



CONSTRUCTION EQUIPMENT

HERC VOLVO EC140 315532 - DIESEL ENGINE



Sample No: VCP440240
Oil Type: DIESEL ENGINE OIL SAE 15W40
Job No: HERC



SAMPLE INFORMATION

Sample Number	VCP440240	---	---	---
Sample Date	13 Jun 2024	---	---	---
Machine Hours	497	---	---	---
Oil Hours	0	---	---	---
Oil Changed	Changed	---	---	---
Sample Status	NORMAL	---	---	---

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 Contact: KENNY HANEY
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OIL CONDITION

Visc @ 100°C	cSt	█ 13.7	---	---	---
Base Number (BN)	mg KOH/g	█ 8.1	---	---	---
Oxidation (PA)	%	55	---	---	---

Diagnosis

Resample at the next service interval to monitor. Metal levels are typical for a new component breaking in. 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 suitable for further service.



CONTAMINATION

Water	%	NEG	---	---	---
Soot %	%	█ 0.1	---	---	---
Nitration (PA)	%	38	---	---	---
Sulfation (PA)	%	55	---	---	---
Glycol	%	NEG	---	---	---
Fuel	%	<1.0	---	---	---
Silicon	ppm	█ 5	---	---	---
Sodium	ppm	█ <1	---	---	---
Potassium	ppm	█ 2	---	---	---



WEAR METALS

Iron	ppm	█ 7	---	---	---
Copper	ppm	█ <1	---	---	---
Lead	ppm	█ 0	---	---	---
Tin	ppm	█ 0	---	---	---
Aluminum	ppm	█ 5	---	---	---
Chromium	ppm	█ <1	---	---	---
Molybdenum	ppm	█ 79	---	---	---
Nickel	ppm	█ <1	---	---	---
Titanium	ppm	█ <1	---	---	---
Silver	ppm	█ 0	---	---	---
Manganese	ppm	█ 0	---	---	---
Vanadium	ppm	<1	---	---	---



ADDITIVES

Calcium	ppm	█ 1329	---	---	---
Magnesium	ppm	█ 398	---	---	---
Zinc	ppm	█ 1207	---	---	---
Phosphorus	ppm	█ 983	---	---	---
Barium	ppm	█ 0	---	---	---
Boron	ppm	█ 417	---	---	---

Depot: VOLVO0093
Unique No: 11089393
Signed: Wes Davis
Report Date: 24 Jun 2024



CONSTRUCTION EQUIPMENT



GRAPHS

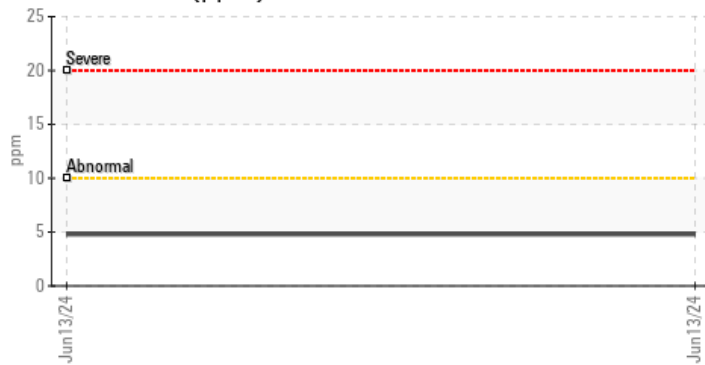
Iron (ppm)



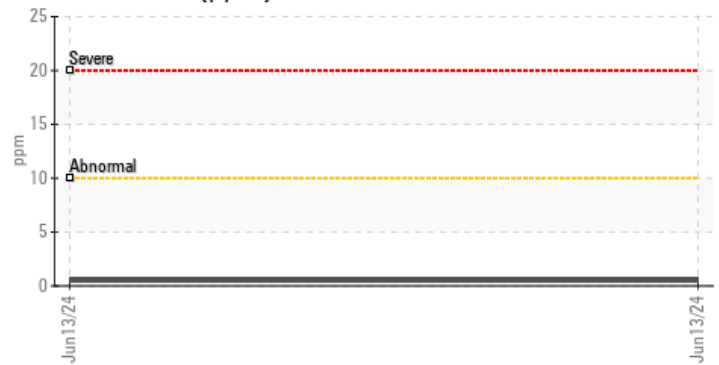
Lead (ppm)



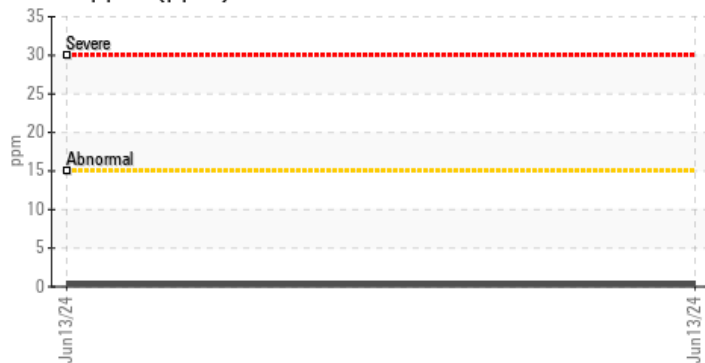
Aluminum (ppm)



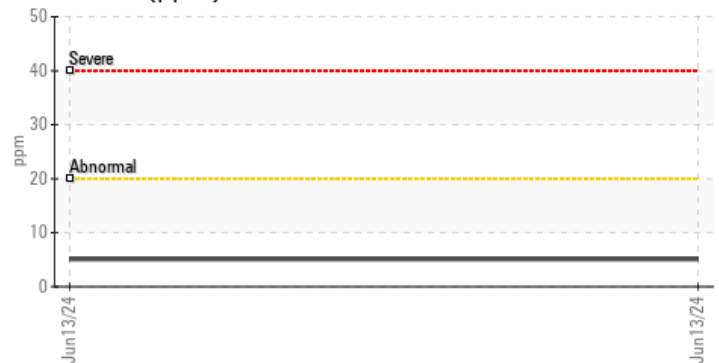
Chromium (ppm)



Copper (ppm)



Silicon (ppm)



Viscosity @ 100°C



Base Number





CONSTRUCTION EQUIPMENT

HERC VOLVO EC140 315532 - HYDRAULIC SYSTEM



Sample No: VCP445599
Oil Type: AW HYDRAULIC OIL ISO 46
Job No: HERC



SAMPLE INFORMATION

Sample Number	VCP445599	---	---	---
Sample Date	13 Jun 2024	---	---	---
Machine Hours	497	---	---	---
Oil Hours	0	---	---	---
Oil Changed	Not Changed	---	---	---
Sample Status	ABNORMAL	---	---	---

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OIL CONDITION

Visc @ 40°C	cSt	█ 43.82	---	---	---
Acid Number (AN)	mg KOH/g	█ 0.52	---	---	---



CONTAMINATION

Water	%	NEG	---	---	---
Particles >4µm		▲ 82168	---	---	---
Particles >6µm		▲ 20382	---	---	---
Particles >14µm		█ 14	---	---	---
ISO 4406:1999 (c)		24/22/11	---	---	---
Silicon	ppm	█ 14	---	---	---
Sodium	ppm	█ 0	---	---	---
Potassium	ppm	█ 2	---	---	---

Diagnosis

The filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. All component wear rates are normal. There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.



WEAR METALS

Iron	ppm	█ 5	---	---	---
Copper	ppm	█ 15	---	---	---
Lead	ppm	█ 2	---	---	---
Tin	ppm	█ <1	---	---	---
Aluminum	ppm	█ 3	---	---	---
Chromium	ppm	█ <1	---	---	---
Molybdenum	ppm	█ 2	---	---	---
Nickel	ppm	█ <1	---	---	---
Titanium	ppm	<1	---	---	---
Silver	ppm	<1	---	---	---
Manganese	ppm	█ <1	---	---	---
Vanadium	ppm	<1	---	---	---



ADDITIVES

Calcium	ppm	█ 185	---	---	---
Magnesium	ppm	█ 4	---	---	---
Zinc	ppm	█ 566	---	---	---
Phosphorus	ppm	█ 448	---	---	---
Barium	ppm	█ 1	---	---	---
Boron	ppm	█ <1	---	---	---

