



WEAR	ABNORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	NORMAL

Area

DORRIS

Machine Id

VOLVO PENTA 2204155361

Component

Port Diesel Engine

Fluid

VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3 (11 QTS)

RECOMMENDATION

No corrective action is recommended at this time. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		VPA059800	---	---
Sample Date		Client Info		15 Apr 2024	---	---
Machine Age	hrs	Client Info		0	---	---
Oil Age	hrs	Client Info		0	---	---
Filter Age	hrs	Client Info		0	---	---
Oil Changed		Client Info		Not Changd	---	---
Filter Changed		Client Info		Not Changd	---	---
Sample Status				SEVERE	---	---

WEAR

The iron level is abnormal. The nickel level is abnormal.

Iron	ppm	ASTM D5185m	>80	▲ 95	---	---
Chromium	ppm	ASTM D5185m	>6	5	---	---
Nickel	ppm	ASTM D5185m	>2	▲ 7	---	---
Titanium	ppm	ASTM D5185m	>2	<1	---	---
Silver	ppm	ASTM D5185m	>2	0	---	---
Aluminum	ppm	ASTM D5185m	>20	8	---	---
Lead	ppm	ASTM D5185m	>95	4	---	---
Copper	ppm	ASTM D5185m	>85	26	---	---
Tin	ppm	ASTM D5185m	>9	3	---	---
Vanadium	ppm	ASTM D5185m		<1	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

CONTAMINATION

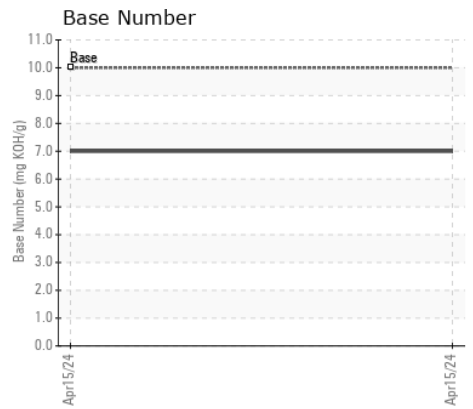
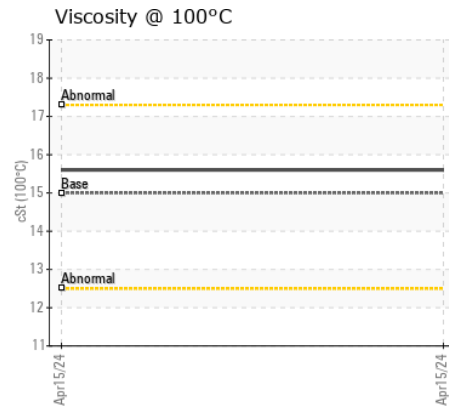
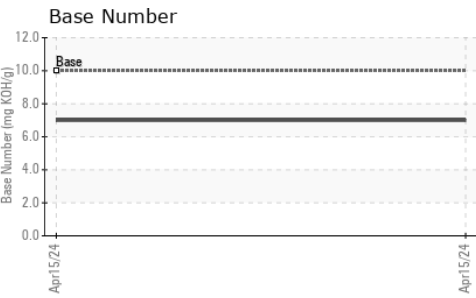
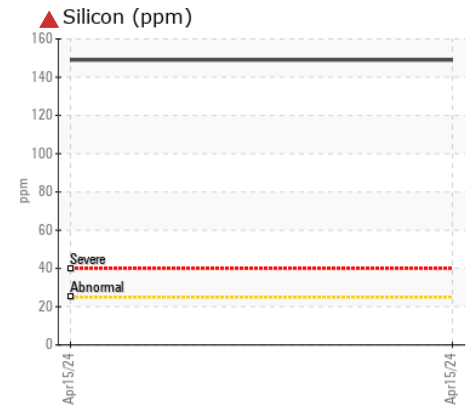
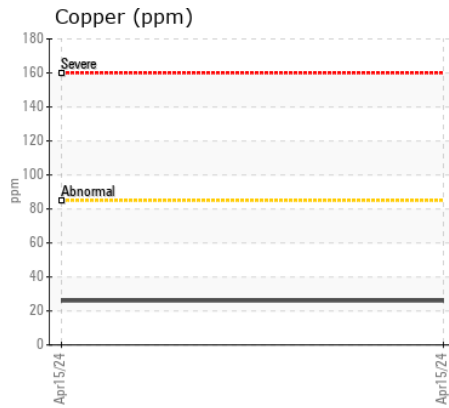
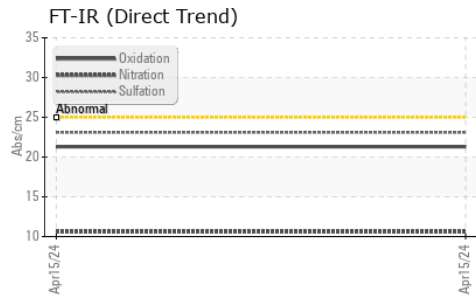
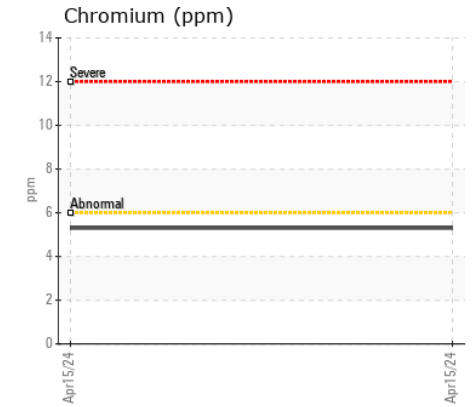
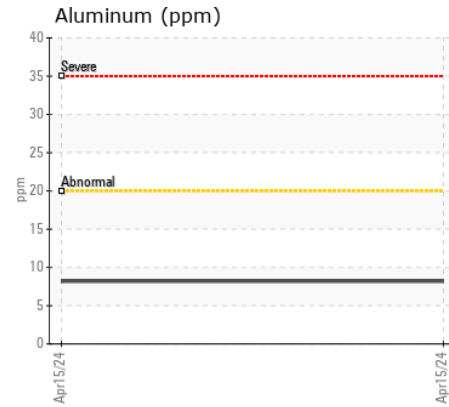
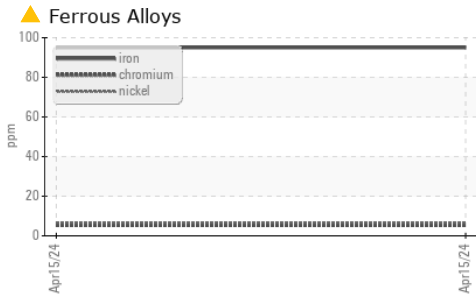
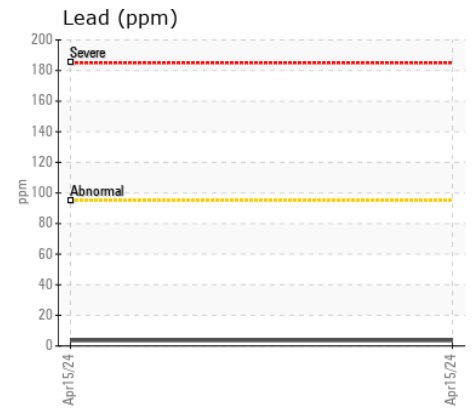
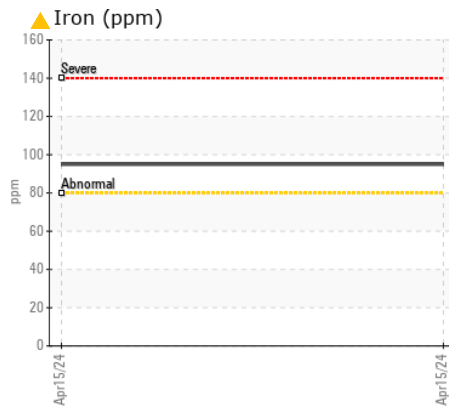
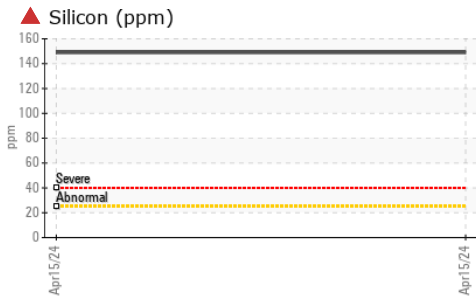
Elemental level of silicon (Si) above normal indicating ingress of seal material.

Silicon	ppm	ASTM D5185m	>25	▲ 149	---	---
Potassium	ppm	ASTM D5185m	>20	23	---	---
Fuel		WC Method	>4.0	<1.0	---	---
Water		WC Method	>0.1	NEG	---	---
Glycol		WC Method		NEG	---	---
Soot %	%	*ASTM D7844		0.4	---	---
Nitration	Abs/cm	*ASTM D7624	>20	10.6	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	23.1	---	---
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 BN result indicates that there is suitable alkalinity remaining in the oil.

Sodium	ppm	ASTM D5185m		41	---	---
Boron	ppm	ASTM D5185m	2.5	238	---	---
Barium	ppm	ASTM D5185m	0.0	0	---	---
Molybdenum	ppm	ASTM D5185m	0.7	34	---	---
Manganese	ppm	ASTM D5185m	0.0	1	---	---
Magnesium	ppm	ASTM D5185m	256	210	---	---
Calcium	ppm	ASTM D5185m	2057	3337	---	---
Phosphorus	ppm	ASTM D5185m	935	1558	---	---
Zinc	ppm	ASTM D5185m	1223	1907	---	---
Sulfur	ppm	ASTM D5185m	4079	5764	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	21.3	---	---
Base Number (BN)	mg KOH/g	ASTM D2896	10	7.0	---	---
Visc @ 100°C	cSt	ASTM D445	15.0	15.6	---	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : VPA059800 **Received** : 19 Apr 2024
Lab Number : 06155039 **Tested** : 24 Apr 2024
Unique Number : 10990462 **Diagnosed** : 24 Apr 2024 - Jonathan Hester
Test Package : MOB 1 (Additional Tests: TBN)

Cogswell Marine & Motorsports, Inc
 865 Stella Street
 CHULA VISTA, CA
 US 91911
 Contact: Mitchell Cogswell
 Cogswellmarinemotorsports@gmail.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)

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F: