



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ATTENTION

Area

GREGORY BYRD [SAM/503107]

Machine Id

VOLVO PENTA 7008446503

Component

Starboard Diesel Engine

Fluid

VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3 (8 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		VPA058913	---	---
Sample Date		Client Info		20 May 2024	---	---
Machine Age	hrs	Client Info		46	---	---
Oil Age	hrs	Client Info		46	---	---
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	>80	8	---	---
Chromium	ppm	ASTM D5185m	>6	<1	---	---
Nickel	ppm	ASTM D5185m	>2	0	---	---
Titanium	ppm	ASTM D5185m	>2	0	---	---
Silver	ppm	ASTM D5185m	>2	<1	---	---
Aluminum	ppm	ASTM D5185m	>20	4	---	---
Lead	ppm	ASTM D5185m	>95	1	---	---
Copper	ppm	ASTM D5185m	>85	14	---	---
Tin	ppm	ASTM D5185m	>9	<1	---	---
Vanadium	ppm	ASTM D5185m		0	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

CONTAMINATION

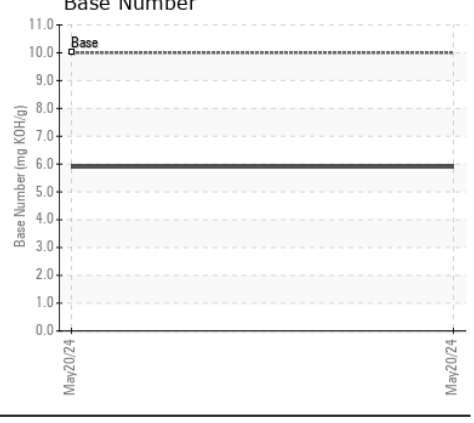
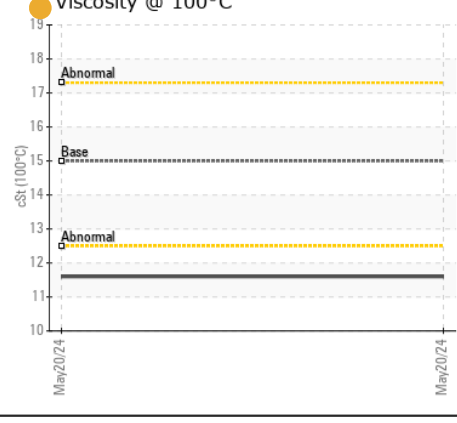
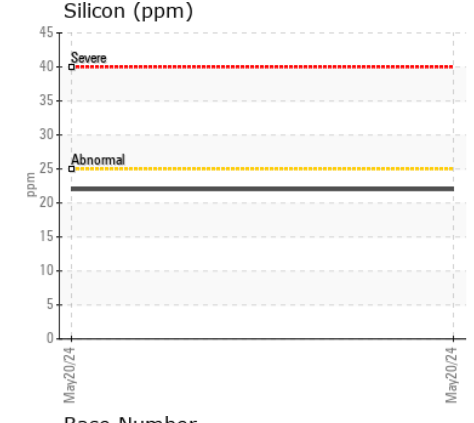
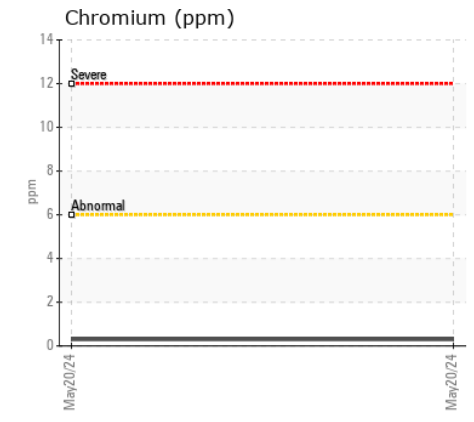
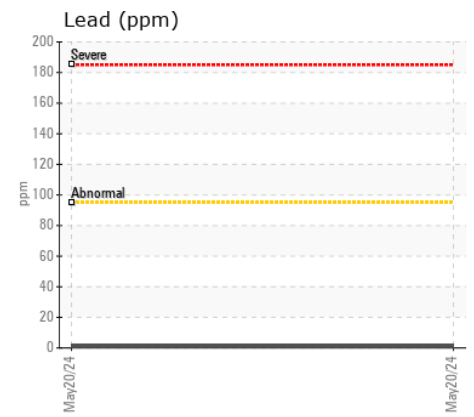
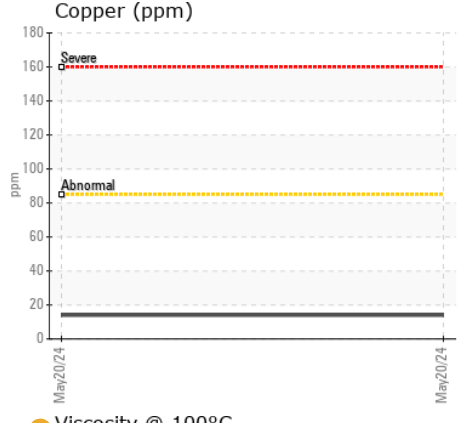
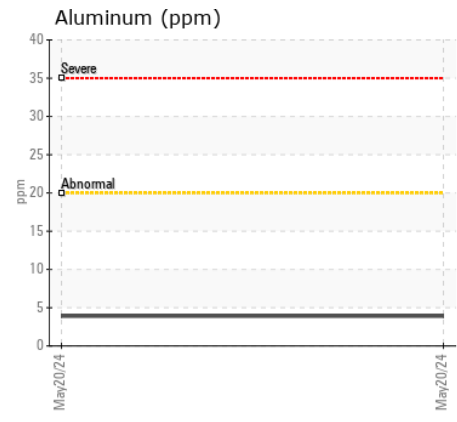
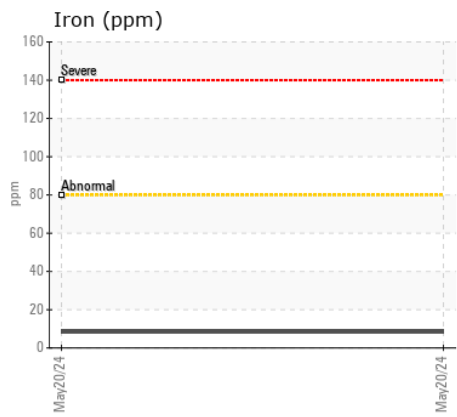
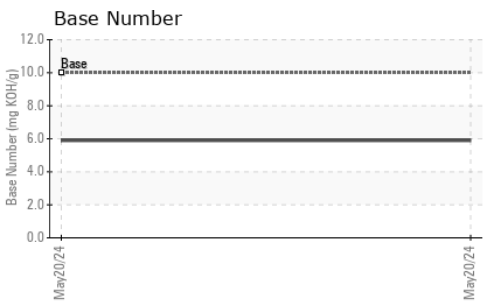
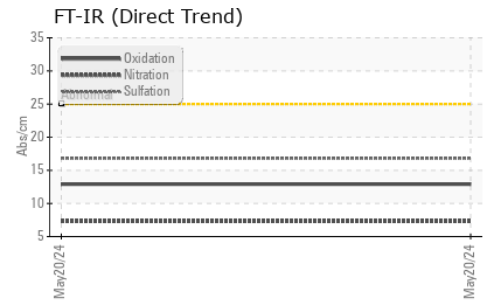
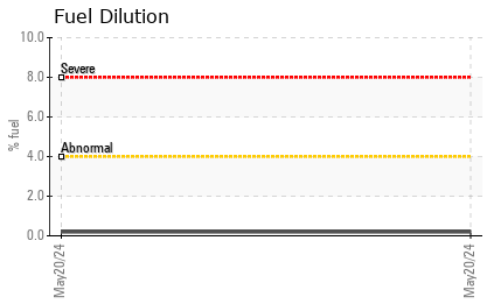
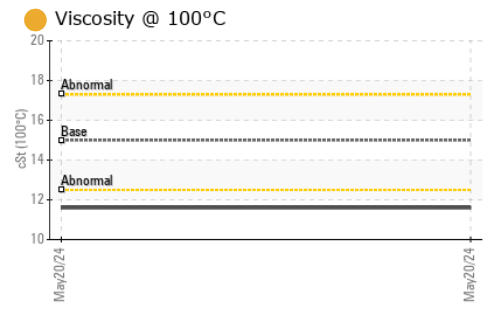
