



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area

ALPHA CAS

Machine Id

VOLVO PENTA 2013962586

Component

Port Diesel Engine

Fluid

VOLVO VDS-4.5 Premium Motor Oil 15W40 (11 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		VPA044559	VPA037269	VPA037275
Sample Date		Client Info		18 Jun 2024	15 Oct 2023	11 Jan 2023
Machine Age	hrs	Client Info		815	628	385
Oil Age	hrs	Client Info		187	243	200
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>80	5	11	14
Chromium	ppm	ASTM D5185m	>6	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	<1	<1
Titanium	ppm	ASTM D5185m	>2	0	<1	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	2	2	2
Lead	ppm	ASTM D5185m	>95	<1	1	1
Copper	ppm	ASTM D5185m	>85	2	5	9
Tin	ppm	ASTM D5185m	>9	<1	<1	1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

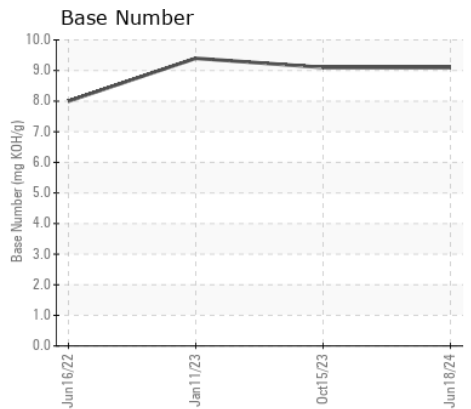
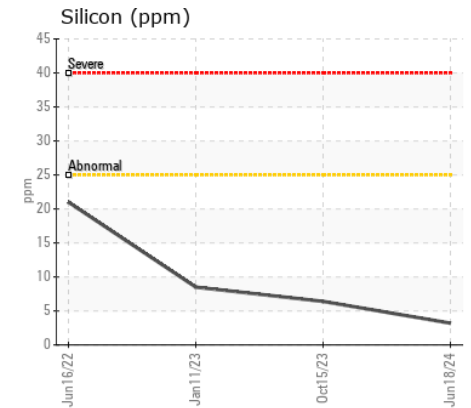
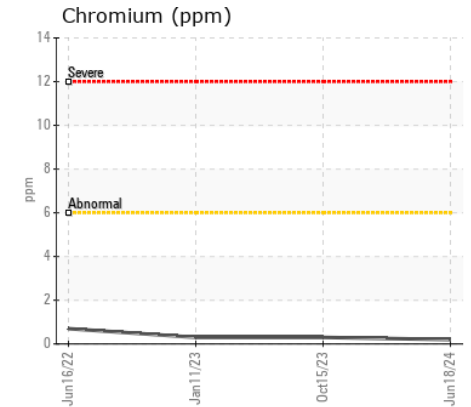
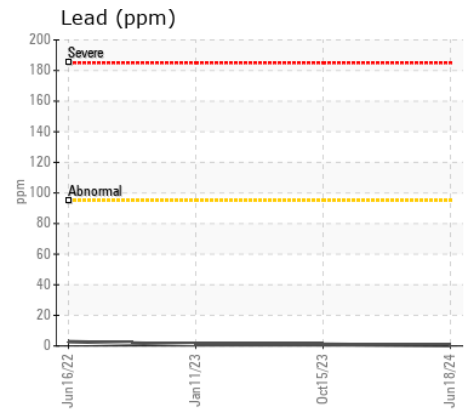
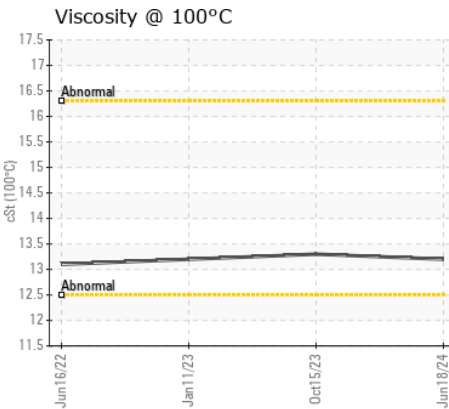
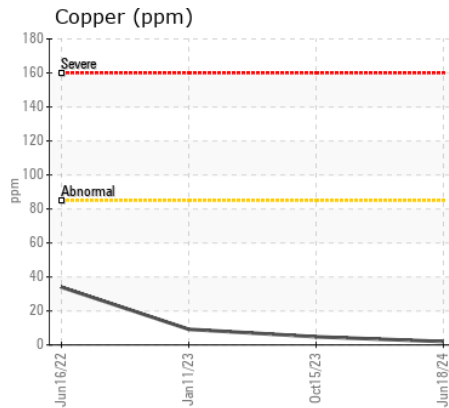
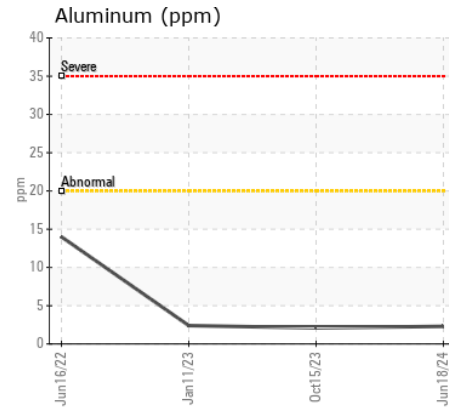
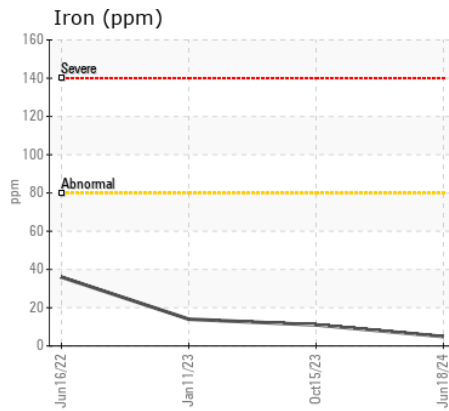
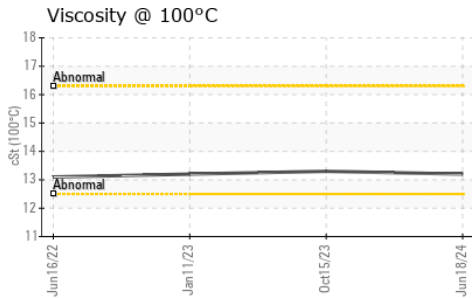
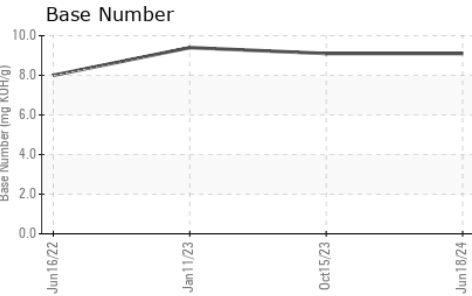
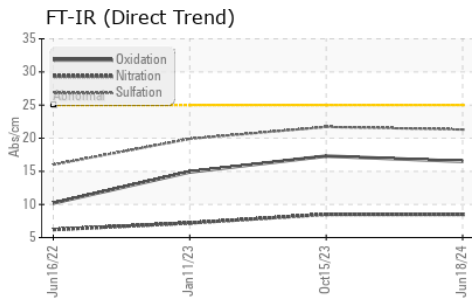
