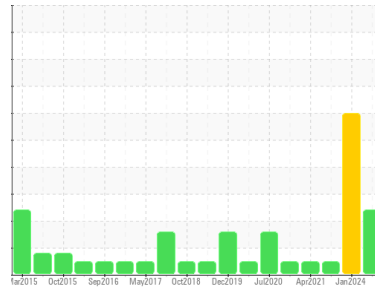


OIL ANALYSIS REPORT



Machine Id
VOLVO L180G 19399
 Component
Diesel Engine
 Fluid
CHEVRON 15W40 (13 GAL)

Sample Rating Trend



DIAGNOSIS

Recommendation

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

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

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.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		ML0001154	ML0000126	VCP318150
Sample Date	Client Info		09 Apr 2024	22 Jan 2024	20 Aug 2021
Machine Age	hrs	Client Info	15712	15712	13690
Oil Age	hrs	Client Info	500	500	0
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			ABNORMAL	SEVERE	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>6.0	<1.0	2.2	<1.0
Water	WC Method	>0.1	NEG	NEG	NEG
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	56	80	22
Chromium	ppm	ASTM D5185m >10	2	2	<1
Nickel	ppm	ASTM D5185m >10	4	4	1
Titanium	ppm	ASTM D5185m	1	<1	1
Silver	ppm	ASTM D5185m >2	0	0	0
Aluminum	ppm	ASTM D5185m >10	7	7	6
Lead	ppm	ASTM D5185m >20	2	3	9
Copper	ppm	ASTM D5185m >15	3	4	2
Tin	ppm	ASTM D5185m >10	2	2	0
Antimony	ppm	ASTM D5185m	---	---	1
Vanadium	ppm	ASTM D5185m	<1	0	0
Cadmium	ppm	ASTM D5185m	1	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	396	251	163
Barium	ppm	ASTM D5185m	<1	0	0
Molybdenum	ppm	ASTM D5185m	127	66	88
Manganese	ppm	ASTM D5185m	2	2	<1
Magnesium	ppm	ASTM D5185m	682	378	579
Calcium	ppm	ASTM D5185m	1980	1620	1791
Phosphorus	ppm	ASTM D5185m	1174	938	726
Zinc	ppm	ASTM D5185m	1239	1194	853
Sulfur	ppm	ASTM D5185m	3916	3204	2561

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >20	▲ 28	▲ 56	11
Sodium	ppm	ASTM D5185m >50	3	6	2
Potassium	ppm	ASTM D5185m >20	3	5	10

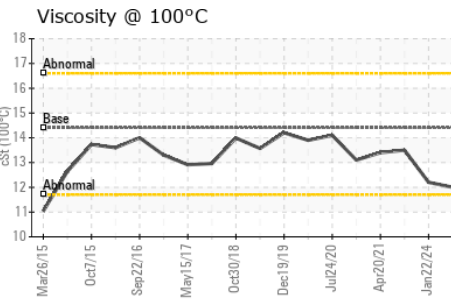
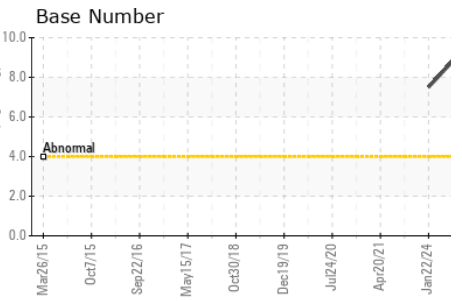
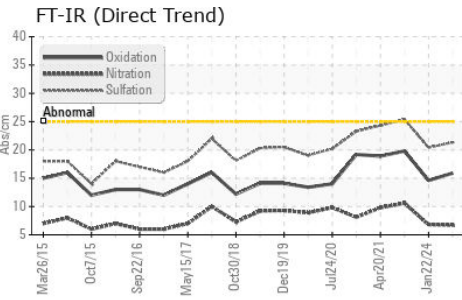
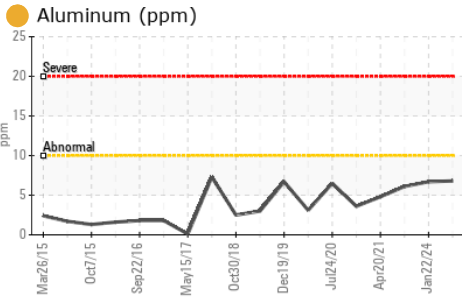
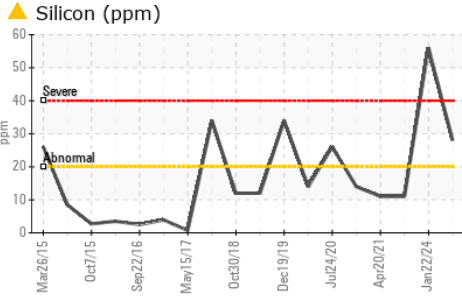
INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.2	0.2	0.6
Nitration	Abs/cm	*ASTM D7624 >20	6.7	6.8	10.6
Sulfation	Abs/.1mm	*ASTM D7415 >30	21.3	20.4	25.4

