



# VOLVO

## OIL ANALYSIS REPORT

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

Area  
**[ASN]**  
 Machine Id  
**VOLVO A60H 350269**

Component  
**Diesel Engine**  
 Fluid  
**VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3 (--- GAL)**

### RECOMMENDATION

We advise that you check the fuel injection system. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>VCP393192</b>	VCP401102	VCP402367
Sample Date		Client Info		<b>13 Jul 2023</b>	15 Jun 2023	22 Mar 2023
Machine Age	hrs	Client Info		<b>1658</b>	1648	1054
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>N/A</b>	N/A	N/A
Filter Changed		Client Info		<b>N/A</b>	N/A	N/A
Sample Status				<b>ABNORMAL</b>	SEVERE	SEVERE

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>2</b>	3	14
Chromium	ppm	ASTM D5185m	>20	<b>0</b>	0	<1
Nickel	ppm	ASTM D5185m	>2	<b>1</b>	0	1
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>25	<b>&lt;1</b>	10	0
Lead	ppm	ASTM D5185m	>40	<b>0</b>	0	<1
Copper	ppm	ASTM D5185m	>330	<b>2</b>	13	215
Tin	ppm	ASTM D5185m	>15	<b>0</b>	0	1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

### CONTAMINATION

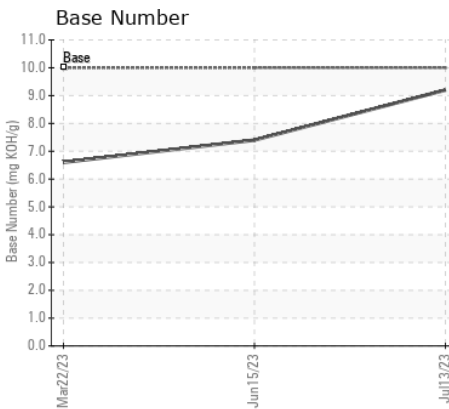
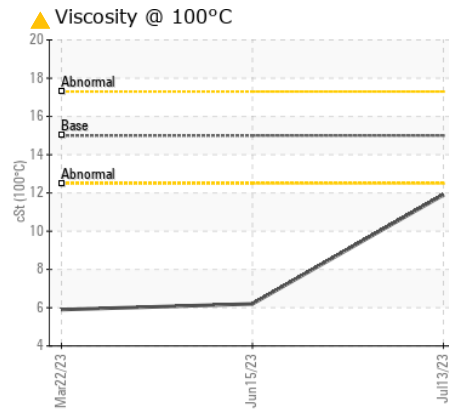
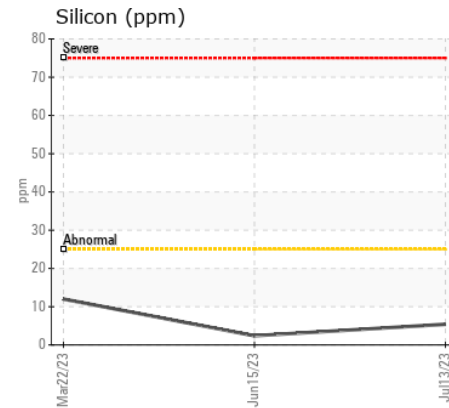
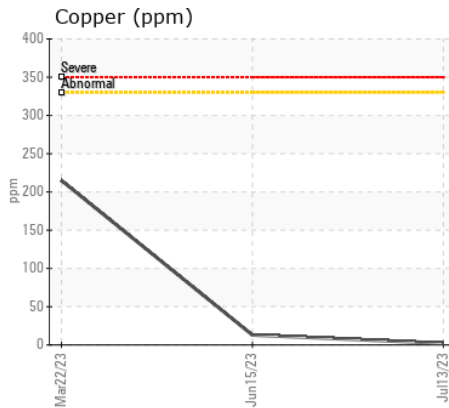
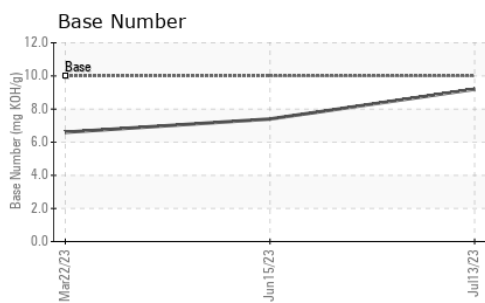
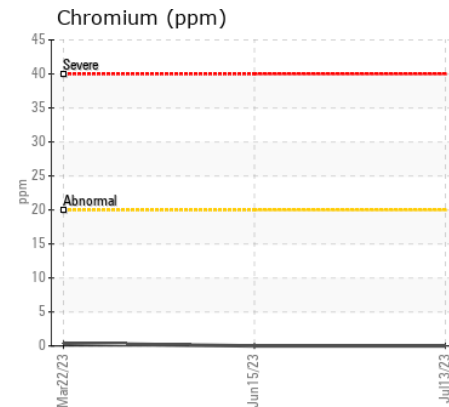
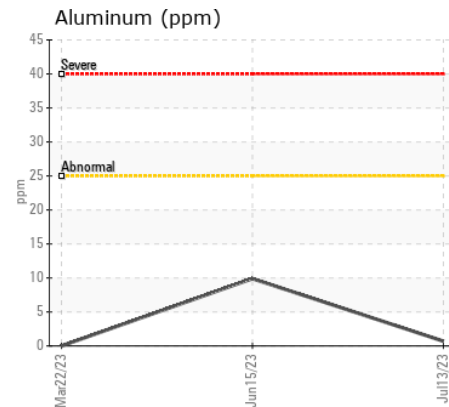
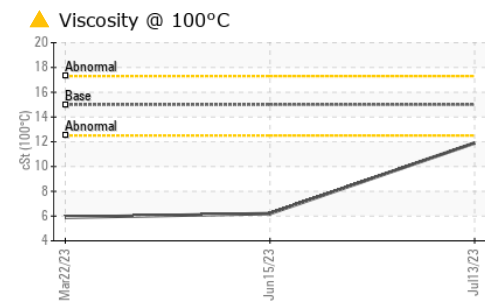
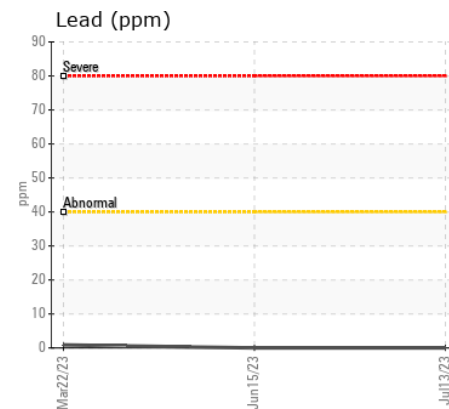
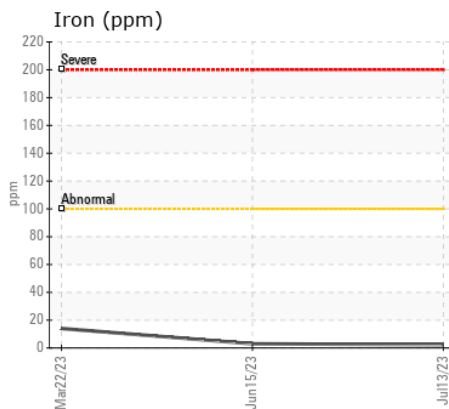
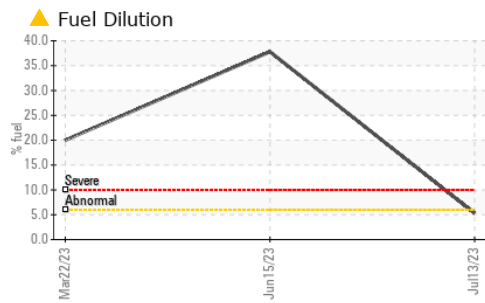
There is a moderate amount of fuel present in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>5</b>	2	12
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	<1	0
Fuel	%	ASTM D3524	>6.0	<b>▲ 5.3</b>	■ 37.8	■ 20.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.1</b>	0.2	0.3
Nitration	Abs/cm	*ASTM D7624	>20	<b>5.6</b>	8.3	9.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>18.5</b>	19.1	20.0
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

Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

Sodium	ppm	ASTM D5185m		<b>3</b>	1	2
Boron	ppm	ASTM D5185m	2.5	<b>254</b>	111	25
Barium	ppm	ASTM D5185m	0.0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	0.7	<b>73</b>	61	32
Manganese	ppm	ASTM D5185m	0.0	<b>&lt;1</b>	0	<1
Magnesium	ppm	ASTM D5185m	256	<b>699</b>	435	281
Calcium	ppm	ASTM D5185m	2057	<b>1401</b>	938	1182
Phosphorus	ppm	ASTM D5185m	935	<b>740</b>	500	578
Zinc	ppm	ASTM D5185m	1223	<b>883</b>	559	700
Sulfur	ppm	ASTM D5185m	4079	<b>3322</b>	1812	1994
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>13.2</b>	14.1	17.8
Base Number (BN)	mg KOH/g	ASTM D2896	10	<b>9.2</b>	7.4	6.6
Visc @ 100°C	cSt	ASTM D445	15.0	<b>▲ 11.9</b>	▲ 6.2	▲ 5.9



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : VCP393192 **Received** : 19 Jul 2023  
**Lab Number** : 05902015 **Tested** : 20 Jul 2023  
**Unique Number** : 10563371 **Diagnosed** : 20 Jul 2023 - Jonathan Hester  
**Test Package** : MOB 1 ( Additional Tests: PercentFuel, TBN )

**403 - ASCENDUM MACHINERY INC - FARGO**  
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 US 58104  
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Certificate L2367  
 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)