



CONSTRUCTION EQUIPMENT

VOLVO ECR145 316780 - DIESEL ENGINE



Sample No: VCP439885
Oil Type: DIESEL ENGINE OIL SAE 15W40
Job No:



SAMPLE INFORMATION

Sample Number	VCP439885	---	---	---
Sample Date	11 Jun 2024	---	---	---
Machine Hours	516	---	---	---
Oil Hours	0	---	---	---
Oil Changed	Changed	---	---	---
Sample Status	NORMAL	---	---	---

RIPA AND ASSOCIATES

10149 FISHER AVENUE
 TAMPA, FL
 US 33619
 Contact: ROBERT TURNER
 rturner@ripatampa.com
 T:
 F:



OIL CONDITION

Visc @ 100°C	cSt	█ 12.8	---	---	---
Base Number (BN)	mg KOH/g	█ 6.8	---	---	---
Oxidation (PA)	%	42	---	---	---

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 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)	%	57	---	---	---
Sulfation (PA)	%	48	---	---	---
Glycol	%	NEG	---	---	---
Fuel	%	<1.0	---	---	---
Silicon	ppm	█ 20	---	---	---
Sodium	ppm	█ <1	---	---	---
Potassium	ppm	█ 3	---	---	---



WEAR METALS

Iron	ppm	█ 31	---	---	---
Copper	ppm	█ 10	---	---	---
Lead	ppm	█ <1	---	---	---
Tin	ppm	█ 3	---	---	---
Aluminum	ppm	█ 14	---	---	---
Chromium	ppm	█ 2	---	---	---
Molybdenum	ppm	█ 2	---	---	---
Nickel	ppm	█ 9	---	---	---
Titanium	ppm	█ <1	---	---	---
Silver	ppm	█ 0	---	---	---
Manganese	ppm	█ 3	---	---	---
Vanadium	ppm	0	---	---	---



ADDITIVES

Calcium	ppm	█ 2123	---	---	---
Magnesium	ppm	█ 65	---	---	---
Zinc	ppm	█ 1005	---	---	---
Phosphorus	ppm	█ 792	---	---	---
Barium	ppm	█ 0	---	---	---
Boron	ppm	█ 8	---	---	---