Depot: VOLVO0093
Unique No: 11089654
Signed: Wes Davis
Report Date: 26 Jun 2024

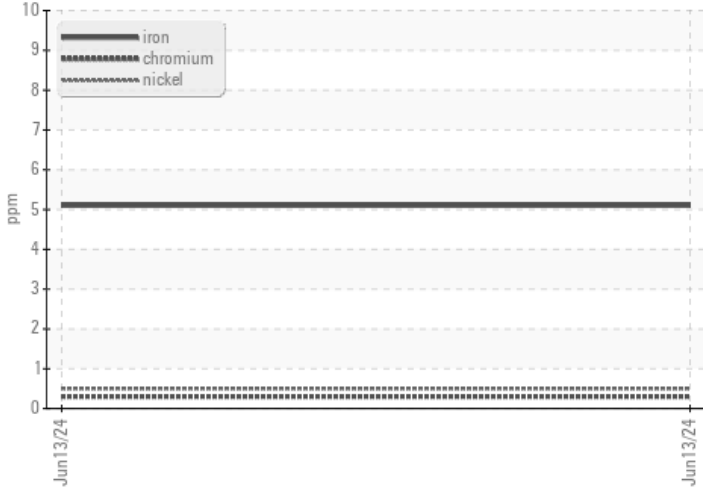


CONSTRUCTION EQUIPMENT

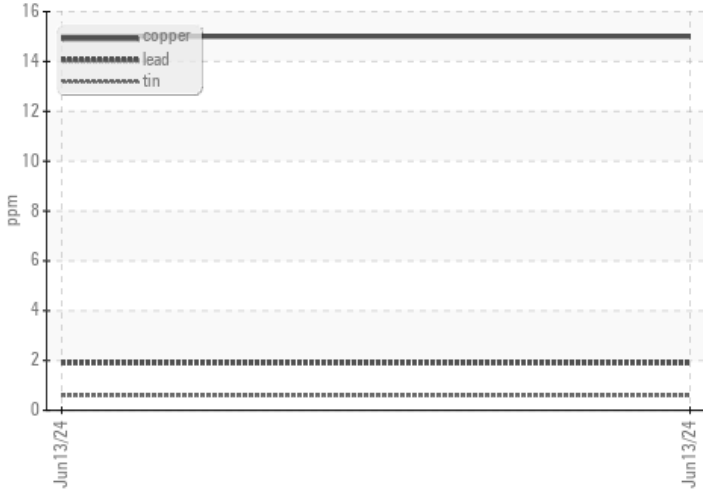


VOLVO GRAPHS

Ferrous Alloys



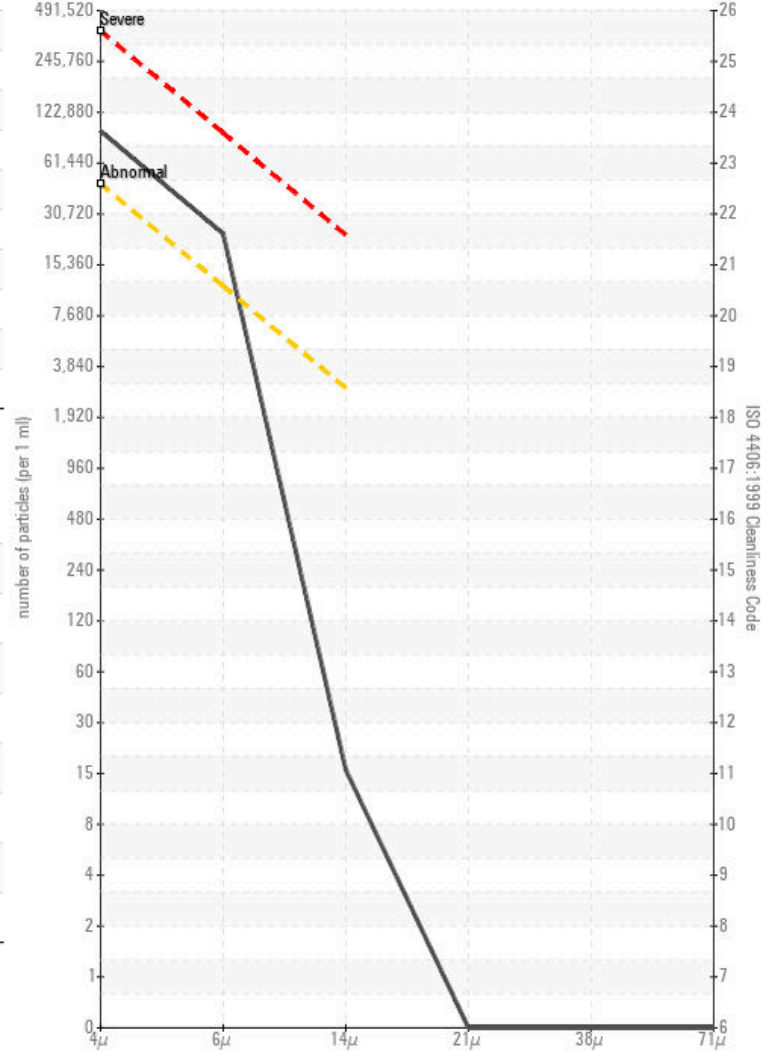
Non-ferrous Metals



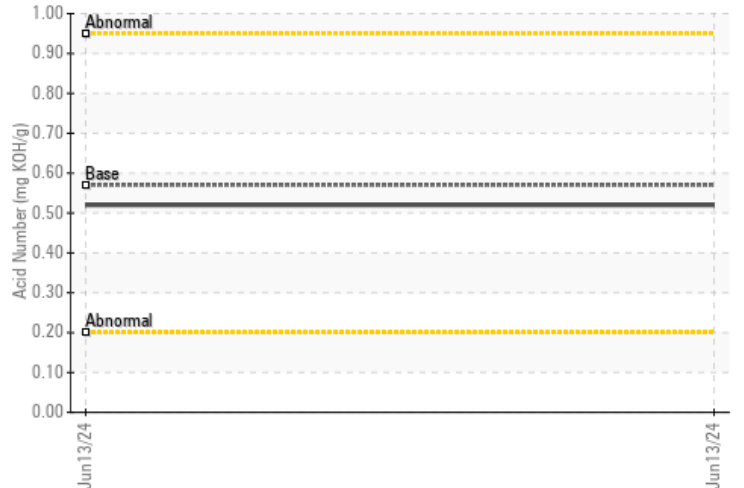
Viscosity @ 40°C



Particle Count



Acid Number





CONSTRUCTION EQUIPMENT

HERC VOLVO EC140 315532 - SWING DRIVE



Sample No: VCP444339
Oil Type: GEAR OIL SAE 85W140
Job No: HERC



SAMPLE INFORMATION

Sample Number	VCP444339	---	---	---
Sample Date	13 Jun 2024	---	---	---
Machine Hours	497	---	---	---
Oil Hours	0	---	---	---
Oil Changed	Changed	---	---	---
Sample Status	NORMAL	---	---	---

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OIL CONDITION

Visc @ 40°C	cSt	█ 174	---	---	---
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CONTAMINATION

Water	%	NEG	---	---	---
Silicon	ppm	█ 30	---	---	---
Sodium	ppm	█ 2	---	---	---
Potassium	ppm	█ 2	---	---	---

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	█ 155	---	---	---
Copper	ppm	█ 10	---	---	---
Lead	ppm	█ 0	---	---	---
Tin	ppm	█ 0	---	---	---
Aluminum	ppm	█ 1	---	---	---
Chromium	ppm	█ 2	---	---	---
Molybdenum	ppm	█ <1	---	---	---
Nickel	ppm	█ 0	---	---	---
Titanium	ppm	<1	---	---	---
Silver	ppm	0	---	---	---
Manganese	ppm	█ 3	---	---	---
Vanadium	ppm	<1	---	---	---



ADDITIVES

Calcium	ppm	█ 70	---	---	---
Magnesium	ppm	█ 1	---	---	---
Zinc	ppm	█ 43	---	---	---
Phosphorus	ppm	█ 366	---	---	---
Barium	ppm	█ 3	---	---	---
Boron	ppm	█ 1	---	---	---

