



# CONSTRUCTION EQUIPMENT

714839 CENTRAL SITE VOLVO EC350EL 314289 - EC350EL - DIESEL ENGINE



**Sample No:** VCP447474  
**Oil Type:** VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3  
**Job No:** 714839 CENTRAL SITE



## SAMPLE INFORMATION

Sample Number	<b>VCP447474</b>	VCP433433	VCP410374	VCP386213
Sample Date	<b>06 May 2024</b>	16 Nov 2023	07 Apr 2023	15 Nov 2022
Machine Hours	<b>3423</b>	2927	2200	1717
Oil Hours	<b>500</b>	500	2200	500
Oil Changed	<b>Changed</b>	Changed	Changed	Changed
Sample Status	<b>ATTENTION</b>	ATTENTION	ATTENTION	ABNORMAL

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## OIL CONDITION

Visc @ 100°C	cSt	<b>12.2</b>	12.2	12.0	12.6
Base Number (BN)	mg KOH/g	<b>9.1</b>	8.7	7.7	10.0
Oxidation (PA)	%	<b>71</b>	80	78	94

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



## CONTAMINATION

Water	%	<b>NEG</b>	NEG	NEG	NEG
Soot %	%	<b>0.1</b>	0.1	0.1	0.1
Nitration (PA)	%	<b>63</b>	73	65	79
Sulfation (PA)	%	<b>55</b>	59	56	69
Glycol	%	<b>NEG</b>	NEG	NEG	NEG
Fuel	%	<b>&lt;1.0</b>	<1.0	0.5	<1.0
Silicon	ppm	<b>5</b>	4	8	5
Sodium	ppm	<b>2</b>	2	0	4
Potassium	ppm	<b>2</b>	<1	1	0



## WEAR METALS

Iron	ppm	<b>3</b>	3	6	6
Copper	ppm	<b>1</b>	2	16	53
Lead	ppm	<b>0</b>	<1	<1	2
Tin	ppm	<b>1</b>	<1	<1	2
Aluminum	ppm	<b>1</b>	<1	0	1
Chromium	ppm	<b>0</b>	0	<1	<1
Molybdenum	ppm	<b>49</b>	47	62	43
Nickel	ppm	<b>0</b>	0	0	<1
Titanium	ppm	<b>0</b>	0	0	0
Silver	ppm	<b>0</b>	0	0	0
Manganese	ppm	<b>&lt;1</b>	<1	<1	<1
Vanadium	ppm	<b>0</b>	0	0	0



## ADDITIVES

Calcium	ppm	<b>1533</b>	1622	1610	1671
Magnesium	ppm	<b>544</b>	418	420	513
Zinc	ppm	<b>1111</b>	1088	1062	1151
Phosphorus	ppm	<b>967</b>	898	869	889
Barium	ppm	<b>&lt;1</b>	0	2	0
Boron	ppm	<b>38</b>	25	34	20

