024 - Sean Felton
Test Package : MOB 2 (Additional Tests: FuelDilution, PercentFuel)

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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