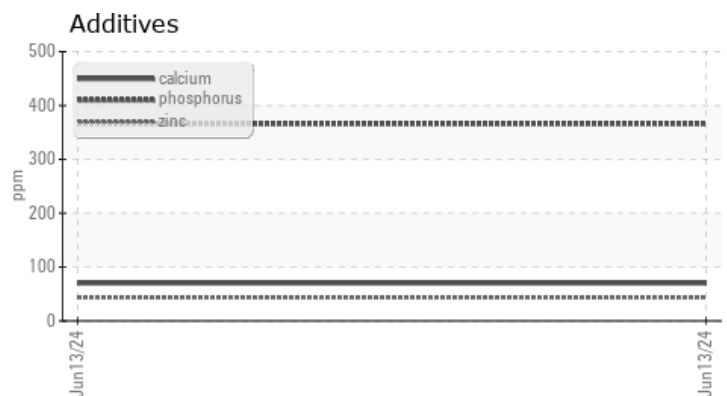
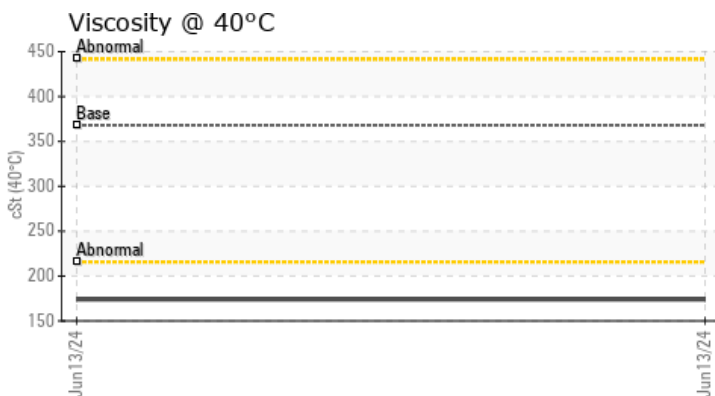
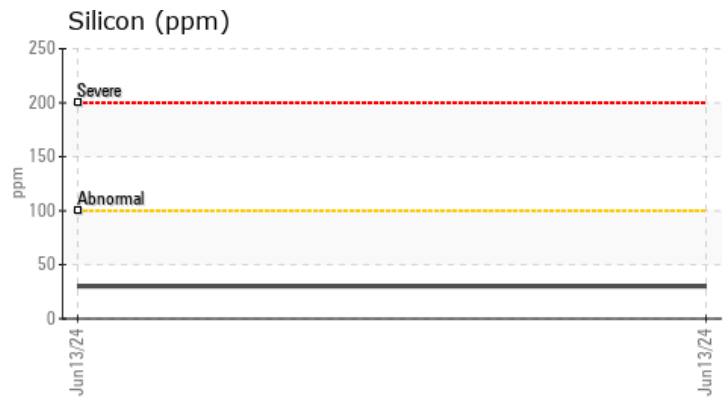
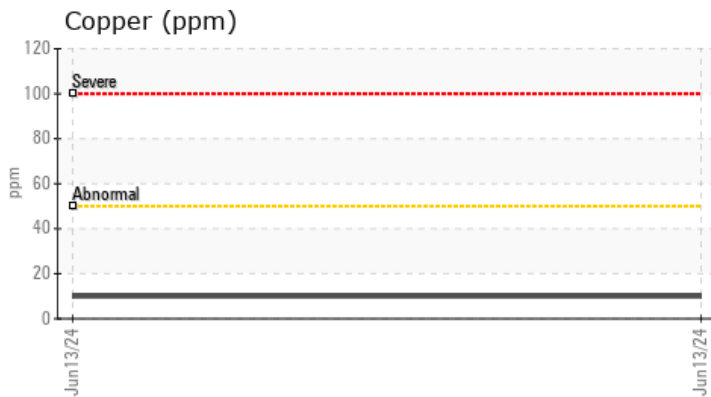
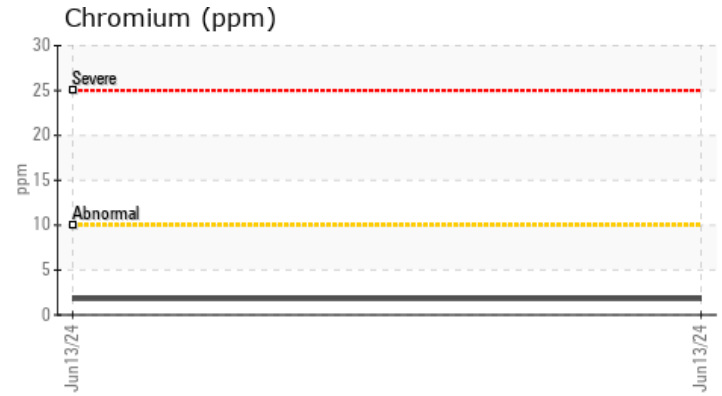
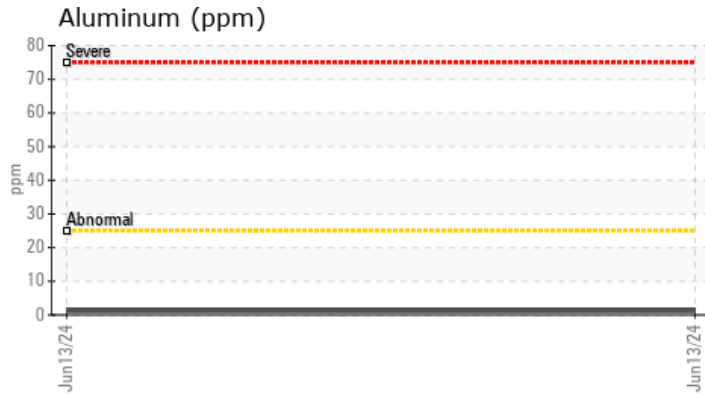
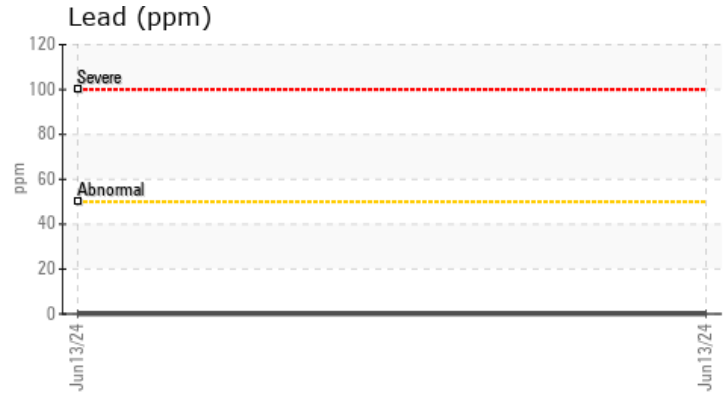
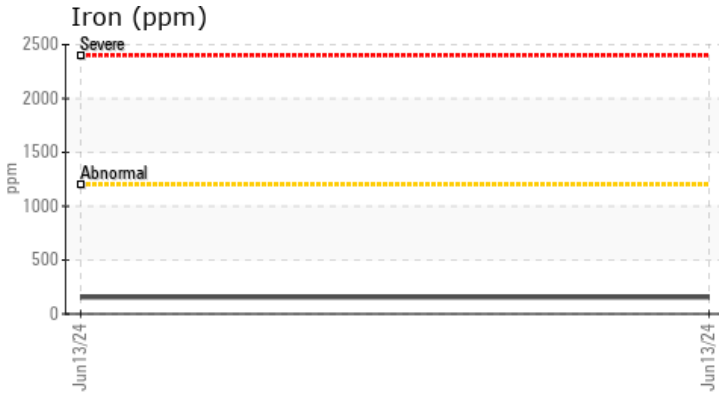
Depot: VOLVO0093
Unique No: 11089990
Signed: Sean Felton
Report Date: 24 Jun 2024



