



WEAR CHECK

OIL ANALYSIS REPORT

WEAR	ATTENTION
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Machine Id
VOLVO VN 21607
 Component
Diesel Engine
 Fluid
SHELL ROTELLA T 10W30 (38 QTS)

RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0955671	WC0866923	WC0831970
Sample Date		Client Info		17 Jun 2024	21 Dec 2023	24 Aug 2023
Machine Age	mls	Client Info		314657	17538	296386
Oil Age	mls	Client Info		13591	748	7126
Filter Age	mls	Client Info		13591	748	7126
Oil Changed		Client Info		N/A	Changed	Changed
Filter Changed		Client Info		N/A	Changed	Changed
Sample Status				ABNORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	27	7	6
Chromium	ppm	ASTM D5185m	>20	<1	0	<1
Nickel	ppm	ASTM D5185m	>2	1	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	13	3	4
Lead	ppm	ASTM D5185m	>40	4	<1	0
Copper	ppm	ASTM D5185m	>330	10	<1	0
Tin	ppm	ASTM D5185m	>15	1	<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

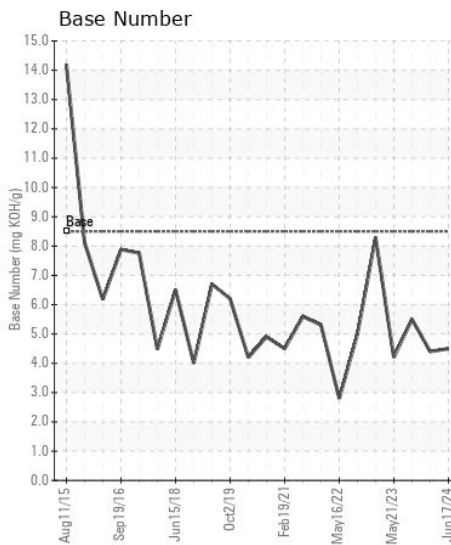
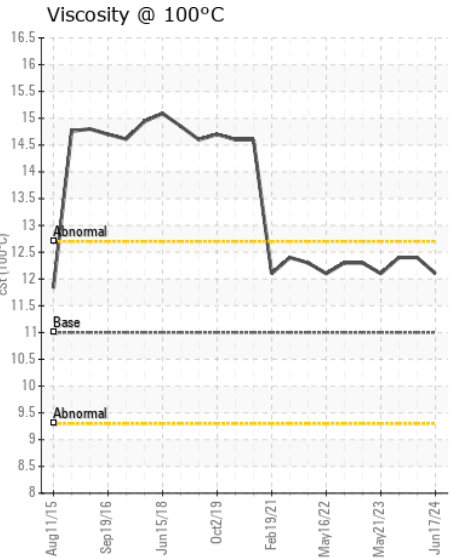
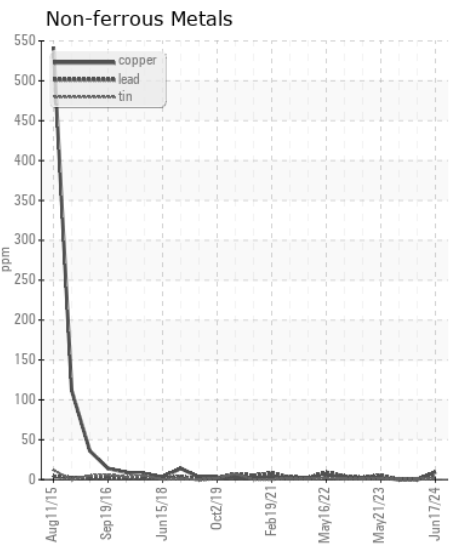
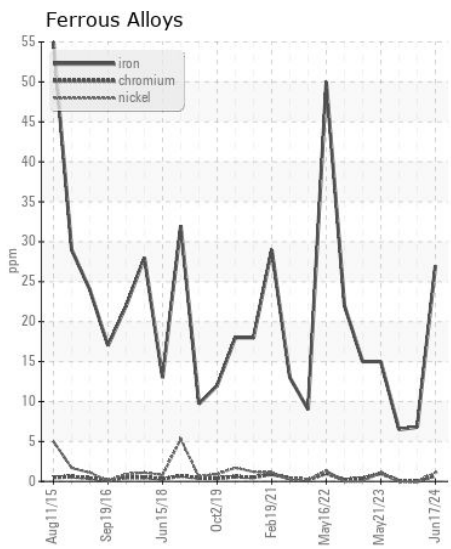
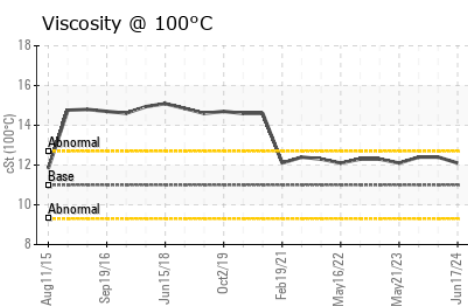
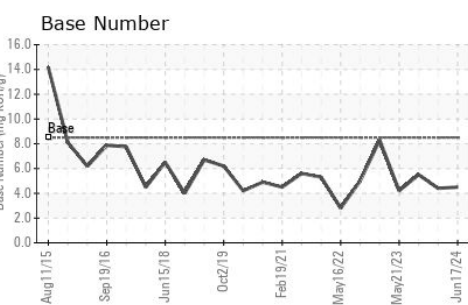
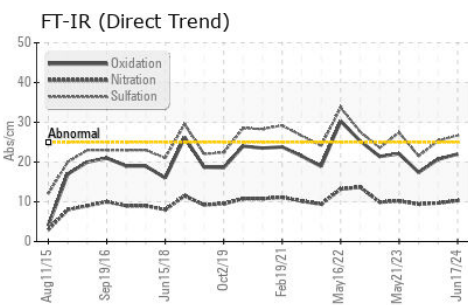
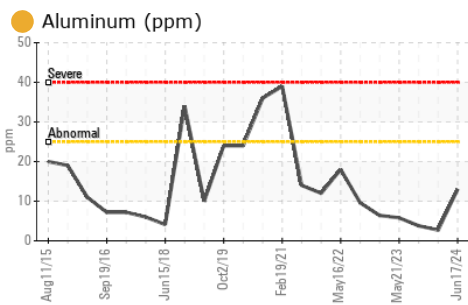
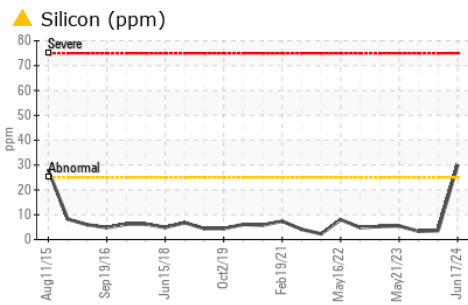
Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

Silicon	ppm	ASTM D5185m	>25	30	4	3
Potassium	ppm	ASTM D5185m	>20	24	7	8
Fuel		WC Method	>6.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.4	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	10.3	9.7	9.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	26.7	25.4	21.5
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	>0.2	NEG	NEG	NEG

FLUID CONDITION

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

Sodium	ppm	ASTM D5185m		1	0	<1
Boron	ppm	ASTM D5185m	269	47	54	64
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m	0	8	10	15
Manganese	ppm	ASTM D5185m		<1	0	<1
Magnesium	ppm	ASTM D5185m	20	65	70	108
Calcium	ppm	ASTM D5185m	1521	2182	2219	2062
Phosphorus	ppm	ASTM D5185m	948	1014	936	969
Zinc	ppm	ASTM D5185m	893	1180	1132	1224
Sulfur	ppm	ASTM D5185m		3391	3296	4167
Oxidation	Abs/.1mm	*ASTM D7414	>25	22.0	20.7	17.4
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	4.5	4.4	5.5
Visc @ 100°C	cSt	ASTM D445	11.0	12.1	12.4	12.4



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0955671
Lab Number : 06215441
Unique Number : 11088305
Test Package : FLEET

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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)