



WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
VOLVO L90G 617045
Component
Diesel Engine
Fluid
VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3 (5 GAL)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		ML0002175	VCP404447	VCP347562
Sample Date		Client Info		23 May 2024	19 Dec 2022	20 May 2022
Machine Age	hrs	Client Info		14279	13749	13223
Oil Age	hrs	Client Info		14279	0	0
Filter Age	hrs	Client Info		14279	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	NORMAL	NORMAL

WEAR

Piston and cylinder wear is indicated.

Iron	ppm	ASTM D5185m	>100	▲ 119	29	19
Chromium	ppm	ASTM D5185m	>10	<1	<1	<1
Nickel	ppm	ASTM D5185m	>10	0	0	<1
Titanium	ppm	ASTM D5185m		2	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m	>10	▲ 12	6	8
Lead	ppm	ASTM D5185m	>20	0	<1	2
Copper	ppm	ASTM D5185m	>15	1	<1	1
Tin	ppm	ASTM D5185m	>10	<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

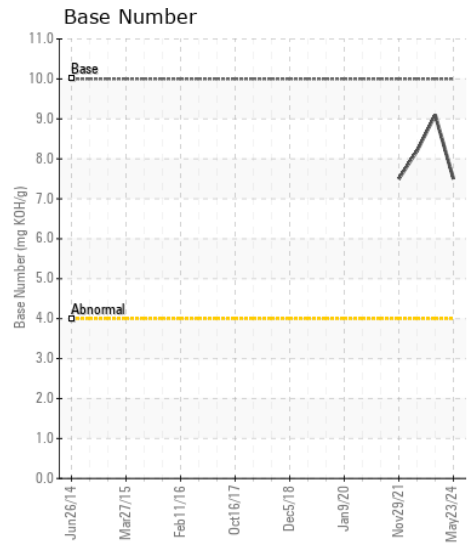
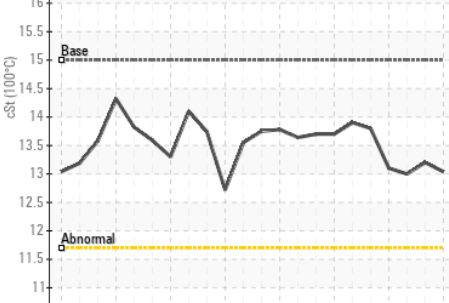
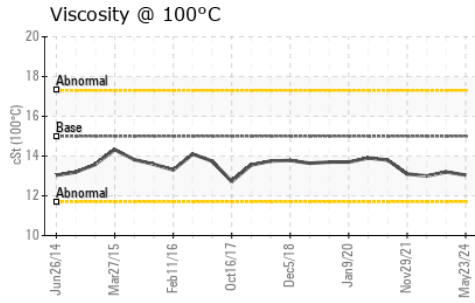
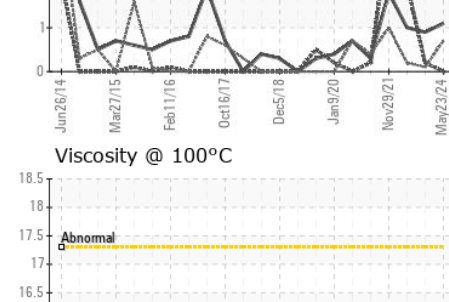
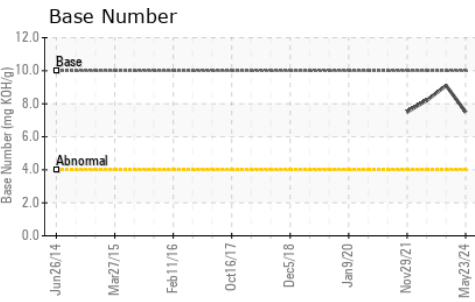
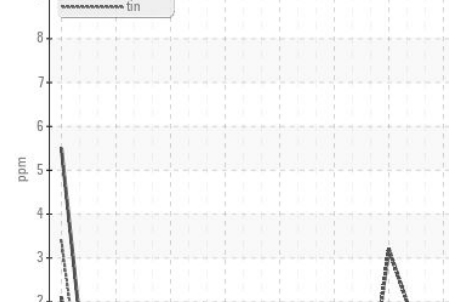
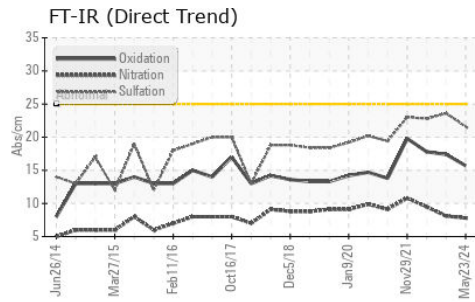
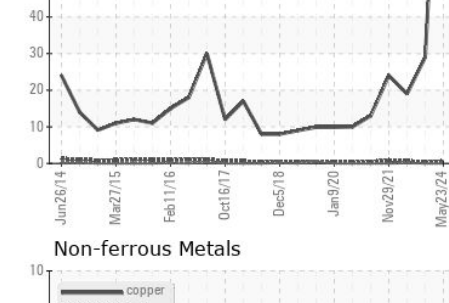
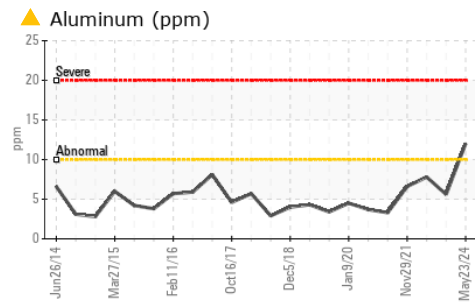
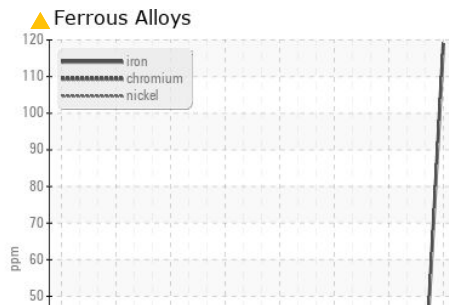
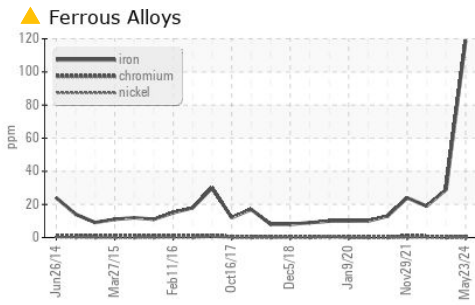
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	10	7	6
Potassium	ppm	ASTM D5185m	>20	<1	7	0
Fuel	%	ASTM D3524	>6.0	<1.0	<1.0	<1.0
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.4	0.3	0.4
Nitration	Abs/cm	*ASTM D7624	>20	7.8	8.1	9.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.6	23.6	22.8
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 acceptable for the time in service.

Sodium	ppm	ASTM D5185m		2	0	0
Boron	ppm	ASTM D5185m	2.5	357	306	243
Barium	ppm	ASTM D5185m	0.0	0	0	0
Molybdenum	ppm	ASTM D5185m	0.7	103	124	111
Manganese	ppm	ASTM D5185m	0.0	1	<1	<1
Magnesium	ppm	ASTM D5185m	256	535	513	635
Calcium	ppm	ASTM D5185m	2057	1486	1529	1497
Phosphorus	ppm	ASTM D5185m	935	978	871	681
Zinc	ppm	ASTM D5185m	1223	1119	1048	848
Sulfur	ppm	ASTM D5185m	4079	3419	3518	2508
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.7	17.4	17.8
Base Number (BN)	mg KOH/g	ASTM D2896	10	7.5	9.1	8.2
Visc @ 100°C	cSt	ASTM D445	15.0	13.04	13.2	13.0



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : ML0002175
Lab Number : 06196245
Unique Number : 11058368
Test Package : CONST (Additional Tests: FuelDilution, PercentFuel, TBN)
Received : 31 May 2024
Tested : 05 Jun 2024
Diagnosed : 05 Jun 2024 - Jonathan Hester

IAA - INSURANCE AUTO AUCTIONS - BALTIMORE
 3131 HAWKINS POINT RD
 BALTIMORE, MD
 US 21226
 Contact: Service Manager

Certificate L2367
 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)