



# VOLVO

## OIL ANALYSIS REPORT

WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>ATTENTION</b>



Area  
**TMR-Okeechobee [60849]**  
Machine Id  
**434166 VOLVO L180H 4821**  
Component  
**Diesel Engine**  
Fluid  
**VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3 (--- GAL)**

### RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>VCP432915</b>	VCP412620	VCP408001
Sample Date		Client Info		<b>23 Jan 2024</b>	21 Jul 2023	01 May 2023
Machine Age	hrs	Client Info		<b>15313</b>	13817	13007
Oil Age	hrs	Client Info		<b>0</b>	0	0
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>ATTENTION</b>	NORMAL	NORMAL

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>200	<b>10</b>	3	2
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	0	<1
Nickel	ppm	ASTM D5185m	>5	<b>&lt;1</b>	0	<1
Titanium	ppm	ASTM D5185m		<b>0</b>	0	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>30	<b>3</b>	<1	0
Lead	ppm	ASTM D5185m	>40	<b>3</b>	<1	<1
Copper	ppm	ASTM D5185m	>20	<b>2</b>	3	<1
Tin	ppm	ASTM D5185m	>20	<b>&lt;1</b>	0	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	<1	<1
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

### CONTAMINATION

Fuel content negligible. There is no indication of any contamination in the oil.

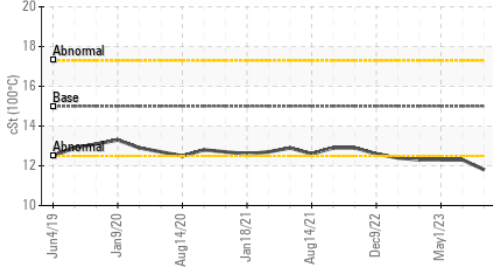
Silicon	ppm	ASTM D5185m	>20	<b>6</b>	3	4
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	0	1
Fuel	%	ASTM D3524	>6.0	<b>2.6</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.4</b>	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>9.6</b>	6.6	5.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>22.8</b>	21.8	21.5
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	NEG	NEG

### FLUID CONDITION

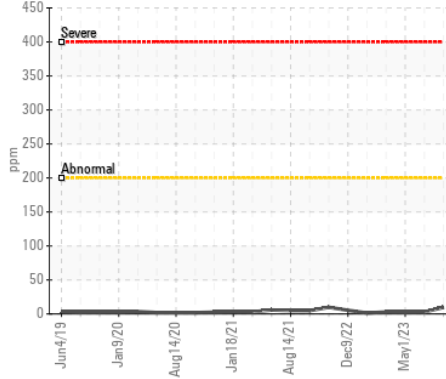
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Sodium	ppm	ASTM D5185m		<b>3</b>	3	3
Boron	ppm	ASTM D5185m	2.5	<b>14</b>	38	44
Barium	ppm	ASTM D5185m	0.0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	0.7	<b>39</b>	42	42
Manganese	ppm	ASTM D5185m	0.0	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	256	<b>481</b>	495	507
Calcium	ppm	ASTM D5185m	2057	<b>1578</b>	1710	1598
Phosphorus	ppm	ASTM D5185m	935	<b>937</b>	907	941
Zinc	ppm	ASTM D5185m	1223	<b>1110</b>	1108	1123
Sulfur	ppm	ASTM D5185m	4079	<b>2721</b>	3371	3654
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>22.8</b>	20.2	19.6
Base Number (BN)	mg KOH/g	ASTM D2896	10	<b>6.6</b>	9.7	10.4
Visc @ 100°C	cSt	ASTM D445	15.0	<b>▲ 11.8</b>	12.3	12.3

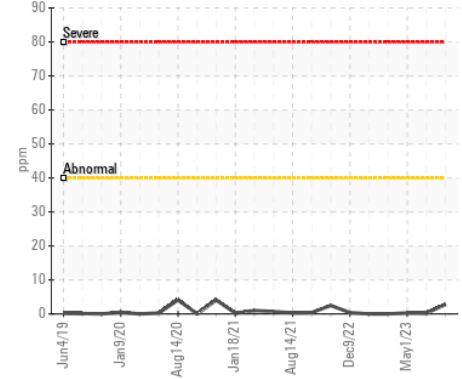
▲ Viscosity @ 100°C



Iron (ppm)