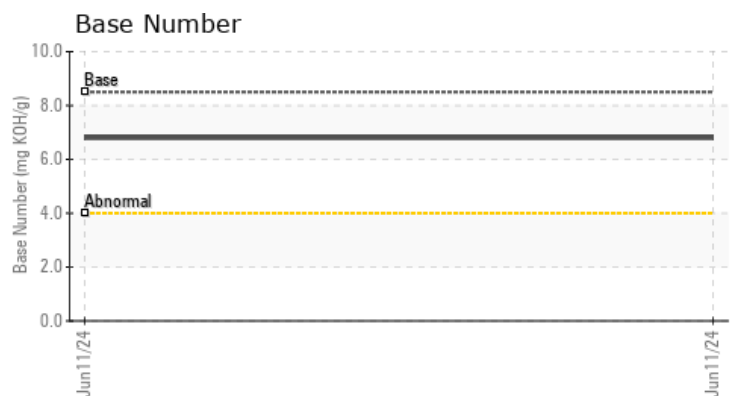
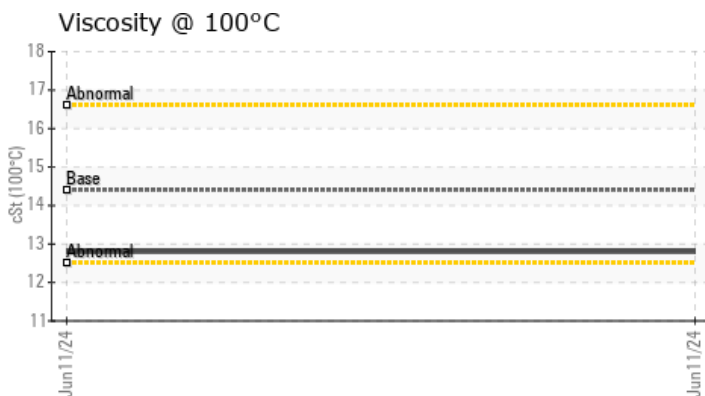
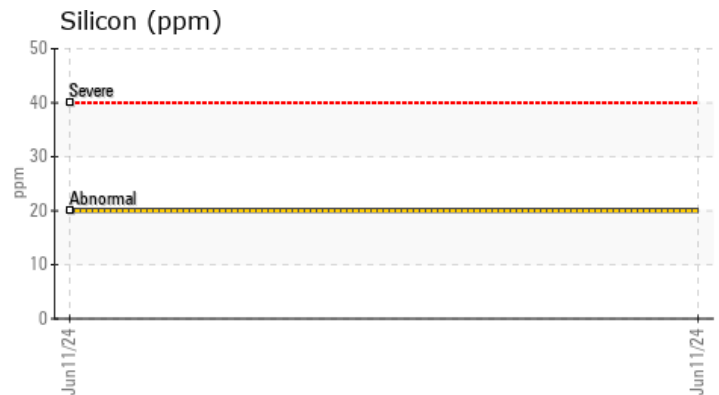
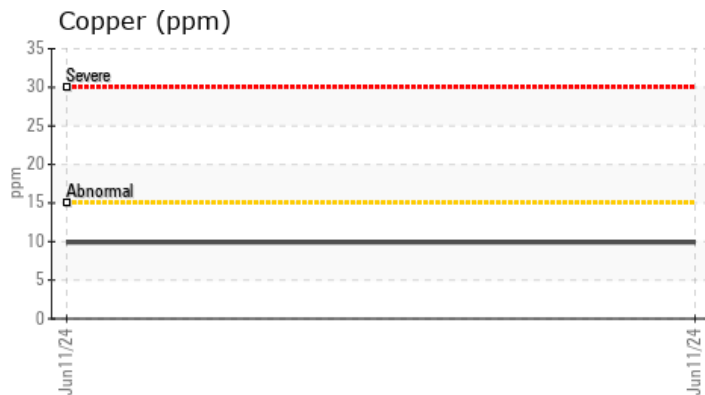
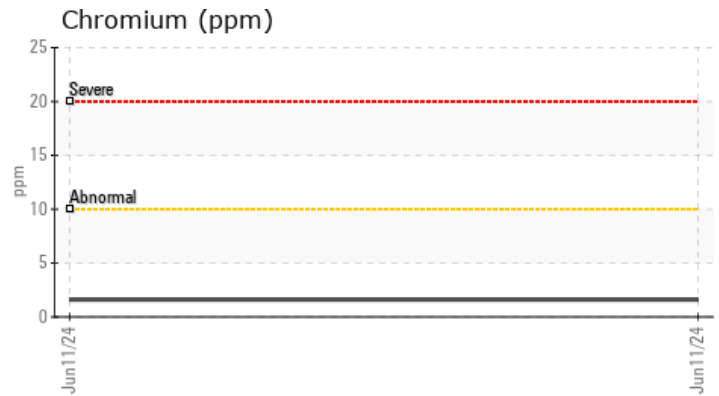
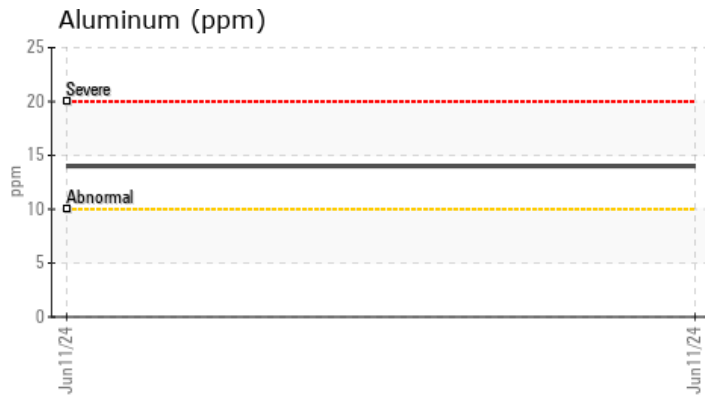
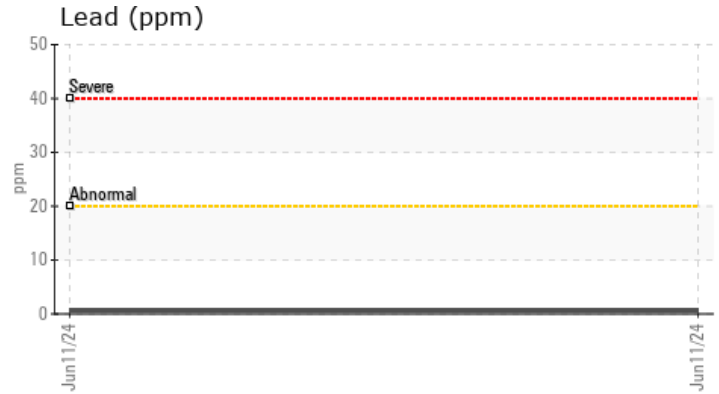
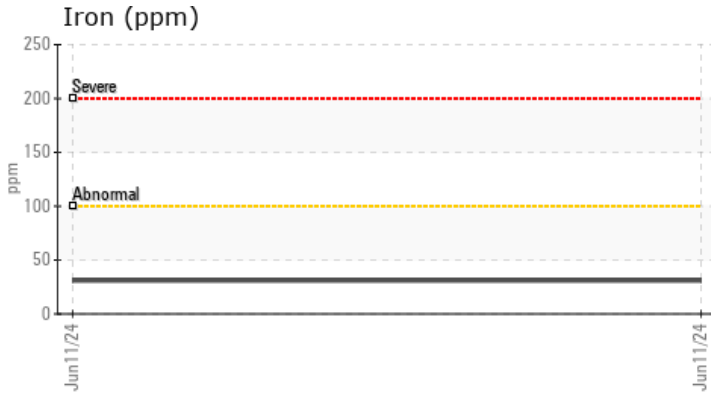
Depot: RIPTAM
Unique No: 11077128
Signed: Don Baldrige
Report Date: 17 Jun 2024



