



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ATTENTION

Area

[661395]

Machine Id

TORO DINGO 412764213

Component

Diesel Engine

Fluid

VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3 (--- 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		VCP445310	---	---
Sample Date		Client Info		11 Mar 2024	---	---
Machine Age	hrs	Client Info		291	---	---
Oil Age	hrs	Client Info		291	---	---
Filter Age	hrs	Client Info		0	---	---
Oil Changed		Client Info		Changed	---	---
Filter Changed		Client Info		Changed	---	---
Sample Status				ATTENTION	---	---

WEAR

Metal levels are typical for a new component breaking in.

Iron	ppm	ASTM D5185m	>100	34	---	---
Chromium	ppm	ASTM D5185m	>20	2	---	---
Nickel	ppm	ASTM D5185m	>4	<1	---	---
Titanium	ppm	ASTM D5185m		<1	---	---
Silver	ppm	ASTM D5185m	>3	0	---	---
Aluminum	ppm	ASTM D5185m	>20	6	---	---
Lead	ppm	ASTM D5185m	>40	<1	---	---
Copper	ppm	ASTM D5185m	>330	8	---	---
Tin	ppm	ASTM D5185m	>15	1	---	---
Vanadium	ppm	ASTM D5185m		<1	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

CONTAMINATION

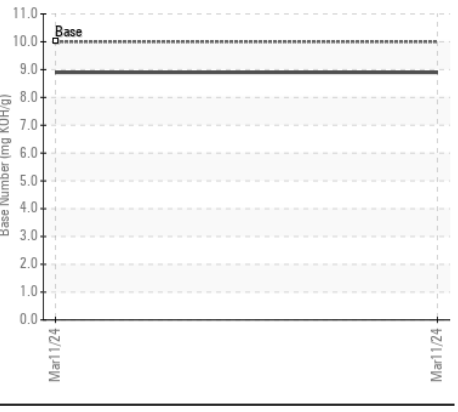
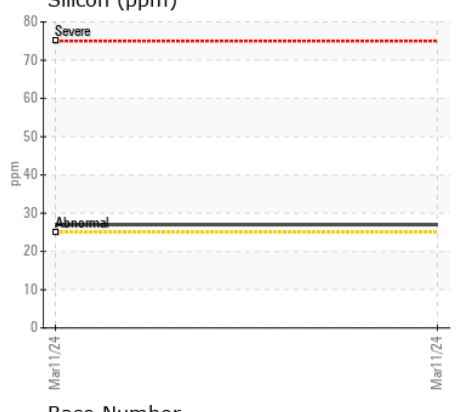
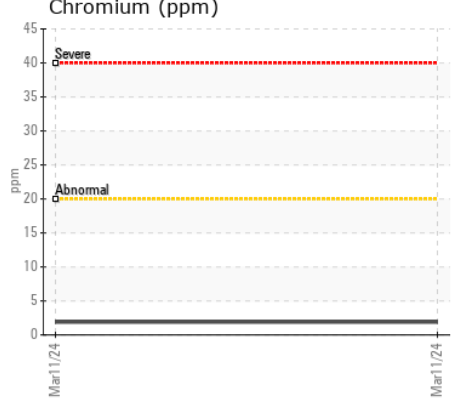
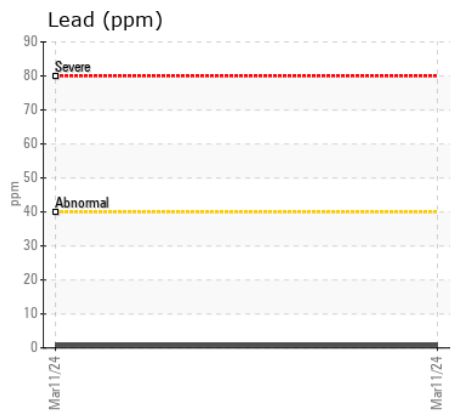
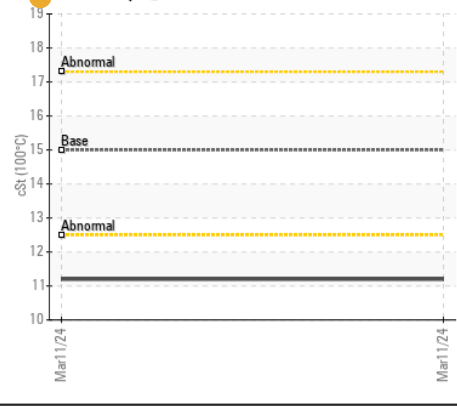
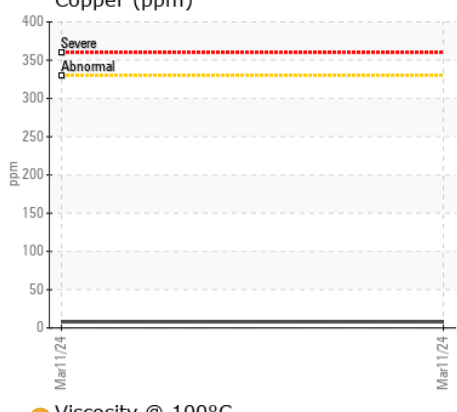
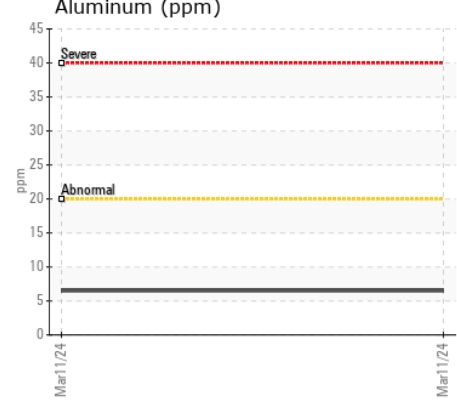
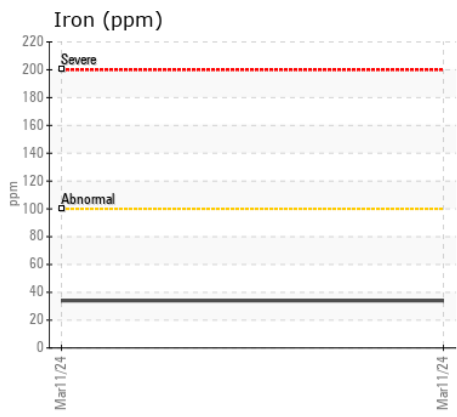
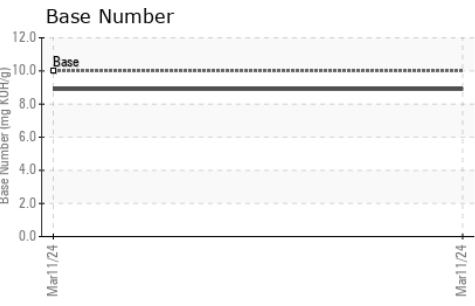
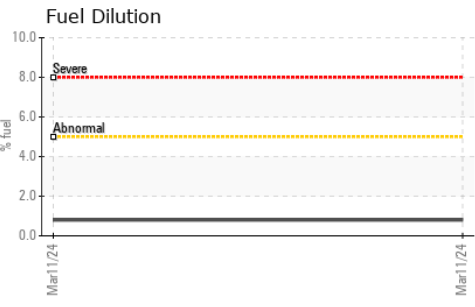
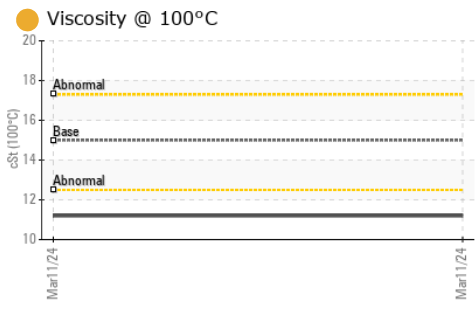
Fuel content negligible. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	27	---	---
Potassium	ppm	ASTM D5185m	>20	2	---	---
Fuel	%	ASTM D3524	>5	0.8	---	---
Water		WC Method	>0.2	NEG	---	---
Glycol		WC Method		NEG	---	---
Soot %	%	*ASTM D7844	>3	0.3	---	---
Nitration	Abs/cm	*ASTM D7624	>20	7.2	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.9	---	---
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	---	---

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		3	---	---
Boron	ppm	ASTM D5185m	2.5	14	---	---
Barium	ppm	ASTM D5185m	0.0	2	---	---
Molybdenum	ppm	ASTM D5185m	0.7	61	---	---
Manganese	ppm	ASTM D5185m	0.0	2	---	---
Magnesium	ppm	ASTM D5185m	256	775	---	---
Calcium	ppm	ASTM D5185m	2057	1391	---	---
Phosphorus	ppm	ASTM D5185m	935	1015	---	---
Zinc	ppm	ASTM D5185m	1223	1185	---	---
Sulfur	ppm	ASTM D5185m	4079	3600	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.9	---	---
Base Number (BN)	mg KOH/g	ASTM D2896	10	8.9	---	---
Visc @ 100°C	cSt	ASTM D445	15.0	11.2	---	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : VCP445310 **Received** : 20 Mar 2024
Lab Number : 06123416 **Tested** : 22 Mar 2024
Unique Number : 10937567 **Diagnosed** : 22 Mar 2024 - Don Baldrige
Test Package : MOB 1 (Additional Tests: FuelDilution, PercentFuel, TBN)

FERROUS PROCESSING AND TRADING
 3400 E LAFAYETTE
 DETROIT, MI
 US 48207
 Contact: KEITH HALL
 keith.hall@fpt1.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)