



CONSTRUCTION EQUIPMENT

VOLVO A40G 752088 - DIESEL ENGINE



Sample No: VCP450808
Oil Type: VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3
Job No:



SAMPLE INFORMATION

Sample Number	VCP450808	---	---	---
Sample Date	13 Jun 2024	---	---	---
Machine Hours	1460	---	---	---
Oil Hours	0	---	---	---
Oil Changed	Changed	---	---	---
Sample Status	ABNORMAL	---	---	---

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OIL CONDITION

Visc @ 100°C	cSt	▲ 12.3	---	---	---
Base Number (BN)	mg KOH/g	■ 6.3	---	---	---
Oxidation (PA)	%	84	---	---	---

Diagnosis

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. The copper level is abnormal. All other component wear rates are normal. Fuel content negligible. There is no indication of any contamination in the oil. The oil viscosity is lower than normal.



CONTAMINATION

Water	%	NEG	---	---	---
Soot %	%	■ 0.4	---	---	---
Nitration (PA)	%	83	---	---	---
Sulfation (PA)	%	64	---	---	---
Glycol	%	NEG	---	---	---
Fuel	%	■ 0.2	---	---	---
Silicon	ppm	■ 8	---	---	---
Sodium	ppm	■ 2	---	---	---
Potassium	ppm	■ <1	---	---	---



WEAR METALS

Iron	ppm	■ 11	---	---	---
Copper	ppm	▲ 51	---	---	---
Lead	ppm	■ 0	---	---	---
Tin	ppm	■ 0	---	---	---
Aluminum	ppm	■ <1	---	---	---
Chromium	ppm	■ 0	---	---	---
Molybdenum	ppm	■ 43	---	---	---
Nickel	ppm	■ 0	---	---	---
Titanium	ppm	0	---	---	---
Silver	ppm	■ 0	---	---	---
Manganese	ppm	■ <1	---	---	---
Vanadium	ppm	0	---	---	---



ADDITIVES

Calcium	ppm	■ 1705	---	---	---
Magnesium	ppm	■ 379	---	---	---
Zinc	ppm	■ 953	---	---	---
Phosphorus	ppm	■ 781	---	---	---
Barium	ppm	■ 0	---	---	---
Boron	ppm	■ 9	---	---	---

Depot: VOLVO0090
Unique No: 11087201
Signed: Jonathan Hester
Report Date: 24 Jun 2024



CONSTRUCTION EQUIPMENT

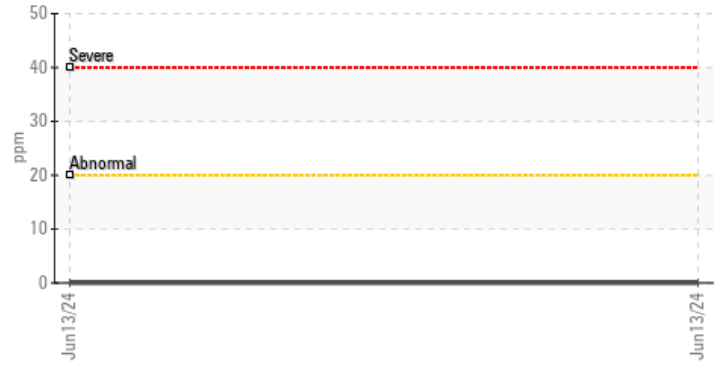


GRAPHS

Iron (ppm)



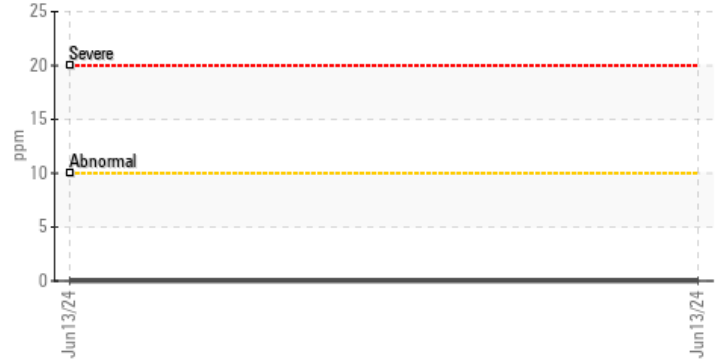
Lead (ppm)



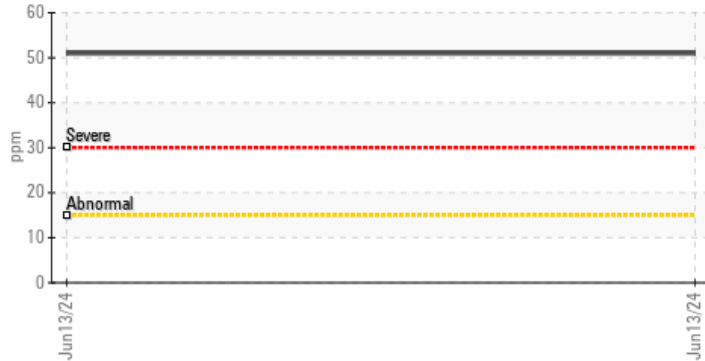
Aluminum (ppm)



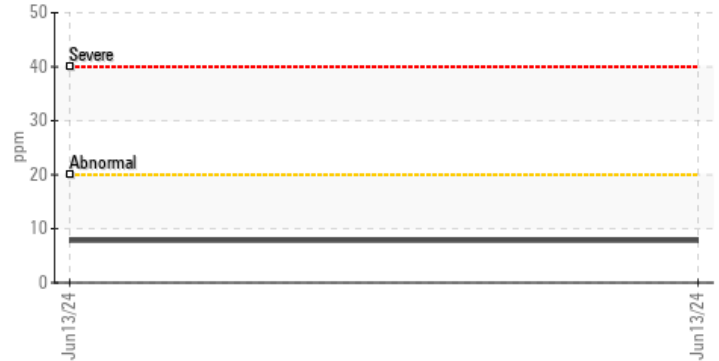
Chromium (ppm)



▲ Copper (ppm)