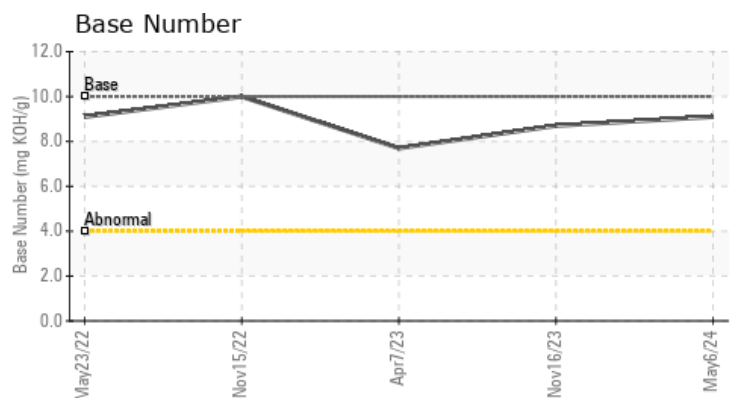
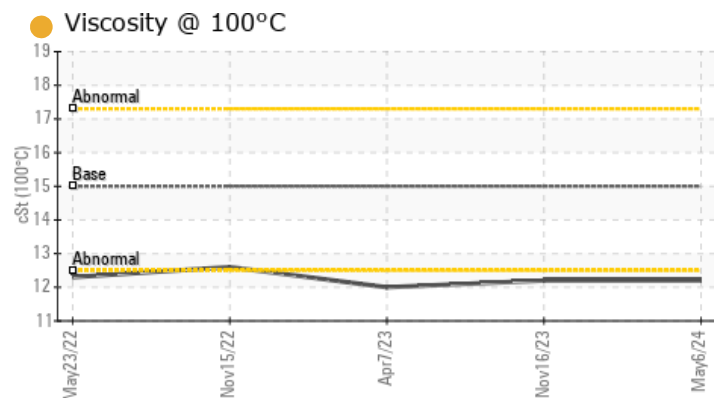
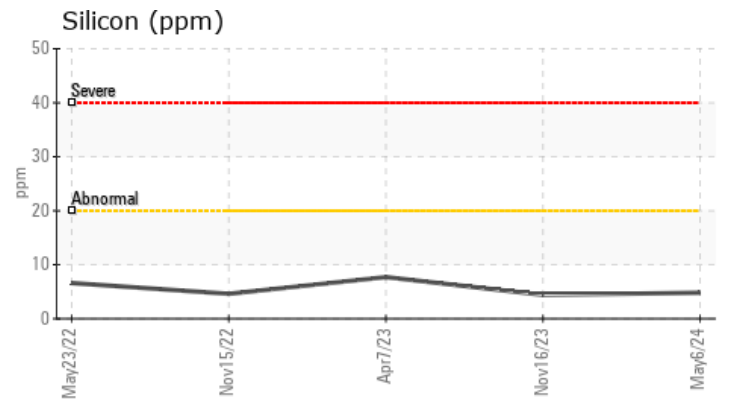
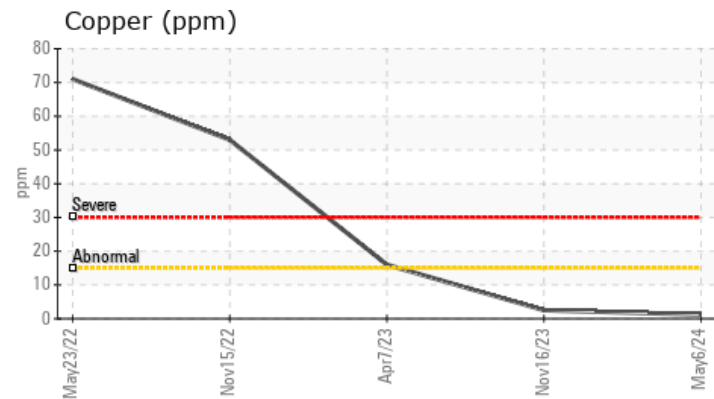
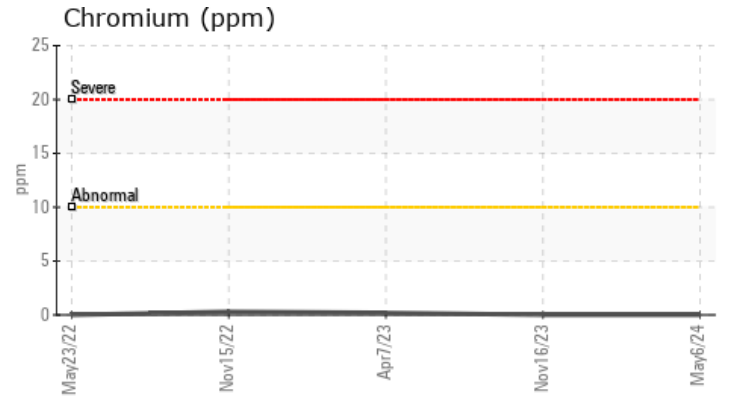
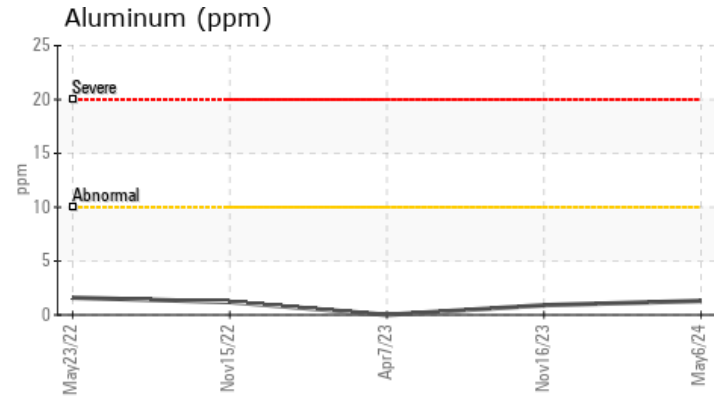
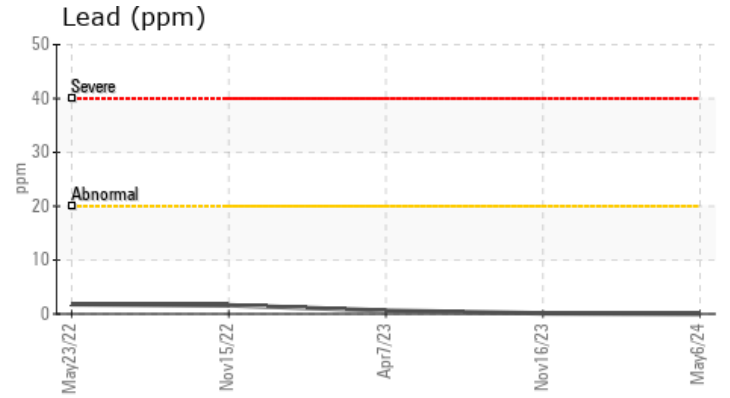
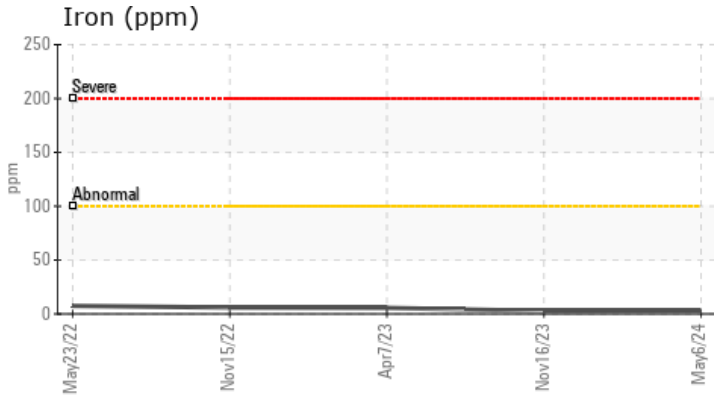
**Depot:** VOLVO0093  
**Unique No:** 11061894  
**Signed:** Sean Felton  
**Report Date:** 07 Jun 2024



# CONSTRUCTION EQUIPMENT



## VOLVO GRAPHS





# CONSTRUCTION EQUIPMENT

714839 CENTRAL SITE VOLVO EC350EL 314289 - EC350EL - HYDRAULIC SYSTEM



**Sample No:** VCP451170  
**Oil Type:** VOLVO SUPER HYDRAULIC OIL 46  
**Job No:** 714839 CENTRAL SITE



## SAMPLE INFORMATION

Sample Number	<b>VCP451170</b>	VCP432441	VCP410265	VCP386197
Sample Date	<b>06 May 2024</b>	16 Nov 2023	07 Apr 2023	15 Nov 2022
Machine Hours	<b>3423</b>	2927	2200	1717
Oil Hours	<b>1423</b>	927	2200	500
Oil Changed	<b>Not Chngd</b>	Not Chngd	Changed	Not Chngd
Sample Status	<b>NORMAL</b>	NORMAL	NORMAL	NORMAL

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## OIL CONDITION

Visc @ 40°C	cSt	<b>43.3</b>	43.5	43.0	43.5
Acid Number (AN)	mg KOH/g	<b>0.44</b>	0.40	0.43	0.45



## CONTAMINATION

Water	%	<b>NEG</b>	NEG	NEG	NEG
Particles >4µm		<b>21577</b>	3527	11518	15284
Particles >6µm		<b>2877</b>	958	2451	2835
Particles >14µm		<b>82</b>	76	199	211
ISO 4406:1999 (c)		<b>22/19/14</b>	19/17/13	21/18/15	21/19/15
Silicon	ppm	<b>3</b>	3	5	3
Sodium	ppm	<b>1</b>	0	0	<1
Potassium	ppm	<b>1</b>	2	1	0

## 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>2</b>	2	3	2
Copper	ppm	<b>14</b>	12	18	17
Lead	ppm	<b>0</b>	<1	<1	<1
Tin	ppm	<b>&lt;1</b>	<1	0	0
Aluminum	ppm	<b>0</b>	2	0	<1
Chromium	ppm	<b>0</b>	0	0	0
Molybdenum	ppm	<b>&lt;1</b>	1	<1	<1
Nickel	ppm	<b>0</b>	<1	0	0
Titanium	ppm	<b>0</b>	<1	0	0
Silver	ppm	<b>0</b>	0	0	0
Manganese	ppm	<b>&lt;1</b>	<1	0	0
Vanadium	ppm	<b>0</b>	0	0	0



## ADDITIVES

Calcium	ppm	<b>86</b>	104	72	71
Magnesium	ppm	<b>3</b>	3	1	0
Zinc	ppm	<b>470</b>	464	497	520
Phosphorus	ppm	<b>406</b>	322	404	415
Barium	ppm	<b>&lt;1</b>	0	0	0
Boron	ppm	<b>0</b>	0	0	0

**Depot:** VOLVO0093  
**Unique No:** 11062163  
**Signed:** Wes Davis  
**Report Date:** 06 Jun 2024

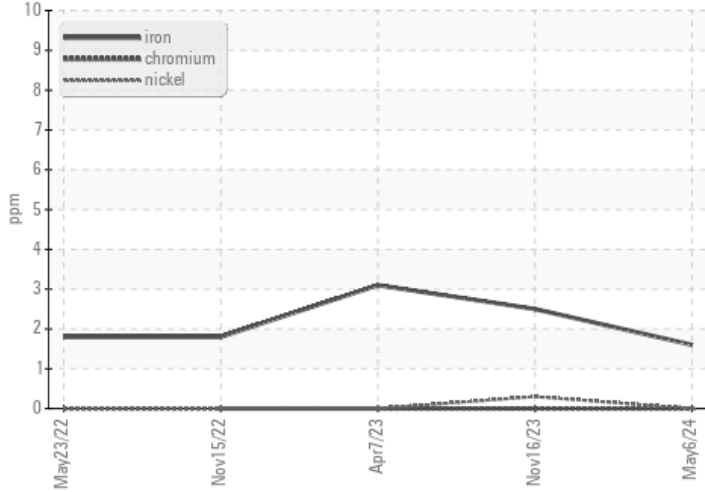


# CONSTRUCTION EQUIPMENT

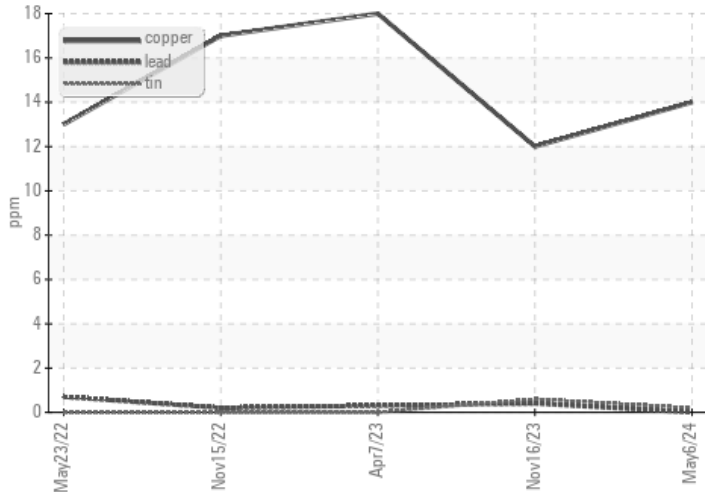


## GRAPHS

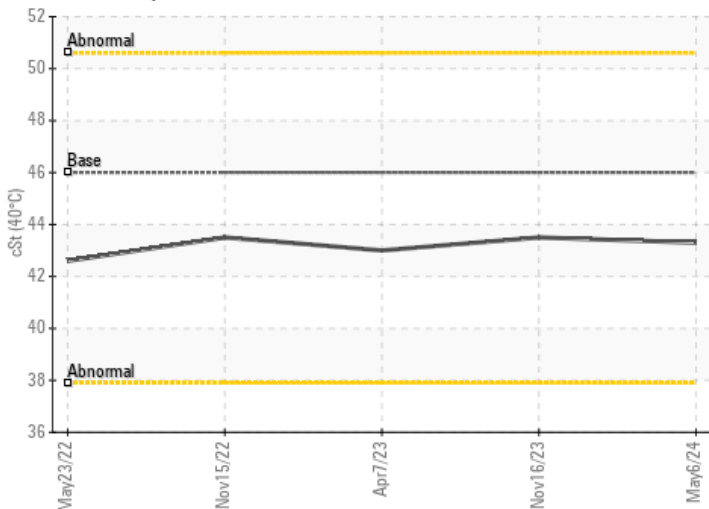
### Ferrous Alloys



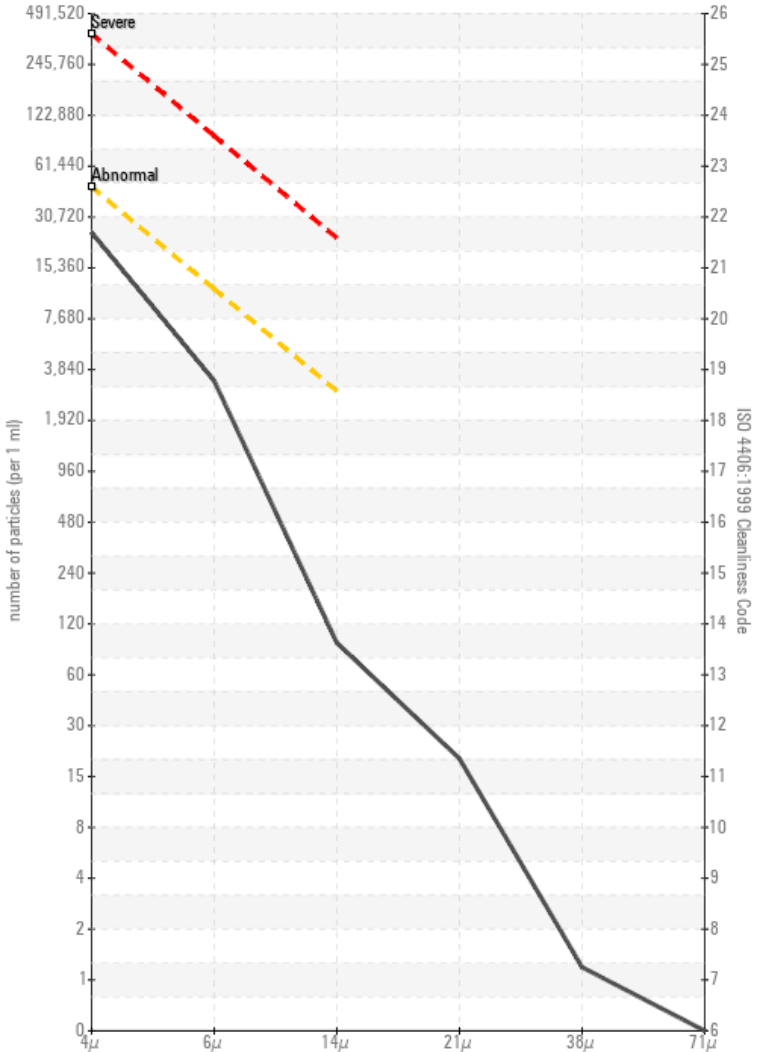
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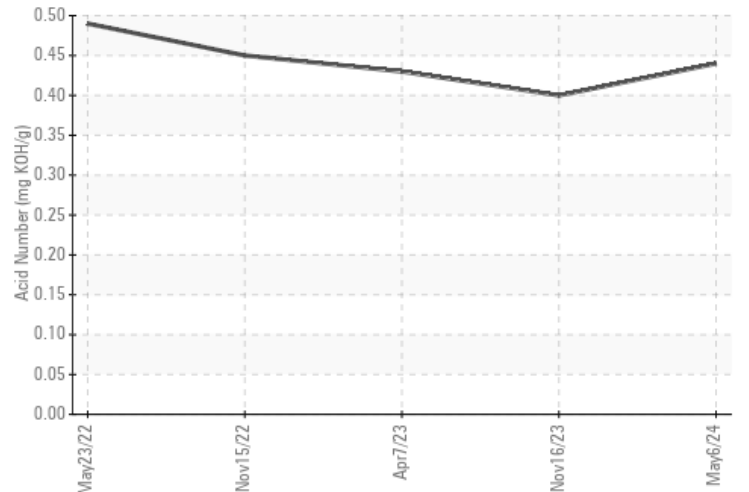
### Viscosity @ 40°C



### Particle Count



### Acid Number





# CONSTRUCTION EQUIPMENT

714839 CENTRAL SITE VOLVO EC350EL 314289 - EC350EL - SWING DRIVE



**Sample No:** VCP451168  
**Oil Type:** VOLVO PREMIUM GEAR OIL 85W-140 GL-5  
**Job No:** 714839 CENTRAL SITE



## SAMPLE INFORMATION

Sample Number	<b>VCP451168</b>	VCP393199	VCP374172	---
Sample Date	<b>06 May 2024</b>	07 Apr 2023	23 May 2022	---
Machine Hours	<b>3423</b>	2200	1090	---
Oil Hours	<b>1000</b>	1000	500	---
Oil Changed	<b>Changed</b>	Changed	Changed	---
Sample Status	<b>NORMAL</b>	NORMAL	NORMAL	---

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## OIL CONDITION

Visc @ 40°C	cSt	<b>266</b>	264	180	---
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## CONTAMINATION

Water	%	<b>NEG</b>	NEG	NEG	---
Silicon	ppm	<b>7</b>	10	13	---
Sodium	ppm	<b>2</b>	<1	<1	---
Potassium	ppm	<b>2</b>	<1	1	---

## Diagnosis

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>54</b>	171	293	---
Copper	ppm	<b>2</b>	9	12	---
Lead	ppm	<b>0</b>	0	0	---
Tin	ppm	<b>&lt;1</b>	0	0	---
Aluminum	ppm	<b>&lt;1</b>	<1	2	---
Chromium	ppm	<b>&lt;1</b>	2	5	---
Molybdenum	ppm	<b>11</b>	6	<1	---
Nickel	ppm	<b>0</b>	<1	0	---
Titanium	ppm	<b>0</b>	0	<1	---
Silver	ppm	<b>0</b>	0	0	---
Manganese	ppm	<b>1</b>	2	5	---
Vanadium	ppm	<b>0</b>	0	0	---



## ADDITIVES

Calcium	ppm	<b>122</b>	77	33	---
Magnesium	ppm	<b>44</b>	33	2	---
Zinc	ppm	<b>91</b>	92	32	---
Phosphorus	ppm	<b>1027</b>	1013	278	---
Barium	ppm	<b>&lt;1</b>	<1	7	---
Boron	ppm	<b>197</b>	121	1	---

**Depot:** VOLVO0093  
**Unique No:** 11062671  
**Signed:** Wes Davis  
**Report Date:** 06 Jun 2024

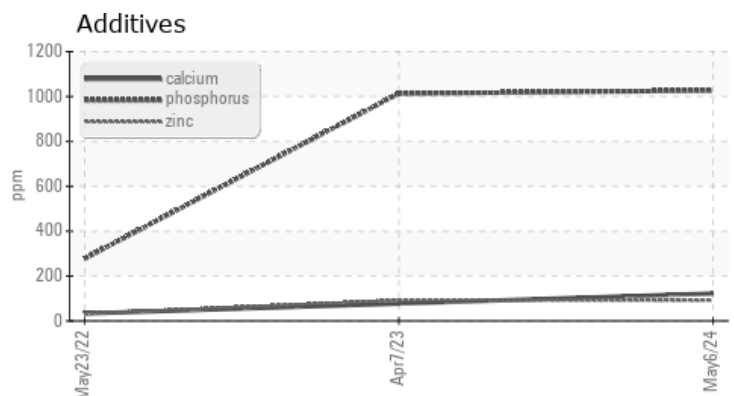
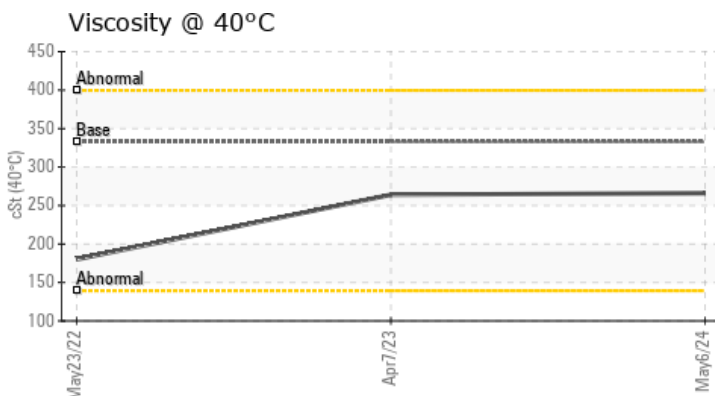
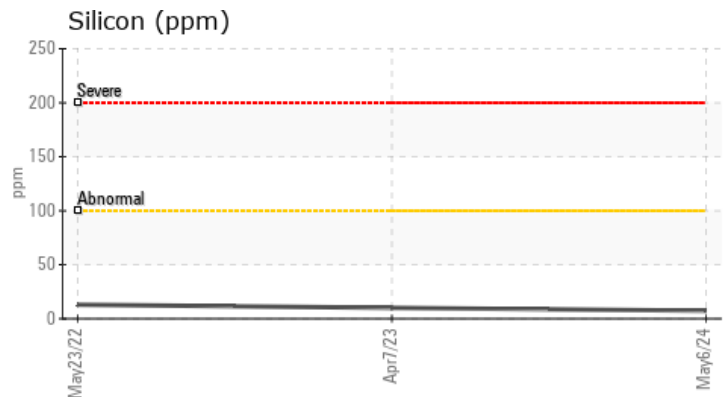
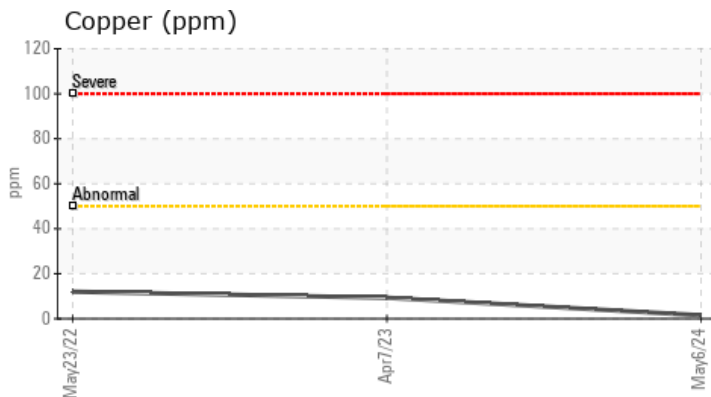
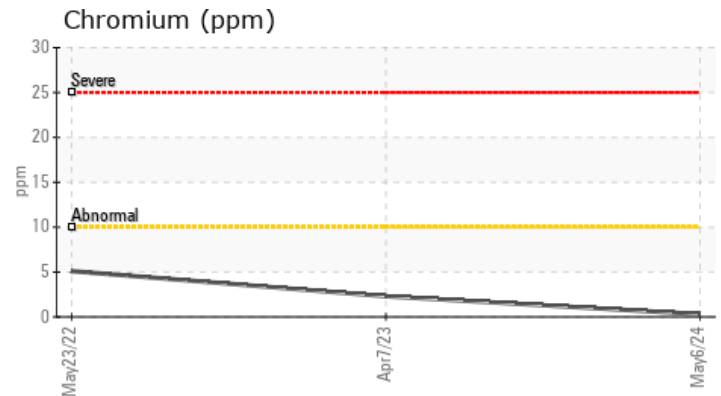
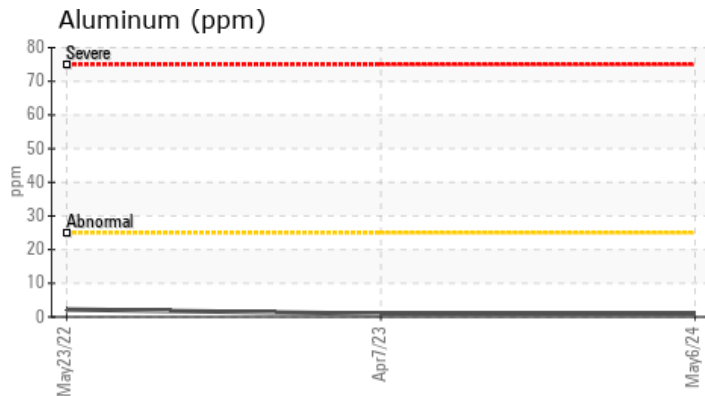
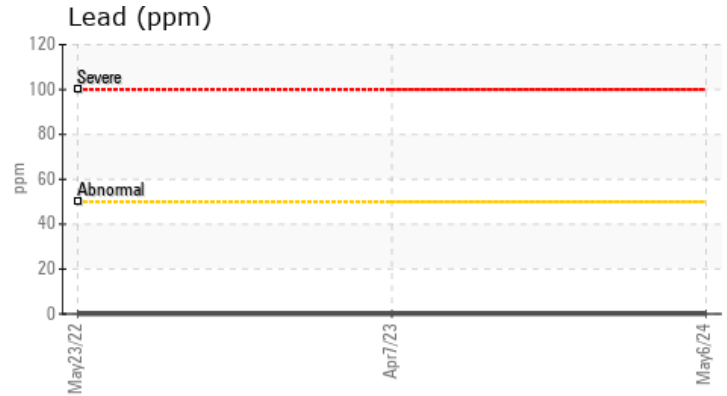
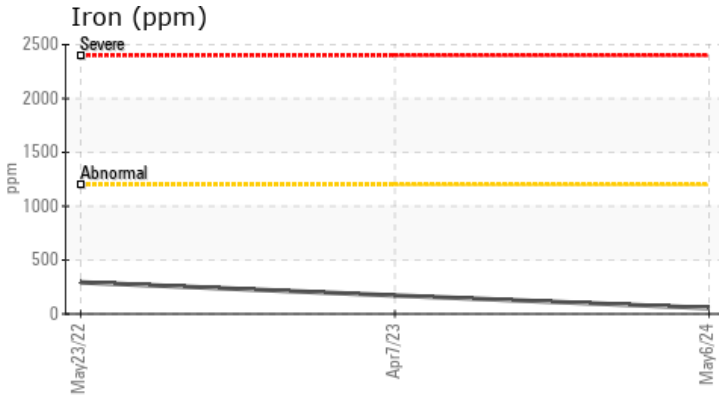




# CONSTRUCTION EQUIPMENT



## GRAPHS





# CONSTRUCTION EQUIPMENT

714839 CENTRAL SITE VOLVO EC350EL 314289 - EC350EL - REAR LEFT FINAL DRIVE



**Sample No:** VCP451169  
**Oil Type:** VOLVO PREMIUM GEAR OIL 85W-140 GL-5  
**Job No:** 714839 CENTRAL SITE



## SAMPLE INFORMATION

Sample Number	<b>VCP451169</b>	VCP423531	VCP374245	---
Sample Date	<b>06 May 2024</b>	07 Apr 2023	23 May 2022	---
Machine Hours	<b>3423</b>	2200	1090	---
Oil Hours	<b>1000</b>	1000	500	---
Oil Changed	<b>Changed</b>	Changed	Changed	---
Sample Status	<b>ABNORMAL</b>	ABNORMAL	NORMAL	---

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## OIL CONDITION

Visc @ 40°C	cSt	<b>267</b>	260	216	---
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## CONTAMINATION

Water	%	<b>NEG</b>	NEG	NEG	---
Silicon	ppm	<b>▲ 194</b>	▲ 158	■ 54	---
Sodium	ppm	■ 2	■ <1	■ 0	---
Potassium	ppm	■ 3	■ 1	■ 1	---

## Diagnosis

We advise that you check all areas where dirt can enter the system. The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. Gear wear is indicated. 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>▲ 605</b>	▲ 799	■ 181	---
Copper	ppm	■ <1	■ 2	■ <1	---
Lead	ppm	■ <1	■ 0	■ 0	---
Tin	ppm	■ <1	■ 0	■ 0	---
Aluminum	ppm	● 10	■ 10	■ 2	---
Chromium	ppm	<b>▲ 13</b>	▲ 18	■ 9	---
Molybdenum	ppm	■ 11	■ 8	■ 4	---
Nickel	ppm	■ <1	■ 2	0	---
Titanium	ppm	<1	<1	<1	---
Silver	ppm	0	0	0	---
Manganese	ppm	■ 6	■ 7	■ 2	---
Vanadium	ppm	0	0	0	---



## ADDITIVES

Calcium	ppm	■ 157	■ 116	■ 85	---
Magnesium	ppm	■ 44	■ 35	■ 24	---
Zinc	ppm	■ 92	■ 113	■ 112	---
Phosphorus	ppm	■ 1022	■ 1071	688	---
Barium	ppm	■ 0	■ 0	■ 2	---
Boron	ppm	■ 112	■ 100	■ 85	---

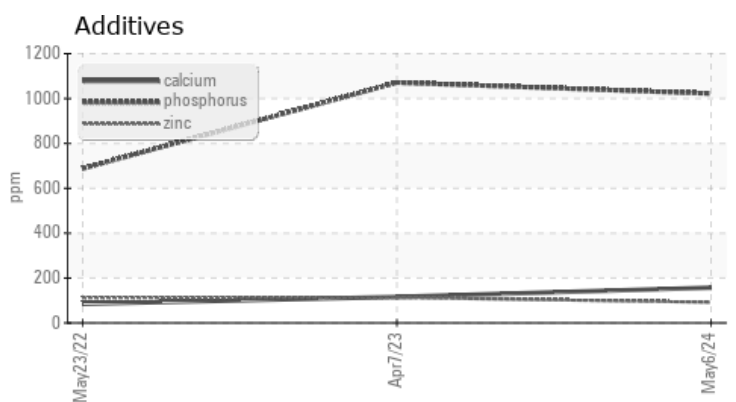
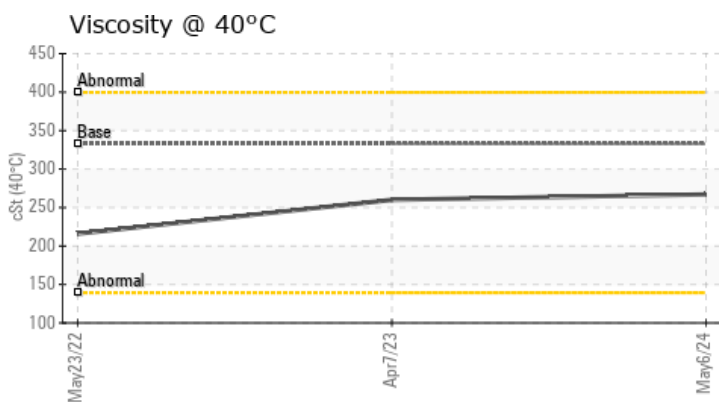
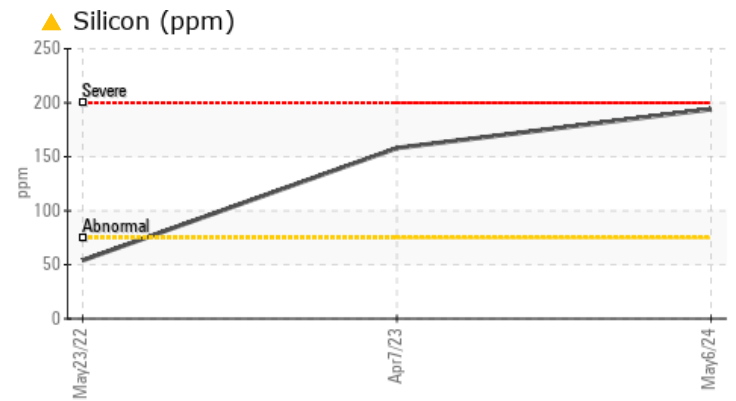
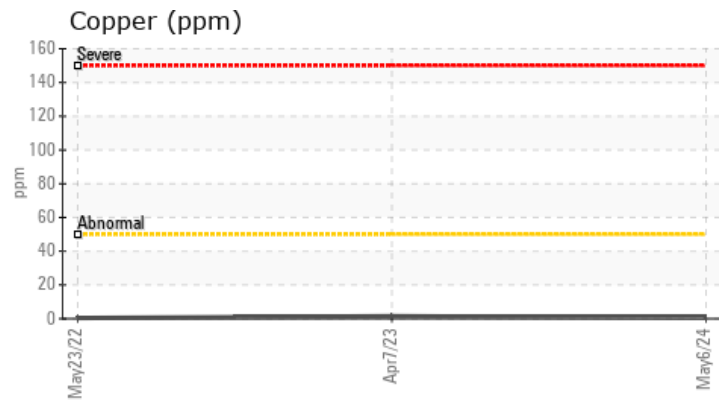
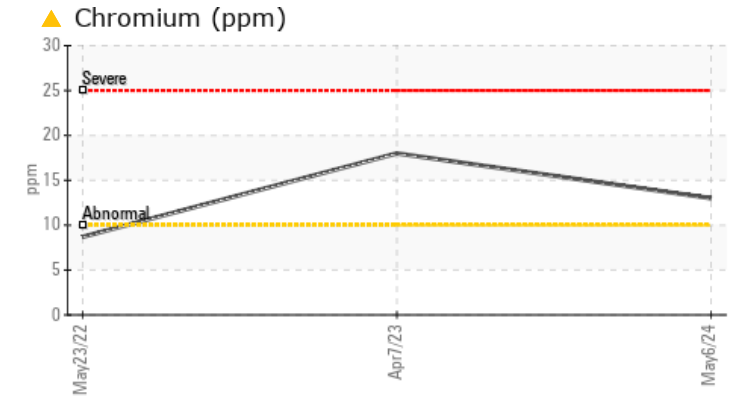
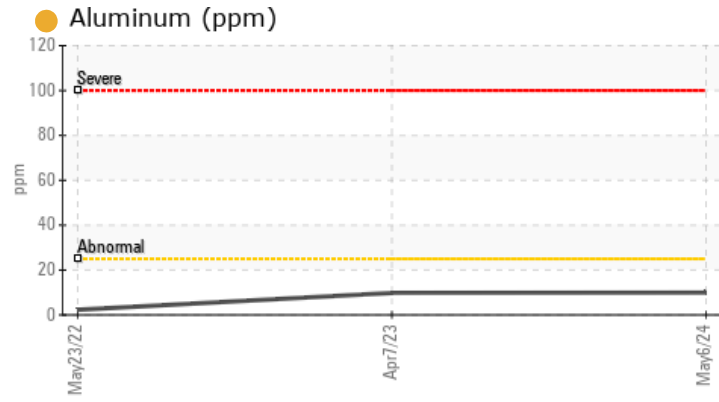
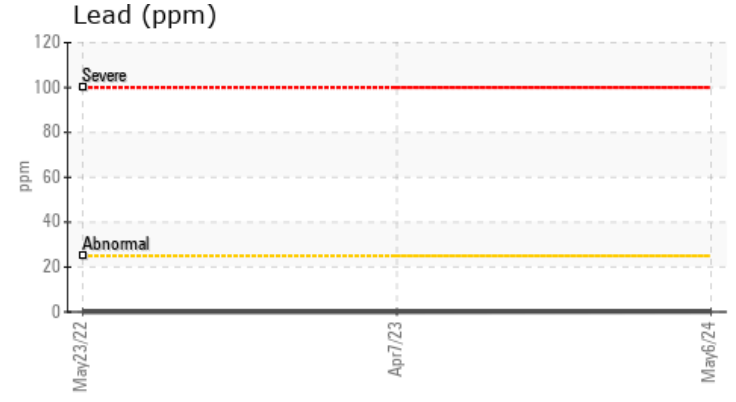
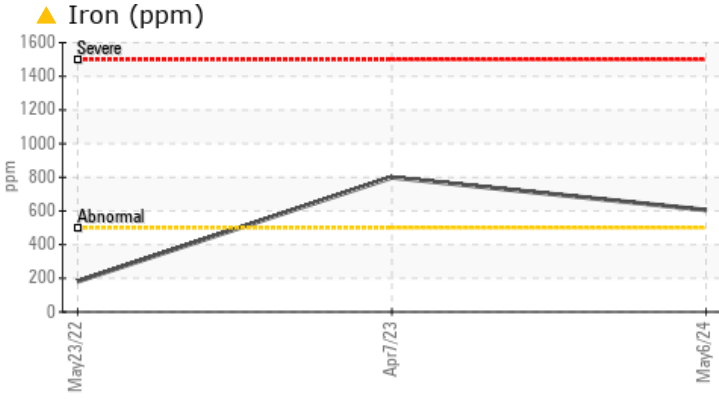
**Depot:** VOLVO0093  
**Unique No:** 11062672  
**Signed:** Don Baldrige  
**Report Date:** 07 Jun 2024



# CONSTRUCTION EQUIPMENT



## GRAPHS







# CONSTRUCTION EQUIPMENT

714839 CENTRAL SITE VOLVO EC350EL 314289 - EC350EL - REAR RIGHT FINAL DRIVE



**Sample No:** VCP447425  
**Oil Type:** VOLVO PREMIUM GEAR OIL 85W-140 GL-5  
**Job No:** 714839 CENTRAL SITE



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 F: (813)630-2233



## SAMPLE INFORMATION

Sample Number	<b>VCP447425</b>	VCP423529	VCP374177	---
Sample Date	<b>06 May 2024</b>	07 Apr 2023	23 May 2022	---
Machine Hours	<b>3423</b>	2200	1090	---
Oil Hours	<b>1000</b>	1000	500	---
Oil Changed	<b>Changed</b>	Changed	Changed	---
Sample Status	<b>ABNORMAL</b>	NORMAL	NORMAL	---



## OIL CONDITION

Visc @ 40°C	cSt	<b>265</b>	267	221	---
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## CONTAMINATION

Water	%	<b>NEG</b>	NEG	NEG	---
Silicon	ppm	<b>▲ 95</b>	30	22	---
Sodium	ppm	<b>2</b>	<1	0	---
Potassium	ppm	<b>2</b>	<1	1	---



## WEAR METALS

Iron	ppm	<b>284</b>	145	90	---
Copper	ppm	<b>0</b>	<1	<1	---
Lead	ppm	<b>0</b>	0	<1	---
Tin	ppm	<b>&lt;1</b>	0	0	---
Aluminum	ppm	<b>● 6</b>	2	1	---
Chromium	ppm	<b>7</b>	8	4	---
Molybdenum	ppm	<b>11</b>	7	3	---
Nickel	ppm	<b>&lt;1</b>	<1	0	---
Titanium	ppm	<b>&lt;1</b>	<1	<1	---
Silver	ppm	<b>0</b>	0	<1	---
Manganese	ppm	<b>3</b>	2	2	---
Vanadium	ppm	<b>0</b>	0	0	---



## ADDITIVES

Calcium	ppm	<b>154</b>	115	93	---
Magnesium	ppm	<b>44</b>	35	20	---
Zinc	ppm	<b>94</b>	101	110	---
Phosphorus	ppm	<b>1019</b>	1049	648	---
Barium	ppm	<b>&lt;1</b>	0	2	---
Boron	ppm	<b>136</b>	133	77	---

## Diagnosis

We advise that you check all areas where dirt can enter the system. The oil change at the time of sampling has been noted. 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.

**Depot:** VOLVO0093  
**Unique No:** 11062653  
**Signed:** Don Baldrige  
**Report Date:** 07 Jun 2024



# CONSTRUCTION EQUIPMENT



## GRAPHS