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	3	6	8
Potassium	ppm	ASTM D5185m	>20	2	4	7
Fuel		WC Method	>4.0	<1.0	<1.0	<1.0
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844		0.4	0.3	0.3
Nitration	Abs/cm	*ASTM D7624	>20	8.5	8.5	7.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.3	21.7	19.9
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG	NEG

FLUID CONDITION

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<1	0	1
Boron	ppm	ASTM D5185m		4	5	0
Barium	ppm	ASTM D5185m		0	3	0
Molybdenum	ppm	ASTM D5185m		62	64	57
Manganese	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm	ASTM D5185m		1005	979	909
Calcium	ppm	ASTM D5185m		1109	1093	1085
Phosphorus	ppm	ASTM D5185m		1011	1000	1033
Zinc	ppm	ASTM D5185m		1348	1266	1230
Sulfur	ppm	ASTM D5185m		3186	3672	3370
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.5	17.3	14.9
Base Number (BN)	mg KOH/g	ASTM D2896		9.1	9.1	9.4
Visc @ 100°C	cSt	ASTM D445		13.2	13.3	13.2



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : VPA044559 **Received** : 26 Jun 2024
Lab Number : 06220987 **Tested** : 27 Jun 2024
Unique Number : 11099184 **Diagnosed** : 27 Jun 2024 - Don Baldrige
Test Package : MOB 1 (Additional Tests: TBN)

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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