CONSTRUCTION EQUIPMENT



GRAPHS





CONSTRUCTION EQUIPMENT

VOLVO ECR145 316780 - HYDRAULIC SYSTEM



Sample No: VCP439887
Oil Type: AW HYDRAULIC OIL ISO 46
Job No:



SAMPLE INFORMATION

Sample Number	VCP439887	---	---	---
Sample Date	11 Jun 2024	---	---	---
Machine Hours	516	---	---	---
Oil Hours	0	---	---	---
Oil Changed	Not Chngd	---	---	---
Sample Status	NORMAL	---	---	---

RIPA AND ASSOCIATES

10149 FISHER AVENUE
TAMPA, FL
US 33619
Contact: ROBERT TURNER
rtturner@ripatampa.com



OIL CONDITION

Visc @ 40°C	cSt	█ 43.7	---	---	---
Acid Number (AN)	mg KOH/g	█ 0.55	---	---	---

T:
F:



CONTAMINATION

Water	%	NEG	---	---	---
Particles >4µm		█ 3340	---	---	---
Particles >6µm		█ 904	---	---	---
Particles >14µm		█ 83	---	---	---
ISO 4406:1999 (c)		19/17/14	---	---	---
Silicon	ppm	█ 5	---	---	---
Sodium	ppm	█ <1	---	---	---
Potassium	ppm	█ <1	---	---	---

Diagnosis

Resample at the next service interval to monitor. All component wear rates are normal. The amount and size of particulates present in the system are acceptable. There is no indication of any contamination 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	█ 1	---	---	---
Copper	ppm	█ 17	---	---	---
Lead	ppm	█ 0	---	---	---
Tin	ppm	█ 0	---	---	---
Aluminum	ppm	█ 0	---	---	---
Chromium	ppm	█ 0	---	---	---
Molybdenum	ppm	█ 0	---	---	---
Nickel	ppm	█ 0	---	---	---
Titanium	ppm	0	---	---	---
Silver	ppm	0	---	---	---
Manganese	ppm	█ 0	---	---	---
Vanadium	ppm	<1	---	---	---



ADDITIVES

Calcium	ppm	█ 109	---	---	---
Magnesium	ppm	█ 0	---	---	---
Zinc	ppm	█ 619	---	---	---
Phosphorus	ppm	█ 439	---	---	---
Barium	ppm	█ 0	---	---	---
Boron	ppm	█ 0	---	---	---

