



ASCENDUM

OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
VOLVO L60H 621267
Component
Diesel Engine
Fluid
VOLVO VDS-4.5 Premium Motor Oil 15W40 (--- GAL)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		ASC0009791	ASC0000025	VCP0004512
Sample Date		Client Info		13 Jun 2024	20 Jul 2023	06 Oct 2022
Machine Age	hrs	Client Info		7069	6070	5597
Oil Age	hrs	Client Info		999	473	4015
Filter Age	hrs	Client Info		0	473	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	ABNORMAL	NORMAL

WEAR

The aluminum level has decreased, but is still abnormal. All other component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	49	▲ 71	0
Chromium	ppm	ASTM D5185m	>10	6	▲ 10	0
Nickel	ppm	ASTM D5185m	>10	<1	0	0
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m	>2	<1	0	0
Aluminum	ppm	ASTM D5185m	>10	▲ 14	▲ 22	2
Lead	ppm	ASTM D5185m	>20	<1	0	0
Copper	ppm	ASTM D5185m	>15	4	2	<1
Tin	ppm	ASTM D5185m	>10	1	1	0
Vanadium	ppm	ASTM D5185m		<1	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.

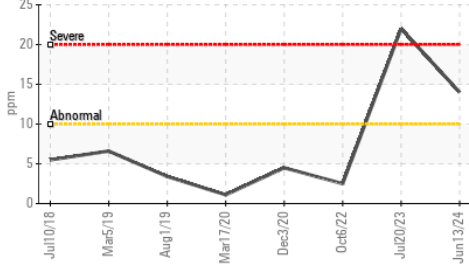
Silicon	ppm	ASTM D5185m	>20	11	11	2
Potassium	ppm	ASTM D5185m	>20	2	0	3
Fuel		WC Method	>6.0	<1.0	<1.0	<1.0
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.5	0.4	0.2
Nitration	Abs/cm	*ASTM D7624	>20	10.2	8.3	10.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.2	18.7	20.9
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

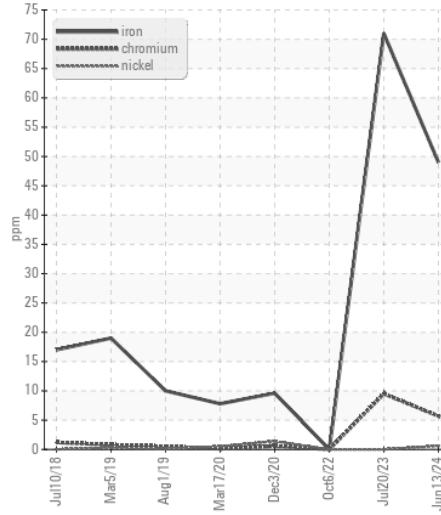
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		2	<1	1
Boron	ppm	ASTM D5185m		31	12	57
Barium	ppm	ASTM D5185m		<1	0	<1
Molybdenum	ppm	ASTM D5185m		46	69	77
Manganese	ppm	ASTM D5185m		1	1	0
Magnesium	ppm	ASTM D5185m		473	929	43
Calcium	ppm	ASTM D5185m		1866	1389	2269
Phosphorus	ppm	ASTM D5185m		922	1162	1042
Zinc	ppm	ASTM D5185m		1166	1418	1224
Sulfur	ppm	ASTM D5185m		2984	4185	4150
Oxidation	Abs/.1mm	*ASTM D7414	>25	19.7	15.0	15.4
Base Number (BN)	mg KOH/g	ASTM D2896		8.7	8.9	7.1
Visc @ 100°C	cSt	ASTM D445		13.0	14.4	14.1

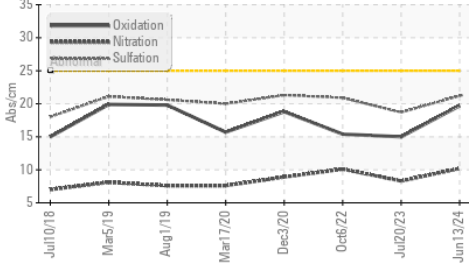
▲ Aluminum (ppm)