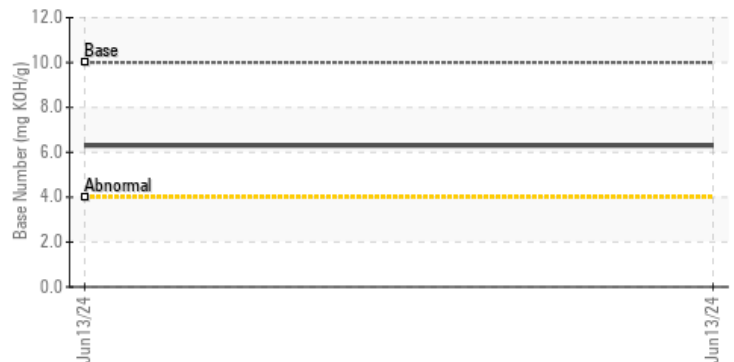
Silicon (ppm)



▲ Viscosity @ 100°C



Base Number





CONSTRUCTION EQUIPMENT

VOLVO A40G 752088 - TRANSMISSION (AUTO)



Sample No: VCP450810
Oil Type: VOLVO AUTOMATIC TRANSMISSION FLUID AT102
Job No:



SAMPLE INFORMATION

Sample Number	VCP450810	---	---	---
Sample Date	13 Jun 2024	---	---	---
Machine Hours	1460	---	---	---
Oil Hours	0	---	---	---
Oil Changed	Not Chngd	---	---	---
Sample Status	ABNORMAL	---	---	---

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OIL CONDITION

Visc @ 40°C	cSt	█ 27.1	---	---	---
-------------	-----	--------	-----	-----	-----



CONTAMINATION

Water	%	NEG	---	---	---
Silicon	ppm	█ 14	---	---	---
Sodium	ppm	█ 5	---	---	---
Potassium	ppm	█ 3	---	---	---



WEAR METALS

Iron	ppm	█ 39	---	---	---
Copper	ppm	█ 55	---	---	---
Lead	ppm	█ <1	---	---	---
Tin	ppm	█ 6	---	---	---
Aluminum	ppm	█ 20	---	---	---
Chromium	ppm	█ <1	---	---	---
Molybdenum	ppm	█ <1	---	---	---
Nickel	ppm	▲ 8	---	---	---
Titanium	ppm	<1	---	---	---
Silver	ppm	█ 0	---	---	---
Manganese	ppm	█ 4	---	---	---
Vanadium	ppm	0	---	---	---



ADDITIVES

Calcium	ppm	█ 72	---	---	---
Magnesium	ppm	█ 1	---	---	---
Zinc	ppm	█ 10	---	---	---
Phosphorus	ppm	█ 192	---	---	---
Barium	ppm	█ 2	---	---	---
Boron	ppm	█ 79	---	---	---

Diagnosis

We recommend that you drain the oil at the next service. Resample at the next service interval to monitor. The nickel level is abnormal. Moderate concentration of visible metal present. Moderate concentration of visible dirt/debris present in the fluid. The condition of the fluid is acceptable for the time in service.

Depot: VOLVO0090
Unique No: 11088058
Signed: Sean Felton
Report Date: 21 Jun 2024

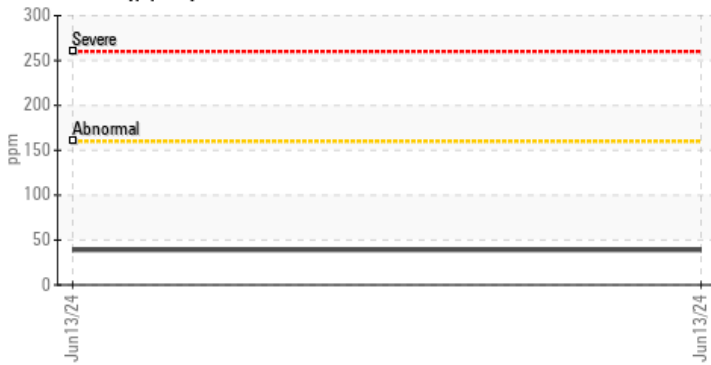


CONSTRUCTION EQUIPMENT

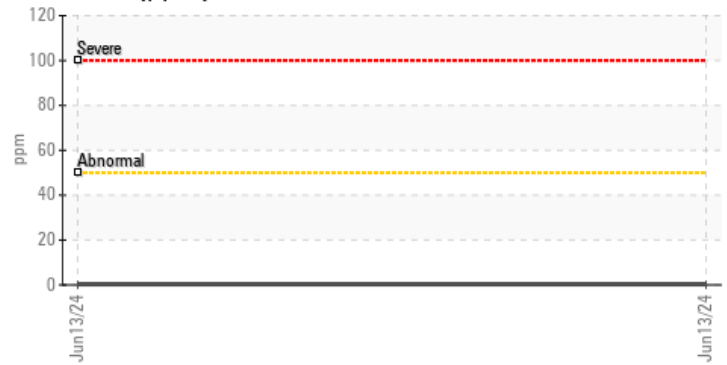


GRAPHS

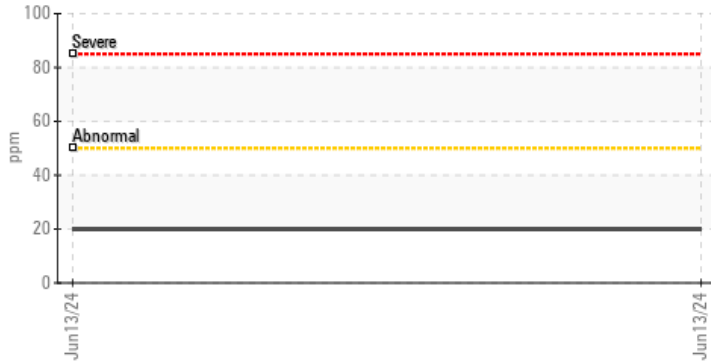
Iron (ppm)



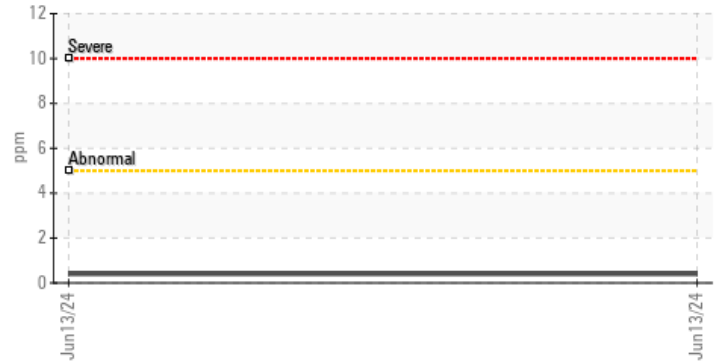
Lead (ppm)



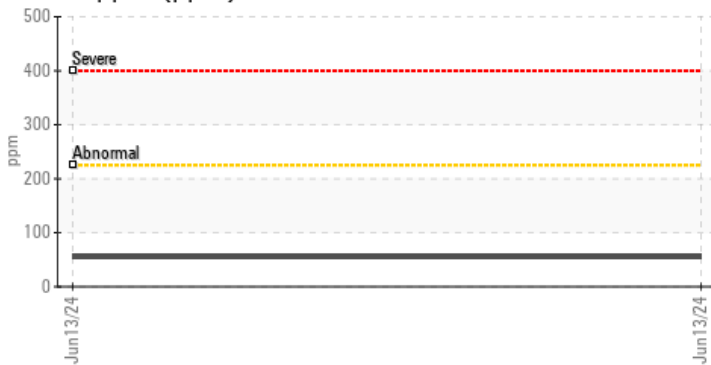
Aluminum (ppm)



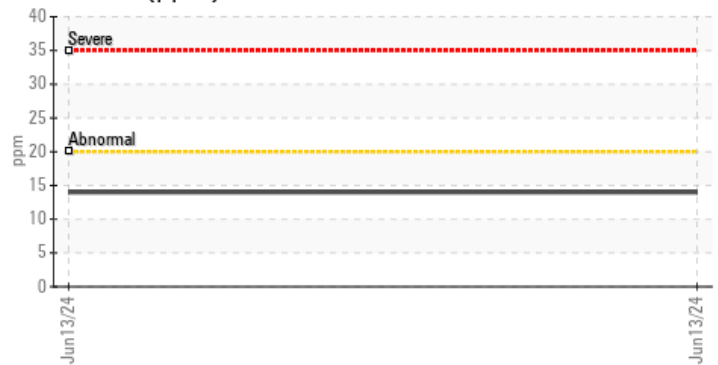
Chromium (ppm)



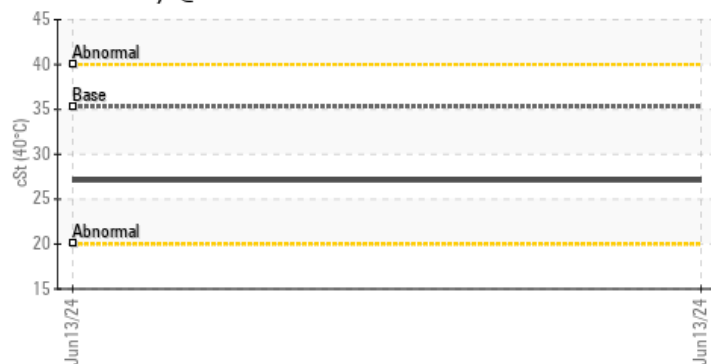
Copper (ppm)



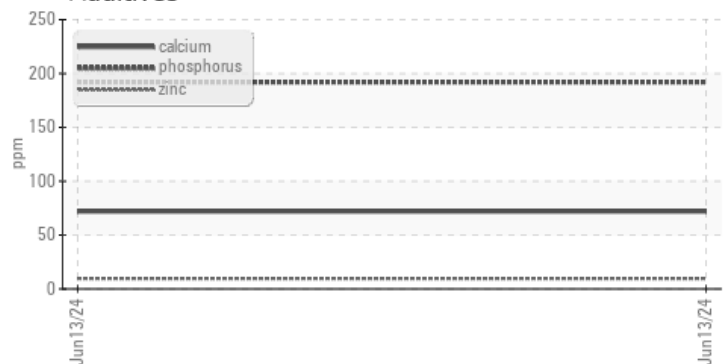
Silicon (ppm)



Viscosity @ 40°C



Additives





CONSTRUCTION EQUIPMENT

VOLVO A40G 752088 - WET DISC BRAKE



Sample No: VCP450809
Oil Type: VOLVO WET BRAKE TRANSAXLE OIL
Job No:



SAMPLE INFORMATION

Sample Number	VCP450809	---	---	---
Sample Date	13 Jun 2024	---	---	---
Machine Hours	1460	---	---	---
Oil Hours	0	---	---	---
Oil Changed	Not Chngd	---	---	---
Sample Status	NORMAL	---	---	---

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OIL CONDITION

Visc @ 40°C	cSt	█ 43.9	---	---	---
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CONTAMINATION

Water	%	NEG	---	---	---
Silicon	ppm	█ 15	---	---	---
Sodium	ppm	█ 7	---	---	---
Potassium	ppm	█ 3	---	---	---

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	█ 13	---	---	---
Copper	ppm	█ 73	---	---	---
Lead	ppm	█ 0	---	---	---
Tin	ppm	█ 0	---	---	---
Aluminum	ppm	█ 0	---	---	---
Chromium	ppm	█ <1	---	---	---
Molybdenum	ppm	█ 0	---	---	---
Nickel	ppm	█ 3	---	---	---
Titanium	ppm	<1	---	---	---
Silver	ppm	0	---	---	---
Manganese	ppm	█ 1	---	---	---
Vanadium	ppm	<1	---	---	---



ADDITIVES

Calcium	ppm	█ 3937	---	---	---
Magnesium	ppm	█ 6	---	---	---
Zinc	ppm	█ 1536	---	---	---
Phosphorus	ppm	█ 1293	---	---	---
Barium	ppm	█ 0	---	---	---
Boron	ppm	█ 118	---	---	---

Depot: VOLVO0090
Unique No: 11087974
Signed: Sean Felton
Report Date: 21 Jun 2024

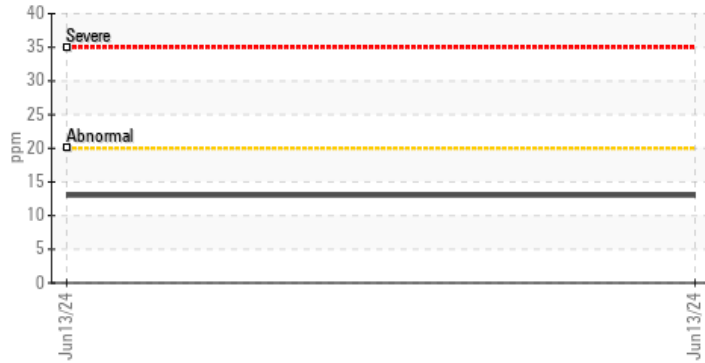


CONSTRUCTION EQUIPMENT



GRAPHS

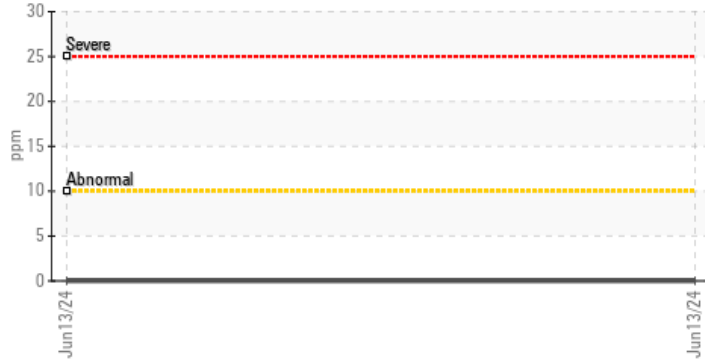
Iron (ppm)



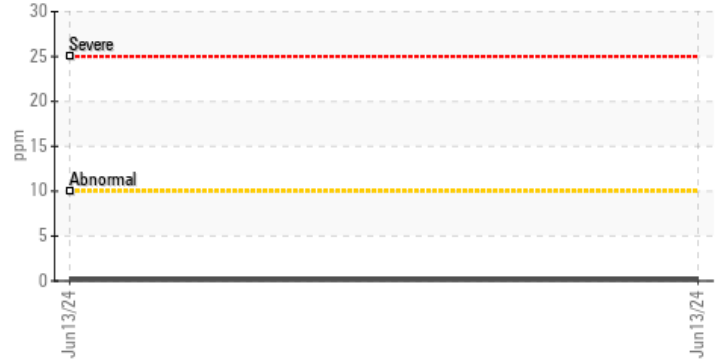
Lead (ppm)



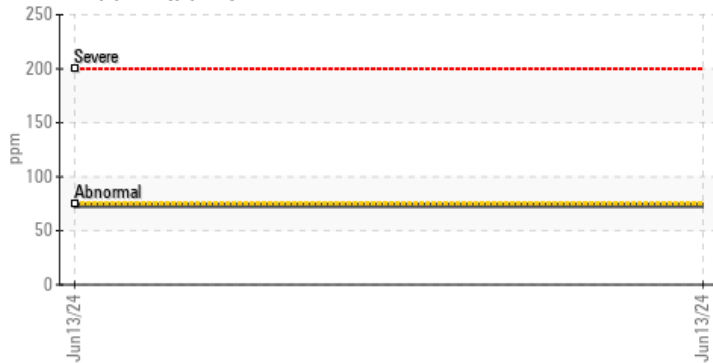
Aluminum (ppm)



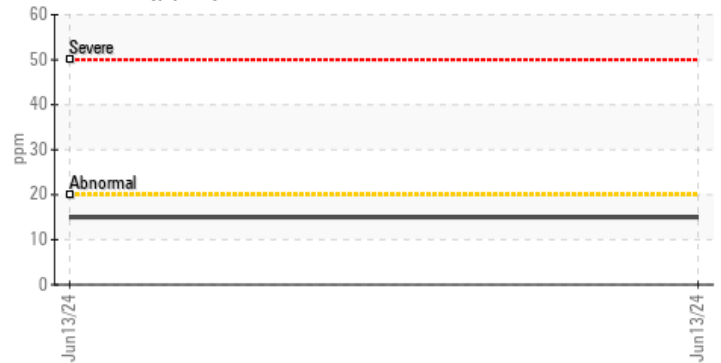
Chromium (ppm)



Copper (ppm)



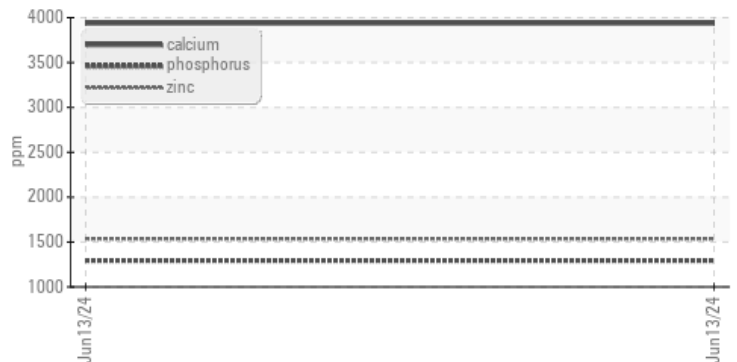
Silicon (ppm)



Viscosity @ 40°C



Additives





CONSTRUCTION EQUIPMENT

VOLVO A40G 752088 - HYDRAULIC SYSTEM



Sample No: VCP450812
Oil Type: VOLVO SUPER HYDRAULIC OIL 46
Job No:



SAMPLE INFORMATION

Sample Number	VCP450812	---	---	---
Sample Date	13 Jun 2024	---	---	---
Machine Hours	1460	---	---	---
Oil Hours	0	---	---	---
Oil Changed	Not Changed	---	---	---
Sample Status	ATTENTION	---	---	---

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OIL CONDITION

Visc @ 40°C	cSt	█ 43.5	---	---	---
Acid Number (AN)	mg KOH/g	█ 0.39	---	---	---



CONTAMINATION

Water	%	NEG	---	---	---
Particles >4µm		█ 15427	---	---	---
Particles >6µm		● 5660	---	---	---
Particles >14µm		● 320	---	---	---
ISO 4406:1999 (c)		21/20/15	---	---	---
Silicon	ppm	█ 3	---	---	---
Sodium	ppm	█ 0	---	---	---
Potassium	ppm	█ <1	---	---	---

Diagnosis

The 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 a light amount of silt (particulates < 14 microns in size) present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.



WEAR METALS

Iron	ppm	█ 4	---	---	---
Copper	ppm	█ 2	---	---	---
Lead	ppm	█ 1	---	---	---
Tin	ppm	█ 0	---	---	---
Aluminum	ppm	█ 2	---	---	---
Chromium	ppm	█ <1	---	---	---
Molybdenum	ppm	█ 0	---	---	---
Nickel	ppm	█ 0	---	---	---
Titanium	ppm	0	---	---	---
Silver	ppm	0	---	---	---
Manganese	ppm	█ 0	---	---	---
Vanadium	ppm	0	---	---	---



ADDITIVES

Calcium	ppm	█ 67	---	---	---
Magnesium	ppm	█ 2	---	---	---
Zinc	ppm	█ 441	---	---	---
Phosphorus	ppm	█ 326	---	---	---
Barium	ppm	█ 0	---	---	---
Boron	ppm	█ 0	---	---	---

Depot: VOLVO0090
Unique No: 11087443
Signed: Wes Davis
Report Date: 20 Jun 2024

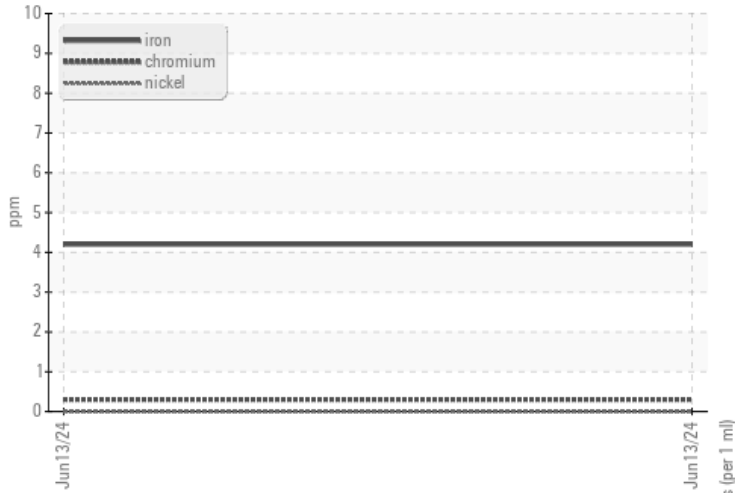


CONSTRUCTION EQUIPMENT

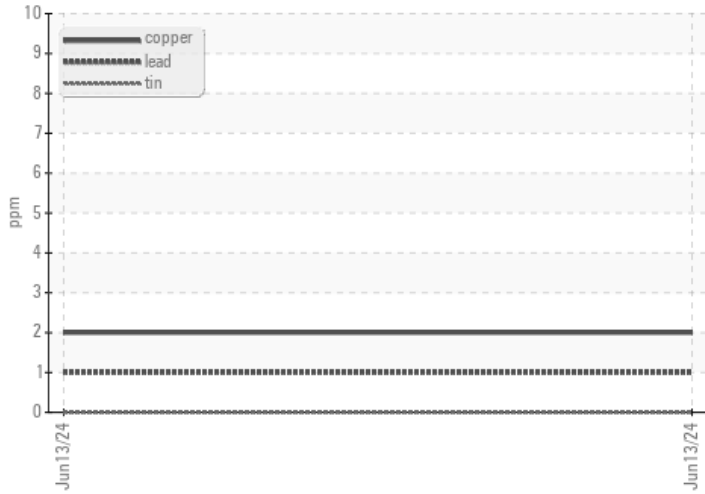


GRAPHS

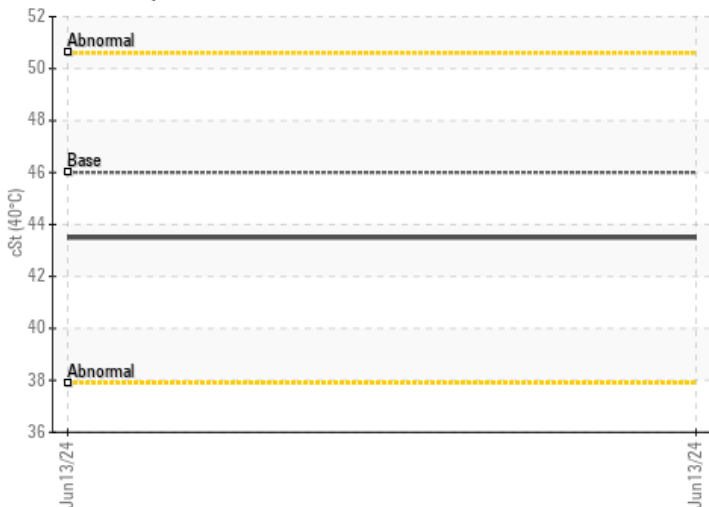
Ferrous Alloys



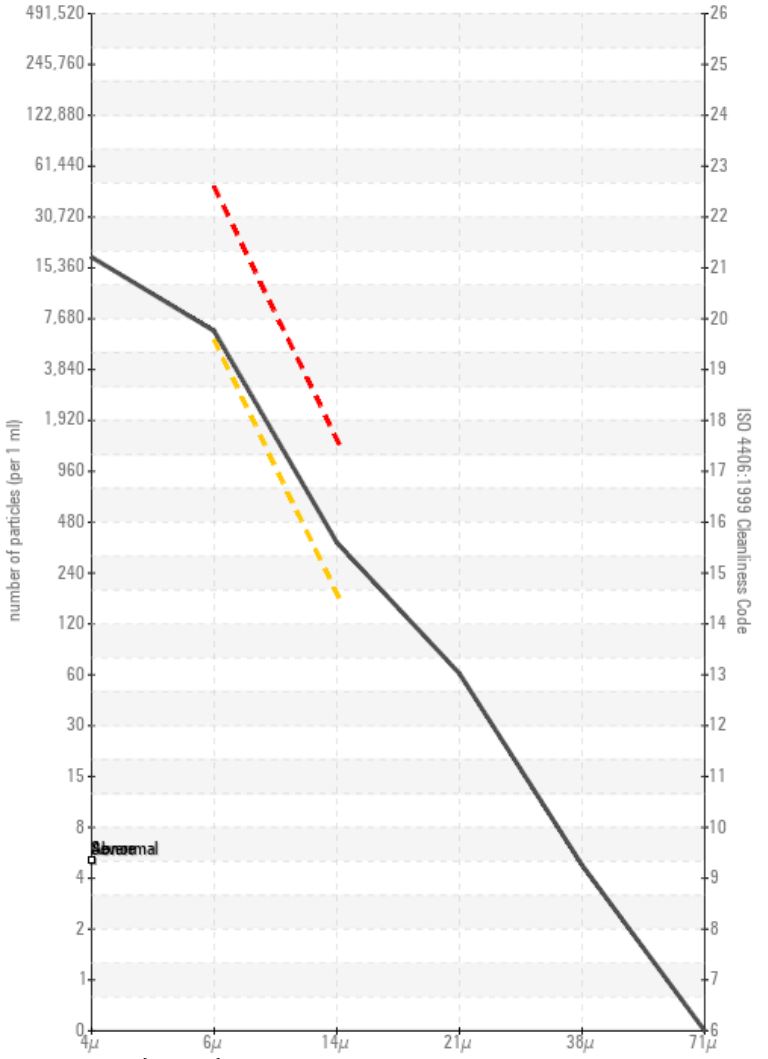
Non-ferrous Metals



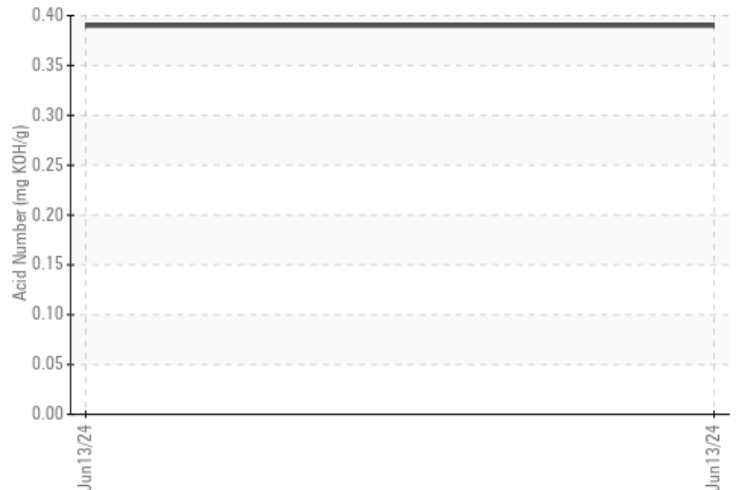
Viscosity @ 40°C



Particle Count



Acid Number





CONSTRUCTION EQUIPMENT

VOLVO A40G 752088 - FRONT AXLE



Sample No: VCP450813
Oil Type: VOLVO PREMIUM GEAR OIL 85W-140 GL-5
Job No:



SAMPLE INFORMATION

