



OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
VOLVO D13 2012 17-INNT-01-011-M (S/N 4V4NC9EJDN133467)

Component
Front Diesel Engine

Fluid
MOBIL 15W40 (40 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	#7 Current	#6 History1	#5 History2
Sample Number				WC0389215	WC0323763	WC113770
Sample Date				19 Sep 2019	09 May 2019	29 Nov 2018
Machine Age	kms			1413146	1388190	1364125
Oil Age	kms			63806	24065	11785
Filter Age	kms			63806	24065	11785
Oil Changed				Changed	Not Changd	Not Changd
Filter Changed				Changed	Not Changd	Not Changd
Sample Status				ABNORMAL	NORMAL	NORMAL

WEAR

Iron ppm levels are abnormal. Cylinder, crank, or cam shaft wear is indicated.

PQ	UOM	Method	Limit/Abn	#7 Current	#6 History1	#5 History2
Iron	ppm	ASTM D5185	>80	▲ 102	50	11
Chromium	ppm	ASTM D5185	>6	2	<1	0
Nickel	ppm	ASTM D5185	>2	2	1	<1
Titanium	ppm	ASTM D5185	>2	<1	<1	<1
Silver	ppm	ASTM D5185	>2	0	0	0
Aluminum	ppm	ASTM D5185	>20	11	8	3
Lead	ppm	ASTM D5185	>95	4	2	<1
Copper	ppm	ASTM D5185	>85	4	2	1
Tin	ppm	ASTM D5185	>9	1	<1	0
Vanadium	ppm	ASTM D5185		<1	0	0

CONTAMINATION

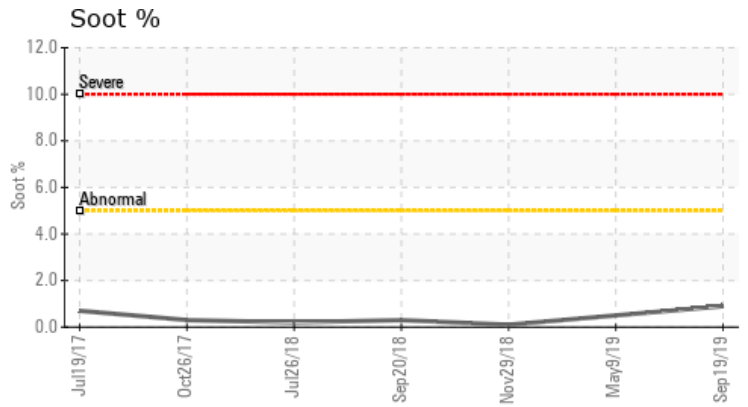
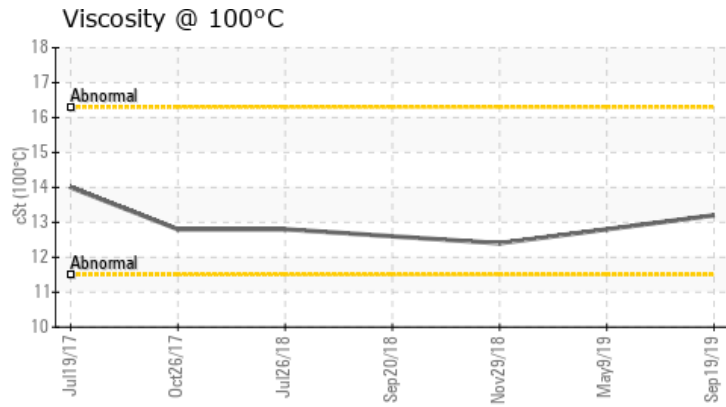
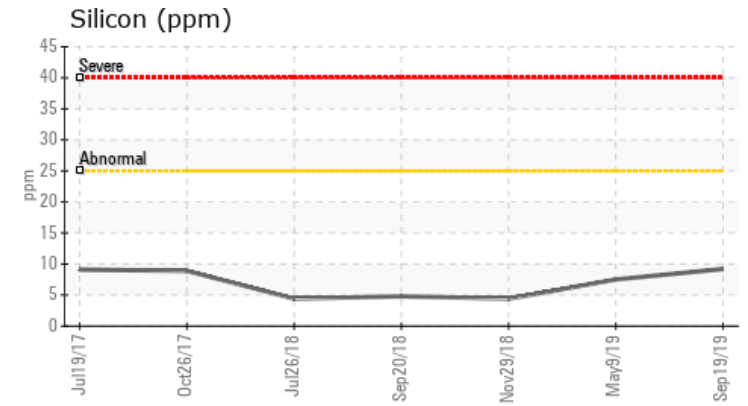
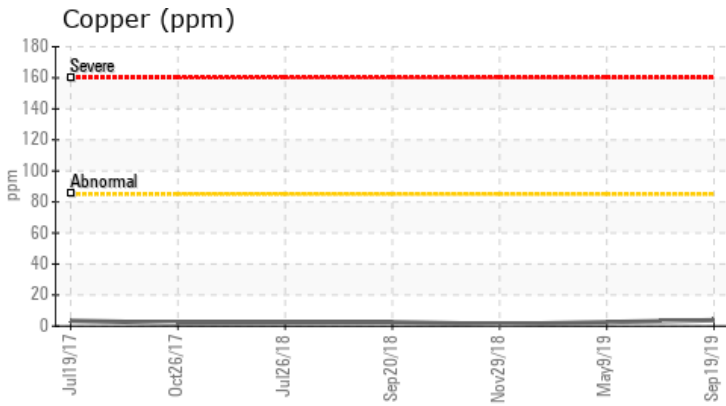
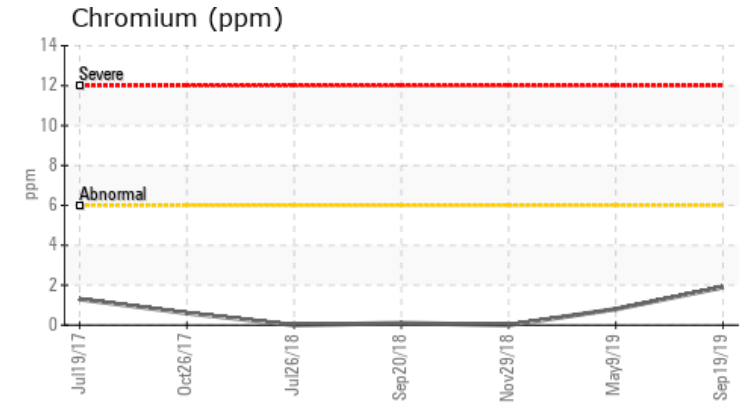
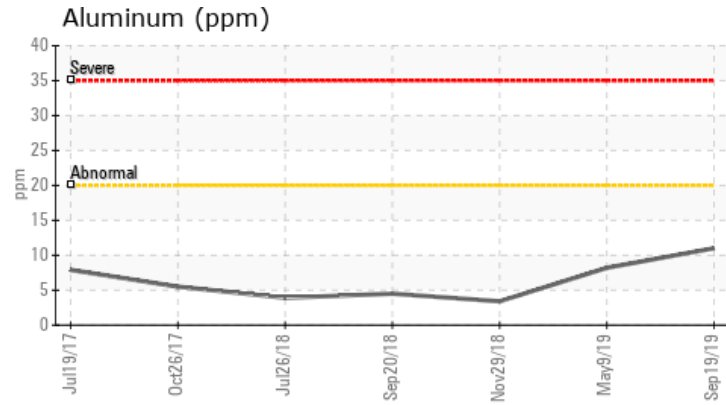
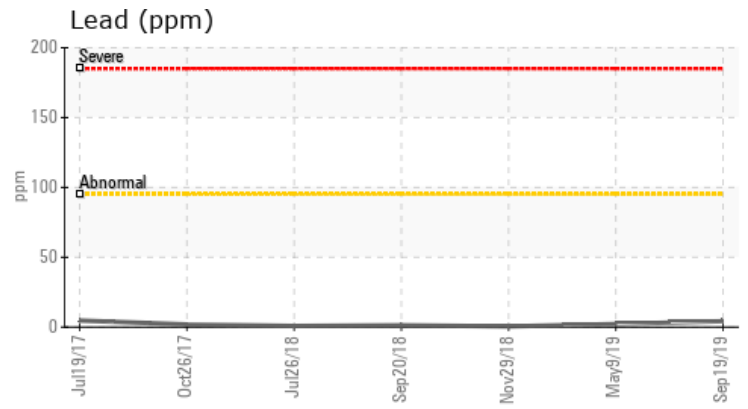
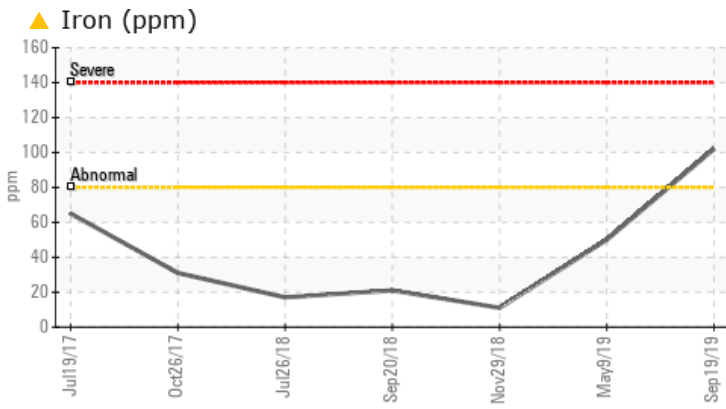
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185	>25	9	8	4
Potassium	ppm	ASTM D5185	>20	7	5	2
Fuel		ASTM D3524	>4.0	<1.0	<1.0	<1.0
Glycol		ASTM D2982		NEG	NEG	NEG
Soot %	%	ASTM D7686		0.9	0.5	0.1
Nitration	Abs/cm	ASTM D7624	>20	17.7	14.5	10.0
Sulfation	Abs/.1mm	ASTM D7415	>30	32.2	26.7	22.2
Emulsified Water	scalar	Visual	>0.1	NEG	NEG	NEG

FLUID CONDITION

The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Sodium	ppm	ASTM D5185	>118	14	11	10
Boron	ppm	ASTM D5185		29	31	34
Barium	ppm	ASTM D5185		<1	0	0
Molybdenum	ppm	ASTM D5185		69	70	70
Manganese	ppm	ASTM D5185		1	<1	<1
Magnesium	ppm	ASTM D5185		446	451	445
Calcium	ppm	ASTM D5185		1739	1620	1585
Phosphorus	ppm	ASTM D5185		777	727	691
Zinc	ppm	ASTM D5185		932	860	812
Sulfur	ppm	ASTM D5185		2064	2074	2037
Oxidation	Abs/.1mm	ASTM D7414	>25	35.3	29.2	22.1
Visc @ 100°C	cSt	ASTM D7279		13.2	12.8	12.4



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0389215 **Received** : 23 Sep 2019
Lab Number : 02310125 **Diagnosed** : 23 Sep 2019
Unique Number : 4929410 **Diagnostician** : Kevin Marson
Test Package : MOB 1 (Additional Tests: PQ)

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To discuss diagnosis or test data, contact Technical Support at 1-800-268-2131.
 To change component or sample information, contact Customer Service at 1-800-268-2131.