CONSTRUCTION EQUIPMENT



GRAPHS





CONSTRUCTION EQUIPMENT

HERC VOLVO EC140 315532 - REAR LEFT FINAL DRIVE



Sample No: VCP440214
Oil Type: GEAR OIL SAE 85W140
Job No: HERC



SAMPLE INFORMATION

Sample Number	VCP440214	---	---	---
Sample Date	13 Jun 2024	---	---	---
Machine Hours	497	---	---	---
Oil Hours	0	---	---	---
Oil Changed	Changed	---	---	---
Sample Status	ABNORMAL	---	---	---

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OIL CONDITION

Visc @ 40°C	cSt	█ 128.1	---	---	---
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CONTAMINATION

Water	%	NEG	---	---	---
Silicon	ppm	█ 20	---	---	---
Sodium	ppm	█ 6	---	---	---
Potassium	ppm	█ 2	---	---	---

Diagnosis

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. Gear wear is indicated. 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	▲ 730	---	---	---
Copper	ppm	█ 1	---	---	---
Lead	ppm	█ <1	---	---	---
Tin	ppm	█ 43	---	---	---
Aluminum	ppm	█ 2	---	---	---
Chromium	ppm	▲ 16	---	---	---
Molybdenum	ppm	█ <1	---	---	---
Nickel	ppm	█ 2	---	---	---
Titanium	ppm	<1	---	---	---
Silver	ppm	0	---	---	---
Manganese	ppm	█ 10	---	---	---
Vanadium	ppm	0	---	---	---



ADDITIVES

Calcium	ppm	█ 57	---	---	---
Magnesium	ppm	█ 24	---	---	---
Zinc	ppm	█ 78	---	---	---
Phosphorus	ppm	▲ 269	---	---	---
Barium	ppm	█ <1	---	---	---
Boron	ppm	█ 1	---	---	---

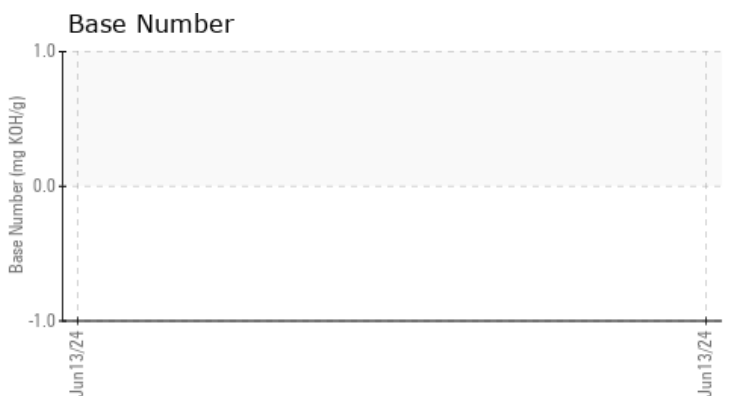
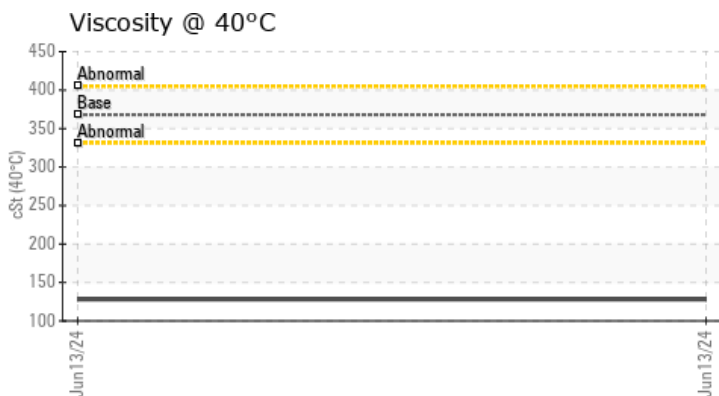
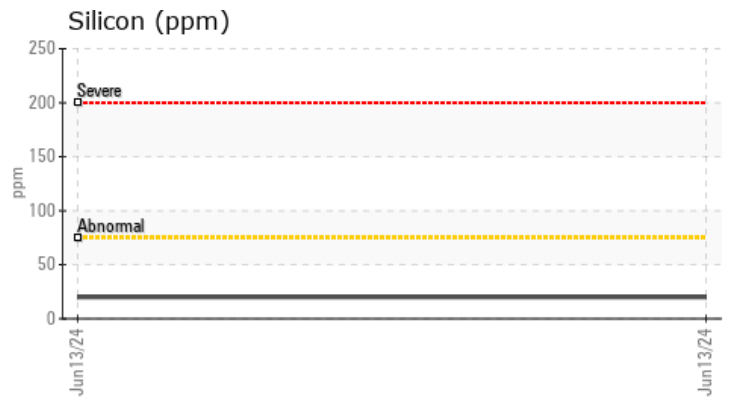
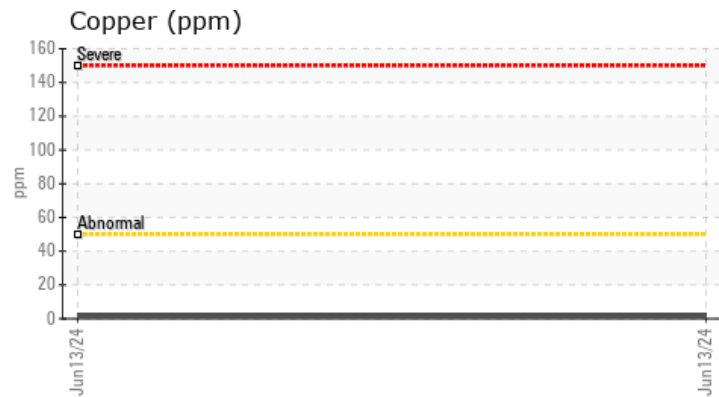
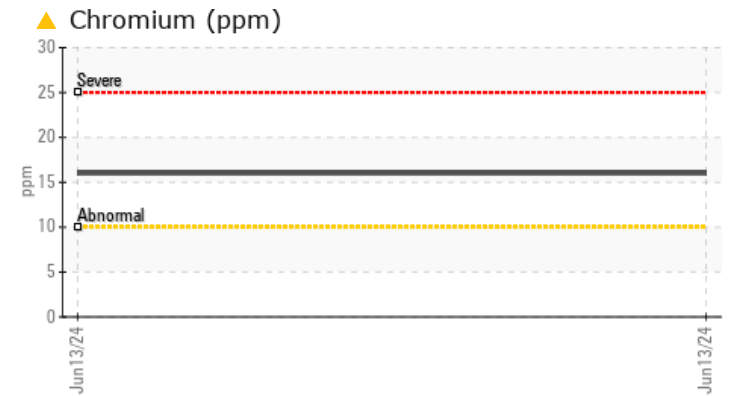
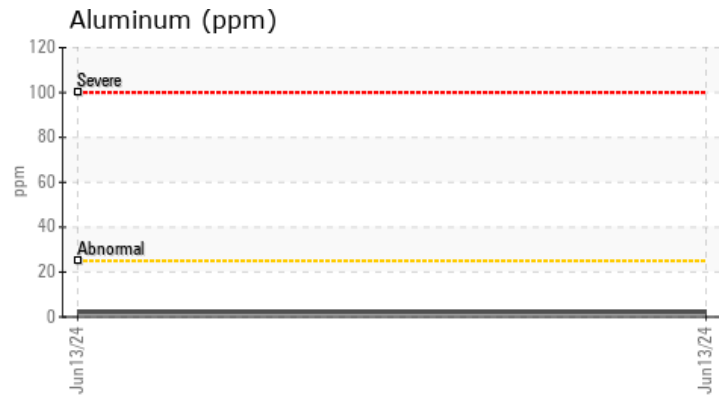
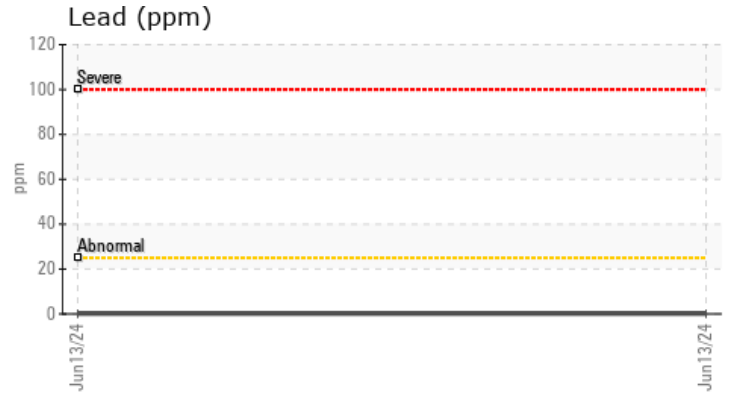
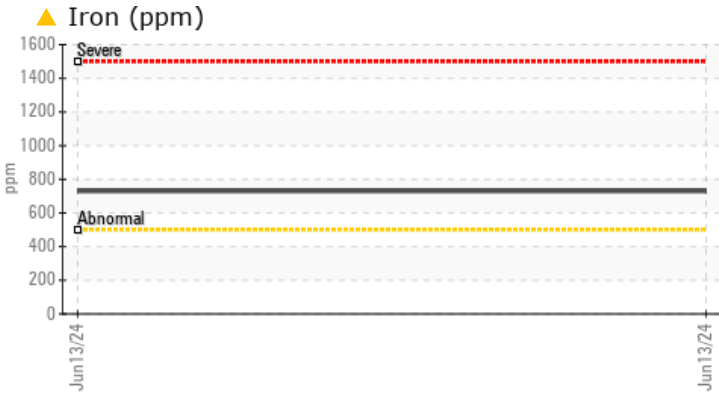
Depot: VOLVO0093
Unique No: 11089390
Signed: Jonathan Hester
Report Date: 26 Jun 2024



CONSTRUCTION EQUIPMENT



GRAPHS





CONSTRUCTION EQUIPMENT

VOLVO EC140 315532 - REAR RIGHT FINAL DRIVE



Sample No: VCP440209
Oil Type: GEAR OIL SAE 85W140
Job No:



SAMPLE INFORMATION

Sample Number	VCP440209	---	---	---
Sample Date	13 Jun 2024	---	---	---
Machine Hours	497	---	---	---
Oil Hours	0	---	---	---
Oil Changed	Changed	---	---	---
Sample Status	ABNORMAL	---	---	---

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OIL CONDITION

Visc @ 40°C	cSt	█ 139	---	---	---
-------------	-----	-------	-----	-----	-----



CONTAMINATION

Water	%	NEG	---	---	---
Silicon	ppm	█ 17	---	---	---
Sodium	ppm	█ 8	---	---	---
Potassium	ppm	█ 2	---	---	---

Diagnosis

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. Bearing and/or gear wear is indicated. 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	▲ 886	---	---	---
Copper	ppm	█ 1	---	---	---
Lead	ppm	█ 0	---	---	---
Tin	ppm	▲ 41	---	---	---
Aluminum	ppm	█ 2	---	---	---
Chromium	ppm	▲ 17	---	---	---
Molybdenum	ppm	█ 1	---	---	---
Nickel	ppm	█ <1	---	---	---
Titanium	ppm	<1	---	---	---
Silver	ppm	0	---	---	---
Manganese	ppm	█ 12	---	---	---
Vanadium	ppm	<1	---	---	---



ADDITIVES

Calcium	ppm	█ 113	---	---	---
Magnesium	ppm	█ 2	---	---	---
Zinc	ppm	█ 70	---	---	---
Phosphorus	ppm	█ 305	---	---	---
Barium	ppm	█ 2	---	---	---
Boron	ppm	█ 2	---	---	---

Depot: VOLVO0093
Unique No: 11089992
Signed: Jonathan Hester
Report Date: 25 Jun 2024



CONSTRUCTION EQUIPMENT



VOLVO GRAPHS