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	15.9	14.6	19.8
Base Number (BN)	mg KOH/g	ASTM D2896	8.8	7.5	---

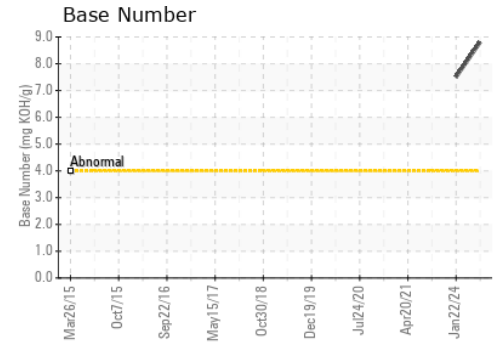
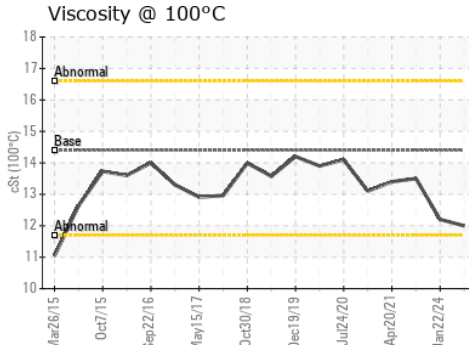
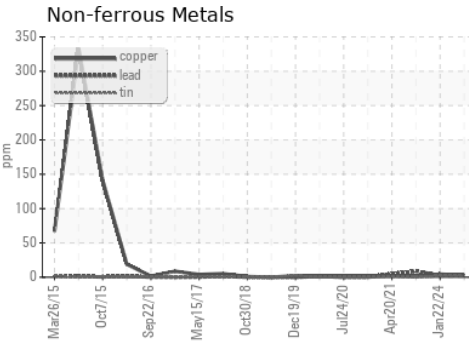
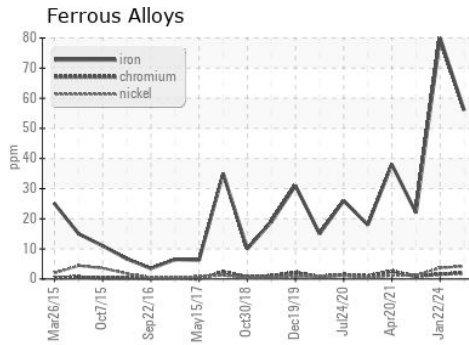
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.4	12.0	12.2

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : ML0001154

Lab Number : 06146896

Unique Number : 10976974

Test Package : CONST (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)

Received : 12 Apr 2024

Tested : 15 Apr 2024

Diagnosed : 15 Apr 2024 - Sean Felton

RELIABLE CONTRACTING

2410 EVERGREEN RD SUITE 200

GAMBRILLS, MD

US 21054

Contact: RUSSELL HATFIELD

RHATFIELD@RELIABLECONTRACTING.COM

T: (410)987-1851

F: