



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

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

Component
VOLVO D13/1005514 Front Diesel Engine

Fluid
MOBIL 15W40 (40 LTR)

PRODUIT : ZP-700 ADDITIF MOTEUR - Cas d'étude #01- a / 1 de 3



RECOMMENDATION

Resample at the next service interval to monitor.

Commentaires: L'unité est affectée au service long courrier.

History1 vs History2 : Oil age / Age de l'huile.

History2 : 40000 km, le moteur n'avait pas été traité avec le ZP-700.

History1 : 45000 km, 2 L de ZP-700 ont été ajoutés à l'huile (5%).

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number				WC112679	WC994124	WC994113
Sample Date				26 Jul 2018	26 Oct 2017	19 Jul 2017
Machine Age	kms			1341021	1271671	1203000
Oil Age	kms			10000	45000	40000
Filter Age	kms			10000	45000	40000
Oil Changed				Not Changed	Changed	Changed
Filter Changed				Not Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

History1 versus History2 : diminution sur les métaux d'usure (en %).

Iron / Fe : - 52%

Chromium / Ch : - 53%

Nickel / Ni : - 60%

Aluminum / Al : - 30%

Lead / Pb : - 59%

Copper / Cu : - 41%

Iron	ppm	ASTM D5185	>100	17	31	65
Chromium	ppm	ASTM D5185	>20	0.0	0.6	1.3
Nickel	ppm	ASTM D5185	>2	0.2	0.4	1.0
Titanium	ppm	ASTM D5185		0.0	0.0	0.0
Silver	ppm	ASTM D5185	>2	0.0	0.0	0.0
Aluminum	ppm	ASTM D5185	>25	3.9	5.5	7.9
Lead	ppm	ASTM D5185	>40	0.8	1.9	4.7
Copper	ppm	ASTM D5185	>330	2.3	2.0	3.4
Tin	ppm	ASTM D5185	>15	0.0	0.5	1.3
Vanadium	ppm	ASTM D5185		0.0	0.0	0.0

CONTAMINATION

There is no indication of any contamination in the oil.

History1 vs History2 : réduction sur la suie, nitration et sulfatation.

Soot / Suie : - 47%

Nitration / Nitration : - 22%

Sulfation / Sulfatation : - 16%

Silicon	ppm	ASTM D5185	>25	4.4	8.9	9.1
Potassium	ppm	ASTM D5185	>20	3.3	4.6	6.7
Fuel		ASTM D3524	>6.0	<1.0	<1.0	<1.0
Glycol		ASTM D2982		NEG	NEG	0.0
Soot %	%	ASTM D7686	>3	0.2	0.3	0.7
Nitration (PA)	%	ASTM D7624	>100	88	116	150
Sulfation (PA)	%	ASTM D7415	>100	63	82	98
Emulsified Water	scalar	Visual	>0.2	NEG	NEG	NEG

FLUID CONDITION

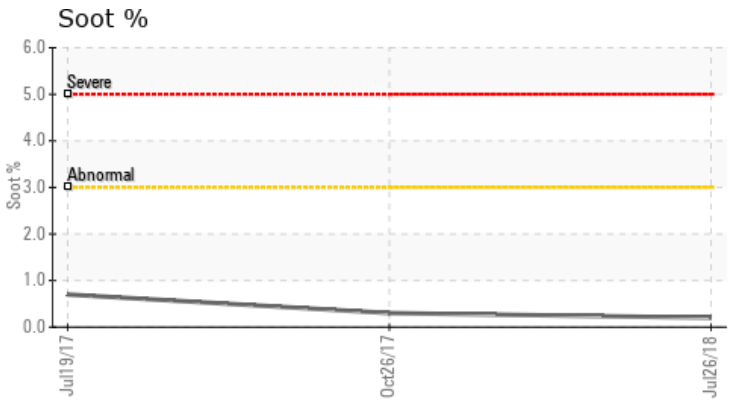
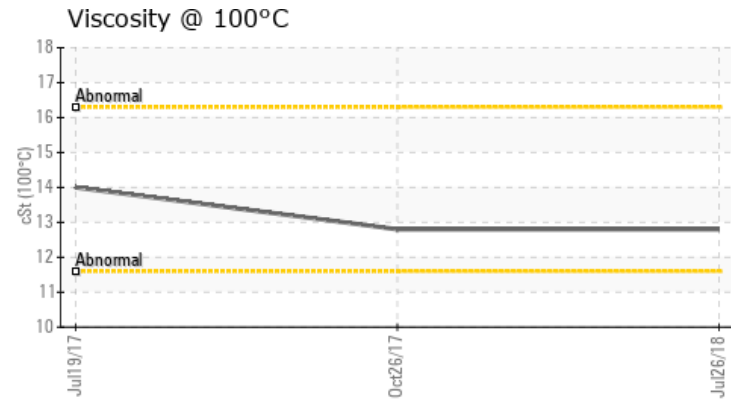
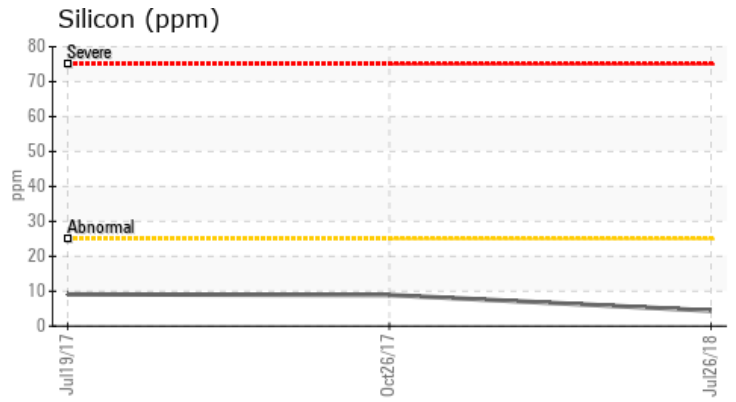
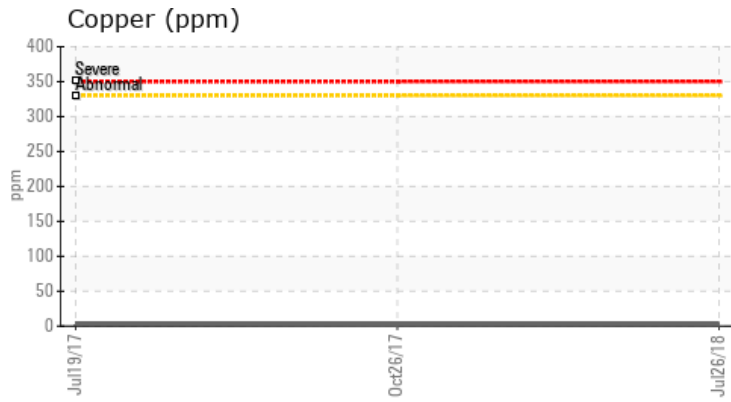
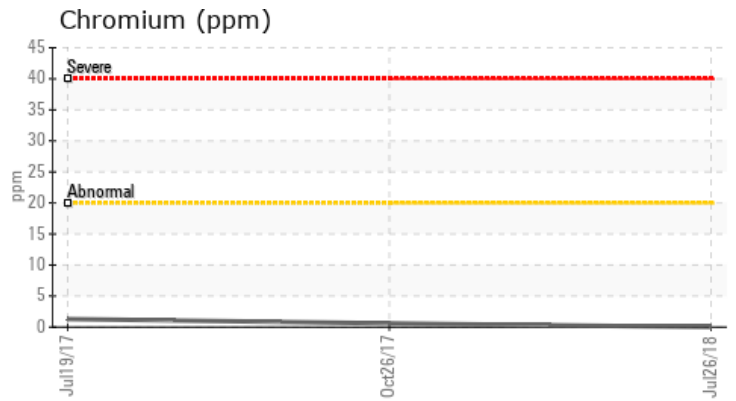
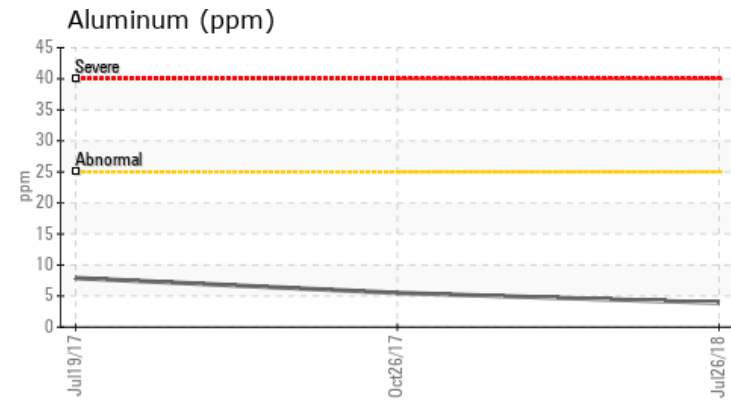
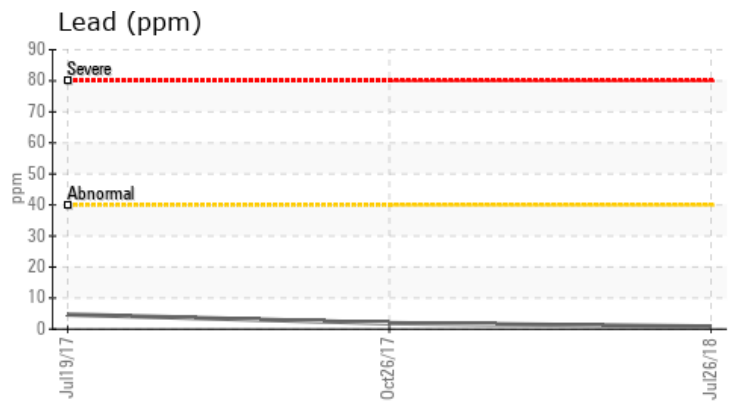
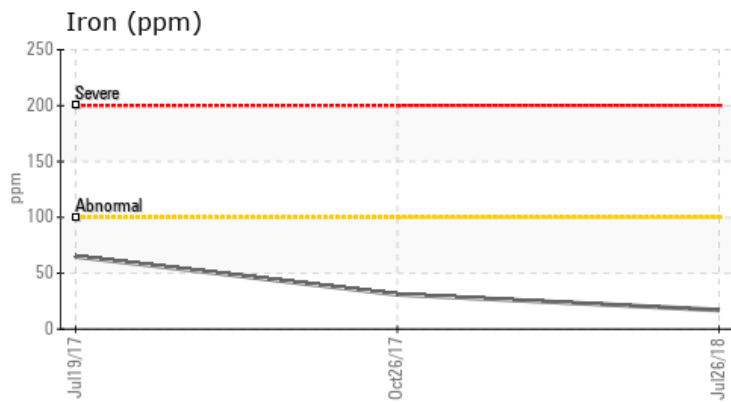
The condition of the oil is acceptable for the time in service.

History1 vs History2 : Oxydation et Viscosité

Oxydation / Oxydation : - 38%

Visc @ 100°C / Viscosité @ 100°C : 12.8 (dans la norme).

Sodium	ppm	ASTM D5185		6.4	9.4	11
Boron	ppm	ASTM D5185		19	13	9.2
Barium	ppm	ASTM D5185		0.0	0.2	0.3
Molybdenum	ppm	ASTM D5185		43	83	85
Manganese	ppm	ASTM D5185		0.5	0.5	0.8
Magnesium	ppm	ASTM D5185		457	507	541
Calcium	ppm	ASTM D5185		1671	1755	1744
Phosphorus	ppm	ASTM D5185		788	763	868
Zinc	ppm	ASTM D5185		874	918	1015
Sulfur	ppm	ASTM D5185		2264	2100	2050
Oxydation (PA)	%	ASTM D7414	>100	95	116	161
Visc @ 40°C	cSt	ASTM D7279		92.7	---	---
Visc @ 100°C	cSt	ASTM D7279		12.8	12.8	14.0
Viscosity Index (VI)	Scale	ASTM D2270		135	---	---



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC112679 **Received** : 02 Aug 2018
Lab Number : 02231831 **Diagnosed** : 02 Aug 2018
Unique Number : 4730985 **Diagnostician** : Wes Davis
Test Package : MOB 1 (Additional Tests: KV40, VI)

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 To change component or sample information, contact Customer Service at 1-800-268-2131.