Depot: RIPTAM
Unique No: 11082871
Signed: Don Baldrige
Report Date: 17 Jun 2024

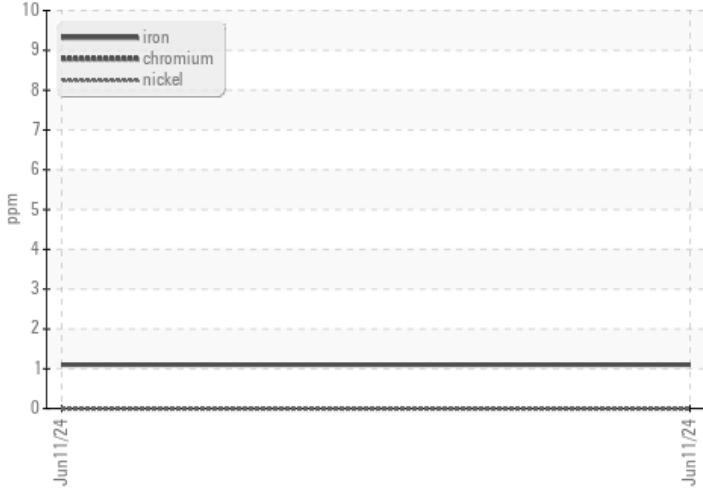


CONSTRUCTION EQUIPMENT

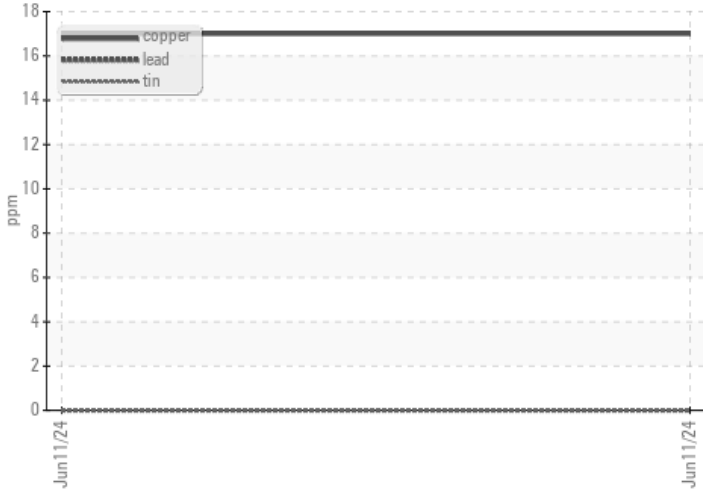


GRAPHS

Ferrous Alloys



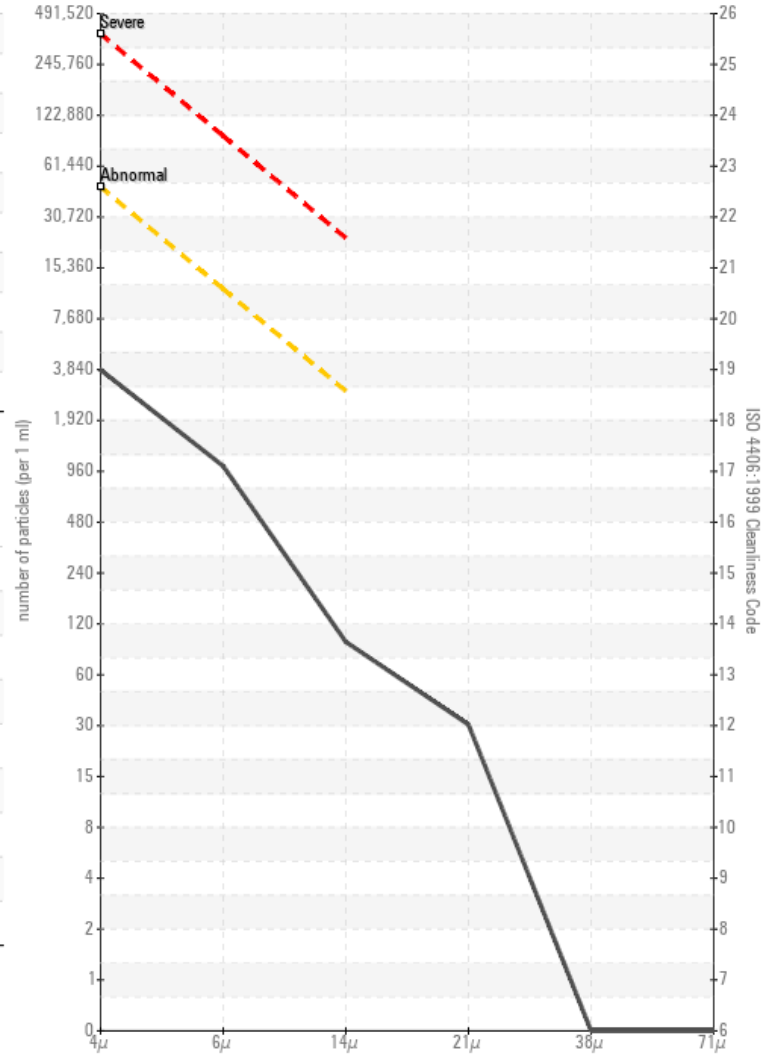
Non-ferrous Metals



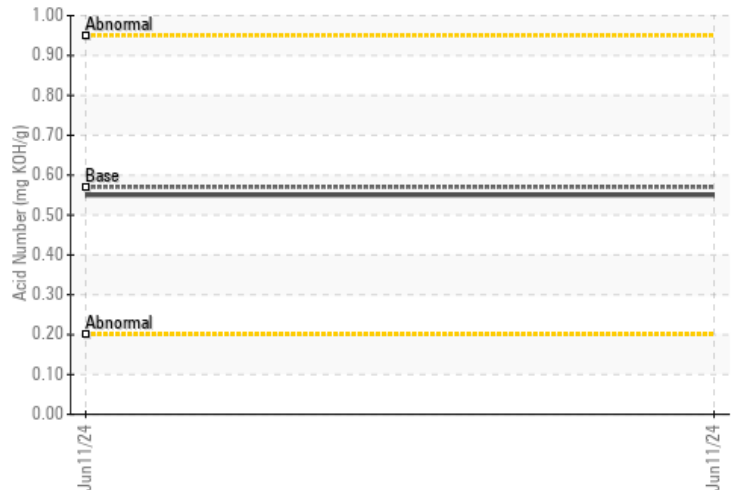
Viscosity @ 40°C



Particle Count



Acid Number





CONSTRUCTION EQUIPMENT

VOLVO ECR145 316780 - SWING DRIVE



Sample No: VCP443017
Oil Type: GEAR OIL SAE 85W140
Job No:



SAMPLE INFORMATION

Sample Number	VCP443017	---	---	---
Sample Date	11 Jun 2024	---	---	---
Machine Hours	516	---	---	---
Oil Hours	0	---	---	---
Oil Changed	Changed	---	---	---
Sample Status	NORMAL	---	---	---

RIPA AND ASSOCIATES

10149 FISHER AVENUE
 TAMPA, FL
 US 33619
 Contact: ROBERT TURNER
 rturner@ripatampa.com



OIL CONDITION

Visc @ 40°C	cSt	█ 173	---	---	---
-------------	-----	-------	-----	-----	-----

T:
F:



CONTAMINATION

Water	%	NEG	---	---	---
Silicon	ppm	█ 18	---	---	---
Sodium	ppm	█ <1	---	---	---
Potassium	ppm	█ 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	█ 59	---	---	---
Copper	ppm	█ 28	---	---	---
Lead	ppm	█ <1	---	---	---
Tin	ppm	█ <1	---	---	---
Aluminum	ppm	█ 1	---	---	---
Chromium	ppm	█ <1	---	---	---
Molybdenum	ppm	█ <1	---	---	---
Nickel	ppm	█ <1	---	---	---
Titanium	ppm	<1	---	---	---
Silver	ppm	0	---	---	---
Manganese	ppm	█ 2	---	---	---
Vanadium	ppm	0	---	---	---



ADDITIVES

Calcium	ppm	█ 71	---	---	---
Magnesium	ppm	█ 1	---	---	---
Zinc	ppm	█ 50	---	---	---
Phosphorus	ppm	█ 313	---	---	---
Barium	ppm	█ 2	---	---	---
Boron	ppm	█ 3	---	---	---

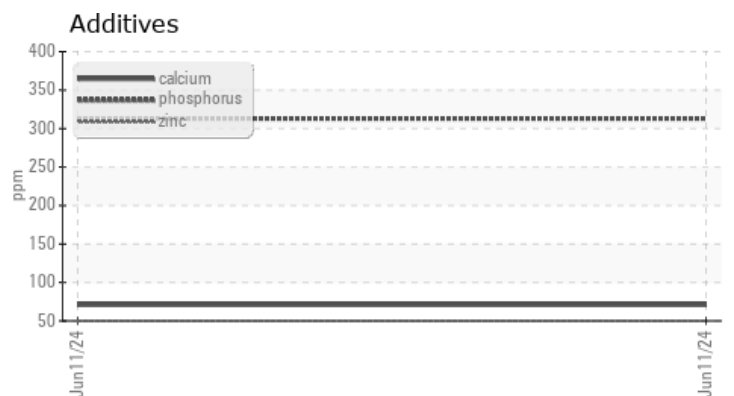
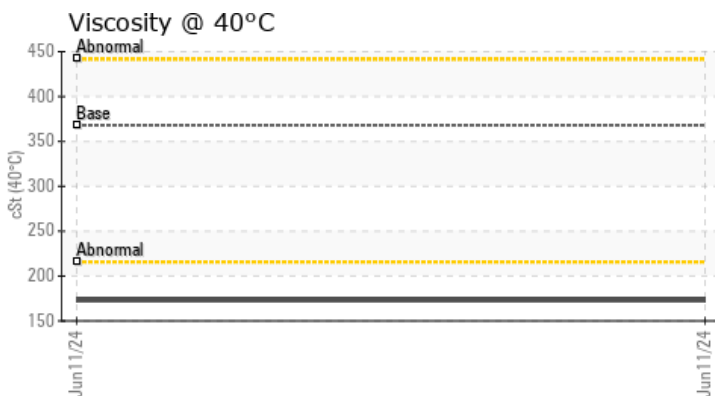
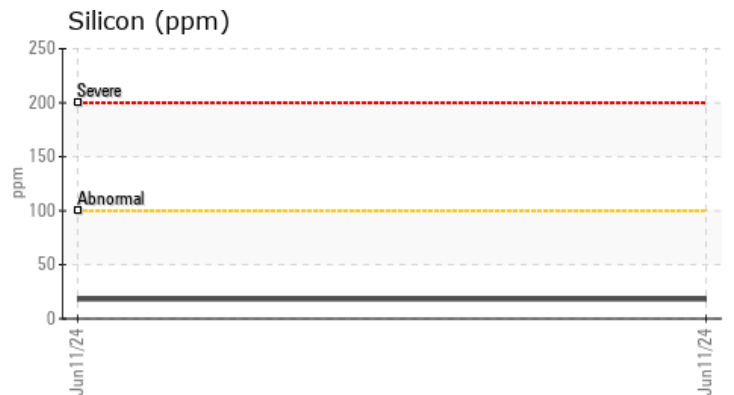
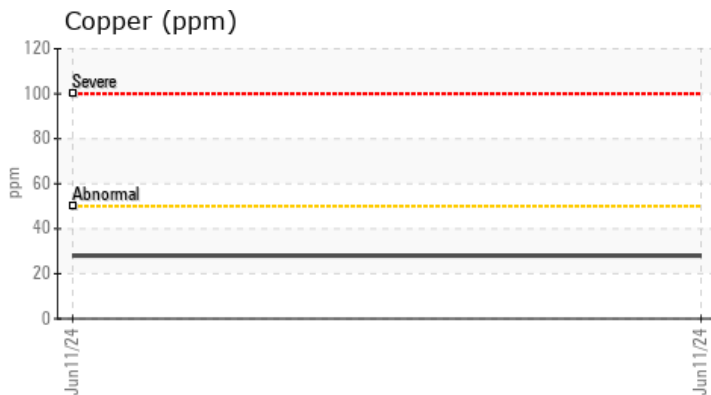
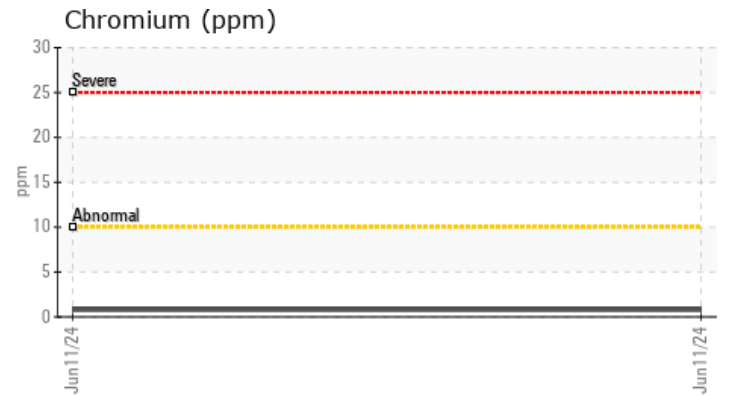
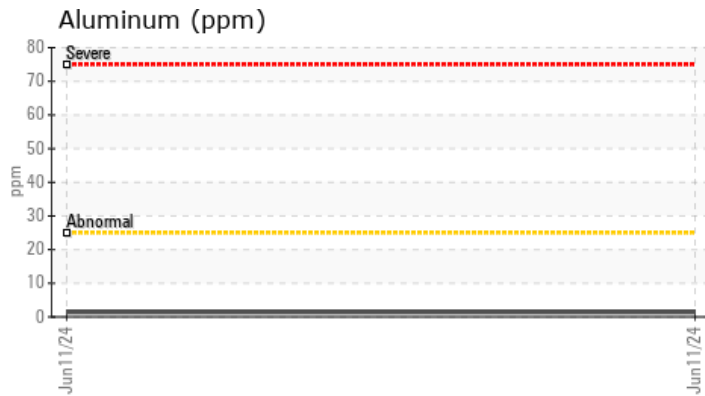
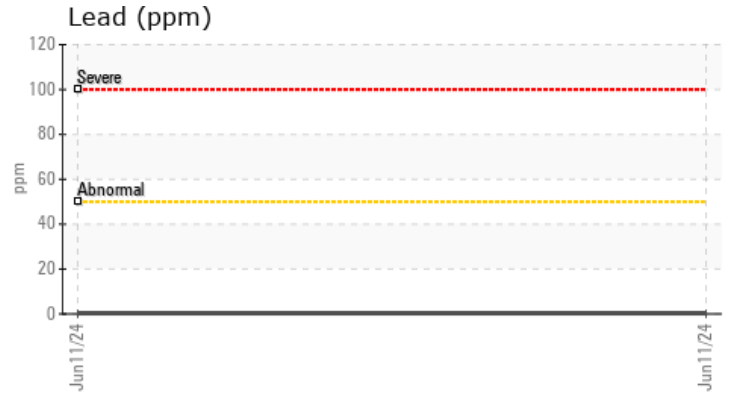
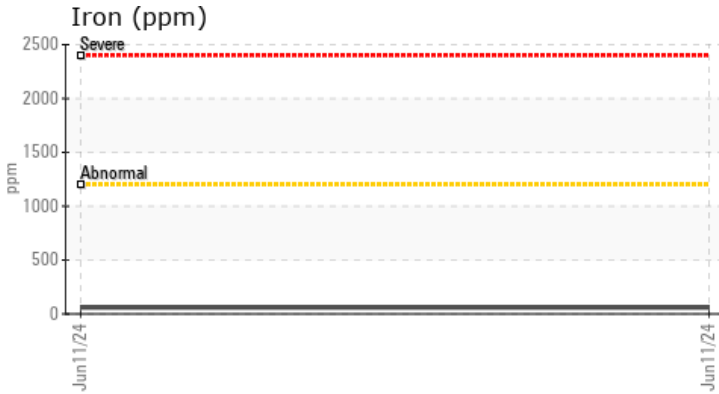
Depot: RIPTAM
Unique No: 11083348
Signed: Sean Felton
Report Date: 18 Jun 2024



