



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
DOUG ZALK [7720058]
Machine Id
NORTHERN LIGHTS 6732-55952

Component
Center Genset
Fluid
VOLVO VDS-4.5 Premium Motor Oil 15W40 (1 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		VPA062990	VPA026037	VPA032014
Sample Date		Client Info		10 Jun 2024	20 Jun 2022	23 Jun 2021
Machine Age	hrs	Client Info		365	273	190
Oil Age	hrs	Client Info		0	75	104
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	ATTENTION

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>50	6	6	13
Chromium	ppm	ASTM D5185m	>4	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	<1	<1
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m	>5	0	<1	0
Aluminum	ppm	ASTM D5185m	>12	2	1	2
Lead	ppm	ASTM D5185m	>17	<1	<1	<1
Copper	ppm	ASTM D5185m	>70	3	4	6
Tin	ppm	ASTM D5185m	>15	0	<1	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

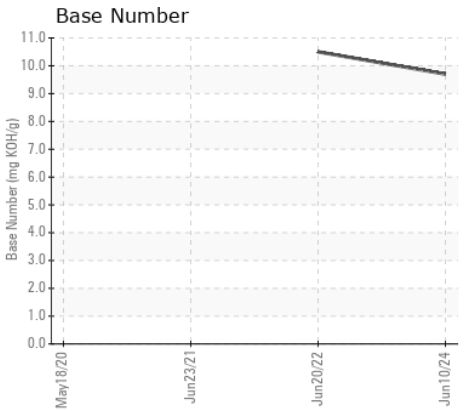
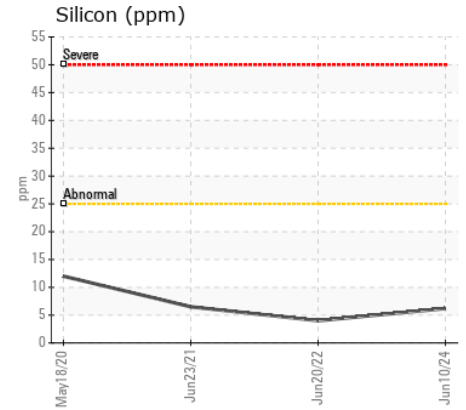
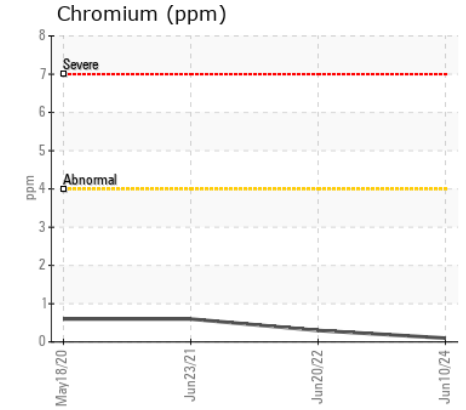
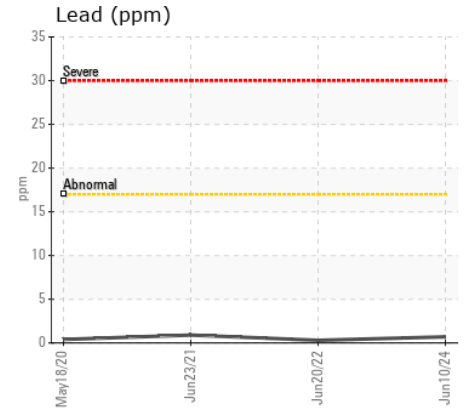
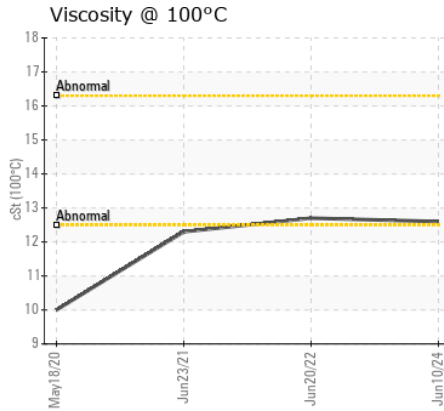
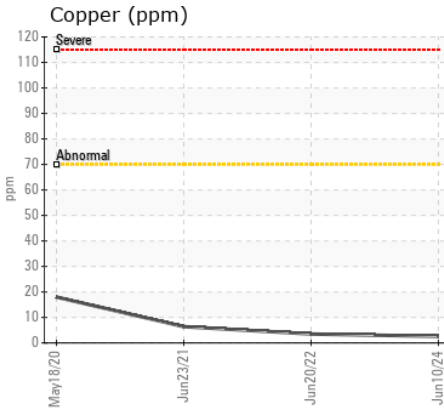
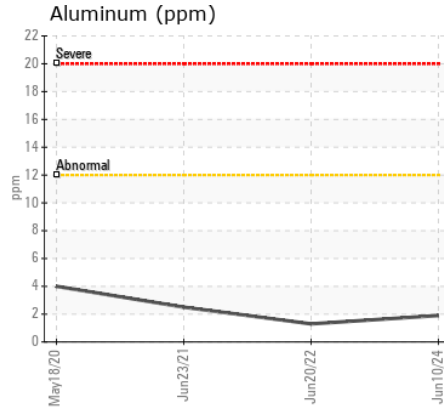
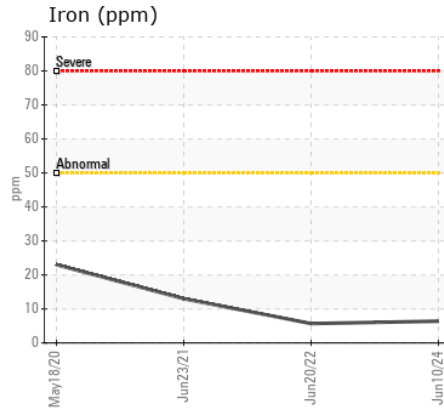
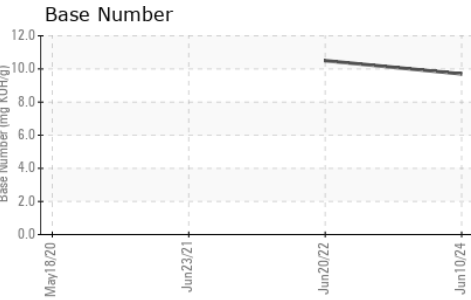
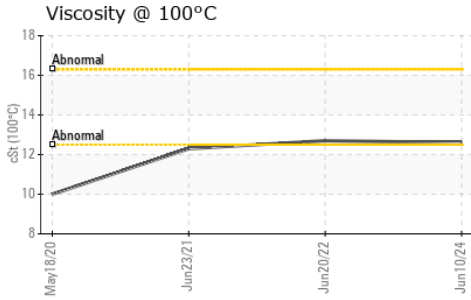
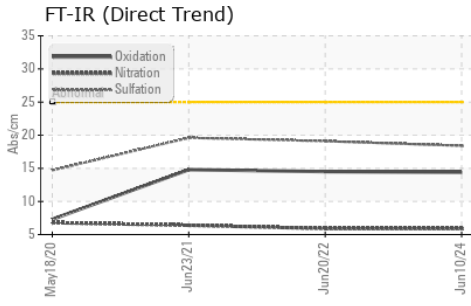
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	6	4	6
Potassium	ppm	ASTM D5185m	>20	3	1	21
Fuel		WC Method	>4.0	<1.0	<1.0	▲ 2.1
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844		0.1	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	5.9	5.9	6.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.4	19.1	19.6
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		4	3	8
Boron	ppm	ASTM D5185m		1	7	24
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		60	55	68
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		1033	843	832
Calcium	ppm	ASTM D5185m		1178	997	1222
Phosphorus	ppm	ASTM D5185m		1135	901	953
Zinc	ppm	ASTM D5185m		1403	1157	1144
Sulfur	ppm	ASTM D5185m		4186	2919	3195
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.4	14.5	14.8
Base Number (BN)	mg KOH/g	ASTM D2896		9.7	10.5	---
Visc @ 100°C	cSt	ASTM D445		12.6	12.7	● 12.3



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : VPA062990 **Received** : 20 Jun 2024
Lab Number : 06215590 **Tested** : 21 Jun 2024
Unique Number : 11088454 **Diagnosed** : 22 Jun 2024 - Don Baldrige
Test Package : MOB 1 (Additional Tests: TBN)

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 US 98032
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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)