



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	MARGINAL



Area
[W/O 10377]
Machine Id
VOLVO L90H 627174
Component
Diesel Engine
Fluid
VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3 (5 GAL)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		ML0000038	---	---
Sample Date		Client Info		26 Feb 2024	---	---
Machine Age	hrs	Client Info		534	---	---
Oil Age	hrs	Client Info		534	---	---
Filter Age	hrs	Client Info		534	---	---
Oil Changed		Client Info		Changed	---	---
Filter Changed		Client Info		Changed	---	---
Sample Status				MARGINAL	---	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	33	---	---
Chromium	ppm	ASTM D5185m	>10	3	---	---
Nickel	ppm	ASTM D5185m	>10	<1	---	---
Titanium	ppm	ASTM D5185m		<1	---	---
Silver	ppm	ASTM D5185m	>2	0	---	---
Aluminum	ppm	ASTM D5185m	>10	19	---	---
Lead	ppm	ASTM D5185m	>20	1	---	---
Copper	ppm	ASTM D5185m	>15	9	---	---
Tin	ppm	ASTM D5185m	>10	3	---	---
Vanadium	ppm	ASTM D5185m		<1	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

CONTAMINATION

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

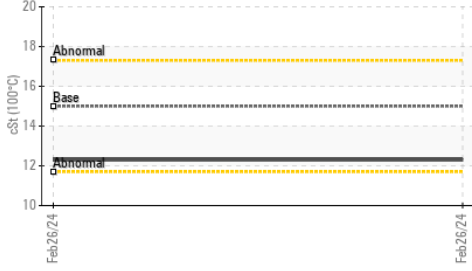
Silicon	ppm	ASTM D5185m	>20	20	---	---
Potassium	ppm	ASTM D5185m	>20	3	---	---
Fuel	%	ASTM D3524	>6.0	0.6	---	---
Water		WC Method	>0.1	NEG	---	---
Glycol		WC Method		NEG	---	---
Soot %	%	*ASTM D7844	>3	0.2	---	---
Nitration	Abs/cm	*ASTM D7624	>20	7.2	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.5	---	---
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	>0.1	NEG	---	---

FLUID CONDITION

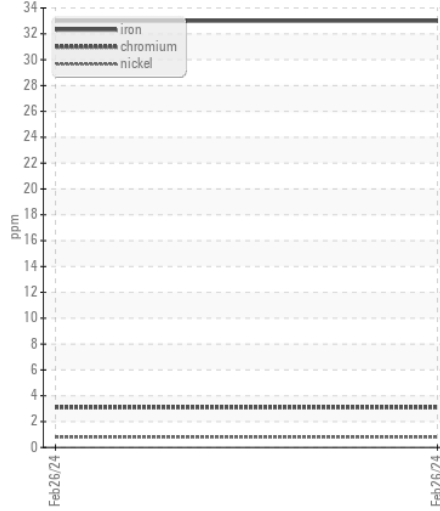
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil.

Sodium	ppm	ASTM D5185m		3	---	---
Boron	ppm	ASTM D5185m	2.5	44	---	---
Barium	ppm	ASTM D5185m	0.0	4	---	---
Molybdenum	ppm	ASTM D5185m	0.7	37	---	---
Manganese	ppm	ASTM D5185m	0.0	5	---	---
Magnesium	ppm	ASTM D5185m	256	553	---	---
Calcium	ppm	ASTM D5185m	2057	1428	---	---
Phosphorus	ppm	ASTM D5185m	935	955	---	---
Zinc	ppm	ASTM D5185m	1223	1093	---	---
Sulfur	ppm	ASTM D5185m	4079	3570	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	18.8	---	---
Base Number (BN)	mg KOH/g	ASTM D2896	10	9.9	---	---
Visc @ 100°C	cSt	ASTM D445	15.0	▲ 12.3	---	---

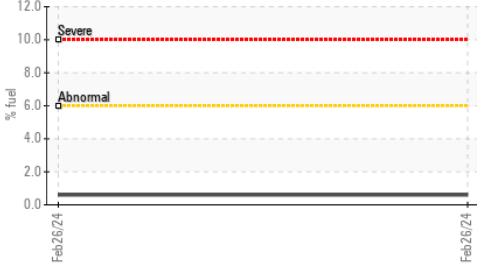
▲ Viscosity @ 100°C



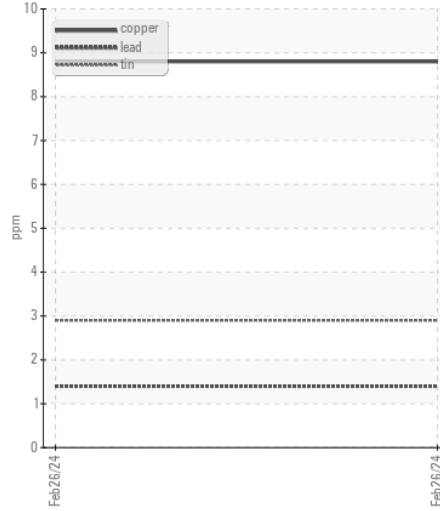
Ferrous Alloys



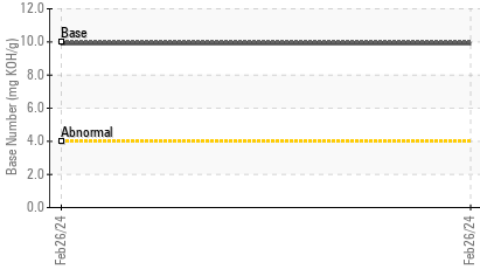
Fuel Dilution



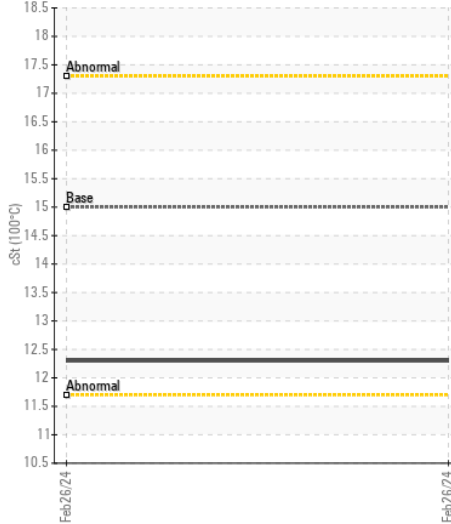
Non-ferrous Metals



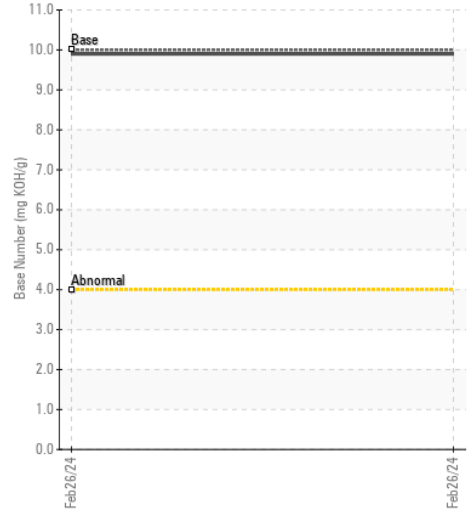
Base Number



▲ Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : ML0000038 **Received** : 27 Feb 2024
Lab Number : 06102257 **Tested** : 05 Mar 2024
Unique Number : 10900487 **Diagnosed** : 05 Mar 2024 - Jonathan Hester
Test Package : CONST (Additional Tests: FUELDILUTION, PercentFuel, TBN)

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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)