



# CONSTRUCTION EQUIPMENT

## SW-29978-2 CASTLE VA VOLVO EC350EL 310786 - DIESEL ENGINE



**Sample No:** VCP440342  
**Oil Type:** VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3  
**Job No:** SW-29978-2 CASTLE VA



### SAMPLE INFORMATION

Sample Number	<b>VCP440342</b>	VCP442151	VCP432504	VCP419289
Sample Date	<b>19 Feb 2024</b>	29 Nov 2023	20 Sep 2023	06 Jul 2023
Machine Hours	<b>8943</b>	8434	7914	7380
Oil Hours	<b>508</b>	520	520	540
Oil Changed	<b>Changed</b>	Changed	Changed	Changed
Sample Status	<b>NORMAL</b>	NORMAL	NORMAL	NORMAL

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### OIL CONDITION

Visc @ 100°C	cSt	<b>12.1</b>	12.2	12.3	12.3
Base Number (BN)	mg KOH/g	<b>7.2</b>	8.0	8.4	8.9
Oxidation (PA)	%	<b>54</b>	60	65	62

### Diagnosis

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. 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.



### CONTAMINATION

Water	%	<b>NEG</b>	NEG	NEG	NEG
Soot %	%	<b>0.2</b>	0.1	0.1	0.2
Nitration (PA)	%	<b>68</b>	68	63	63
Sulfation (PA)	%	<b>50</b>	52	55	53
Glycol	%	<b>NEG</b>	NEG	NEG	NEG
Fuel	%	<b>&lt;1.0</b>	<1.0	<1.0	<1.0
Silicon	ppm	<b>5</b>	3	3	3
Sodium	ppm	<b>3</b>	<1	1	2
Potassium	ppm	<b>2</b>	<1	1	<1



### WEAR METALS

Iron	ppm	<b>5</b>	3	3	5
Copper	ppm	<b>2</b>	<1	<1	2
Lead	ppm	<b>&lt;1</b>	0	<1	<1
Tin	ppm	<b>&lt;1</b>	0	0	<1
Aluminum	ppm	<b>2</b>	1	<1	<1
Chromium	ppm	<b>&lt;1</b>	<1	0	<1
Molybdenum	ppm	<b>56</b>	62	60	63
Nickel	ppm	<b>&lt;1</b>	0	0	0
Titanium	ppm	<b>1</b>	<1	0	0
Silver	ppm	<b>0</b>	0	0	0
Manganese	ppm	<b>&lt;1</b>	0	0	<1
Vanadium	ppm	<b>&lt;1</b>	0	0	0



### ADDITIVES

Calcium	ppm	<b>1096</b>	1037	1132	1201
Magnesium	ppm	<b>704</b>	883	1034	1005
Zinc	ppm	<b>1083</b>	1142	1312	1346
Phosphorus	ppm	<b>870</b>	932	1052	1089
Barium	ppm	<b>34</b>	2	0	0
Boron	ppm	<b>13</b>	4	1	7

**Depot:** VOLVO8770  
**Unique No:** 10898161  
**Signed:** Don Baldrige  
**Report Date:** 27 Feb 2024

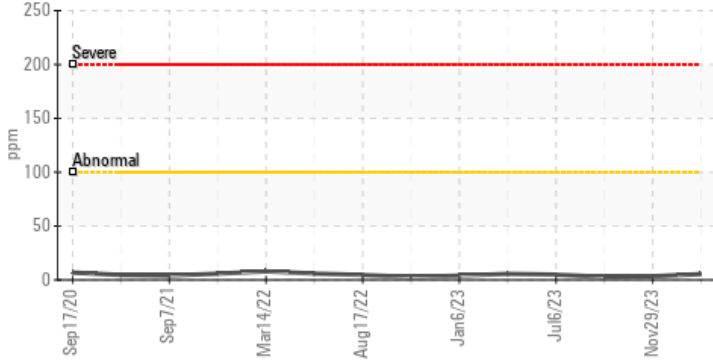


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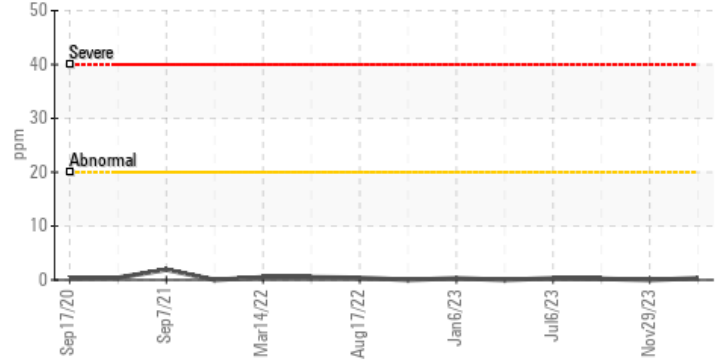


## GRAPHS

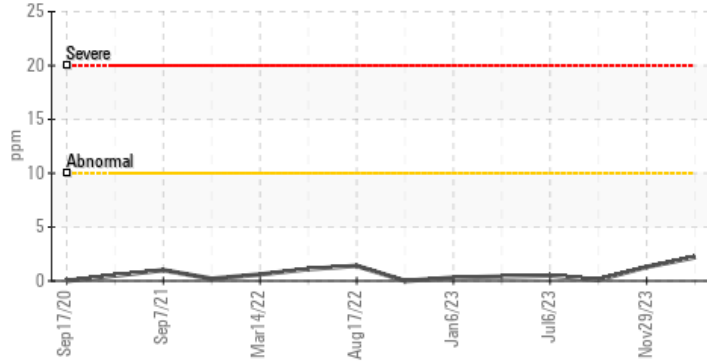
### Iron (ppm)



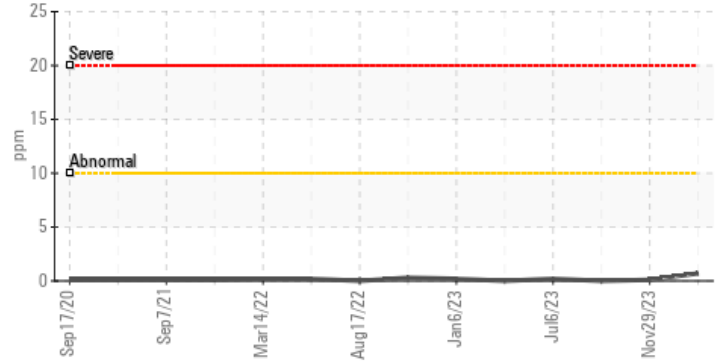
### Lead (ppm)



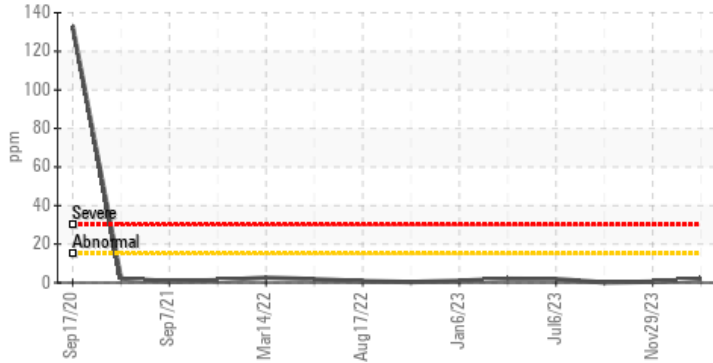
### Aluminum (ppm)



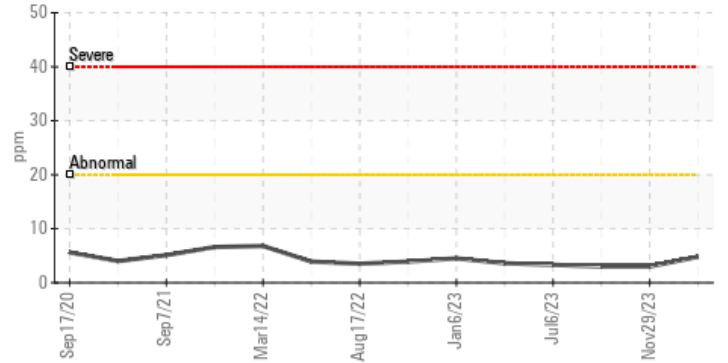
### Chromium (ppm)



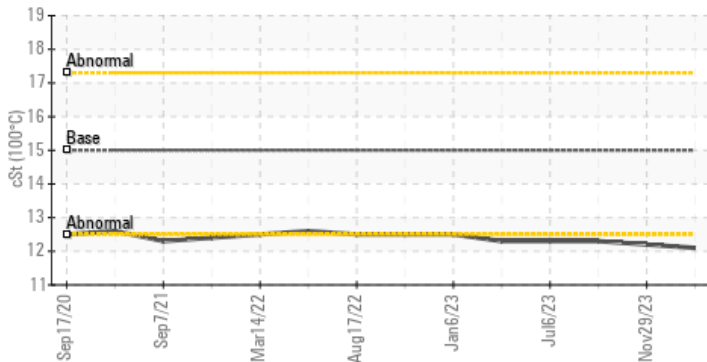
### Copper (ppm)



### Silicon (ppm)



### Viscosity @ 100°C



### Base Number

