



VOLVO

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	ABNORMAL



Area
[SW1028548 LKQ]
Machine Id
VOLVO L90E 71073
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (--- GAL)

RECOMMENDATION

We advise that you check the fuel injection system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		VCP437533	VCP237017	---
Sample Date		Client Info		09 Jan 2024	17 Apr 2019	---
Machine Age	hrs	Client Info		6986	4566	---
Oil Age	hrs	Client Info		0	0	---
Filter Age	hrs	Client Info		0	0	---
Oil Changed		Client Info		Changed	Changed	---
Filter Changed		Client Info		Changed	Changed	---
Sample Status				SEVERE	NORMAL	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	21	14	---
Chromium	ppm	ASTM D5185m	>10	<1	<1	---
Nickel	ppm	ASTM D5185m	>10	0	<1	---
Titanium	ppm	ASTM D5185m		<1	<1	---
Silver	ppm	ASTM D5185m	>2	0	0	---
Aluminum	ppm	ASTM D5185m	>10	2	3	---
Lead	ppm	ASTM D5185m	>20	2	2	---
Copper	ppm	ASTM D5185m	>15	2	1	---
Tin	ppm	ASTM D5185m	>10	<1	0	---
Vanadium	ppm	ASTM D5185m		<1	0	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

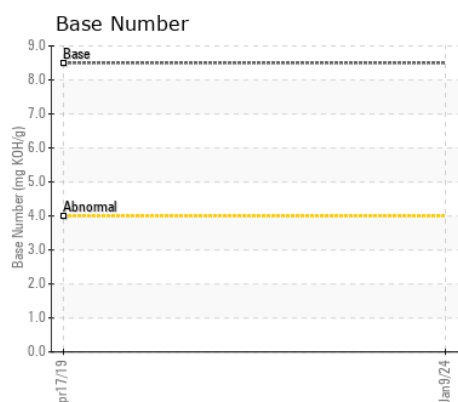
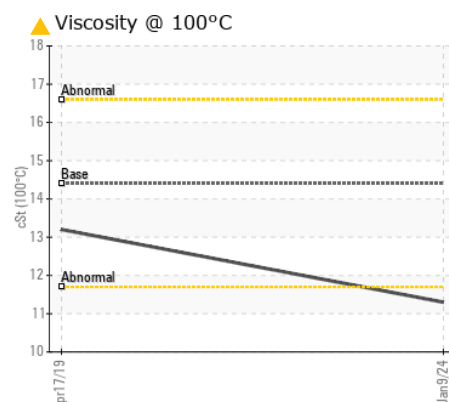
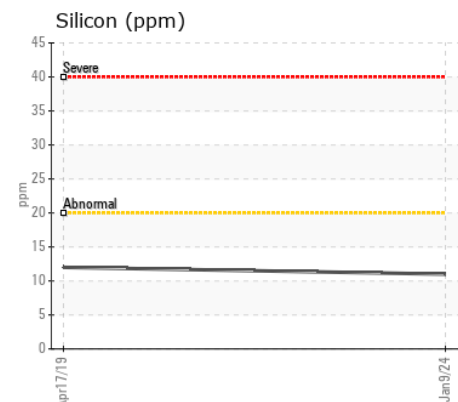
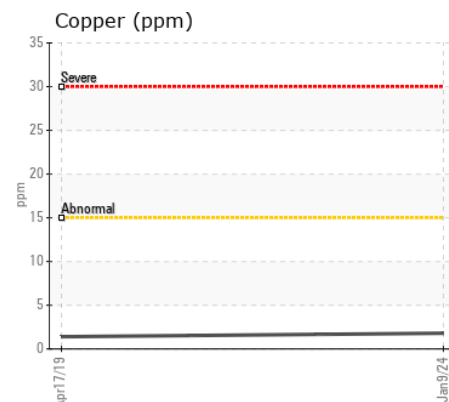
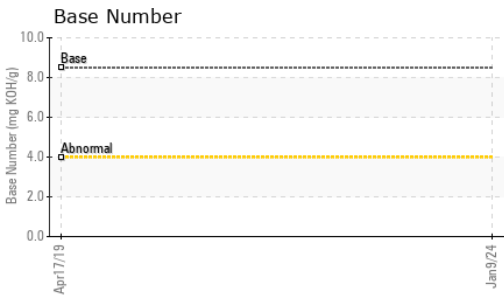
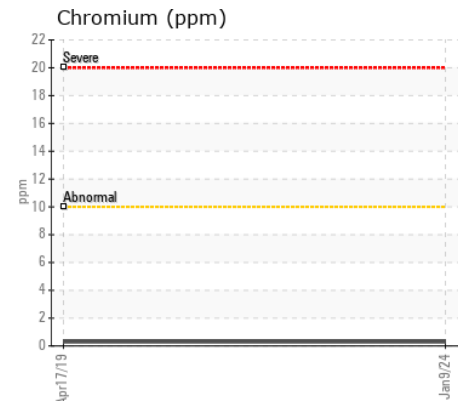
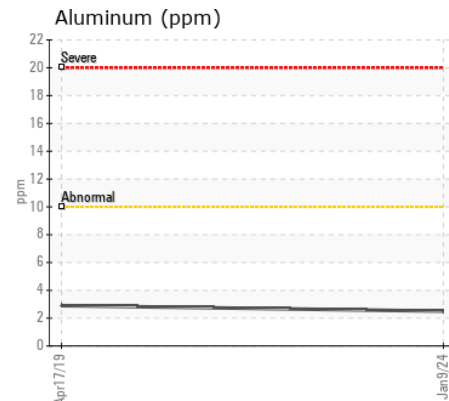
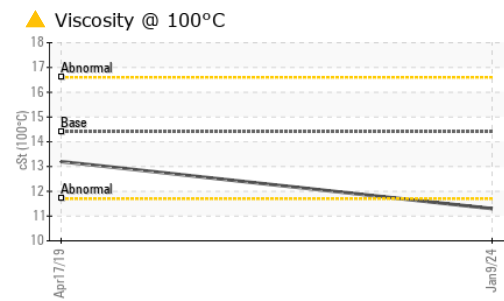
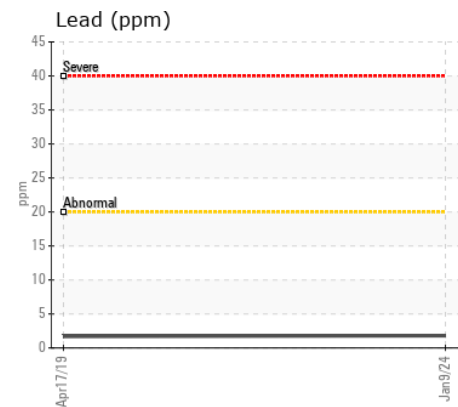
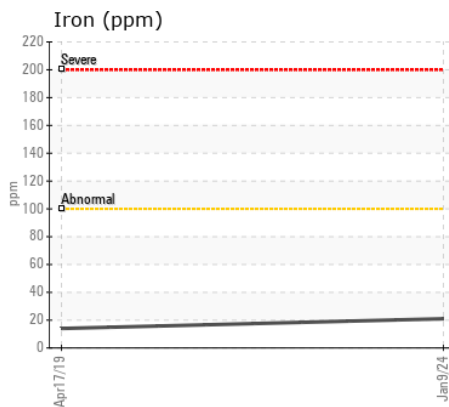
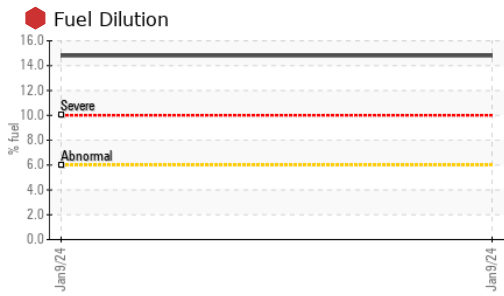
There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

Silicon	ppm	ASTM D5185m	>20	11	12	---
Potassium	ppm	ASTM D5185m	>20	1	0	---
Fuel	%	ASTM D3524	>6.0	14.8	<1.0	---
Water		WC Method	>0.1	NEG	NEG	---
Glycol		WC Method		NEG	NEG	---
Soot %	%	*ASTM D7844	>3	0.7	0.1	---
Nitration	Abs/cm	*ASTM D7624	>20	8.8	5.4	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.0	21.8	---
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	>0.1	NEG	NEG	---

FLUID CONDITION

The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185m	>158	3	15	---
Boron	ppm	ASTM D5185m	250	39	52	---
Barium	ppm	ASTM D5185m	10	<1	0	---
Molybdenum	ppm	ASTM D5185m	100	40	33	---
Manganese	ppm	ASTM D5185m		<1	<1	---
Magnesium	ppm	ASTM D5185m	450	521	456	---
Calcium	ppm	ASTM D5185m	3000	1484	1429	---
Phosphorus	ppm	ASTM D5185m	1150	924	610	---
Zinc	ppm	ASTM D5185m	1350	1096	742	---
Sulfur	ppm	ASTM D5185m	4250	2640	1754	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	20.1	19.3	---
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	8.8	---	---
Visc @ 100°C	cSt	ASTM D445	14.4	11.3	13.2	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : VCP437533 **Received** : 19 Jan 2024
Lab Number : 06065287 **Diagnosed** : 23 Jan 2024
Unique Number : 10836669 **Diagnostician** : Wes Davis
Test Package : MOB 1 (Additional Tests: FuelDilution, PercentFuel, TBN)

ARNOLD MACHINERY COMPANY
 4323 EAST WINSLOW AVENUE
 PHOENIX, AZ
 US 85040
 Contact: RANDY PRZEKURAT
 randyp@arnoldmachinery.com

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: (602)414-1904