



# CONSTRUCTION EQUIPMENT

W125703 VOLVO EC380E 311723 - COOLANT



**Sample No:** VCP303034  
**Oil Type:** VOLVO COOLANT VCS (YELLOW)  
**Job No:** W125703



## SAMPLE INFORMATION

Sample Number	<b>VCP303034</b>	VCP277959	---	---
Sample Date	<b>13 May 2021</b>	26 Mar 2020	---	---
Machine Hours	<b>2298</b>	522	---	---
Sample Status	<b>NORMAL</b>	NORMAL	---	---



## COOLANT CONDITION

pH	Scale 0-14	<b>7.43</b>	8.06	---	---
Reserve Alkalinity	Scale 0-20	---	---	---	---
Nitrites	ppm	<b>NT</b>	NT	---	---
Percentage Glycol	%	<b>49</b>	49	---	---
Freezing Point	°C	<b>-36</b>	-36	---	---



## CONTAMINATION

Coolant Appearance	<b>normal</b>	normal	---	---
Coolant Color	<b>Orange</b>	Orange	---	---

**ALTA EQUIPMENT**  
5985 COURT STREET ROAD  
SYRACUSE, NY  
US 13206  
Contact: JIM STRIGLE  
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T: (315)437-2611  
F: (315)434-9471

## Diagnosis

The fluid is suitable for further service. There is no indication of any contamination in the component. The carboxylate level of this fluid is acceptable. The glycol level is acceptable. The pH level of this fluid is within the acceptable limits.

**Depot:** VOLVO0142  
**Unique No:** 9516322  
**Signed:** Jonathan Hester  
**Report Date:** 27 May 2021



# CONSTRUCTION EQUIPMENT

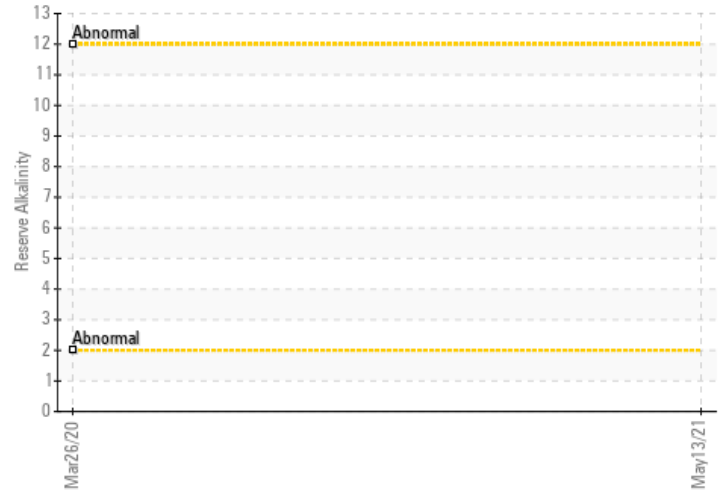


## GRAPHS

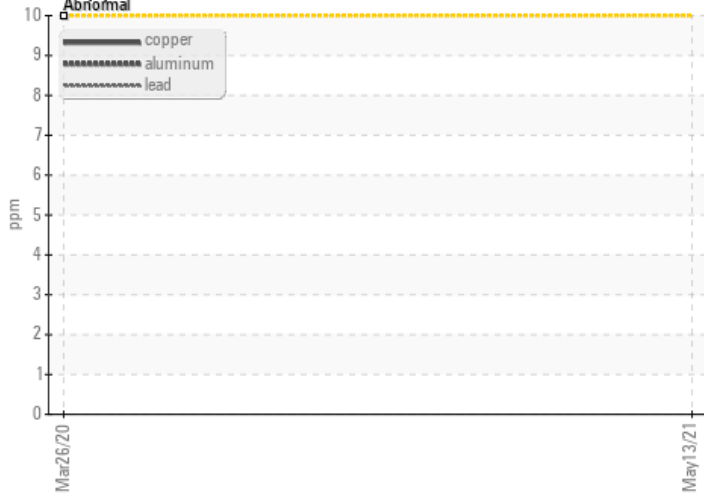
### Iron/Tin/Silver



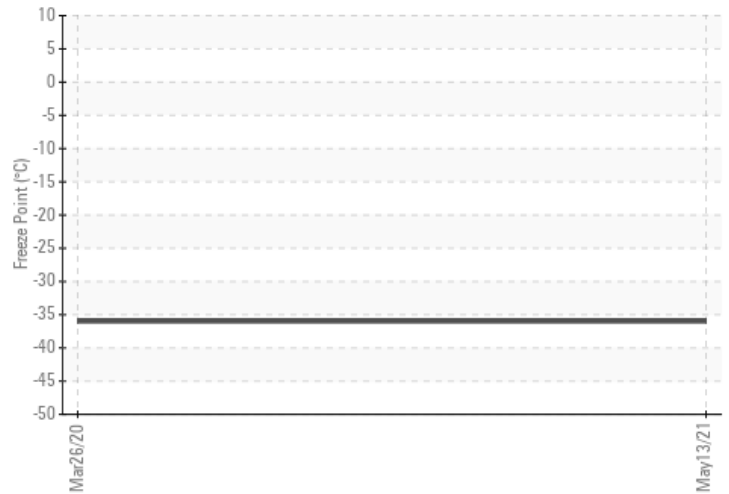
### Reserve Alkalinity



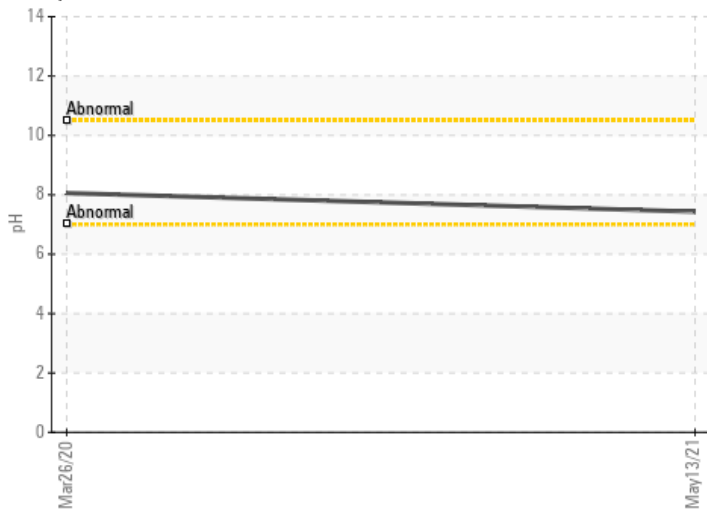
### Copper/Aluminum/Lead



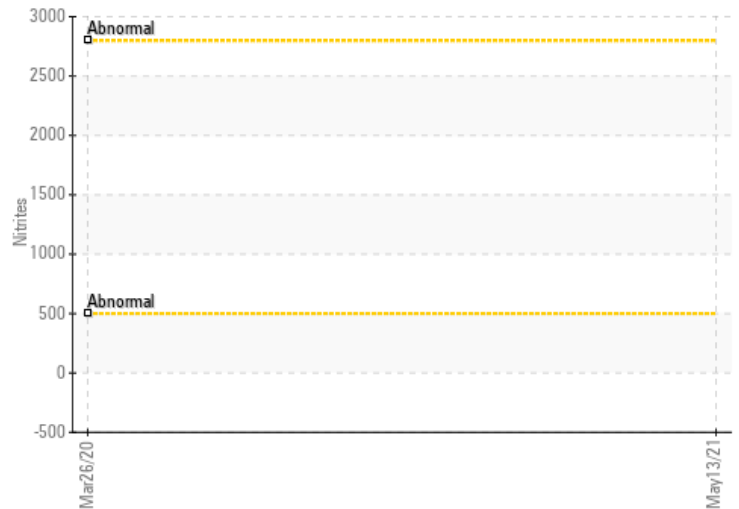
### Freeze Point



### pH



### Nitrites





# CONSTRUCTION EQUIPMENT

W125703 VOLVO EC380E 311723 - DIESEL ENGINE



**Sample No:** VCP303192  
**Oil Type:** VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3  
**Job No:** W125703



## SAMPLE INFORMATION

Sample Number	<b>VCP303192</b>	VCP275573	---	---
Sample Date	<b>13 May 2021</b>	26 Mar 2020	---	---
Machine Hours	<b>2298</b>	522	---	---
Oil Hours	<b>250</b>	0	---	---
Oil Changed	<b>Changed</b>	Not Changd	---	---
Sample Status	<b>NORMAL</b>	ABNORMAL	---	---

**ALTA EQUIPMENT**  
 5985 COURT STREET ROAD  
 SYRACUSE, NY  
 US 13206  
 Contact: JIM STRIGLE  
 JIM.STRIGLE@ALTG.COM  
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 F: (315)434-9471



## OIL CONDITION

Visc @ 100°C	cSt	<b>12.1</b>	█ 12.4	---	---
Oxidation (PA)	%	<b>78</b>	63	---	---



## CONTAMINATION

Water	%	<b>NEG</b>	NEG	---	---
Soot %	%	█ <b>0.1</b>	█ 0.1	---	---
Nitration (PA)	%	<b>64</b>	58	---	---
Sulfation (PA)	%	<b>62</b>	54	---	---
Glycol	%	<b>NEG</b>	NEG	---	---
Fuel	%	█ <b>1.3</b>	<1.0	---	---
Silicon	ppm	█ <b>4</b>	█ 25	---	---
Sodium	ppm	█ <b>3</b>	█ 4	---	---
Potassium	ppm	█ <b>2</b>	█ 8	---	---

## Diagnosis

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample. All component wear rates are normal. Tests indicate that there is no fuel present in the oil. There is no indication of any contamination in the oil. The condition of the oil is acceptable for the time in service.



## WEAR METALS

Iron	ppm	█ <b>4</b>	█ 17	---	---
Copper	ppm	█ <b>1</b>	▲ 377	---	---
Lead	ppm	█ <b>&lt;1</b>	█ 1	---	---
Tin	ppm	█ <b>&lt;1</b>	█ 0	---	---
Aluminum	ppm	█ <b>1</b>	█ 2	---	---
Chromium	ppm	█ <b>&lt;1</b>	█ <1	---	---
Molybdenum	ppm	█ <b>26</b>	█ 11	---	---
Nickel	ppm	█ <b>&lt;1</b>	█ <1	---	---
Titanium	ppm	<b>&lt;1</b>	<1	---	---
Silver	ppm	<b>0</b>	0	---	---
Manganese	ppm	█ <b>&lt;1</b>	█ 3	---	---
Vanadium	ppm	<b>0</b>	0	---	---



## ADDITIVES

Calcium	ppm	█ <b>1783</b>	█ 2467	---	---
Magnesium	ppm	█ <b>289</b>	85	---	---
Zinc	ppm	█ <b>1084</b>	█ 1164	---	---
Phosphorus	ppm	█ <b>876</b>	█ 982	---	---
Barium	ppm	█ <b>0</b>	█ 0	---	---
Boron	ppm	<b>92</b>	█ 6	---	---

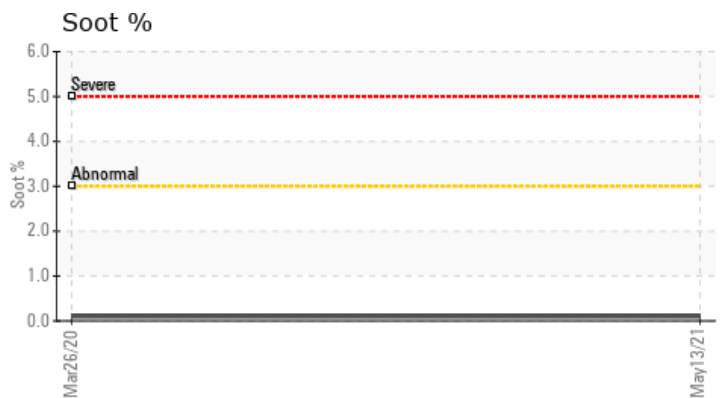
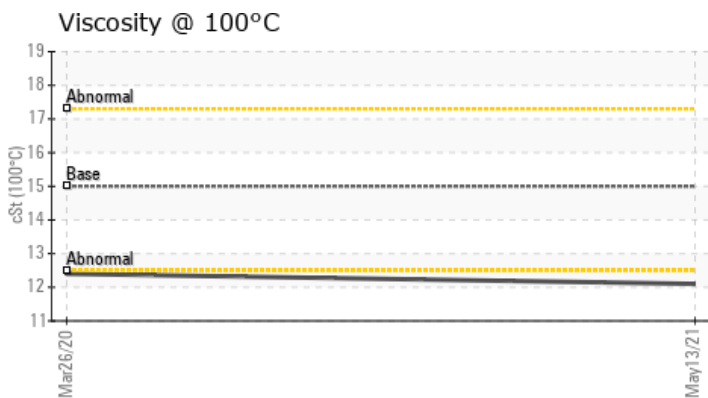
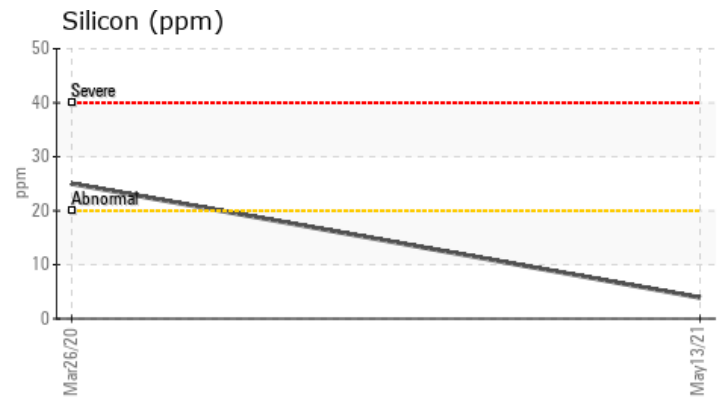
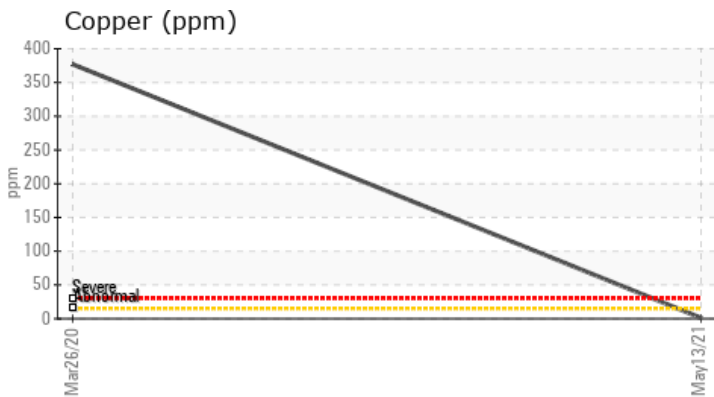
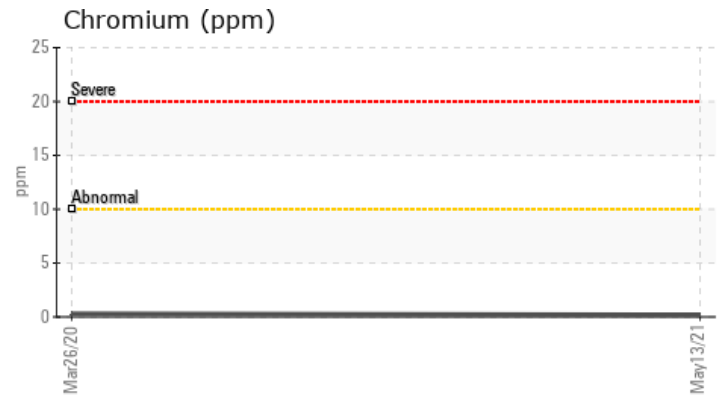
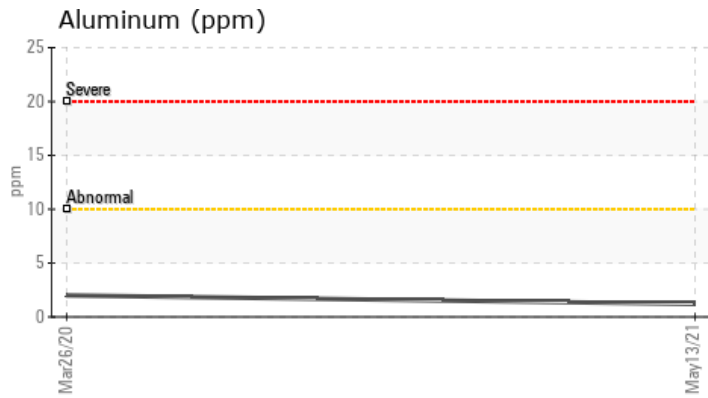
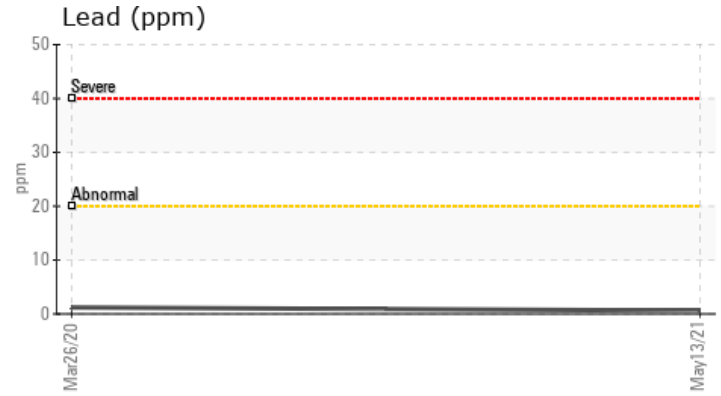
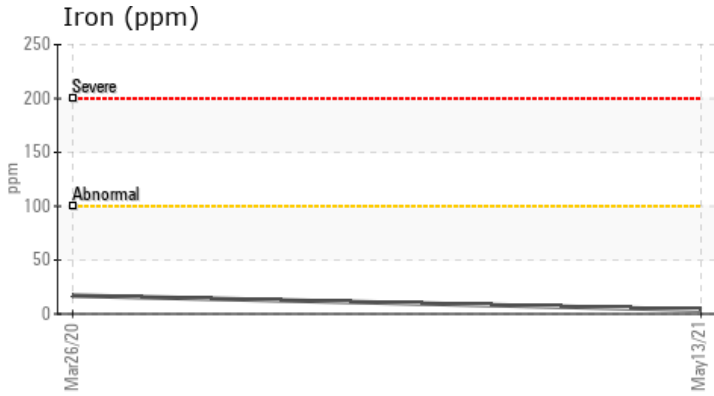
**Depot:** VOLVO0142  
**Unique No:** 9516108  
**Signed:** Jonathan Hester  
**Report Date:** 27 May 2021



# CONSTRUCTION EQUIPMENT



## GRAPHS





# CONSTRUCTION EQUIPMENT

## W125703 VOLVO EC380E 311723 - HYDRAULIC SYSTEM



**Sample No:** VCP303186  
**Oil Type:** VOLVO SUPER HYDRAULIC OIL 46  
**Job No:** W125703



### SAMPLE INFORMATION

Sample Number	<b>VCP303186</b>	VCP277960	---	---
Sample Date	<b>13 May 2021</b>	26 Mar 2020	---	---
Machine Hours	<b>2298</b>	522	---	---
Oil Hours	<b>0</b>	0	---	---
Oil Changed	<b>Changed</b>	Not Changd	---	---
Sample Status	<b>NORMAL</b>	NORMAL	---	---

### ALTA EQUIPMENT

5985 COURT STREET ROAD  
 SYRACUSE, NY  
 US 13206  
 Contact: JIM STRIGLE  
 JIM.STRIGLE@ALTG.COM  
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 F: (315)434-9471



### OIL CONDITION

Visc @ 40°C	cSt	<b>42.5</b>	43.8	---	---
Acid Number (AN)	mg KOH/g	<b>0.516</b>	0.438	---	---



### CONTAMINATION

Water	%	<b>NEG</b>	NEG	---	---
Particles >4µm		<b>2060</b>	16789	---	---
Particles >6µm		<b>152</b>	2442	---	---
Particles >14µm		<b>7</b>	51	---	---
ISO 4406:1999 (c)		<b>18/14/10</b>	21/18/13	---	---
Silicon	ppm	<b>2</b>	2	---	---
Sodium	ppm	<b>&lt;1</b>	0	---	---
Potassium	ppm	<b>&lt;1</b>	<1	---	---

### Diagnosis

Resample at the next service interval to monitor. All component wear rates are normal. The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.



### WEAR METALS

Iron	ppm	<b>4</b>	2	---	---
Copper	ppm	<b>12</b>	16	---	---
Lead	ppm	<b>&lt;1</b>	<1	---	---
Tin	ppm	<b>&lt;1</b>	<1	---	---
Aluminum	ppm	<b>0</b>	<1	---	---
Chromium	ppm	<b>&lt;1</b>	<1	---	---
Molybdenum	ppm	<b>4</b>	0	---	---
Nickel	ppm	<b>0</b>	0	---	---
Titanium	ppm	<b>0</b>	0	---	---
Silver	ppm	<b>&lt;1</b>	0	---	---
Manganese	ppm	<b>&lt;1</b>	0	---	---
Vanadium	ppm	<b>0</b>	0	---	---



### ADDITIVES

Calcium	ppm	<b>376</b>	85	---	---
Magnesium	ppm	<b>43</b>	<1	---	---
Zinc	ppm	<b>562</b>	511	---	---
Phosphorus	ppm	<b>419</b>	382	---	---
Barium	ppm	<b>0</b>	0	---	---
Boron	ppm	<b>22</b>	2	---	---

**Depot:** VOLV00142  
**Unique No:** 9515809  
**Signed:** Don Baldrige  
**Report Date:** 26 May 2021

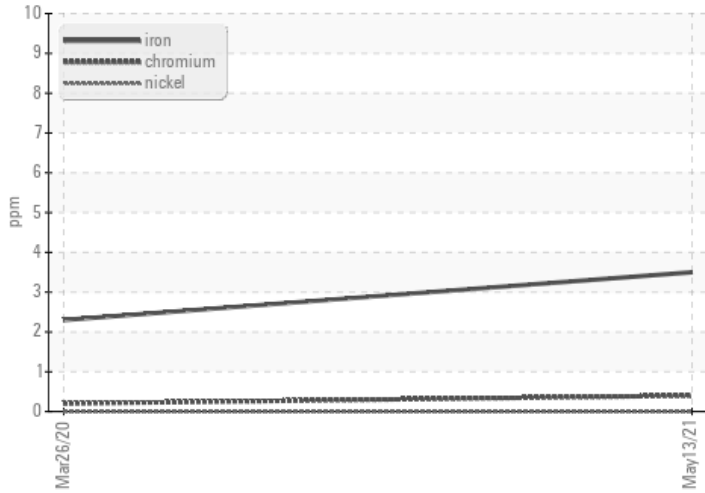


# CONSTRUCTION EQUIPMENT

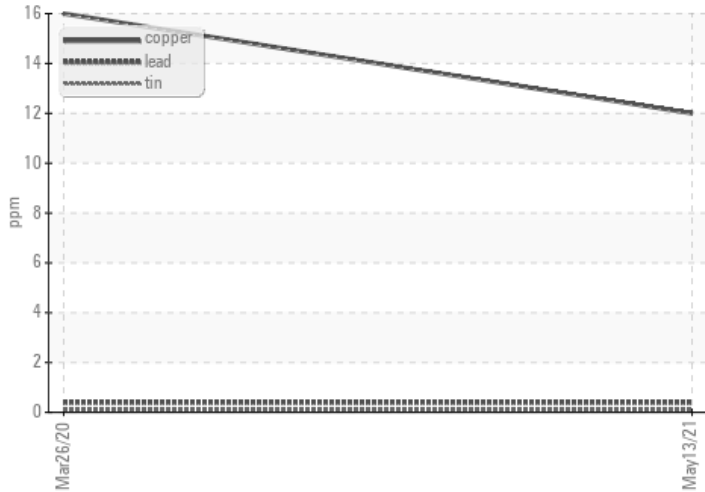


## GRAPHS

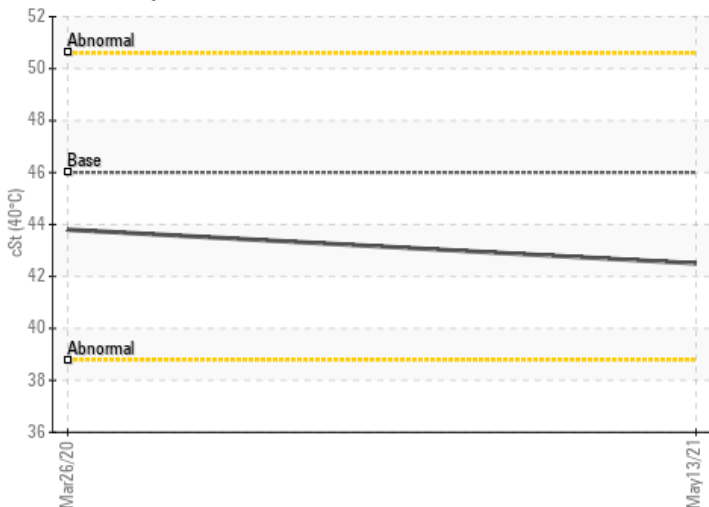
### Ferrous Alloys



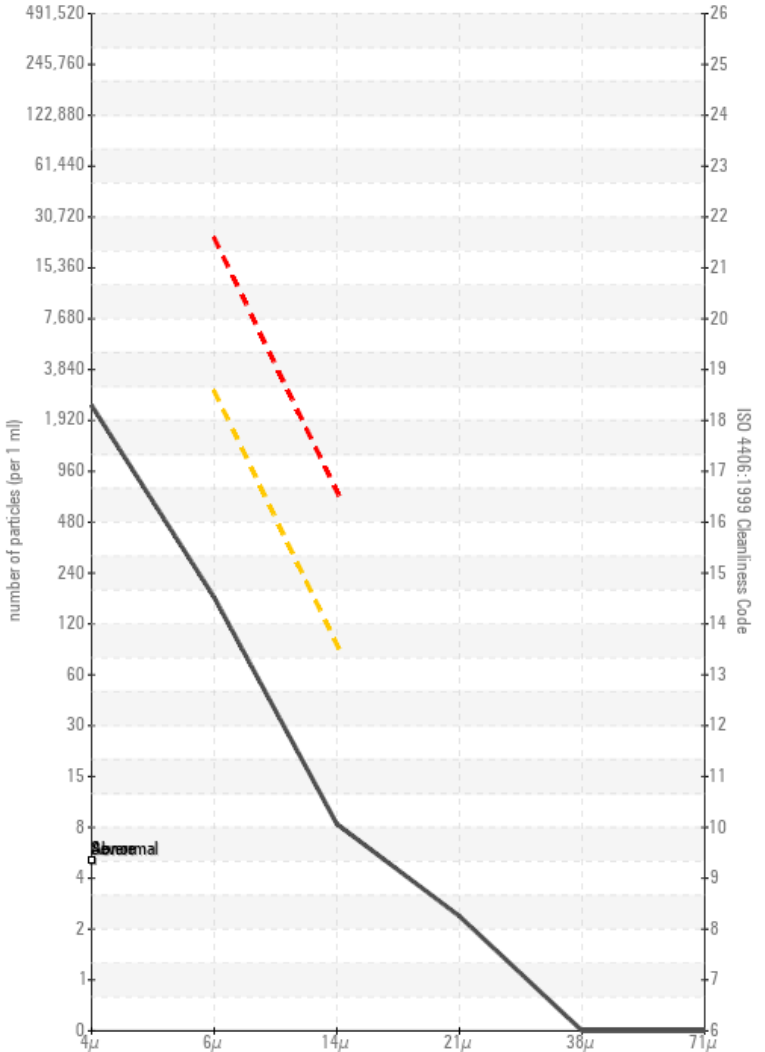
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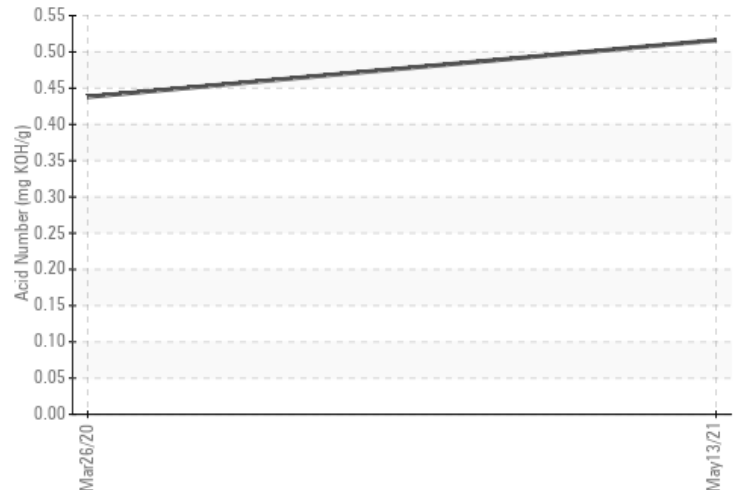
### Viscosity @ 40°C



### Particle Count



### Acid Number





# CONSTRUCTION EQUIPMENT

W125703 VOLVO EC380E 311723 - SWING DRIVE



**Sample No:** VCP303206  
**Oil Type:** VOLVO PREMIUM GEAR OIL 80W-90 GL-5  
**Job No:** W125703



## SAMPLE INFORMATION

Sample Number	VCP303206	---	---	---
Sample Date	13 May 2021	---	---	---
Machine Hours	2298	---	---	---
Oil Hours	0	---	---	---
Oil Changed	N/A	---	---	---
Sample Status	NORMAL	---	---	---

**ALTA EQUIPMENT**  
 5985 COURT STREET ROAD  
 SYRACUSE, NY  
 US 13206  
 Contact: JIM STRIGLE  
 JIM.STRIGLE@ALTG.COM  
 T: (315)437-2611  
 F: (315)434-9471



## OIL CONDITION

Visc @ 40°C	cSt	237	---	---	---
-------------	-----	-----	-----	-----	-----



## CONTAMINATION

Water	%	NEG	---	---	---
Silicon	ppm	7	---	---	---
Sodium	ppm	<1	---	---	---
Potassium	ppm	1	---	---	---

## Diagnosis

No corrective action is recommended at this time. 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 condition of the oil is acceptable for the time in service.