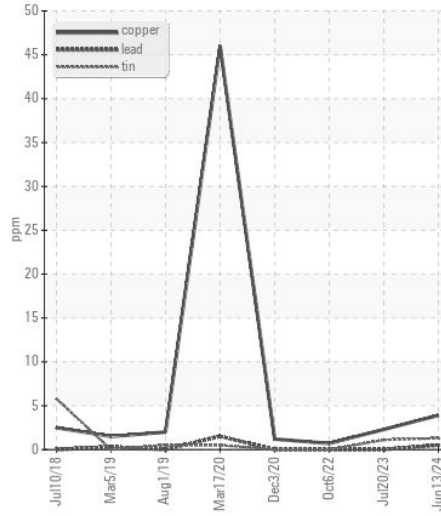
Ferrous Alloys



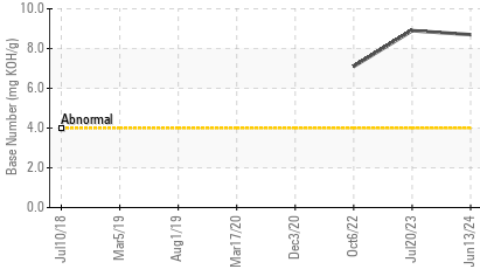
FT-IR (Direct Trend)



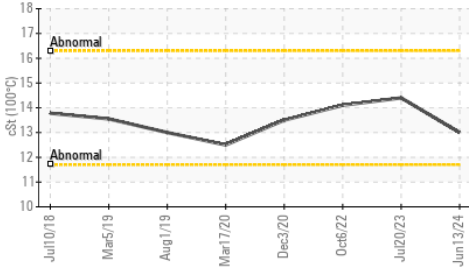
Non-ferrous Metals



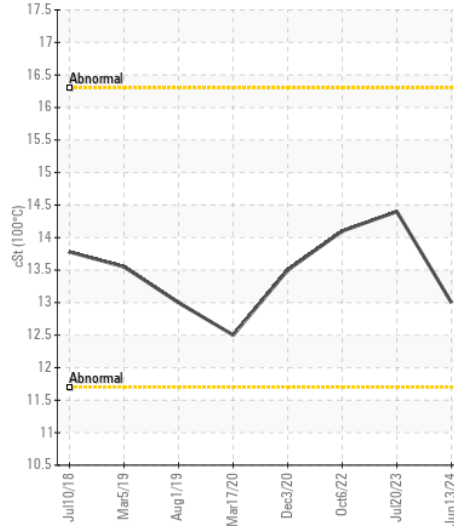
Base Number



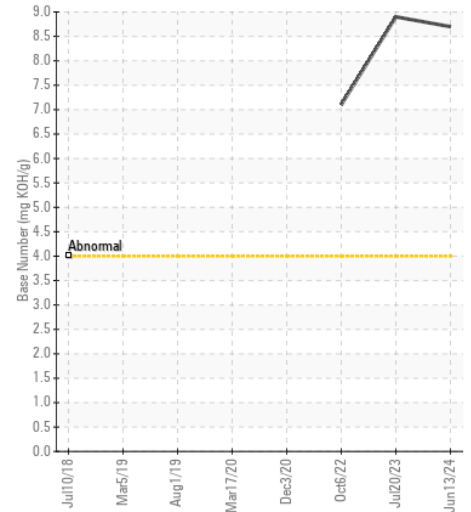
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : ASC0009791 **Received** : 18 Jun 2024
Lab Number : 06213126 **Tested** : 19 Jun 2024
Unique Number : 11085990 **Diagnosed** : 20 Jun 2024 - Don Baldrige
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)

MONROE ROADWAYS
 7061 CAMP GROUND RD
 DENVER, NC
 US 28037
 Contact: TIM CATLIN

T: (704)489-0700

F: