



OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ATTENTION

Area

[W/O 11019]

Machine Id

VOLVO EC380E 752 (S/N 315665)

Component

Diesel Engine

Fluid

VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3 (14 GAL)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		ML0002108	---	---
Sample Date		Client Info		18 Jun 2024	---	---
Machine Age	hrs	Client Info		1020	---	---
Oil Age	hrs	Client Info		500	---	---
Filter Age	hrs	Client Info		500	---	---
Oil Changed		Client Info		Changed	---	---
Filter Changed		Client Info		Changed	---	---
Sample Status				ABNORMAL	---	---

WEAR

The copper level is abnormal. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core). All other component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	13	---	---
Chromium	ppm	ASTM D5185m	>10	0	---	---
Nickel	ppm	ASTM D5185m	>10	1	---	---
Titanium	ppm	ASTM D5185m		<1	---	---
Silver	ppm	ASTM D5185m	>2	<1	---	---
Aluminum	ppm	ASTM D5185m	>10	2	---	---
Lead	ppm	ASTM D5185m	>20	0	---	---
Copper	ppm	ASTM D5185m	>15	▲ 288	---	---
Tin	ppm	ASTM D5185m	>10	1	---	---
Vanadium	ppm	ASTM D5185m		<1	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

CONTAMINATION

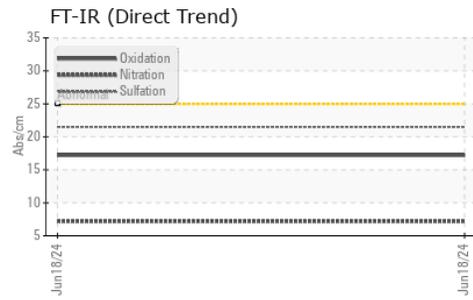
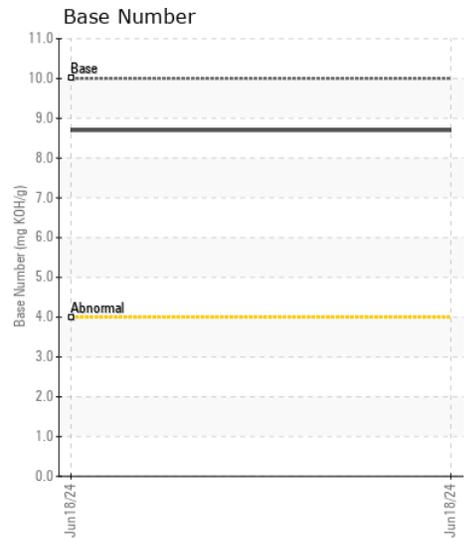
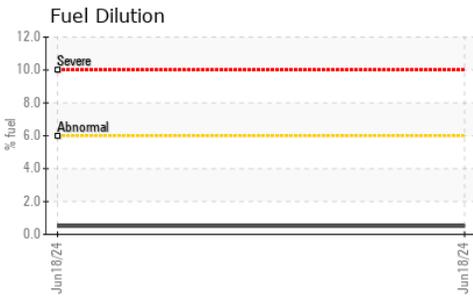
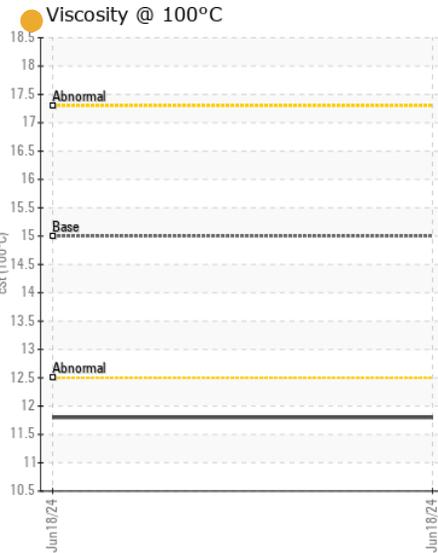
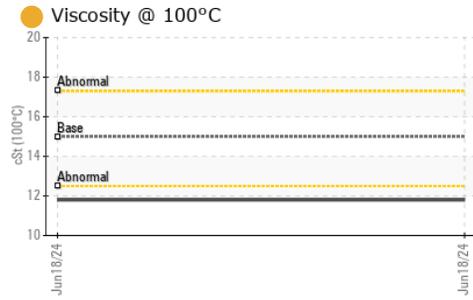
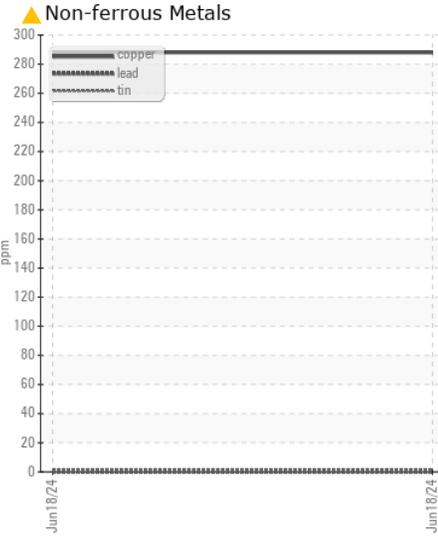
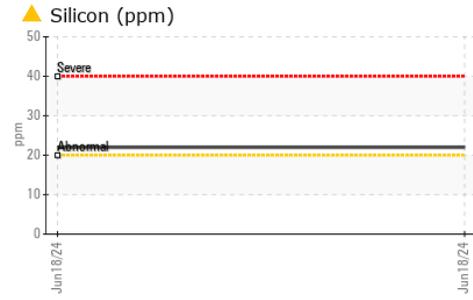
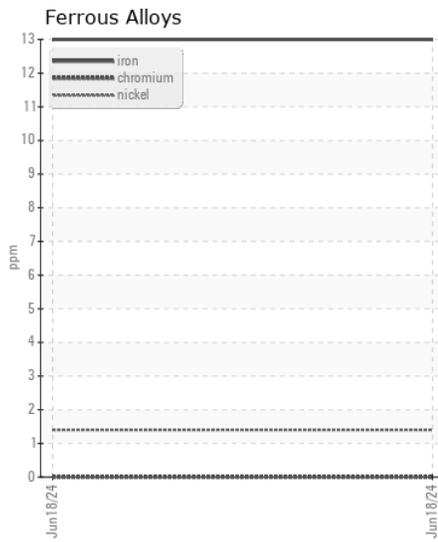
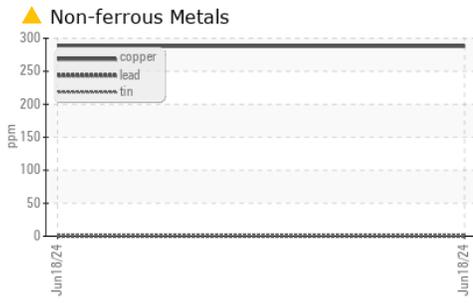
Fuel content negligible. Elemental level of silicon (Si) above normal indicating ingress of seal material.

Silicon	ppm	ASTM D5185m	>20	▲ 22	---	---
Potassium	ppm	ASTM D5185m	>20	5	---	---
Fuel	%	ASTM D3524	>6.0	0.5	---	---
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. Confirm oil type.

Sodium	ppm	ASTM D5185m		4	---	---
Boron	ppm	ASTM D5185m	2.5	17	---	---
Barium	ppm	ASTM D5185m	0.0	0	---	---
Molybdenum	ppm	ASTM D5185m	0.7	27	---	---
Manganese	ppm	ASTM D5185m	0.0	3	---	---
Magnesium	ppm	ASTM D5185m	256	191	---	---
Calcium	ppm	ASTM D5185m	2057	2197	---	---
Phosphorus	ppm	ASTM D5185m	935	892	---	---
Zinc	ppm	ASTM D5185m	1223	1094	---	---
Sulfur	ppm	ASTM D5185m	4079	3742	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	17.2	---	---
Base Number (BN)	mg KOH/g	ASTM D2896	10	8.7	---	---
Visc @ 100°C	cSt	ASTM D445	15.0	● 11.8	---	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : ML0002108 **Received** : 27 Jun 2024
Lab Number : 06223035 **Tested** : 02 Jul 2024
Unique Number : 11101232 **Diagnosed** : 02 Jul 2024 - Don Baldrige
Test Package : CONST (Additional Tests: FuelDilution, PercentFuel, TBN)

GAINES & CO
 112 WESTMINSTER RD
 REISTERSTOWN, MD
 US 21136
 Contact: MICHAEL GLADFELTER

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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