CONSTRUCTION EQUIPMENT



GRAPHS





CONSTRUCTION EQUIPMENT

VOLVO ECR145 316780 - REAR LEFT FINAL DRIVE



Sample No: VCP439886
Oil Type: GEAR OIL SAE 85W140
Job No:



SAMPLE INFORMATION

Sample Number	VCP439886	---	---	---
Sample Date	11 Jun 2024	---	---	---
Machine Hours	516	---	---	---
Oil Hours	0	---	---	---
Oil Changed	Changed	---	---	---
Sample Status	ABNORMAL	---	---	---

RIPA AND ASSOCIATES

10149 FISHER AVENUE
 TAMPA, FL
 US 33619
 Contact: PM Services
 PMServices@ripaconstruction.com
 T:
 F:



OIL CONDITION

Visc @ 40°C	cSt	█ 137	---	---	---
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CONTAMINATION

Water	%	NEG	---	---	---
Silicon	ppm	█ 16	---	---	---
Sodium	ppm	█ 4	---	---	---
Potassium	ppm	█ 1	---	---	---

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. The tin level is abnormal. All other 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	█ 317	---	---	---
Copper	ppm	█ <1	---	---	---
Lead	ppm	█ <1	---	---	---
Tin	ppm	▲ 23	---	---	---
Aluminum	ppm	█ 1	---	---	---
Chromium	ppm	█ 6	---	---	---
Molybdenum	ppm	█ <1	---	---	---
Nickel	ppm	█ <1	---	---	---
Titanium	ppm	<1	---	---	---
Silver	ppm	0	---	---	---
Manganese	ppm	█ 4	---	---	---
Vanadium	ppm	0	---	---	---



ADDITIVES

Calcium	ppm	█ 6	---	---	---
Magnesium	ppm	█ 1	---	---	---
Zinc	ppm	█ 31	---	---	---
Phosphorus	ppm	█ 252	---	---	---
Barium	ppm	█ <1	---	---	---
Boron	ppm	█ 0	---	---	---