Sample Number	VCP450813	---	---	---
Sample Date	13 Jun 2024	---	---	---
Machine Hours	1460	---	---	---
Oil Hours	0	---	---	---
Oil Changed	Changed	---	---	---
Sample Status	ATTENTION	---	---	---

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OIL CONDITION

Visc @ 40°C	cSt	● 107	---	---	---
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CONTAMINATION

Water	%	NEG	---	---	---
Silicon	ppm	■ 6	---	---	---
Sodium	ppm	■ 3	---	---	---
Potassium	ppm	■ 3	---	---	---

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 oil viscosity is lower than normal. Confirm oil type.



WEAR METALS

Iron	ppm	■ 265	---	---	---
Copper	ppm	■ 1	---	---	---
Lead	ppm	■ 0	---	---	---
Tin	ppm	■ 0	---	---	---
Aluminum	ppm	■ <1	---	---	---
Chromium	ppm	■ 4	---	---	---
Molybdenum	ppm	■ 11	---	---	---
Nickel	ppm	■ 0	---	---	---
Titanium	ppm	<1	---	---	---
Silver	ppm	0	---	---	---
Manganese	ppm	■ 15	---	---	---
Vanadium	ppm	<1	---	---	---



ADDITIVES

Calcium	ppm	■ 151	---	---	---
Magnesium	ppm	■ 2	---	---	---
Zinc	ppm	■ 67	---	---	---
Phosphorus	ppm	■ 1419	---	---	---
Barium	ppm	■ 1	---	---	---
Boron	ppm	■ 280	---	---	---

