



CONSTRUCTION EQUIPMENT

310041 VOLVO EC480E 311308 - DIESEL ENGINE



Sample No: VCP412947
Oil Type: DIESEL ENGINE OIL SAE 30
Job No: 310041



SAMPLE INFORMATION

Sample Number	VCP412947	---	---	---
Sample Date	20 Aug 2023	---	---	---
Machine Hours	2193	---	---	---
Oil Hours	0	---	---	---
Oil Changed	Changed	---	---	---
Sample Status	NORMAL	---	---	---

ALTA EQUIPMENT

5985 COURT STREET ROAD
SYRACUSE, NY
US 13206
Contact: JIM STRIGLE
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T: (315)437-2611
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OIL CONDITION

Visc @ 100°C	cSt	█ 11.8	---	---	---
Base Number (BN)	mg KOH/g	█ 6.9	---	---	---
Oxidation (PA)	%	86	---	---	---

Diagnosis

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. No other corrective action is recommended at this time. The fluid was not specified, however, a fluid match indicates that this fluid is (GENERIC) DIESEL ENGINE OIL SAE 30. Please confirm. All component wear rates are normal. Light fuel dilution occurring. No other contaminants were detected in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

CONTAMINATION

Soot %	%	█ 0.1	---	---	---
Nitration (PA)	%	83	---	---	---
Sulfation (PA)	%	61	---	---	---
Glycol	%	NEG	---	---	---
Fuel	%	█ 1.7	---	---	---
Silicon	ppm	█ 8	---	---	---
Sodium	ppm	█ <1	---	---	---
Potassium	ppm	█ <1	---	---	---

WEAR METALS

Iron	ppm	█ 7	---	---	---
Copper	ppm	█ 4	---	---	---
Lead	ppm	█ 1	---	---	---
Tin	ppm	█ 1	---	---	---
Aluminum	ppm	█ <1	---	---	---
Chromium	ppm	█ <1	---	---	---
Molybdenum	ppm	█ 50	---	---	---
Nickel	ppm	█ <1	---	---	---
Titanium	ppm	█ 0	---	---	---
Silver	ppm	█ 0	---	---	---
Manganese	ppm	█ <1	---	---	---
Vanadium	ppm	0	---	---	---

ADDITIVES

Calcium	ppm	█ 1596	---	---	---
Magnesium	ppm	█ 436	---	---	---
Zinc	ppm	█ 1032	---	---	---
Phosphorus	ppm	█ 850	---	---	---
Barium	ppm	█ 0	---	---	---
Boron	ppm	█ 27	---	---	---