## WEAR METALS

Iron	ppm	87	---	---	---
Copper	ppm	7	---	---	---
Lead	ppm	<1	---	---	---
Tin	ppm	<1	---	---	---
Aluminum	ppm	1	---	---	---
Chromium	ppm	1	---	---	---
Molybdenum	ppm	5	---	---	---
Nickel	ppm	<1	---	---	---
Titanium	ppm	<1	---	---	---
Silver	ppm	<1	---	---	---
Manganese	ppm	1	---	---	---
Vanadium	ppm	0	---	---	---



## ADDITIVES

Calcium	ppm	161	---	---	---
Magnesium	ppm	39	---	---	---
Zinc	ppm	103	---	---	---
Phosphorus	ppm	855	---	---	---
Barium	ppm	0	---	---	---
Boron	ppm	161	---	---	---

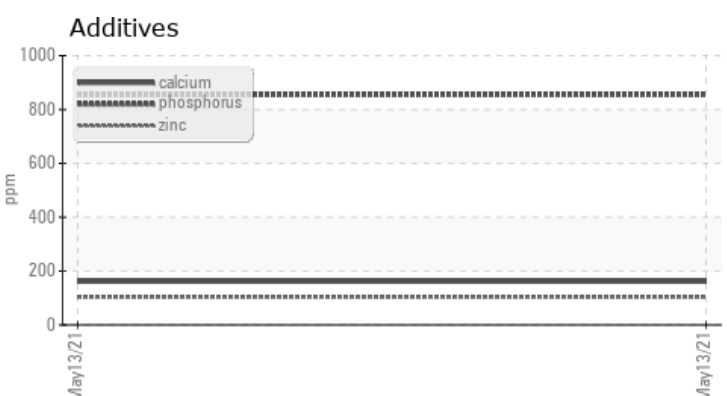
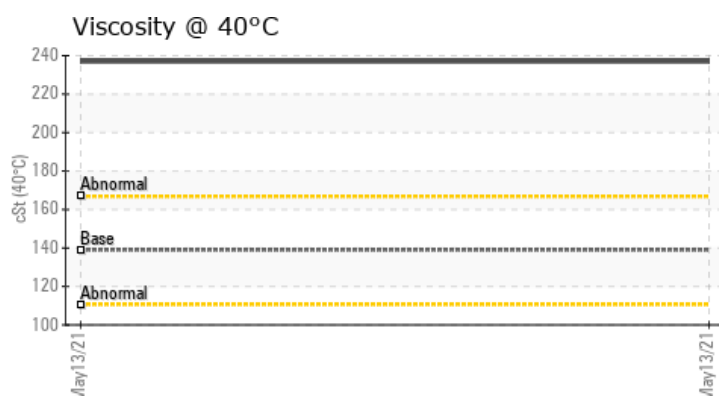
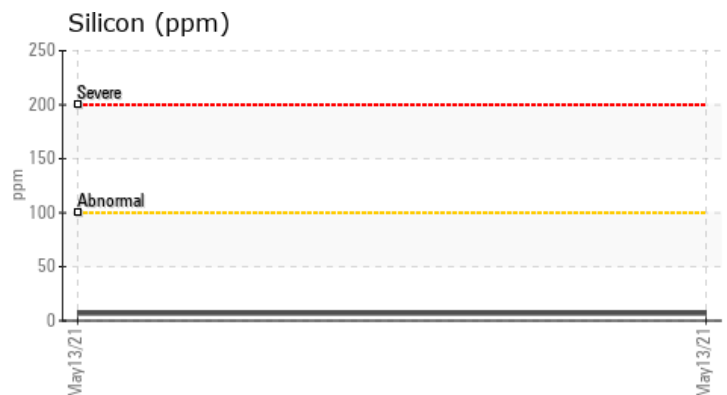
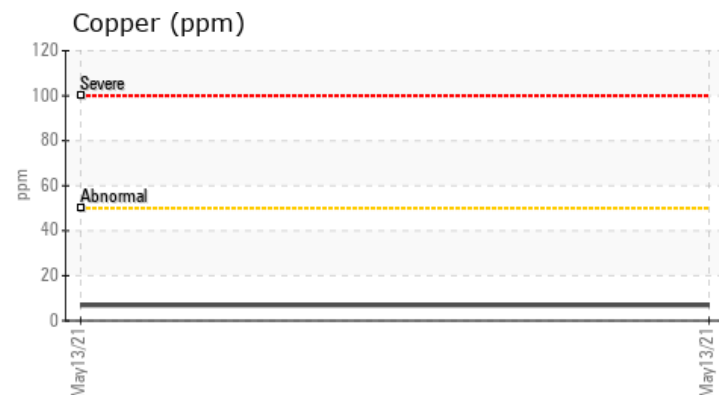
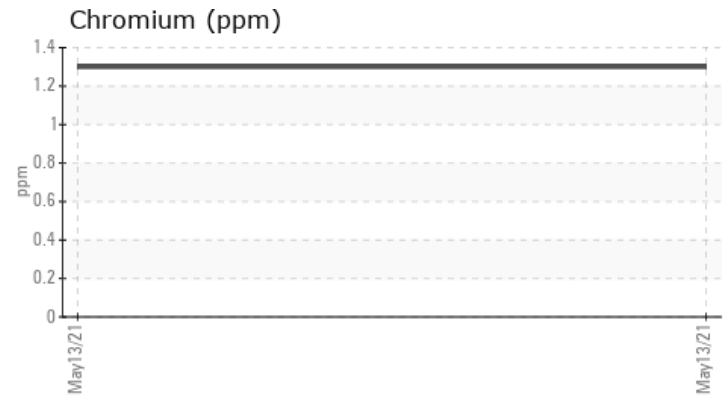
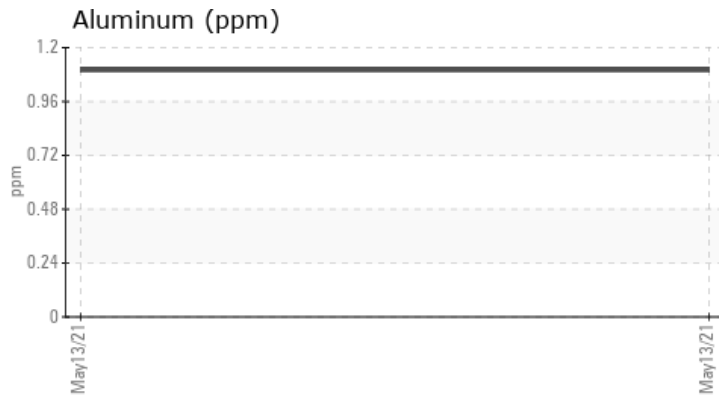
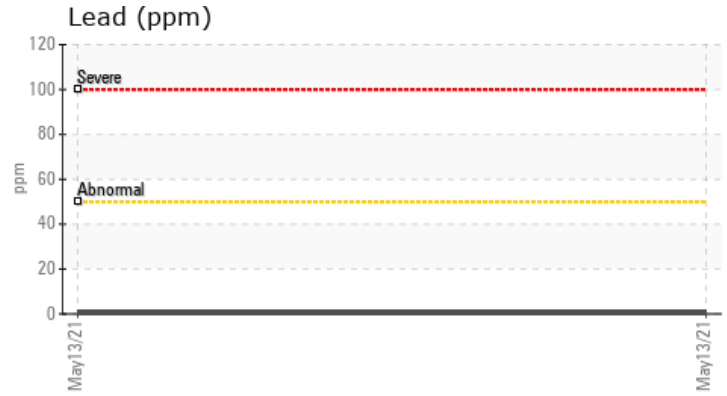
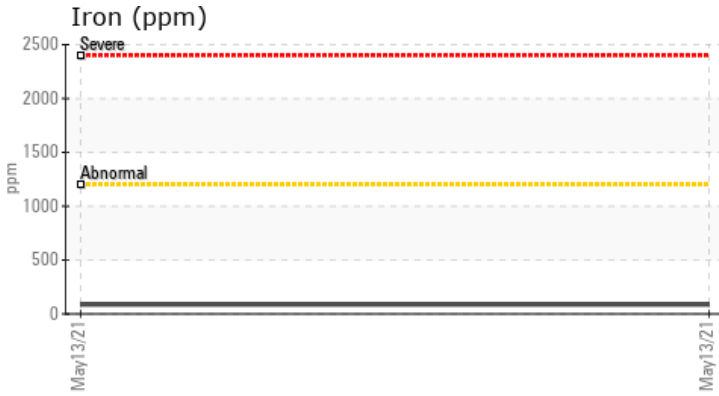
**Depot:** VOLVO0142  
**Unique No:** 9516128  
**Signed:** Doug Bogart  
**Report Date:** 25 May 2021



# CONSTRUCTION EQUIPMENT



## GRAPHS







# CONSTRUCTION EQUIPMENT

W123633 VOLVO EC380E 311723 - GEARBOX



**Sample No:** VCP277958  
**Oil Type:** VOLVO AXLE  
**Job No:** W123633



## SAMPLE INFORMATION

Sample Number	VCP277958	---	---	---
Sample Date	26 Mar 2020	---	---	---
Machine Hours	522	---	---	---
Oil Hours	0	---	---	---
Oil Changed	Not Changed	---	---	---
Sample Status	ABNORMAL	---	---	---

### ALTA EQUIPMENT

5985 COURT STREET ROAD  
 SYRACUSE, NY  
 US 13206  
 Contact: JIM STRIGLE  
 JIM.STRIGLE@ALTG.COM  
 T: (315)437-2611  
 F: (315)434-9471



## OIL CONDITION

Visc @ 40°C	cSt	182	---	---	---
-------------	-----	-----	-----	-----	-----



## CONTAMINATION

Water	%	NEG	---	---	---
Silicon	ppm	15	---	---	---
Sodium	ppm	1	---	---	---
Potassium	ppm	7	---	---	---



## WEAR METALS

Iron	ppm	272	---	---	---
Copper	ppm	21	---	---	---
Lead	ppm	<1	---	---	---
Tin	ppm	0	---	---	---
Aluminum	ppm	1	---	---	---
Chromium	ppm	4	---	---	---
Molybdenum	ppm	0	---	---	---
Nickel	ppm	0	---	---	---
Titanium	ppm	<1	---	---	---
Silver	ppm	0	---	---	---
Manganese	ppm	5	---	---	---
Vanadium	ppm	0	---	---	---



## ADDITIVES

Calcium	ppm	11	---	---	---
Magnesium	ppm	<1	---	---	---
Zinc	ppm	18	---	---	---
Phosphorus	ppm	442	---	---	---
Barium	ppm	1	---	---	---
Boron	ppm	<1	---	---	---

## Diagnosis

The oil change at the time of sampling has been noted. We advise that you inspect for possible wear. Resample at the next service interval to monitor. High concentration of visible metal present. Metal levels are typical for a new component breaking in. There is no indication of any contamination in the oil. The condition of the oil is acceptable for the time in service.

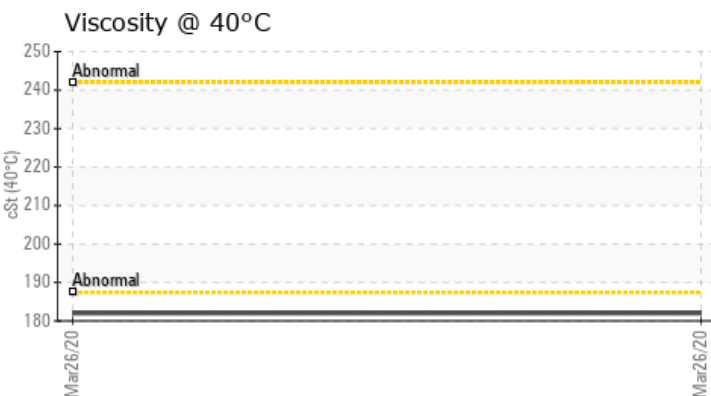
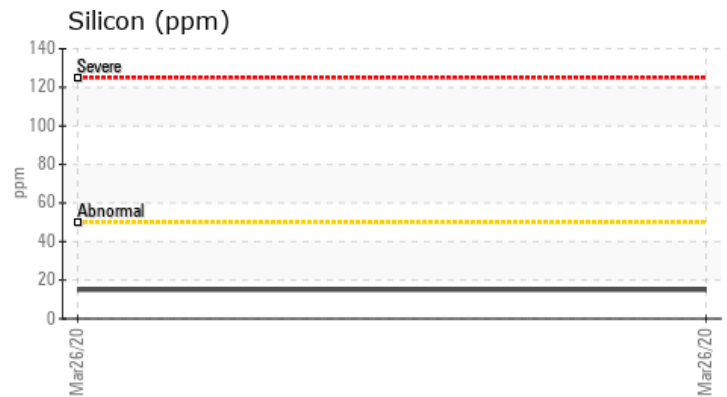
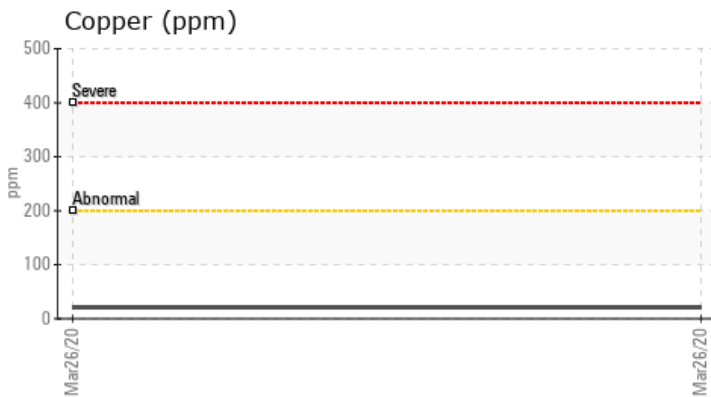
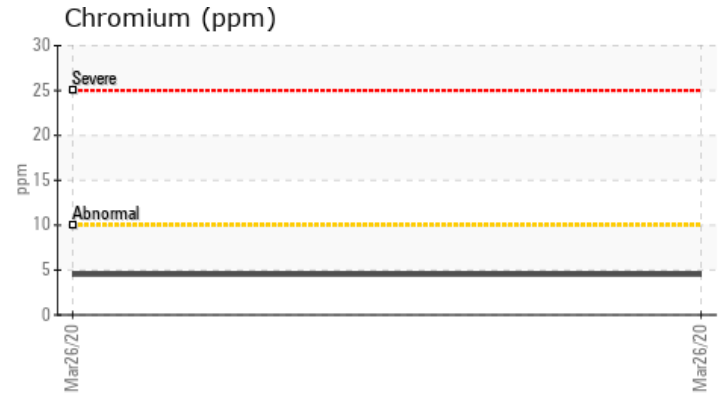
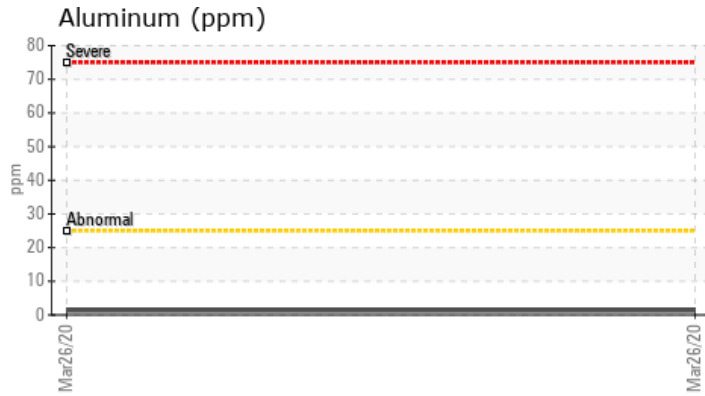
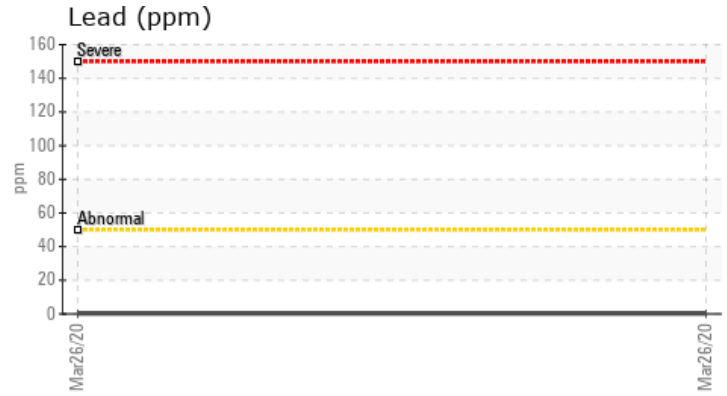
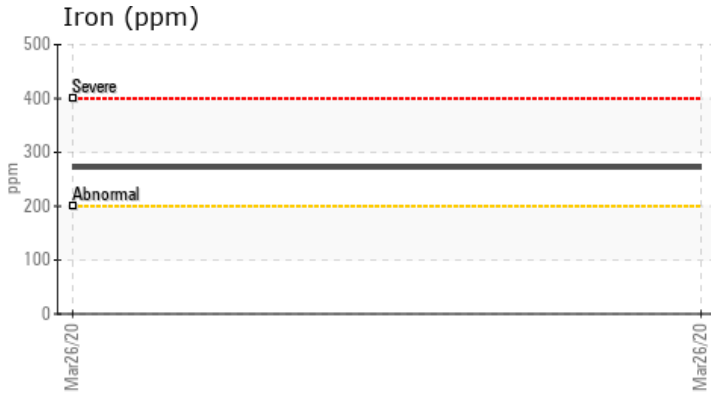
**Depot:** VOLVO0142  
**Unique No:** 8994196  
**Signed:** Don Baldrige  
**Report Date:** 14 Apr 2020



# CONSTRUCTION EQUIPMENT



## GRAPHS





# CONSTRUCTION EQUIPMENT

## W125703 VOLVO EC380E 311723 - REAR LEFT FINAL DRIVE



**Sample No:** VCP303190  
**Oil Type:** VOLVO PREMIUM GEAR OIL 80W-90 GL-5  
**Job No:** W125703



### SAMPLE INFORMATION

Sample Number	<b>VCP303190</b>	VCP275567	---	---
Sample Date	<b>13 May 2021</b>	26 Mar 2020	---	---
Machine Hours	<b>2298</b>	522	---	---
Oil Hours	<b>0</b>	0	---	---
Oil Changed	<b>N/A</b>	Not Changd	---	---
Sample Status	<b>NORMAL</b>	ABNORMAL	---	---

**ALTA EQUIPMENT**  
 5985 COURT STREET ROAD  
 SYRACUSE, NY  
 US 13206  
 Contact: JIM STRIGLE  
 JIM.STRIGLE@ALTG.COM  
 T: (315)437-2611  
 F: (315)434-9471



### OIL CONDITION

Visc @ 40°C	cSt	<b>232</b>	182	---	---
-------------	-----	------------	-----	-----	-----



### CONTAMINATION

Water	%	<b>NEG</b>	NEG	---	---
Silicon	ppm	<b>44</b>	103	---	---
Sodium	ppm	<b>3</b>	7	---	---
Potassium	ppm	<b>4</b>	17	---	---

**Diagnosis**  
 No corrective action is recommended at this time. 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 condition of the oil is acceptable for the time in service.



### WEAR METALS

Iron	ppm	<b>143</b>	159	---	---
Copper	ppm	<b>&lt;1</b>	<1	---	---
Lead	ppm	<b>&lt;1</b>	0	---	---
Tin	ppm	<b>&lt;1</b>	0	---	---
Aluminum	ppm	<b>12</b>	27	---	---
Chromium	ppm	<b>2</b>	3	---	---
Molybdenum	ppm	<b>4</b>	0	---	---
Nickel	ppm	<b>&lt;1</b>	<1	---	---
Titanium	ppm	<b>&lt;1</b>	2	---	---
Silver	ppm	<b>&lt;1</b>	0	---	---
Manganese	ppm	<b>1</b>	3	---	---
Vanadium	ppm	<b>0</b>	0	---	---



### ADDITIVES

Calcium	ppm	<b>90</b>	72	---	---
Magnesium	ppm	<b>34</b>	11	---	---
Zinc	ppm	<b>67</b>	15	---	---
Phosphorus	ppm	<b>759</b>	420	---	---
Barium	ppm	<b>0</b>	2	---	---
Boron	ppm	<b>139</b>	<1	---	---