Fuel content negligible. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	22	---	---
Potassium	ppm	ASTM D5185m	>20	<1	---	---
Fuel	%	ASTM D3524	>4.0	0.2	---	---
Water		WC Method	>0.1	NEG	---	---
Glycol		WC Method		NEG	---	---
Soot %	%	*ASTM D7844		0.2	---	---
Nitration	Abs/cm	*ASTM D7624	>20	7.3	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	16.8	---	---
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	80	---	---
Barium	ppm	ASTM D5185m	0.0	0	---	---
Molybdenum	ppm	ASTM D5185m	0.7	82	---	---
Manganese	ppm	ASTM D5185m	0.0	1	---	---
Magnesium	ppm	ASTM D5185m	256	57	---	---
Calcium	ppm	ASTM D5185m	2057	2123	---	---
Phosphorus	ppm	ASTM D5185m	935	1015	---	---
Zinc	ppm	ASTM D5185m	1223	1172	---	---
Sulfur	ppm	ASTM D5185m	4079	4525	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	12.9	---	---
Base Number (BN)	mg KOH/g	ASTM D2896	10	5.9	---	---
Visc @ 100°C	cSt	ASTM D445	15.0	11.6	---	---



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : VPA058913 **Received** : 22 May 2024
Lab Number : 06187232 **Tested** : 28 May 2024
Unique Number : 11043984 **Diagnosed** : 28 May 2024 - Jonathan Hester
Test Package : MOB 1 (Additional Tests: FuelDilution, PercentFuel, TBN)

Endor Marine LLC - Coastal Marine - 152124
 4300 11th Ave. NW
 SEATTLE, WA
 US 98107
 Contact: WILLOW YANARELLA
 service@coastalmarineengine.com
 T: (206)784-3703
 F: (206)784-8823

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)