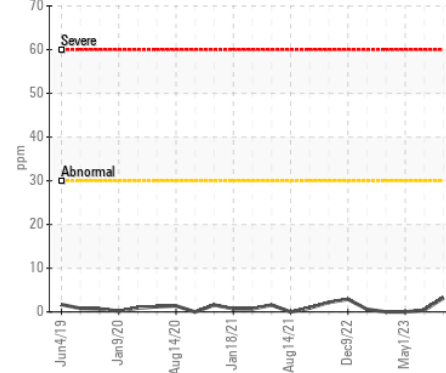
Lead (ppm)



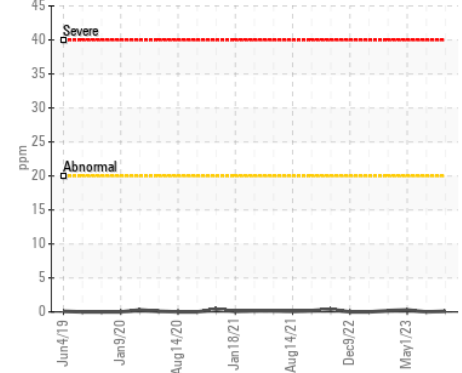
Fuel Dilution



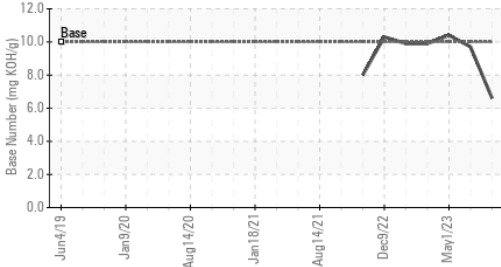
Aluminum (ppm)



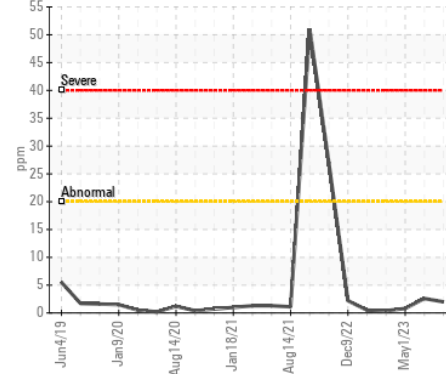
Chromium (ppm)



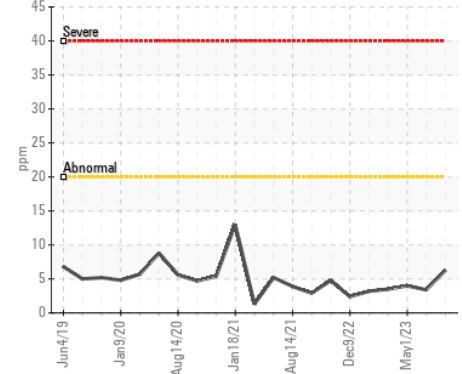
Base Number



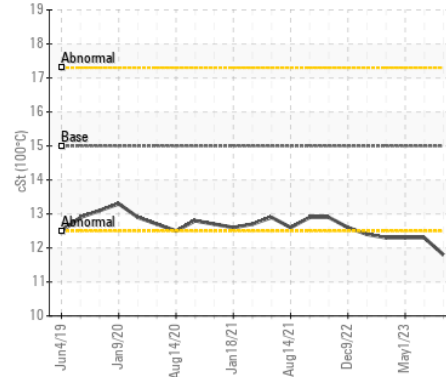
Copper (ppm)



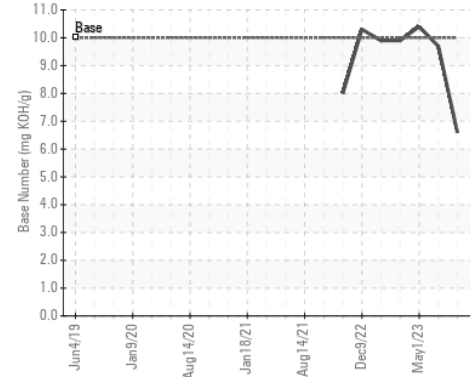
Silicon (ppm)



▲ Viscosity @ 100°C



Base Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : VCP432915 **Received** : 31 Jan 2024  
**Lab Number** : 06075484 **Diagnosed** : 02 Feb 2024  
**Unique Number** : 10857575 **Diagnostician** : Jonathan Hester  
**Test Package** : MOB 1 ( Additional Tests: FuelDilution, PercentFuel, TBN )

**TRADEMARK METALS RECYCLING - OKEECHOBEE**  
 9800 NE 128TH AVE  
 OKEECHOBEE, FL  
 US 34972  
 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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