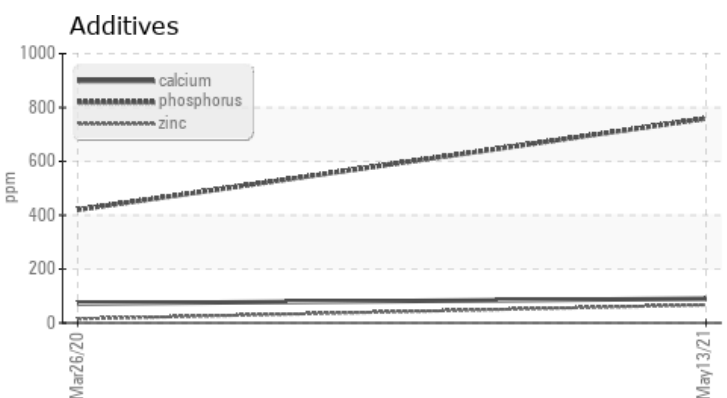
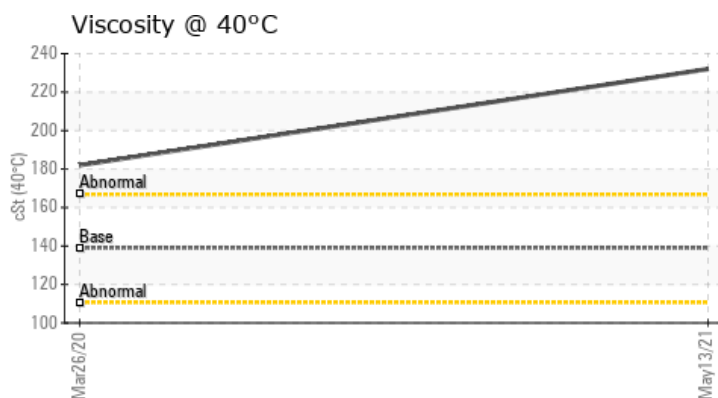
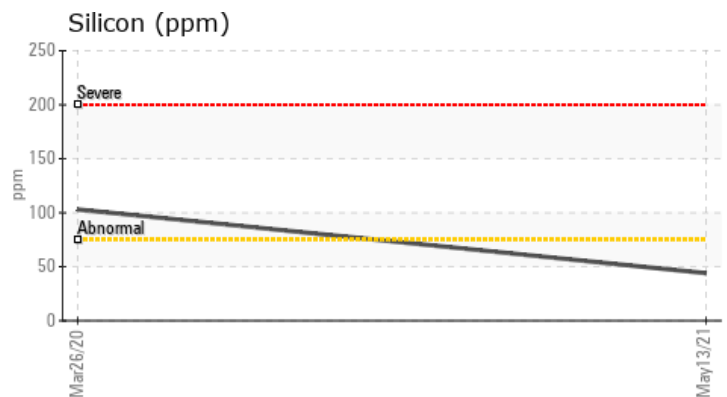
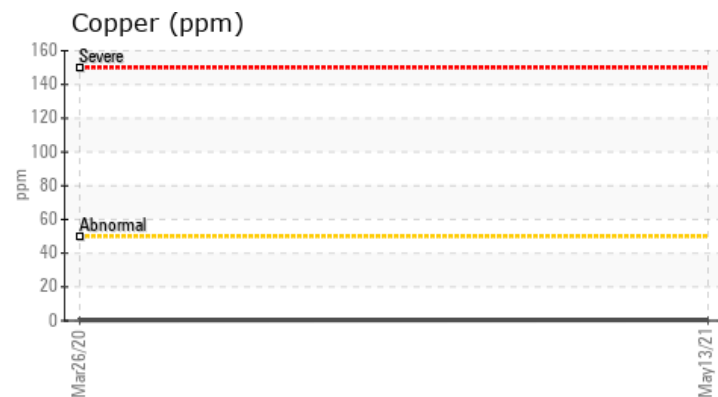
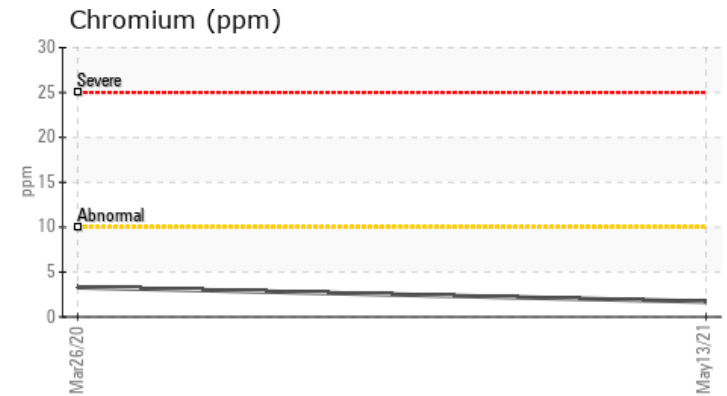
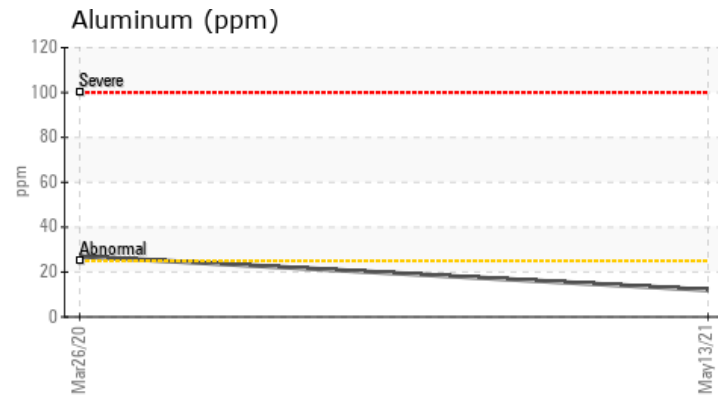
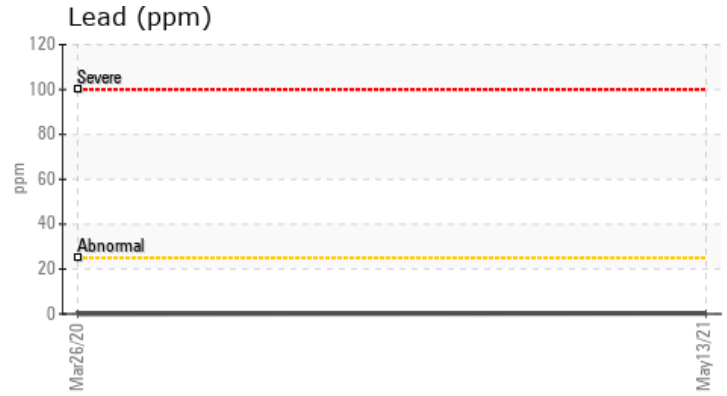
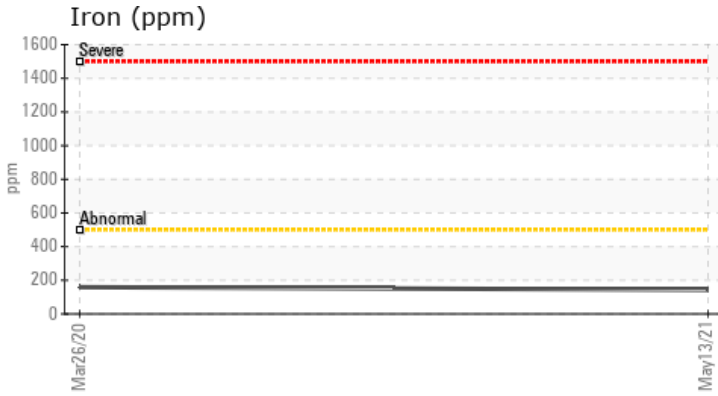
**Depot:** VOLV00142  
**Unique No:** 9516141  
**Signed:** Doug Bogart  
**Report Date:** 25 May 2021



# CONSTRUCTION EQUIPMENT



## GRAPHS





# CONSTRUCTION EQUIPMENT

## W125703 VOLVO EC380E 311723 - REAR RIGHT FINAL DRIVE



**Sample No:** VCP303033  
**Oil Type:** VOLVO PREMIUM GEAR OIL 80W-90 GL-5  
**Job No:** W125703



### SAMPLE INFORMATION

Sample Number	<b>VCP303033</b>	VCP275569	---	---
Sample Date	<b>13 May 2021</b>	26 Mar 2020	---	---
Machine Hours	<b>2298</b>	522	---	---
Oil Hours	<b>1000</b>	0	---	---
Oil Changed	<b>Changed</b>	Not Chngd	---	---
Sample Status	<b>ABNORMAL</b>	ABNORMAL	---	---

### ALTA EQUIPMENT

5985 COURT STREET ROAD  
 SYRACUSE, NY  
 US 13206  
 Contact: JIM STRIGLE  
 JIM.STRIGLE@ALTG.COM  
 T: (315)437-2611  
 F: (315)434-9471



### OIL CONDITION

Visc @ 40°C	cSt	<b>232</b>	182	---	---
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### CONTAMINATION

Water	%	<b>NEG</b>	NEG	---	---
Silicon	ppm	<b>▲ 138</b>	▲ 189	---	---
Sodium	ppm	<b>■ 6</b>	■ 10	---	---
Potassium	ppm	<b>■ 12</b>	■ 21	---	---

### Diagnosis

We advise that you check all areas where dirt can enter the system. Resample at the next service interval to monitor. All component wear rates are normal. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. The condition of the oil is acceptable for the time in service.



### WEAR METALS

Iron	ppm	<b>■ 496</b>	■ 262	---	---
Copper	ppm	<b>■ 2</b>	■ <1	---	---
Lead	ppm	<b>■ &lt;1</b>	■ 0	---	---
Tin	ppm	<b>■ &lt;1</b>	■ 0	---	---
Aluminum	ppm	<b>● 31</b>	● 49	---	---
Chromium	ppm	<b>■ 6</b>	■ 4	---	---
Molybdenum	ppm	<b>■ 5</b>	0	---	---
Nickel	ppm	<b>&lt;1</b>	<1	---	---
Titanium	ppm	<b>2</b>	3	---	---
Silver	ppm	<b>&lt;1</b>	0	---	---
Manganese	ppm	<b>■ 4</b>	4	---	---
Vanadium	ppm	<b>&lt;1</b>	0	---	---



### ADDITIVES

Calcium	ppm	<b>■ 150</b>	126	---	---
Magnesium	ppm	<b>■ 46</b>	16	---	---
Zinc	ppm	<b>■ 79</b>	14	---	---
Phosphorus	ppm	<b>■ 789</b>	417	---	---
Barium	ppm	<b>■ 0</b>	2	---	---
Boron	ppm	<b>■ 138</b>	<1	---	---

**Depot:** VOLV00142  
**Unique No:** 9516125  
**Signed:** Doug Bogart  
**Report Date:** 25 May 2021



# CONSTRUCTION EQUIPMENT



## GRAPHS

