



OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ABNORMAL

Machine Id
VOLVO VN610 98
Component
Diesel Engine
Fluid
CASTROL TECTION EXTRA SAE 15W-40 (38 LTR)

RECOMMENDATION

The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0679996	WC0679994	WC0679993
Sample Date		Client Info		09 Jan 2024	11 Sep 2023	17 Apr 2023
Machine Age	kms	Client Info		5544094	5477959	545313
Oil Age	kms	Client Info		66135	24833	54126
Filter Age	kms	Client Info		66135	24833	54126
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	NORMAL	ABNORMAL

WEAR

Tin ppm levels are abnormal. Piston wear is indicated.

Iron	ppm	ASTM D5185(m)	>200	116	42	46
Chromium	ppm	ASTM D5185(m)	>10	4	3	2
Nickel	ppm	ASTM D5185(m)	>4	<1	<1	<1
Titanium	ppm	ASTM D5185(m)	>2	0	0	<1
Silver	ppm	ASTM D5185(m)	>2	0	<1	0
Aluminum	ppm	ASTM D5185(m)	>30	2	4	2
Lead	ppm	ASTM D5185(m)	>30	5	2	2
Copper	ppm	ASTM D5185(m)	>30	4	4	1
Tin	ppm	ASTM D5185(m)	>4	▲ 4	3	<1
Vanadium	ppm	ASTM D5185(m)		0	0	0

CONTAMINATION

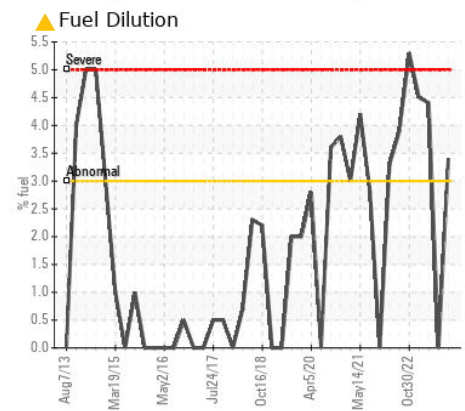
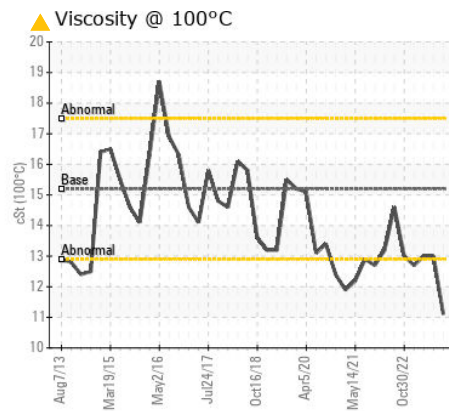
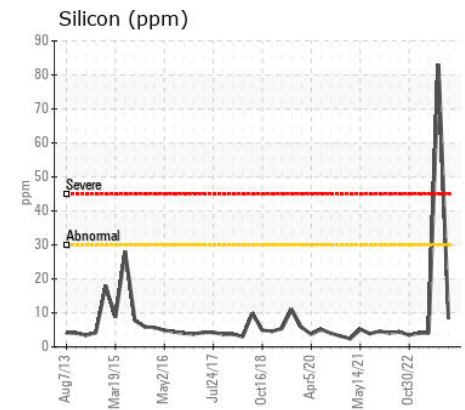
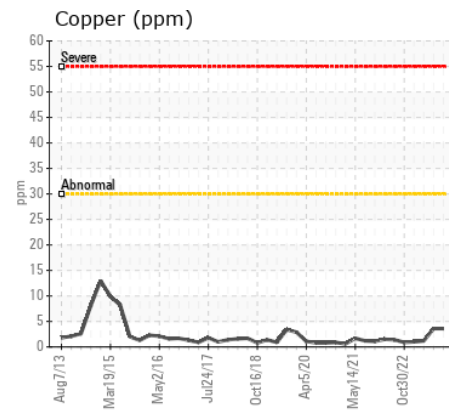
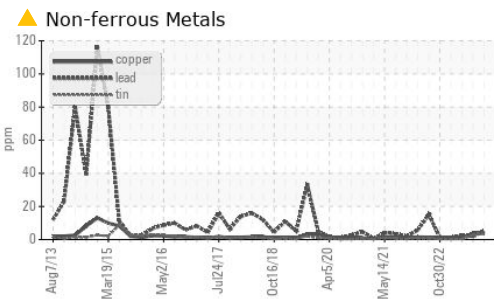
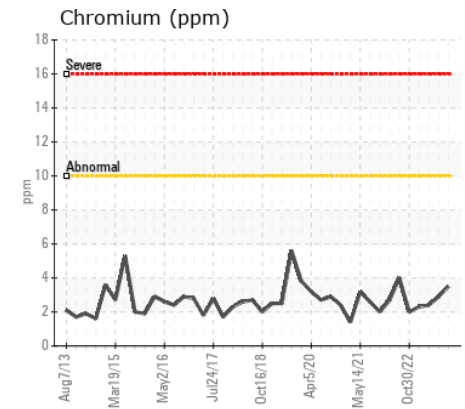
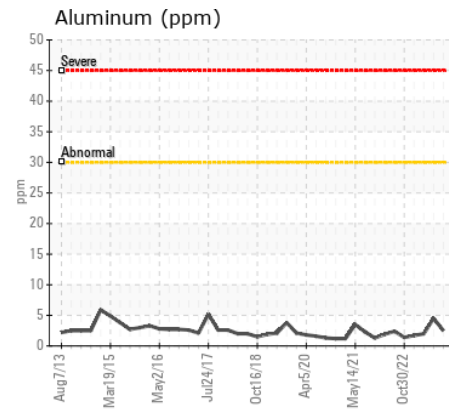
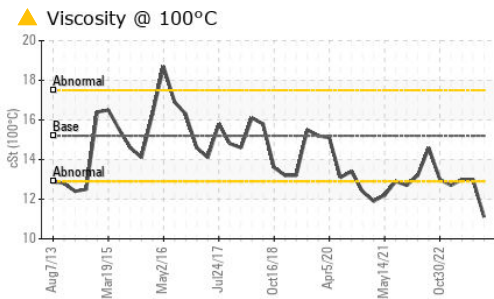
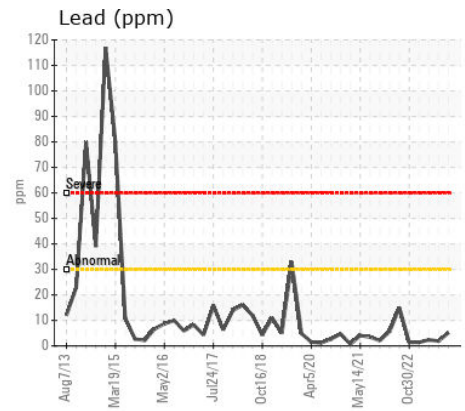
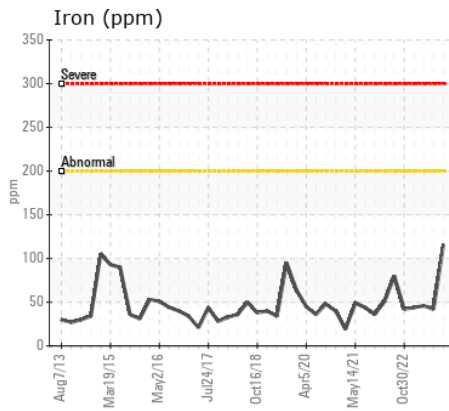
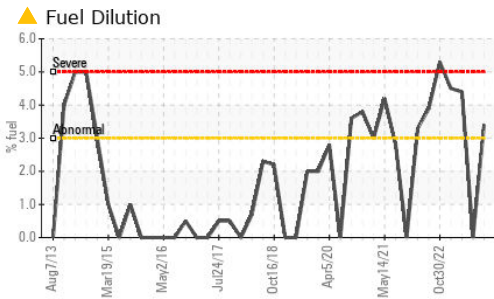
There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

Silicon	ppm	ASTM D5185(m)	>30	8	83	4
Potassium	ppm	ASTM D5185(m)	>20	3	10	1
Fuel	%	ASTM D7593*	>3.0	▲ 3.4	<1.0	▲ 4.4
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	ASTM D7844*	>3	1.4	0.7	▲ 3.9
Nitration	Abs/cm	ASTM D7624*	>20	9.8	8.2	10.8
Sulfation	Abs/.1mm	ASTM D7415*	>30	29.1	23.1	31.5
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG

FLUID CONDITION

Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Sodium	ppm	ASTM D5185(m)		4	9	6
Boron	ppm	ASTM D5185(m)	30	15	85	4
Barium	ppm	ASTM D5185(m)		0	4	0
Molybdenum	ppm	ASTM D5185(m)		13	7	6
Manganese	ppm	ASTM D5185(m)		<1	2	<1
Magnesium	ppm	ASTM D5185(m)	110	96	77	63
Calcium	ppm	ASTM D5185(m)	2740	2110	2076	2361
Phosphorus	ppm	ASTM D5185(m)	1240	846	931	916
Zinc	ppm	ASTM D5185(m)	1350	975	1118	980
Sulfur	ppm	ASTM D5185(m)	3520	2895	2764	2929
Oxidation	Abs/.1mm	ASTM D7414*	>25	22.8	18.9	19.0
Visc @ 100°C	cSt	ASTM D7279(m)	15.2	▲ 11.1	13.0	13.0



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0679996 **Received** : 16 Jan 2024
Lab Number : 02608861 **Diagnosed** : 17 Jan 2024
Unique Number : 5709947 **Diagnostician** : Kevin Marson
Test Package : MOB 1 (Additional Tests: FuelDilution, PercentFuel)

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To discuss this sample report, contact Customer Service at 1-800-268-2131.
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
 Validity of results and interpretation are based on the sample and information as supplied.