



# OIL ANALYSIS REPORT

Sample Rating Trend



**DIRT**



Machine Id  
**NX4099-L06**

Component  
**Gasoline Engine**

Fluid  
**SUPER TECH 5W20 (--- QTS)**

## DIAGNOSIS

### ▲ Recommendation

The oil is near the end of its 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. Elemental level of silicon (Si) above normal indicating ingress of seal material. The water content is negligible.

### ▲ Fluid Condition

The BN level is low. The AN level is at the top-end of the recommended limit.

## SAMPLE INFORMATION

	method	limit/base	current	history 1	history 2
Sample Number	Client Info		<b>WC0751438</b>	---	---
Sample Date	Client Info		<b>26 Oct 2022</b>	---	---
Machine Age	kms	Client Info	<b>64595</b>	---	---
Oil Age	kms	Client Info	<b>49346</b>	---	---
Oil Changed	Client Info		<b>Not Chngd</b>	---	---
Sample Status			<b>ABNORMAL</b>	---	---

## CONTAMINATION

	method	limit/base	current	history 1	history 2
Glycol	WC Method		<b>NEG</b>	---	---

## WEAR METALS

	method	limit/base	current	history 1	history 2
Iron	ppm	ASTM D5185m >150	<b>30</b>	---	---
Chromium	ppm	ASTM D5185m >20	<b>&lt;1</b>	---	---
Nickel	ppm	ASTM D5185m >5	<b>3</b>	---	---
Titanium	ppm	ASTM D5185m	<b>6</b>	---	---
Silver	ppm	ASTM D5185m >2	<b>0</b>	---	---
Aluminum	ppm	ASTM D5185m >40	<b>10</b>	---	---
Lead	ppm	ASTM D5185m >50	<b>&lt;1</b>	---	---
Copper	ppm	ASTM D5185m >155	<b>10</b>	---	---
Tin	ppm	ASTM D5185m >10	<b>&lt;1</b>	---	---
Vanadium	ppm	ASTM D5185m	<b>&lt;1</b>	---	---
Cadmium	ppm	ASTM D5185m	<b>0</b>	---	---

## ADDITIVES

	method	limit/base	current	history 1	history 2
Boron	ppm	ASTM D5185m	<b>36</b>	---	---
Barium	ppm	ASTM D5185m	<b>0</b>	---	---
Molybdenum	ppm	ASTM D5185m	<b>100</b>	---	---
Manganese	ppm	ASTM D5185m	<b>1</b>	---	---
Magnesium	ppm	ASTM D5185m	<b>498</b>	---	---
Calcium	ppm	ASTM D5185m	<b>1390</b>	---	---
Phosphorus	ppm	ASTM D5185m	<b>725</b>	---	---
Zinc	ppm	ASTM D5185m	<b>939</b>	---	---
Sulfur	ppm	ASTM D5185m	<b>3921</b>	---	---

## CONTAMINANTS

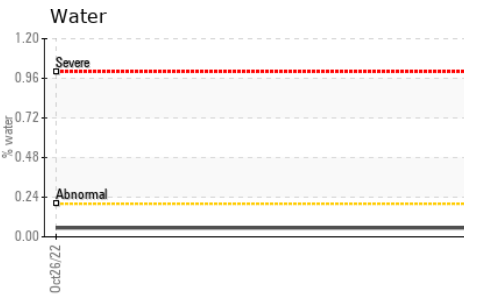
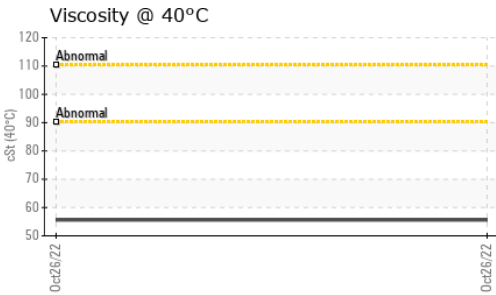
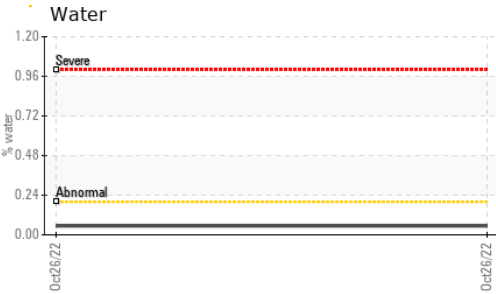
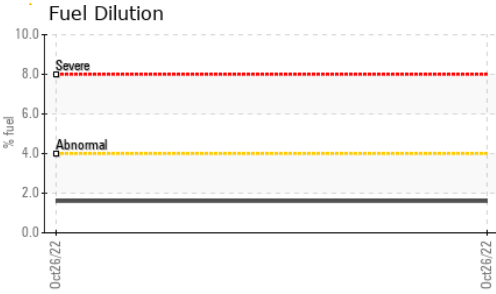
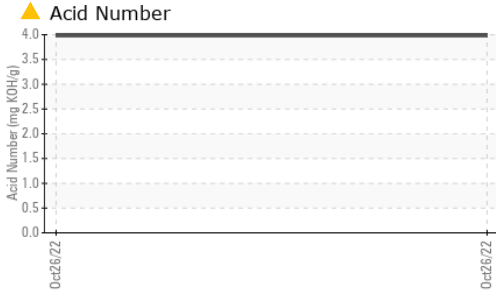
	method	limit/base	current	history 1	history 2
Silicon	ppm	ASTM D5185m >30	<b>▲ 53</b>	---	---
Sodium	ppm	ASTM D5185m >400	<b>5</b>	---	---
Potassium	ppm	ASTM D5185m >20	<b>3</b>	---	---
Fuel	%	ASTM D3524 >4.0	<b>1.6</b>	---	---
Water	%	ASTM D6304 >0.2	<b>0.054</b>	---	---
ppm Water	ppm	ASTM D6304 >2000	<b>541.0</b>	---	---

## INFRA-RED

	method	limit/base	current	history 1	history 2
Soot %	%	*ASTM D7844	<b>0.1</b>	---	---
Nitration	Abs/cm	*ASTM D7624 >20	<b>15.1</b>	---	---
Sulfation	Abs.1mm	*ASTM D7415 >30	<b>35.1</b>	---	---



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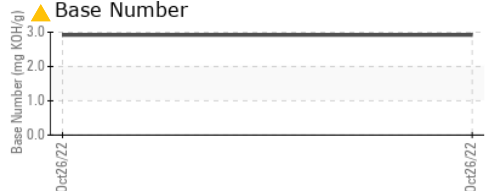
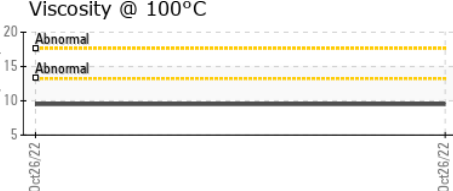
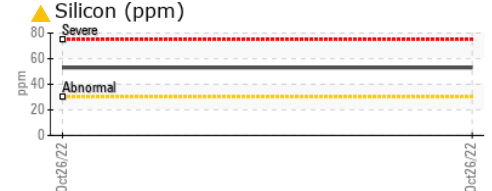
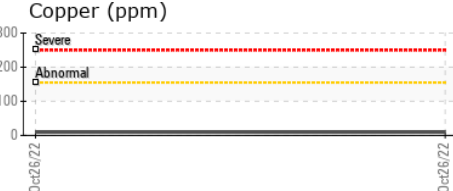
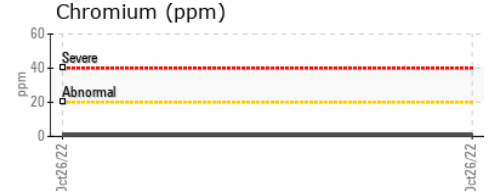
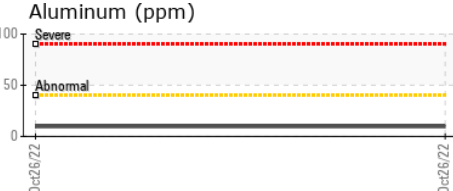
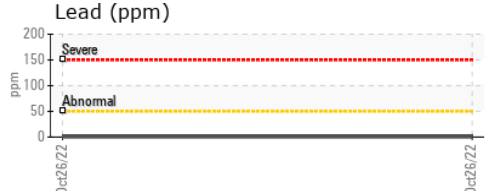


FLUID DEGRADATION		method	limit/base	current	history 1	history 2
Oxidation	Abs./1mm	*ASTM D7414	>25	<b>34.0</b>	---	---
Acid Number (AN)	mg KOH/g	ASTM D8045		<b>▲ 3.98</b>	---	---
Base Number (BN)	mg KOH/g	ASTM D2896		<b>▲ 2.92</b>	---	---

VISUAL		method	limit/base	current	history 1	history 2
White Metal	scalar	*Visual	NONE	<b>NONE</b>	---	---
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	---	---
Precipitate	scalar	*Visual	NONE	<b>NONE</b>	---	---
Silt	scalar	*Visual	NONE	<b>NONE</b>	---	---
Debris	scalar	*Visual	NONE	<b>NONE</b>	---	---
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	---	---
Appearance	scalar	*Visual	NORML	<b>NORML</b>	---	---
Odor	scalar	*Visual	NORML	<b>NORML</b>	---	---
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	---	---
Free Water	scalar	*Visual		<b>NEG</b>	---	---

FLUID PROPERTIES		method	limit/base	current	history 1	history 2
Visc @ 40°C	cSt	ASTM D445		<b>55.6</b>	---	---
Visc @ 100°C	cSt	ASTM D445		<b>9.5</b>	---	---
Viscosity Index (VI)	Scale	ASTM D2270		<b>155</b>	---	---

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513

**Sample No.** : WC0751438

**Lab Number** : 05710526

**Unique Number** : 10245101

**Test Package** : MOB 2 ( Additional Tests: FUELDILUTION, KF, KV40, PercentFuel, TBN, VI )

**Received** : 06 Dec 2022

**Diagnosed** : 13 Dec 2022

**Diagnostician** : Jonathan Hester

**AVL POWERTRAIN ENGINEERING INC**  
 47519 HALYARD DRIVE  
 PLYMOUTH, MI  
 US 48170-2438

Contact: Service Manager

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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F: