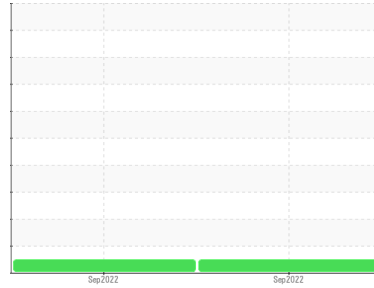




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
NX4099-L04

Component
Gasoline Engine

Fluid
SUPER TECH 5W20 (--- QTS)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

Fuel content negligible. The water content is negligible. 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	history 1	history 2
Sample Number	Client Info			WC0751513	WC0751542	---
Sample Date	Client Info			29 Sep 2022	29 Sep 2022	---
Machine Age	kms	Client Info		39225	39225	---
Oil Age	kms	Client Info		23976	23976	---
Oil Changed	Client Info			Not Changed	Not Changed	---
Sample Status				NORMAL	NORMAL	---

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

WEAR METALS		method	limit/base	current	history 1	history 2
Iron	ppm	ASTM D5185m	>150	21	15	---
Chromium	ppm	ASTM D5185m	>20	<1	<1	---
Nickel	ppm	ASTM D5185m	>5	4	<1	---
Titanium	ppm	ASTM D5185m		6	6	---
Silver	ppm	ASTM D5185m	>2	0	0	---
Aluminum	ppm	ASTM D5185m	>40	8	6	---
Lead	ppm	ASTM D5185m	>50	<1	0	---
Copper	ppm	ASTM D5185m	>155	10	9	---
Tin	ppm	ASTM D5185m	>10	<1	<1	---
Vanadium	ppm	ASTM D5185m		<1	<1	---
Cadmium	ppm	ASTM D5185m		0	0	---

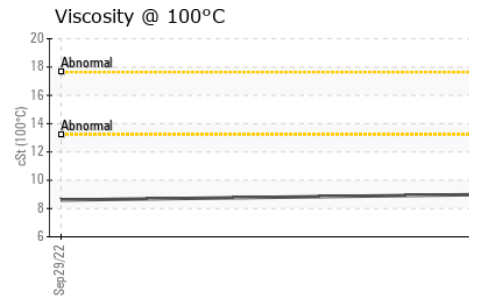
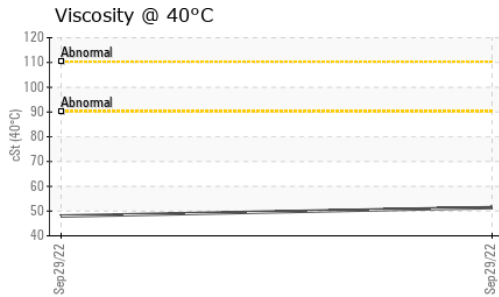
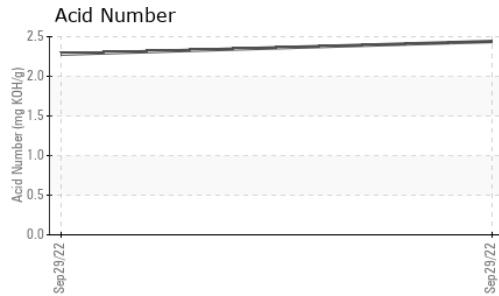
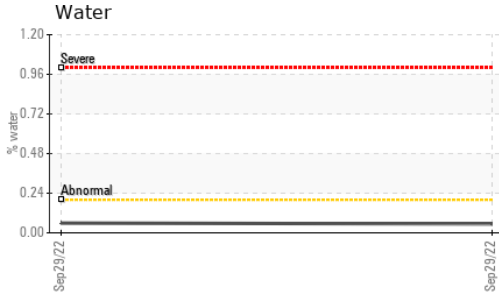
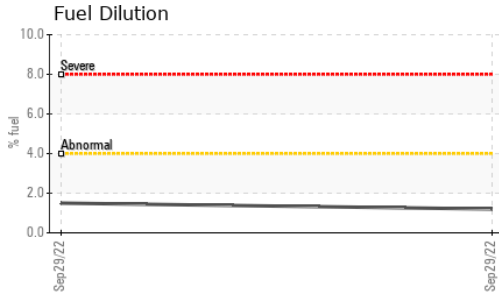
ADDITIVES		method	limit/base	current	history 1	history 2
Boron	ppm	ASTM D5185m		36	35	---
Barium	ppm	ASTM D5185m		0	0	---
Molybdenum	ppm	ASTM D5185m		100	93	---
Manganese	ppm	ASTM D5185m		1	<1	---
Magnesium	ppm	ASTM D5185m		467	423	---
Calcium	ppm	ASTM D5185m		1374	1236	---
Phosphorus	ppm	ASTM D5185m		730	644	---
Zinc	ppm	ASTM D5185m		918	857	---
Sulfur	ppm	ASTM D5185m		3763	3034	---

CONTAMINANTS		method	limit/base	current	history 1	history 2
Silicon	ppm	ASTM D5185m	>30	43	32	---
Sodium	ppm	ASTM D5185m	>400	4	2	---
Potassium	ppm	ASTM D5185m	>20	2	0	---
Fuel	%	ASTM D3524	>4.0	1.2	1.5	---
Water	%	ASTM D6304	>0.2	0.054	0.059	---
ppm Water	ppm	ASTM D6304	>2000	540.3	590.0	---

INFRA-RED		method	limit/base	current	history 1	history 2
Soot %	%	*ASTM D7844		0.1	0.1	---
Nitration	Abs/cm	*ASTM D7624	>20	12.0	10.7	---
Sulfation	Abs.1mm	*ASTM D7415	>30	28.6	25	---



OIL ANALYSIS REPORT

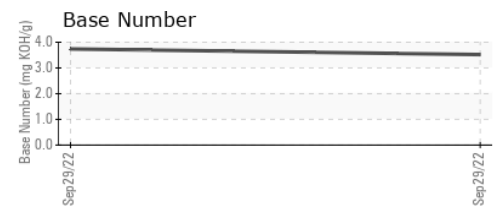
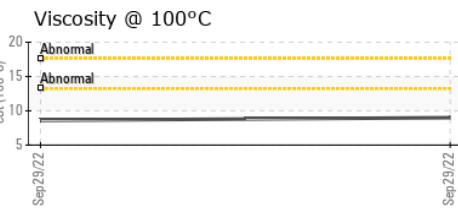
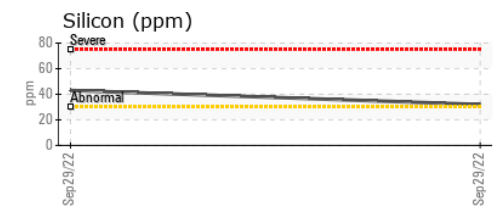
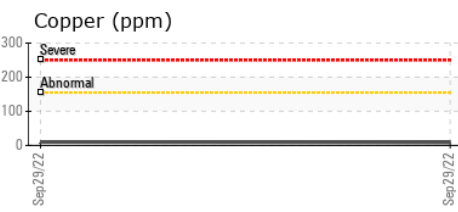
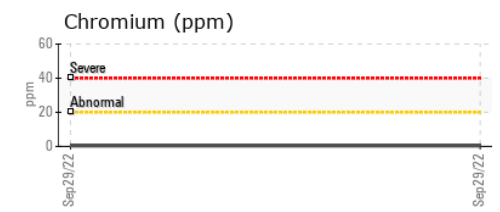
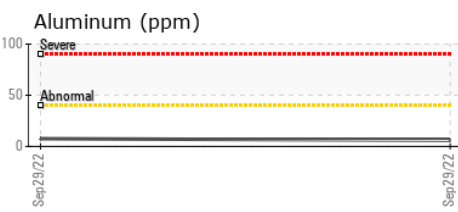
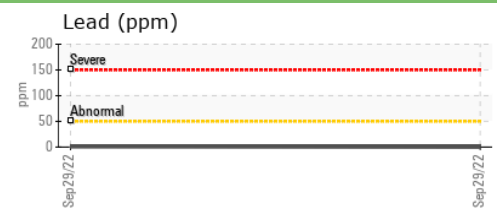
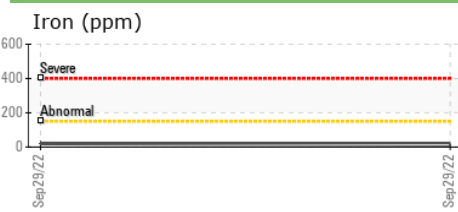


FLUID DEGRADATION		method	limit/base	current	history 1	history 2
Oxidation	Abs./1mm	*ASTM D7414	>25	25.9	21.4	---
Acid Number (AN)	mg KOH/g	ASTM D8045		2.44	2.28	---
Base Number (BN)	mg KOH/g	ASTM D2896		3.52	3.74	---

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

FLUID PROPERTIES		method	limit/base	current	history 1	history 2
Visc @ 40°C	cSt	ASTM D445		51.4	48.0	---
Visc @ 100°C	cSt	ASTM D445		9	8.6	---
Viscosity Index (VI)	Scale	ASTM D2270		156	158	---

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0751513 **Received** : 06 Dec 2022
Lab Number : **05710531** **Diagnosed** : 13 Dec 2022
Unique Number : 10245106 **Diagnostician** : Jonathan Hester
Test Package : MOB 2 (Additional Tests: FUELDILUTION, KF, KV40, PercentFuel, TBN, VI) Contact: Service Manager

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

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)