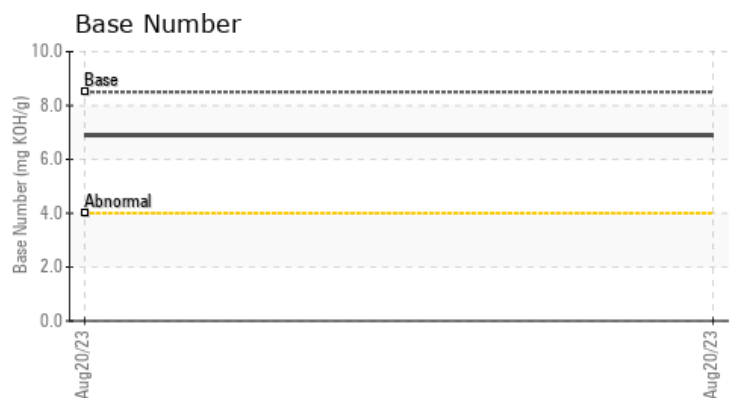
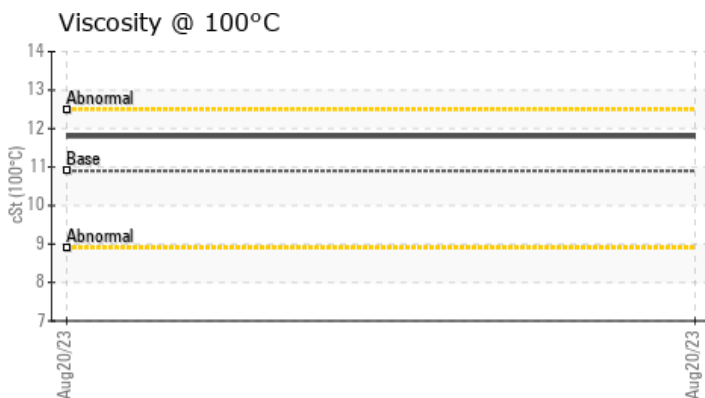
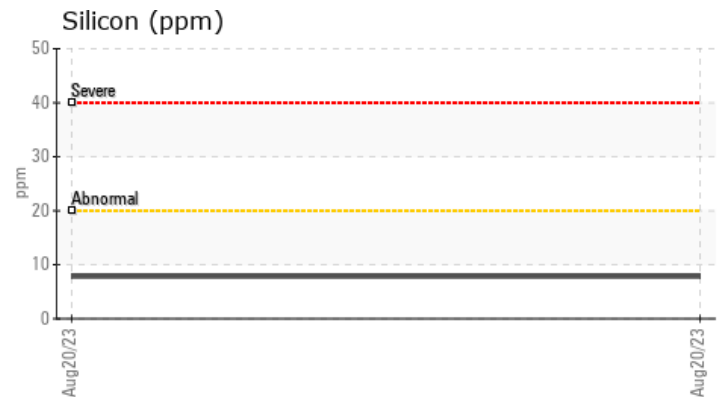
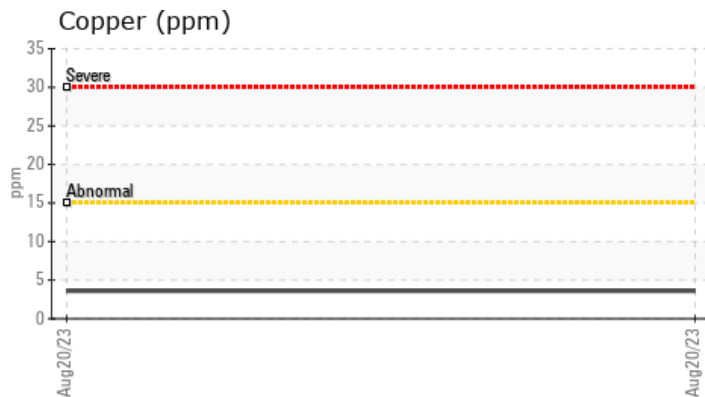
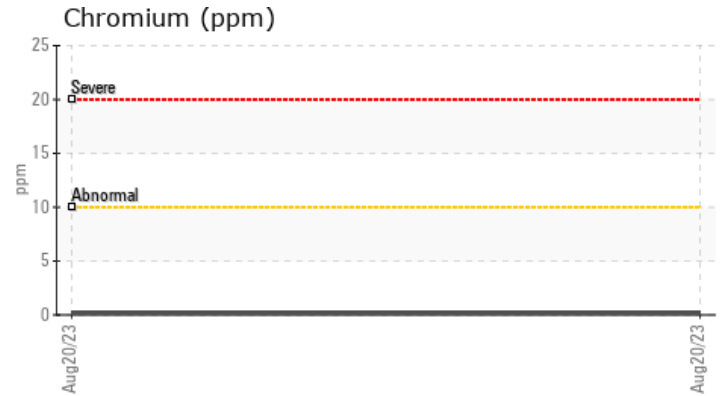
