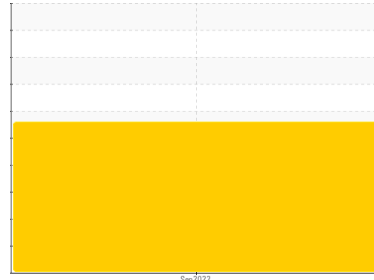




OIL ANALYSIS REPORT

Sample Rating Trend



DIRT



Machine Id
CN7452-L24

Component
Gasoline Engine

Fluid
SUPERTECH 5W20 (--- GAL)

DIAGNOSIS

▲ Recommendation

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition. Please note that this is a corrected copy for laboratory data updates.

▲ Wear

All component wear rates are normal.

▲ Contamination

Fuel content negligible. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. The water content is negligible.

▲ Fluid Condition

The AN level is above the recommended limit. The oil viscosity is higher than normal. The BN level is low.

SAMPLE INFORMATION

	method	limit/base	current	history 1	history 2
Sample Number	Client Info		WC0751540	---	---
Sample Date	Client Info		27 Sep 2022	---	---
Machine Age	kms	Client Info	200578	---	---
Oil Age	kms	Client Info	49387	---	---
Oil Changed	Client Info		Not Chngd	---	---
Sample Status			ABNORMAL	---	---

CONTAMINATION

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

WEAR METALS

	method	limit/base	current	history 1	history 2
Iron	ppm	ASTM D5185m >150	23	---	---
Chromium	ppm	ASTM D5185m >20	<1	---	---
Nickel	ppm	ASTM D5185m >5	<1	---	---
Titanium	ppm	ASTM D5185m	0	---	---
Silver	ppm	ASTM D5185m >2	0	---	---
Aluminum	ppm	ASTM D5185m >40	▲ 9	---	---
Lead	ppm	ASTM D5185m >50	3	---	---
Copper	ppm	ASTM D5185m >155	4	---	---
Tin	ppm	ASTM D5185m >10	<1	---	---
Vanadium	ppm	ASTM D5185m	<1	---	---
Cadmium	ppm	ASTM D5185m	0	---	---

ADDITIVES

	method	limit/base	current	history 1	history 2
Boron	ppm	ASTM D5185m	32	---	---
Barium	ppm	ASTM D5185m	0	---	---
Molybdenum	ppm	ASTM D5185m	79	---	---
Manganese	ppm	ASTM D5185m	1	---	---
Magnesium	ppm	ASTM D5185m	604	---	---
Calcium	ppm	ASTM D5185m	1120	---	---
Phosphorus	ppm	ASTM D5185m	670	---	---
Zinc	ppm	ASTM D5185m	911	---	---
Sulfur	ppm	ASTM D5185m	3424	---	---

CONTAMINANTS

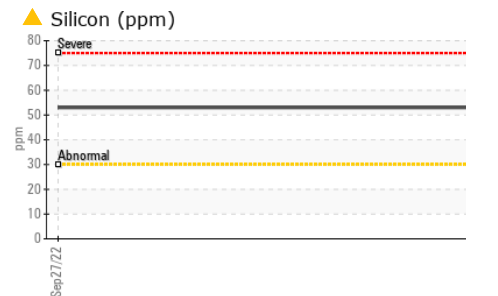
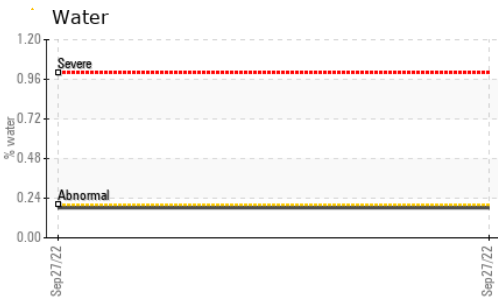
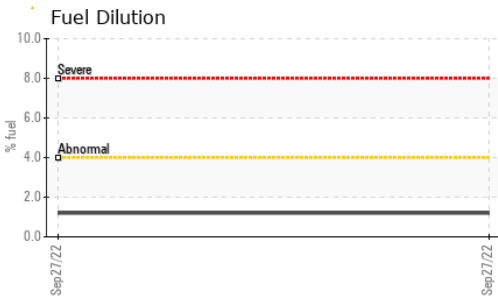
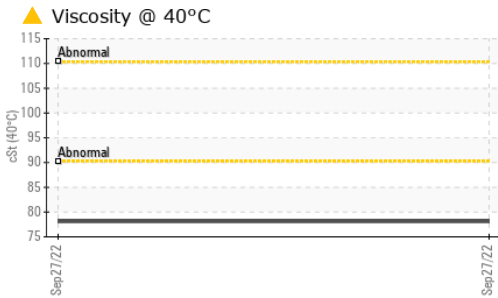
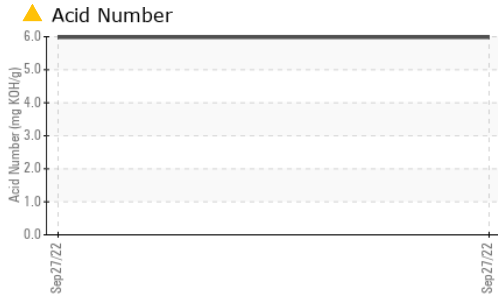
	method	limit/base	current	history 1	history 2
Silicon	ppm	ASTM D5185m >30	▲ 53	---	---
Sodium	ppm	ASTM D5185m >400	7	---	---
Potassium	ppm	ASTM D5185m >20	0	---	---
Fuel	%	ASTM D3524 >4.0	1.2	---	---
Water	%	ASTM D6304 >0.2	0.182	---	---
ppm Water	ppm	ASTM D6304 >2000	1820	---	---

INFRA-RED

	method	limit/base	current	history 1	history 2
Soot %	%	*ASTM D7844	0.1	---	---
Nitration	Abs/cm	*ASTM D7624 >20	21.2	---	---
Sulfation	Abs./1mm	*ASTM D7415 >30	46.8	---	---



OIL ANALYSIS REPORT

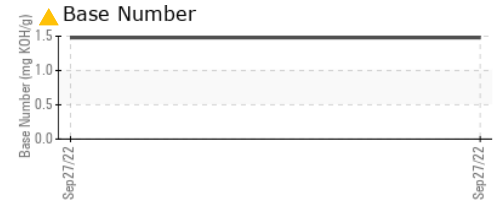
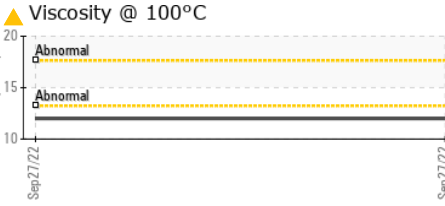
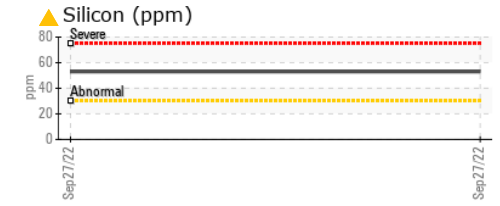
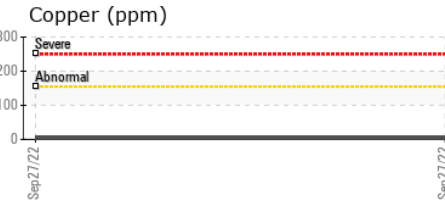
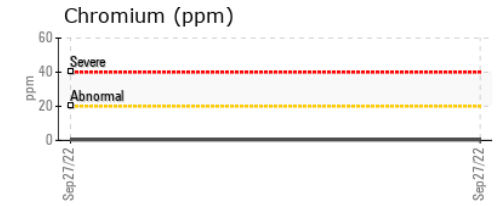
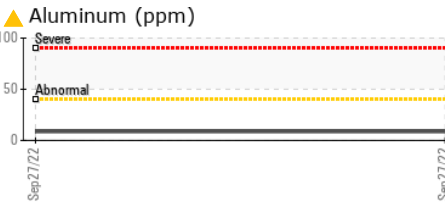
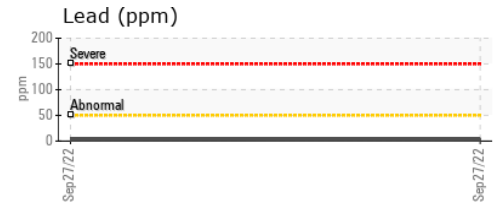
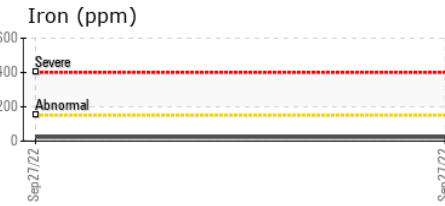


FLUID DEGRADATION		method	limit/base	current	history 1	history 2
Oxidation	Abs./1mm	*ASTM D7414	>25	49	---	---
Acid Number (AN)	mg KOH/g	ASTM D8045		▲ 5.98	---	---
Base Number (BN)	mg KOH/g	ASTM D2896		▲ 1.48	---	---

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

FLUID PROPERTIES		method	limit/base	current	history 1	history 2
Visc @ 40°C	cSt	ASTM D445		▲ 78.1	---	---
Visc @ 100°C	cSt	ASTM D445		▲ 12.0	---	---
Viscosity Index (VI)	Scale	ASTM D2270		149	---	---

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0751540 **Received** : 09 Nov 2022
Lab Number : 05689748 **Diagnosed** : 15 Nov 2022
Unique Number : 10214321 **Diagnostician** : Jonathan Hester
Test Package : MOB 2 (Additional Tests: fueldilution, KF, KV40, PercentFuel, TBN, VI)

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)

T:
F: