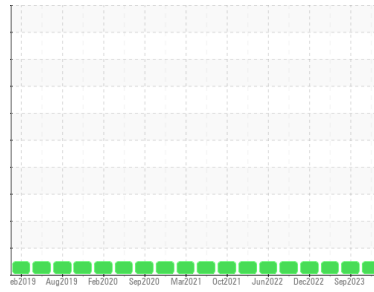




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
VOLVO L90H 624579
 Component
Diesel Engine
 Fluid
VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3 (5 GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

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		ML0002191	VCP414815	VCP423092
Sample Date	Client Info		01 Jul 2024	25 Sep 2023	27 Apr 2023
Machine Age	hrs	Client Info	9105	8177	7666
Oil Age	hrs	Client Info	928	0	0
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			NORMAL	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
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

WEAR METALS

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

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 2.5	198	317	361
Barium	ppm	ASTM D5185m 0.0	<1	0	0
Molybdenum	ppm	ASTM D5185m 0.7	101	101	98
Manganese	ppm	ASTM D5185m 0.0	<1	0	<1
Magnesium	ppm	ASTM D5185m 256	590	443	526
Calcium	ppm	ASTM D5185m 2057	1733	1478	1714
Phosphorus	ppm	ASTM D5185m 935	920	1077	1140
Zinc	ppm	ASTM D5185m 1223	1041	1290	1463
Sulfur	ppm	ASTM D5185m 4079	3239	3311	4018

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >20	7	8	5
Sodium	ppm	ASTM D5185m	2	3	<1
Potassium	ppm	ASTM D5185m >20	<1	3	<1

INFRA-RED

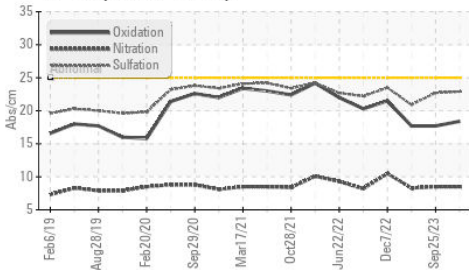
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.4	0.4	0.2
Nitration	Abs/cm	*ASTM D7624 >20	8.5	8.5	8.3
Sulfation	Abs/.1mm	*ASTM D7415 >30	22.9	22.7	20.9

FLUID DEGRADATION

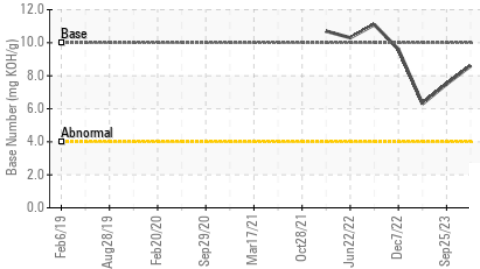
	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	18.4	17.7	17.7
Base Number (BN)	mg KOH/g	ASTM D2896 10	8.6	7.5	6.3

OIL ANALYSIS REPORT

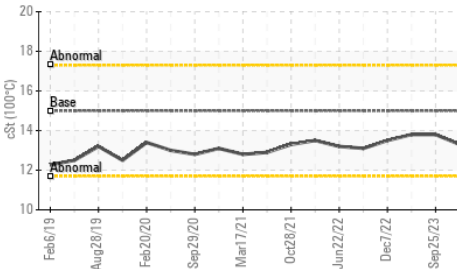
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

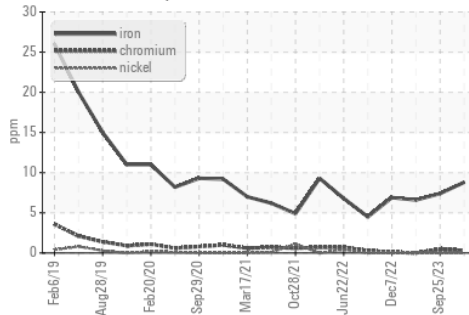


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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

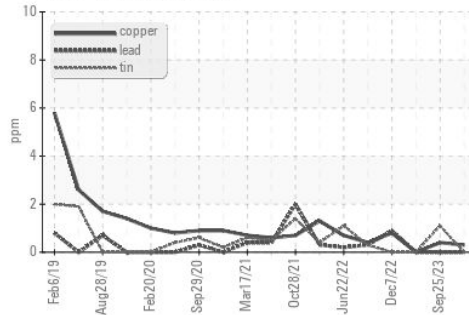
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.0	13.3	13.8

GRAPHS

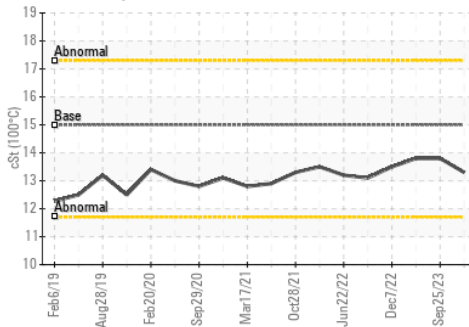
Ferrous Alloys



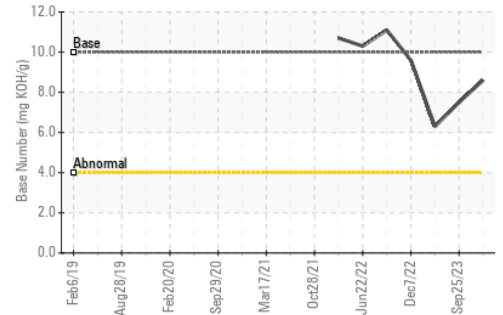
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

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

Sample No. : ML0002191

Lab Number : 06234230

Unique Number : 11123064

Test Package : CONST (Additional Tests: TBN)

Received : 11 Jul 2024

Tested : 12 Jul 2024

Diagnosed : 14 Jul 2024 - Don Baldrige

IAA - INSURANCE AUTO AUCTIONS - METRO DC

14149 BRANDYWINE RD

BRANDYWINE, MD

US 20613

Contact:

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)

T:

F: