



VOLVO

OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Area
TMR-Opa Locka [730366]
Machine Id
4419 VOLVO L180H 31479
Component
Diesel Engine
Fluid
VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3 (--- QTS)

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		VCP413099	DJJ023759	VCP261043
Sample Date		Client Info		10 Jul 2024	05 Apr 2024	30 Oct 2019
Machine Age	hrs	Client Info		12654	12103	3563
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	NORMAL	NORMAL

WEAR

The copper level is abnormal. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core). All other component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	14	10	5
Chromium	ppm	ASTM D5185m	>10	2	1	<1
Nickel	ppm	ASTM D5185m	>10	5	5	2
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>10	5	5	1
Lead	ppm	ASTM D5185m	>20	0	2	2
Copper	ppm	ASTM D5185m	>15	▲ 69	3	2
Tin	ppm	ASTM D5185m	>10	0	0	0
Vanadium	ppm	ASTM D5185m		0	<1	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.

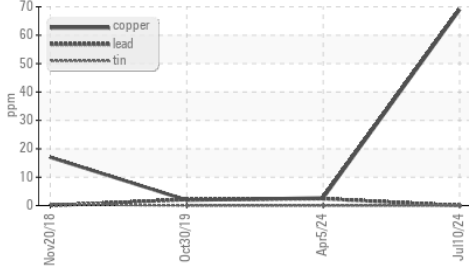
Silicon	ppm	ASTM D5185m	>20	4	4	5
Potassium	ppm	ASTM D5185m	>20	1	<1	0
Fuel		WC Method	>6.0	<1.0	<1.0	<1.0
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol	%	*ASTM D2982		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.2	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	6.9	7.4	6.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.9	19.3	21.9
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

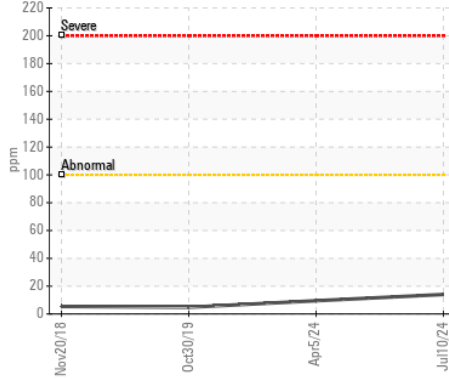
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		4	1	2
Boron	ppm	ASTM D5185m	2.5	2	0	20
Barium	ppm	ASTM D5185m	0.0	0	0	0
Molybdenum	ppm	ASTM D5185m	0.7	60	58	37
Manganese	ppm	ASTM D5185m	0.0	2	<1	<1
Magnesium	ppm	ASTM D5185m	256	913	990	466
Calcium	ppm	ASTM D5185m	2057	1029	1117	1534
Phosphorus	ppm	ASTM D5185m	935	989	1030	684
Zinc	ppm	ASTM D5185m	1223	1197	1283	793
Sulfur	ppm	ASTM D5185m	4079	3022	3638	1999
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.0	15.4	20
Base Number (BN)	mg KOH/g	ASTM D2896	10	8.5	8.2	---
Visc @ 100°C	cSt	ASTM D445	15.0	12.8	12.7	12.8

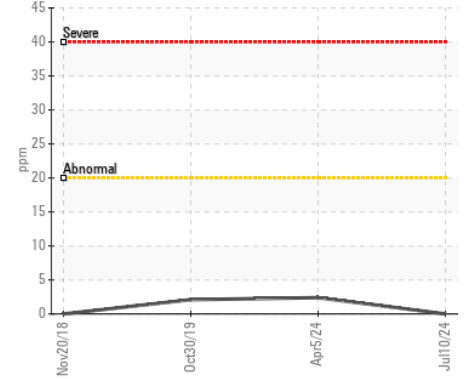
▲ Non-ferrous Metals



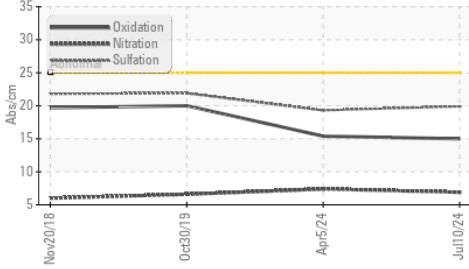
Iron (ppm)



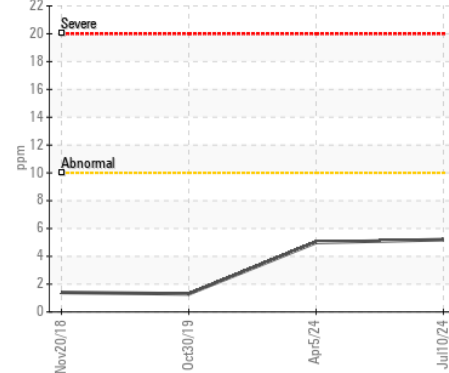
Lead (ppm)



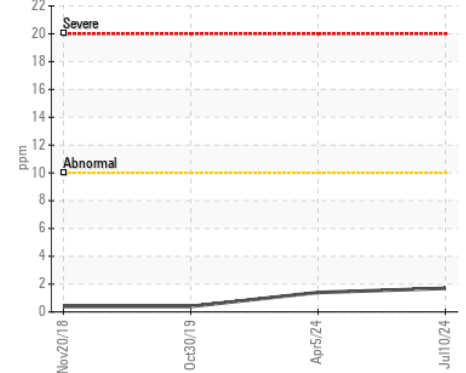
FT-IR (Direct Trend)



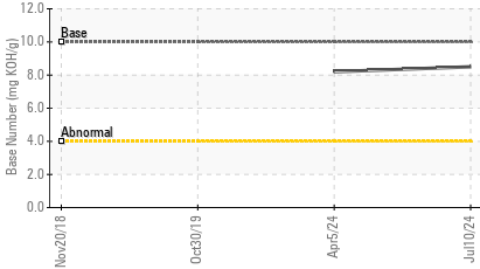
Aluminum (ppm)



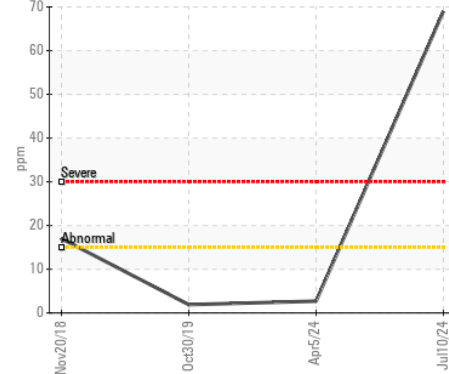
Chromium (ppm)



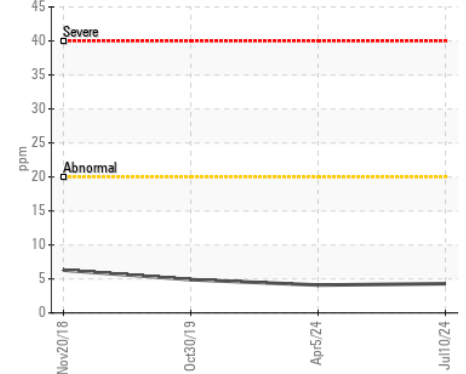
Base Number



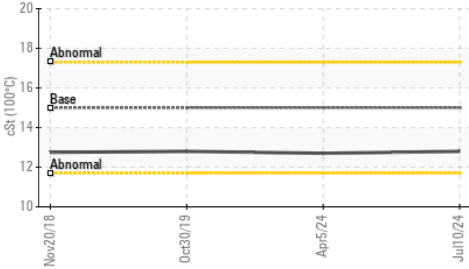
▲ Copper (ppm)



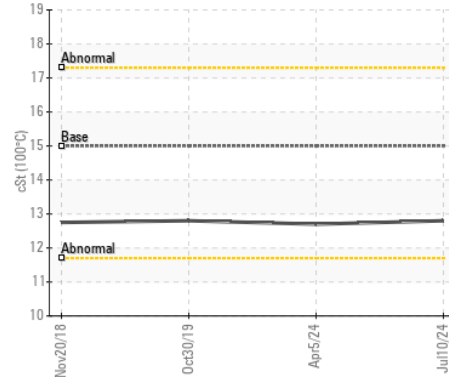
Silicon (ppm)



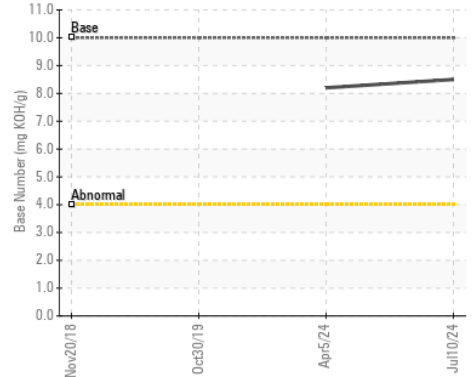
Viscosity @ 100°C



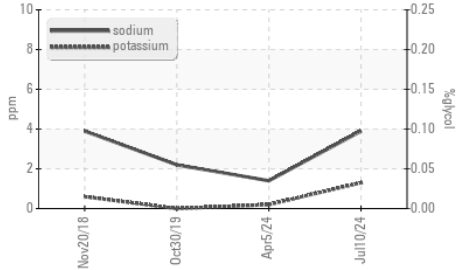
Viscosity @ 100°C



Base Number



Glycol Contamination



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : VCP413099 **Received** : 17 Jul 2024
Lab Number : 06238761 **Tested** : 18 Jul 2024
Unique Number : 11127595 **Diagnosed** : 18 Jul 2024 - Sean Felton
Test Package : MOB 1 (Additional Tests: Glycol, TBN)

TRADEMARK METALS RECYCLING - EVERGLADES
 3440 NW 135TH ST
 OPA LOCKA, FL
 US 33054
 Contact: RYAN BOWDEN

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)

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