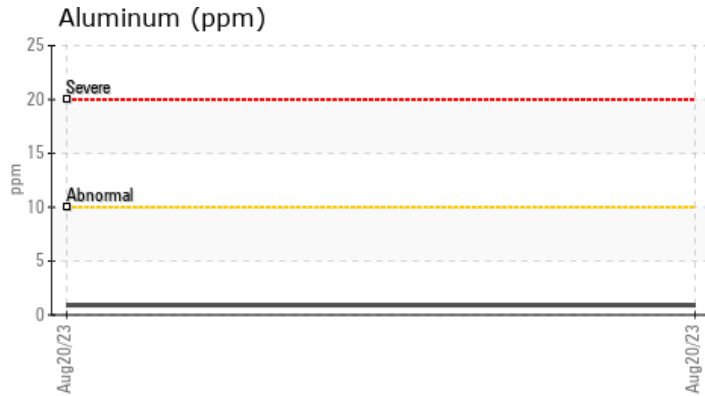
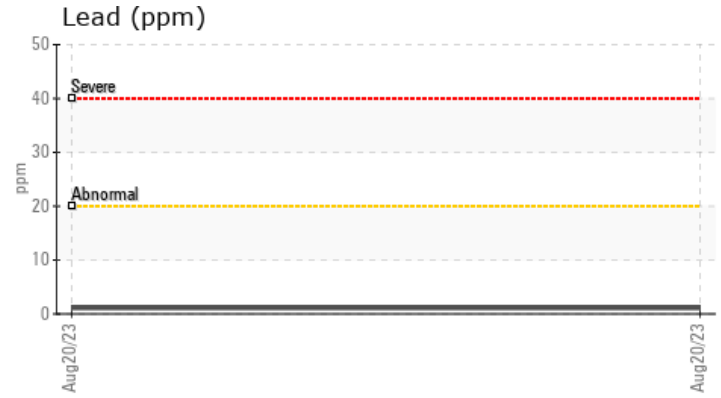
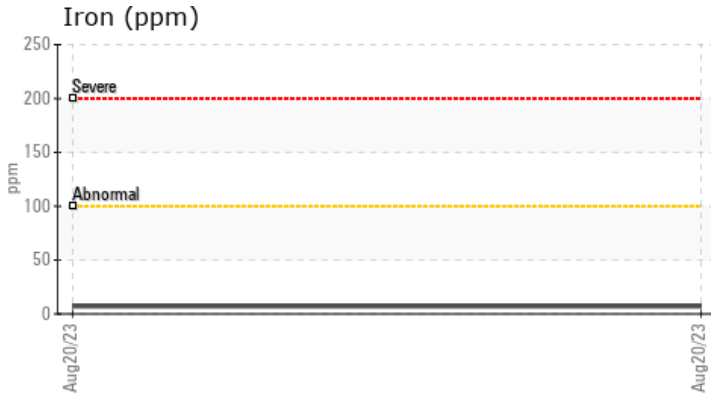
Depot: VOLV00142
Unique No: 10630067
Signed: Wes Davis
Report Date: 01 Sep 2023



CONSTRUCTION EQUIPMENT



GRAPHS





CONSTRUCTION EQUIPMENT

310041-3 VOLVO EC480E 311308 - HYDRAULIC SYSTEM



Sample No: VCP416152
Oil Type: AW HYDRAULIC OIL ISO 46
Job No: 310041-3



SAMPLE INFORMATION

Sample Number	VCP416152	---	---	---
Sample Date	20 Aug 2023	---	---	---
Machine Hours	2193	---	---	---
Oil Hours	0	---	---	---
Oil Changed	Changed	---	---	---
Sample Status	NORMAL	---	---	---

ALTA EQUIPMENT

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OIL CONDITION

Visc @ 40°C	cSt	█ 42.1	---	---	---
Acid Number (AN)	mg KOH/g	█ 0.47	---	---	---



CONTAMINATION

Particles >4µm		█ 23293	---	---	---
Particles >6µm		█ 1884	---	---	---
Particles >14µm		█ 60	---	---	---
ISO 4406:1999 (c)		22/18/13	---	---	---
Silicon	ppm	█ 2	---	---	---
Sodium	ppm	█ <1	---	---	---
Potassium	ppm	█ 1	---	---	---

Diagnosis

Resample at the next service interval to monitor. The fluid was not specified, however, a fluid match indicates that this fluid is (GENERIC) AW HYDRAULIC OIL ISO 46. Please confirm.
 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	█ 5	---	---	---
Copper	ppm	█ 13	---	---	---
Lead	ppm	█ 0	---	---	---
Tin	ppm	█ 0	---	---	---
Aluminum	ppm	█ 2	---	---	---
Chromium	ppm	█ 2	---	---	---
Molybdenum	ppm	█ 1	---	---	---
Nickel	ppm	█ 0	---	---	---
Titanium	ppm	0	---	---	---
Silver	ppm	0	---	---	---
Manganese	ppm	█ <1	---	---	---
Vanadium	ppm	0	---	---	---



ADDITIVES

Calcium	ppm	█ 120	---	---	---
Magnesium	ppm	█ 11	---	---	---
Zinc	ppm	█ 512	---	---	---
Phosphorus	ppm	█ 409	---	---	---
Barium	ppm	█ 0	---	---	---
Boron	ppm	█ 0	---	---	---

Depot: VOLV00142
Unique No: 10630296
Signed: Wes Davis
Report Date: 01 Sep 2023

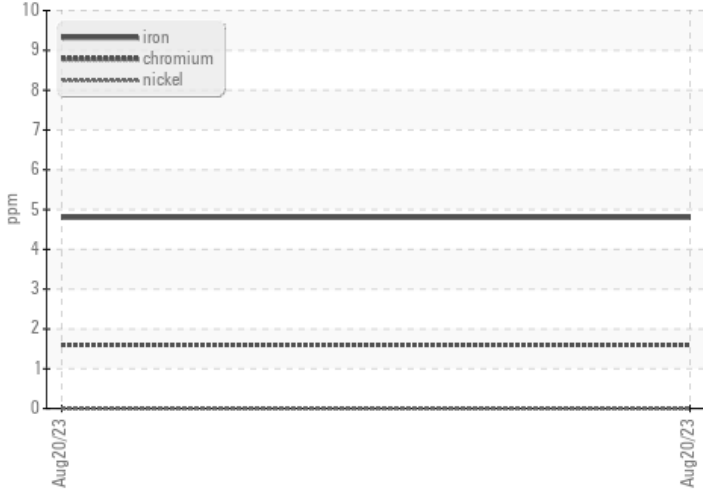


CONSTRUCTION EQUIPMENT

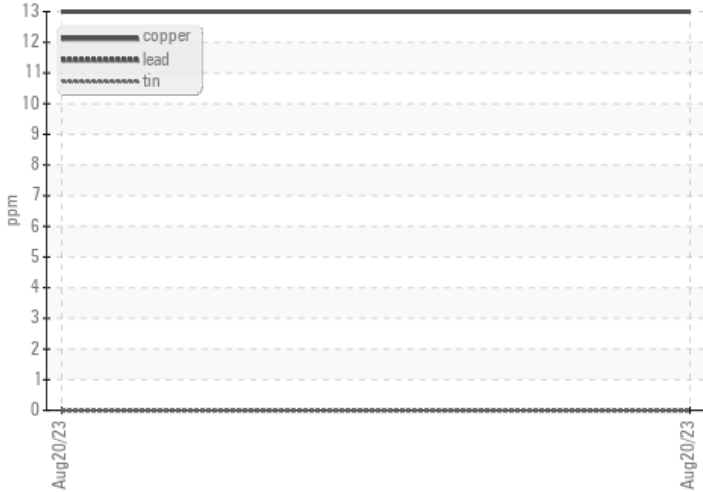


GRAPHS

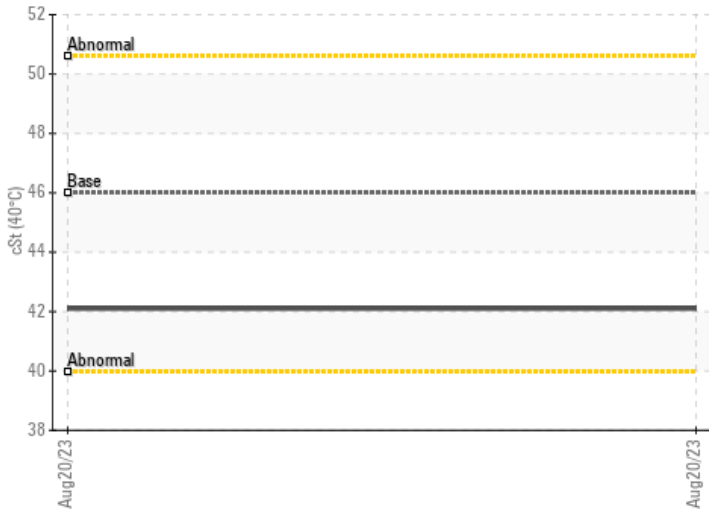
Ferrous Alloys



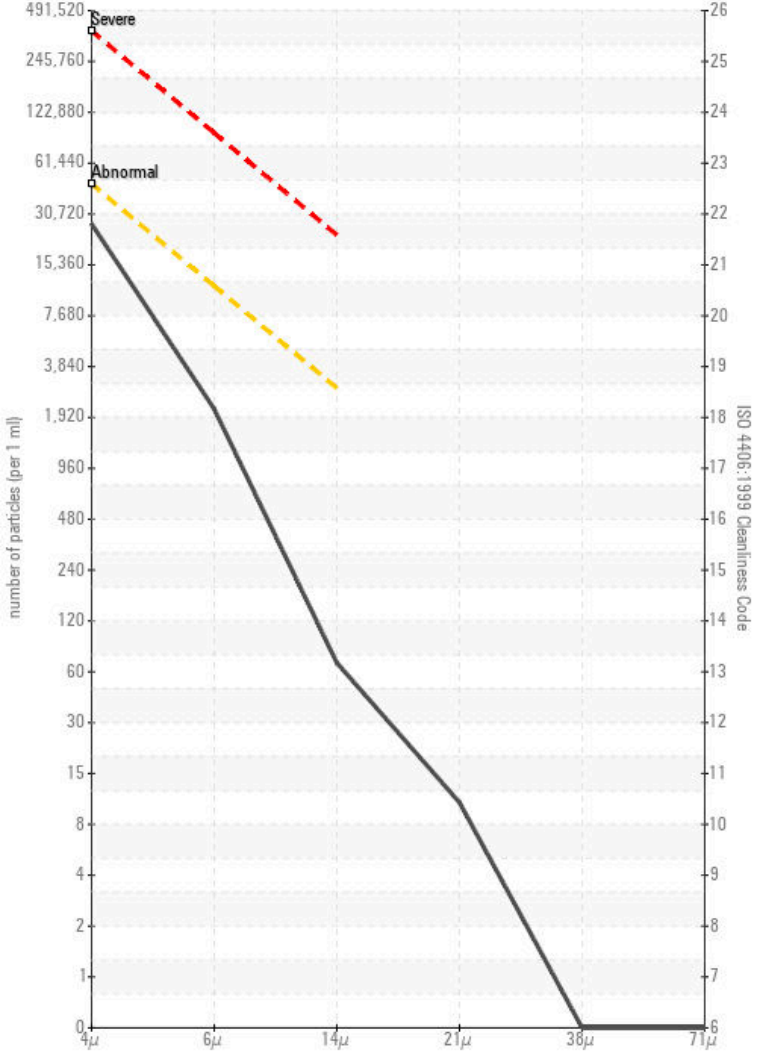
Non-ferrous Metals



Viscosity @ 40°C



Particle Count



Acid Number





CONSTRUCTION EQUIPMENT

310041 VOLVO EC480E 311308 - FRONT AXLE



Sample No: VCP416156
Oil Type: GEAR OIL SAE 80W90
Job No: 310041



SAMPLE INFORMATION

Sample Number	VCP416156	---	---	---
Sample Date	20 Aug 2023	---	---	---
Machine Hours	2193	---	---	---
Oil Hours	0	---	---	---
Oil Changed	Changed	---	---	---
Sample Status	SEVERE	---	---	---

ALTA EQUIPMENT

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OIL CONDITION

Visc @ 40°C	cSt	█ 194	---	---	---
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CONTAMINATION

Silicon	ppm	● 673	---	---	---
Sodium	ppm	█ 17	---	---	---
Potassium	ppm	█ 59	---	---	---

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. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition. Gear wear is indicated. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. The oil is no longer serviceable due to the presence of contaminants.



WEAR METALS

Iron	ppm	● 1884	---	---	---
Copper	ppm	█ 4	---	---	---
Lead	ppm	█ <1	---	---	---
Tin	ppm	█ 0	---	---	---
Aluminum	ppm	▲ 142	---	---	---
Chromium	ppm	● 27	---	---	---
Molybdenum	ppm	█ 3	---	---	---
Nickel	ppm	█ 3	---	---	---
Titanium	ppm	10	---	---	---
Silver	ppm	0	---	---	---
Manganese	ppm	19	---	---	---
Vanadium	ppm	<1	---	---	---



ADDITIVES

Calcium	ppm	█ 180	---	---	---
Magnesium	ppm	█ 34	---	---	---
Zinc	ppm	█ 27	---	---	---
Phosphorus	ppm	█ 439	---	---	---
Barium	ppm	█ 12	---	---	---
Boron	ppm	█ 3	---	---	---

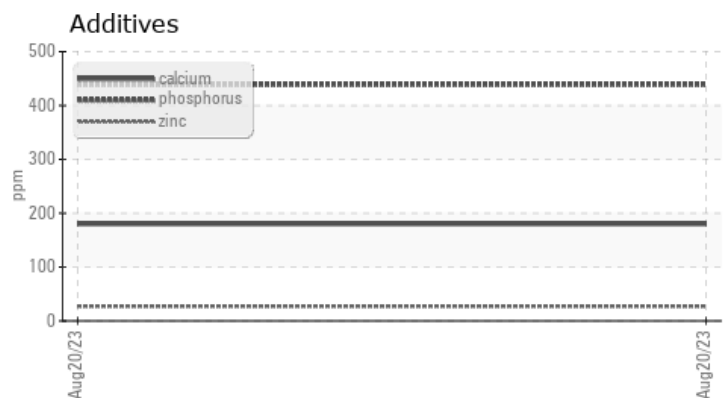
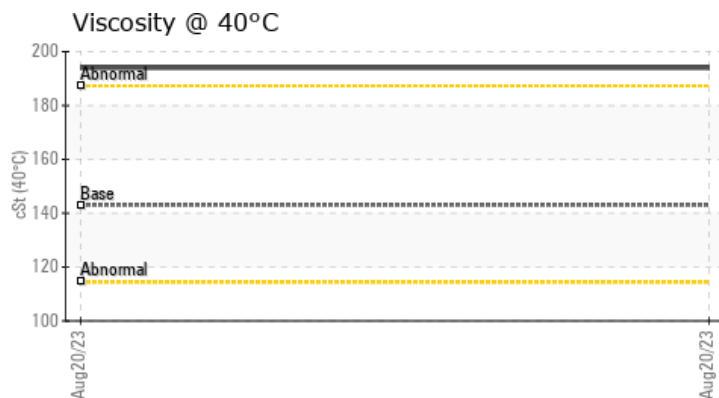
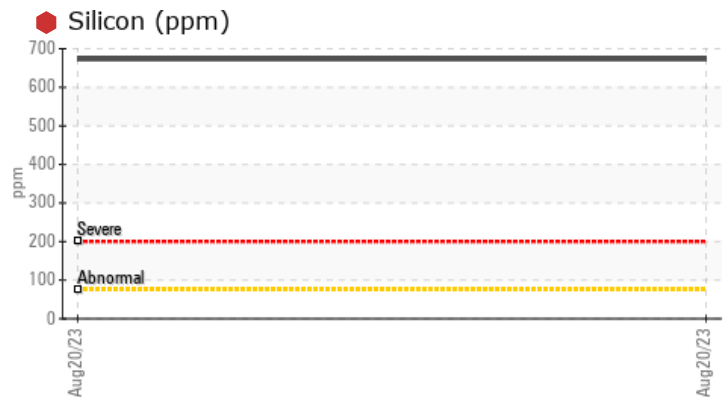
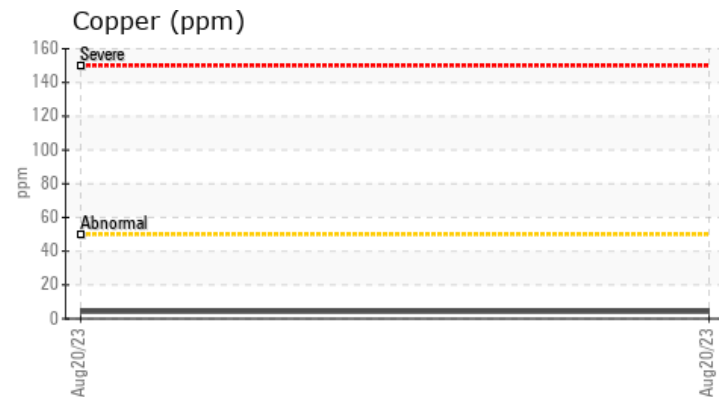
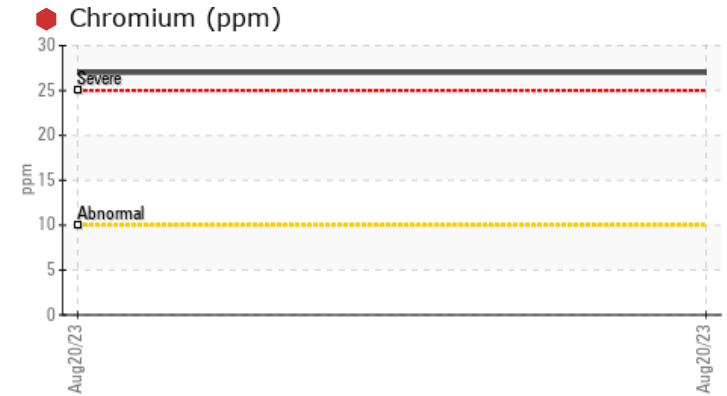
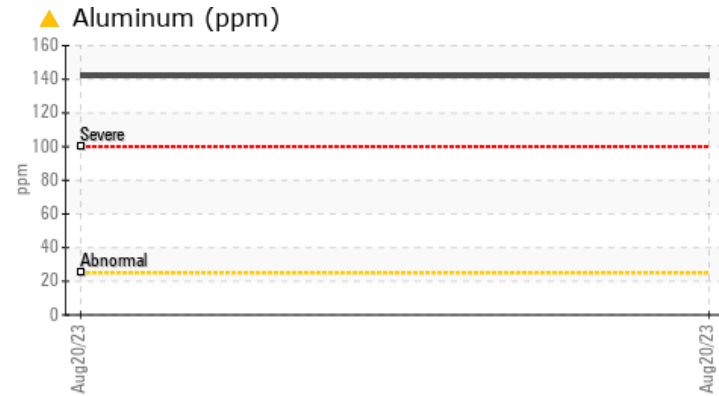
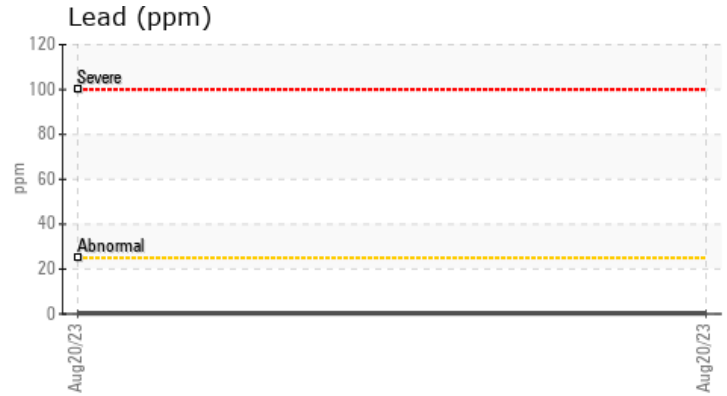
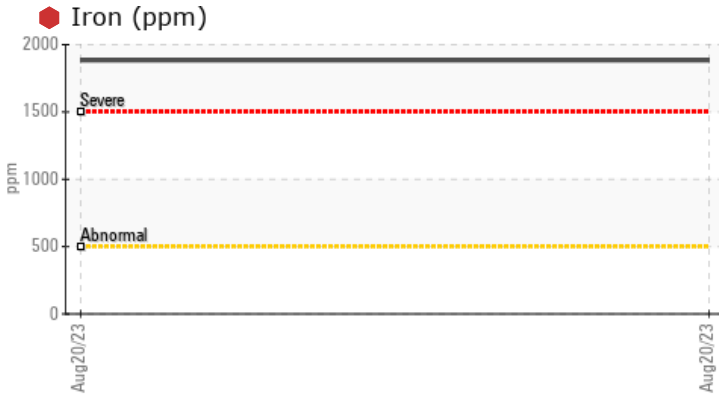
Depot: VOLV00142
Unique No: 10630569
Signed: Don Baldrige
Report Date: 05 Sep 2023



CONSTRUCTION EQUIPMENT



GRAPHS





CONSTRUCTION EQUIPMENT

310041-3 VOLVO EC480E 311308 - REAR AXLE



Sample No: VCP416158
Oil Type: GEAR OIL SAE 80W90
Job No: 310041-3



SAMPLE INFORMATION

Sample Number	VCP416158	---	---	---
Sample Date	20 Aug 2023	---	---	---
Machine Hours	2193	---	---	---
Oil Hours	0	---	---	---
Oil Changed	Changed	---	---	---
Sample Status	SEVERE	---	---	---

ALTA EQUIPMENT

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US 13206
Contact: JIM STRIGLE
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F: (315)434-9471



OIL CONDITION

Visc @ 40°C	cSt	█ 191	---	---	---
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CONTAMINATION

Silicon	ppm	▲ 425	---	---	---
Sodium	ppm	█ 10	---	---	---
Potassium	ppm	█ 38	---	---	---



WEAR METALS

Iron	ppm	▲ 1276	---	---	---
Copper	ppm	█ 3	---	---	---
Lead	ppm	█ 0	---	---	---
Tin	ppm	█ 0	---	---	---
Aluminum	ppm	▲ 89	---	---	---
Chromium	ppm	▲ 17	---	---	---
Molybdenum	ppm	█ 2	---	---	---
Nickel	ppm	█ 2	---	---	---
Titanium	ppm	7	---	---	---
Silver	ppm	0	---	---	---
Manganese	ppm	█ 13	---	---	---
Vanadium	ppm	0	---	---	---



ADDITIVES

Calcium	ppm	█ 101	---	---	---
Magnesium	ppm	█ 22	---	---	---
Zinc	ppm	█ 15	---	---	---
Phosphorus	ppm	█ 405	---	---	---
Barium	ppm	█ 9	---	---	---
Boron	ppm	█ <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. We recommend an early resample to monitor this condition. Gear wear is indicated. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. The oil is no longer serviceable due to the presence of contaminants.

Depot: VOLV00142
Unique No: 10630570
Signed: Don Baldrige
Report Date: 05 Sep 2023



CONSTRUCTION EQUIPMENT



GRAPHS