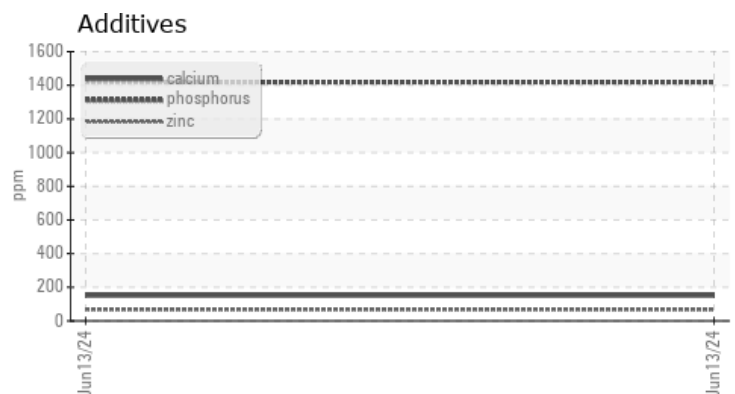
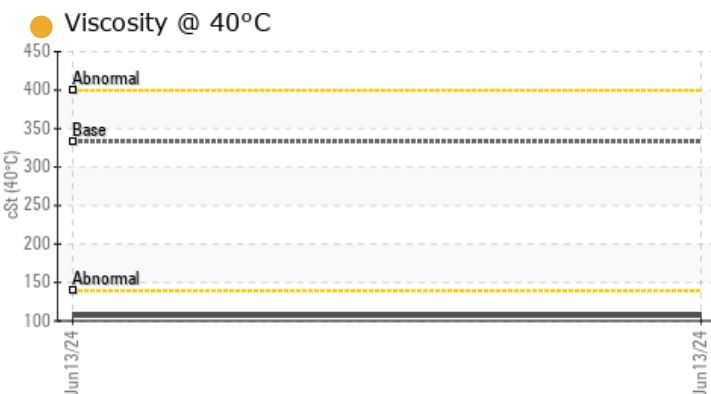
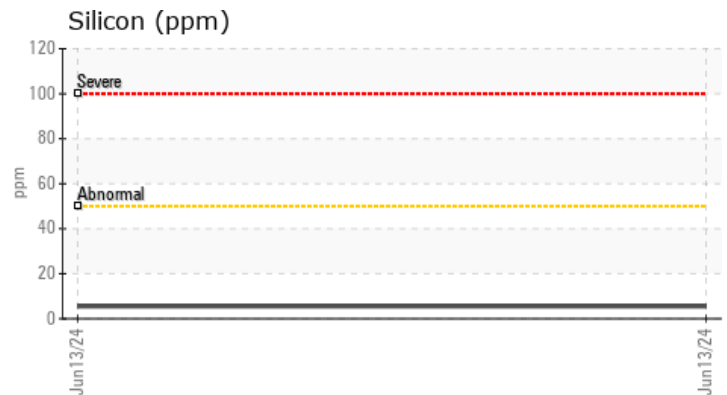
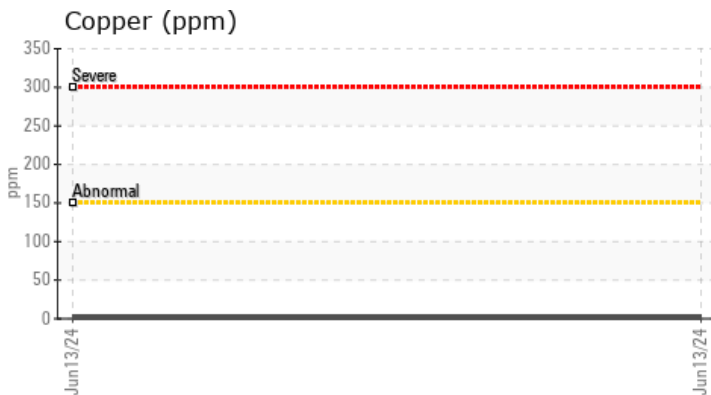
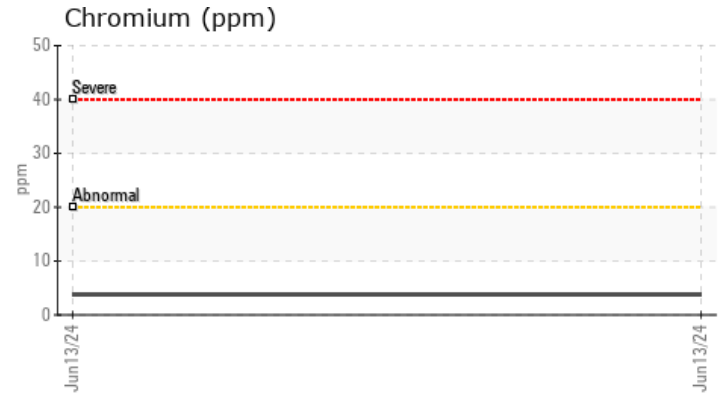
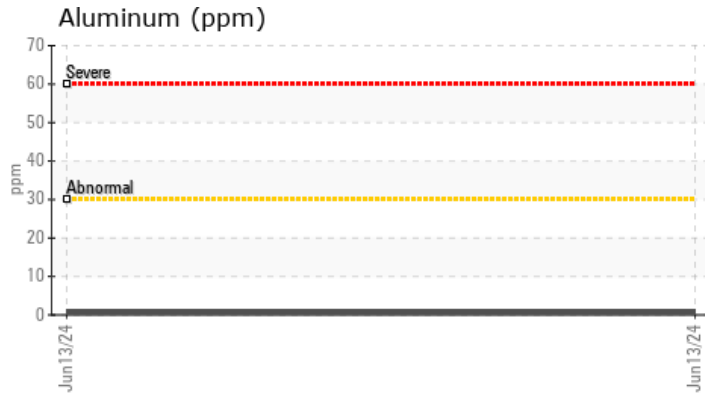
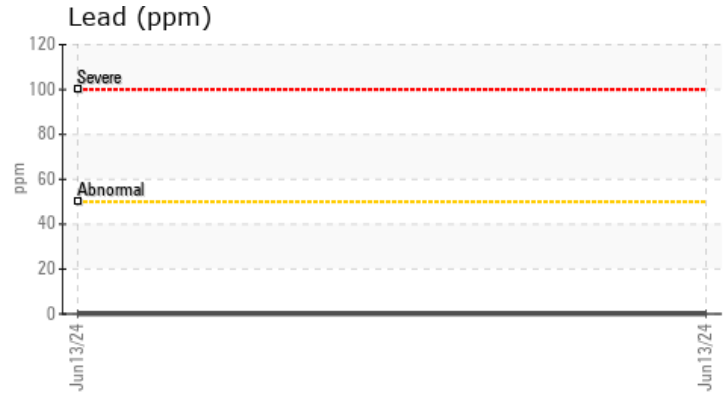
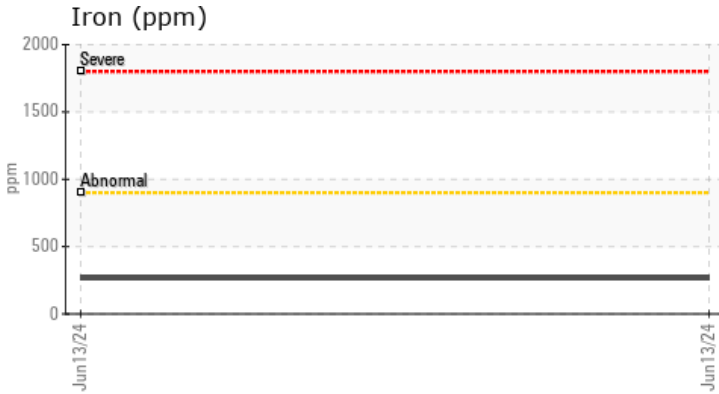
Depot: VOLVO0090
Unique No: 11087948
Signed: Sean Felton
Report Date: 21 Jun 2024



CONSTRUCTION EQUIPMENT



GRAPHS





CONSTRUCTION EQUIPMENT

VOLVO A40G 752088 - DROP BOX



Sample No: VCP450806
Oil Type: VOLVO PREMIUM GEAR OIL 85W-140 GL-5
Job No:



SAMPLE INFORMATION

Sample Number	VCP450806	---	---	---
Sample Date	13 Jun 2024	---	---	---
Machine Hours	1460	---	---	---
Oil Hours	0	---	---	---
Oil Changed	Changed	---	---	---
Sample Status	ABNORMAL	---	---	---

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 Contact: TODD LARK
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OIL CONDITION

Visc @ 40°C	cSt	● 48.4	---	---	---
-------------	-----	--------	-----	-----	-----



CONTAMINATION

Water	%	NEG	---	---	---
Silicon	ppm	■ 20	---	---	---
Sodium	ppm	■ 12	---	---	---
Potassium	ppm	■ 3	---	---	---



WEAR METALS

Iron	ppm	■ 94	---	---	---
Copper	ppm	■ 10	---	---	---
Lead	ppm	■ 0	---	---	---
Tin	ppm	■ 0	---	---	---
Aluminum	ppm	■ 4	---	---	---
Chromium	ppm	■ <1	---	---	---
Molybdenum	ppm	■ 6	---	---	---
Nickel	ppm	■ 0	---	---	---
Titanium	ppm	<1	---	---	---
Silver	ppm	0	---	---	---
Manganese	ppm	■ 3	---	---	---
Vanadium	ppm	<1	---	---	---



ADDITIVES

Calcium	ppm	■ 54	---	---	---
Magnesium	ppm	■ <1	---	---	---
Zinc	ppm	■ 83	---	---	---
Phosphorus	ppm	● 2250	---	---	---
Barium	ppm	■ 0	---	---	---
Boron	ppm	■ 69	---	---	---

Diagnosis

The oil change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor. All component wear rates are normal. Moderate concentration of visible dirt/debris present in the oil. The oil viscosity is lower than normal. This plus the additive levels indicates the addition of a different brand, or type of oil. Confirm oil type.

Depot: VOLVO0090
Unique No: 11087977
Signed: Sean Felton
Report Date: 21 Jun 2024

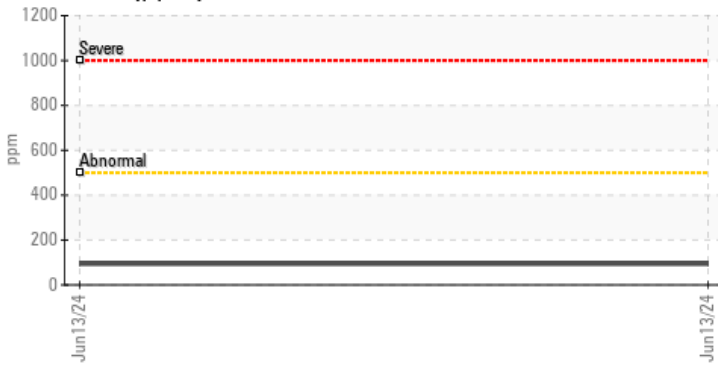


CONSTRUCTION EQUIPMENT

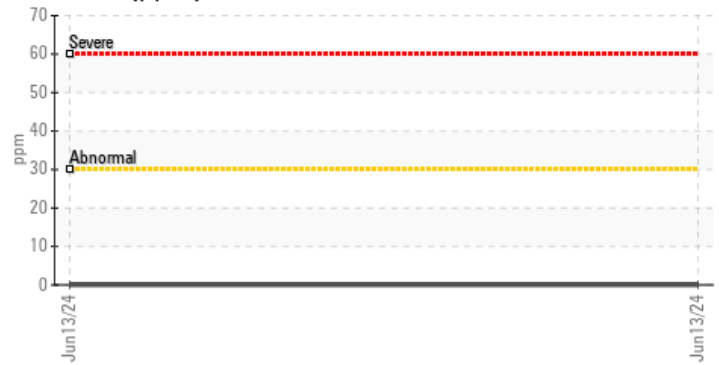


GRAPHS

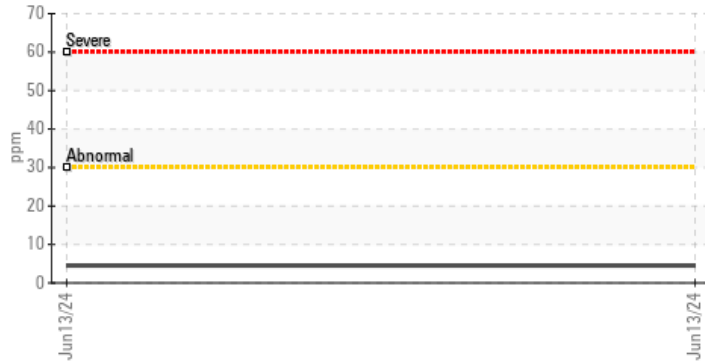
Iron (ppm)



Lead (ppm)



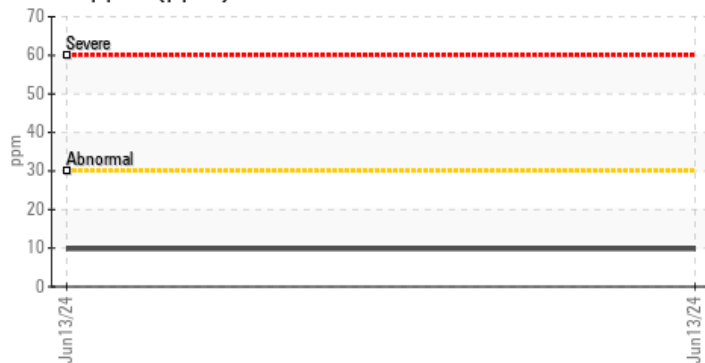
Aluminum (ppm)



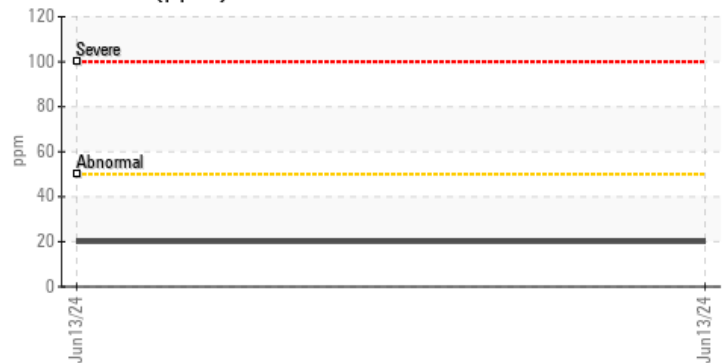
Chromium (ppm)



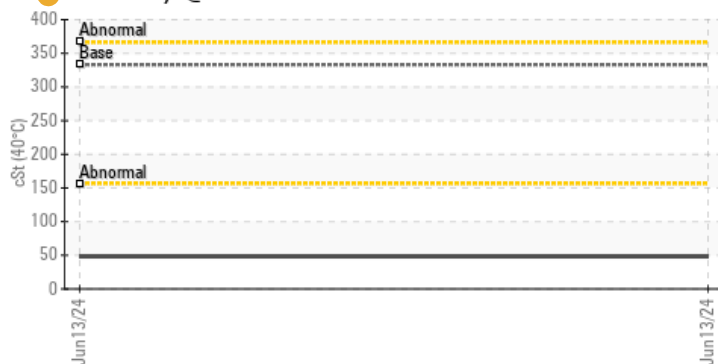
Copper (ppm)



Silicon (ppm)



● Viscosity @ 40°C



● Additives