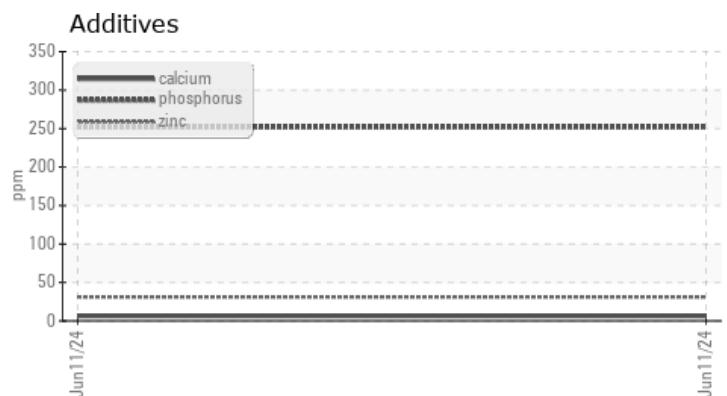
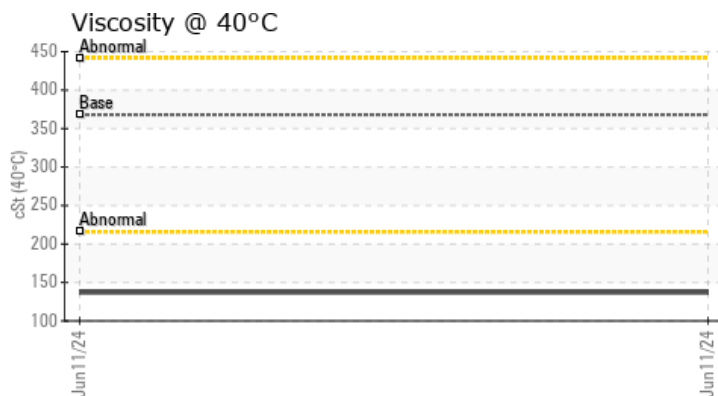
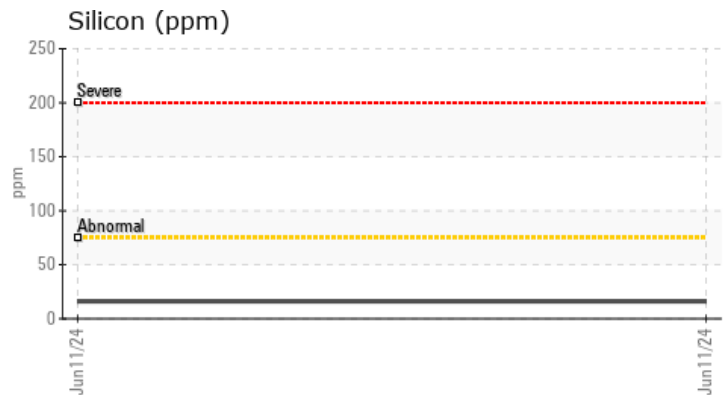
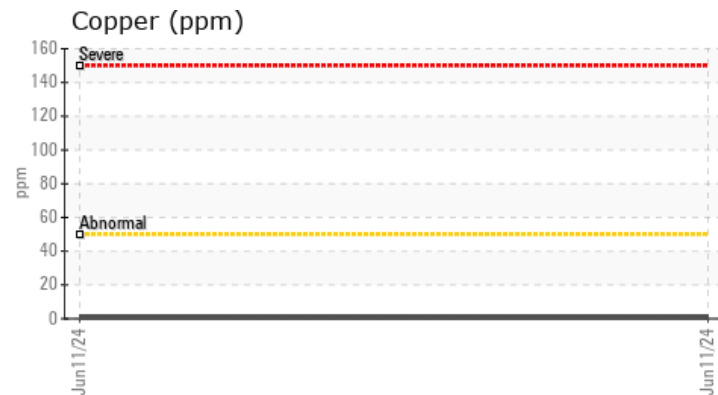
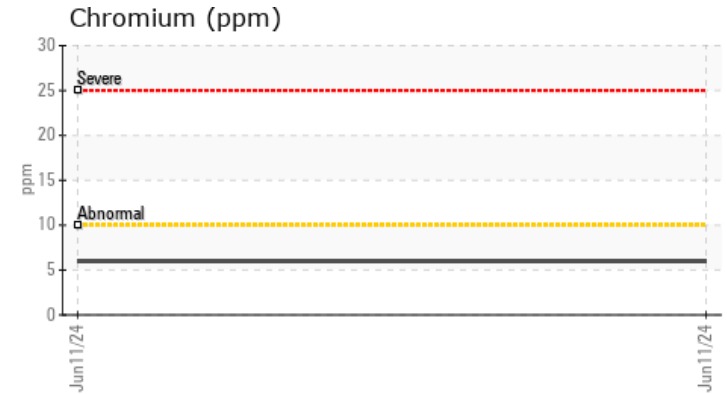
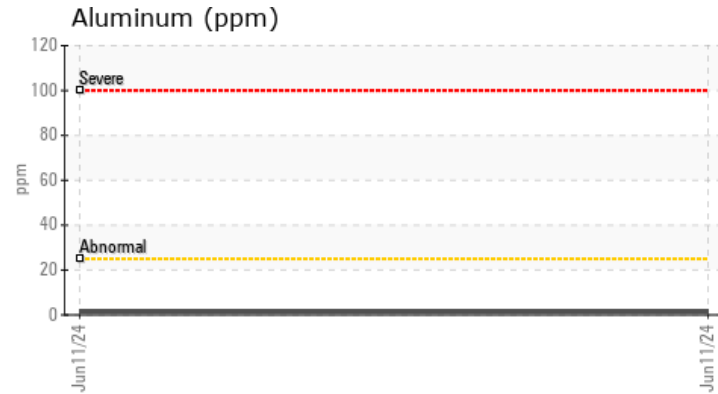
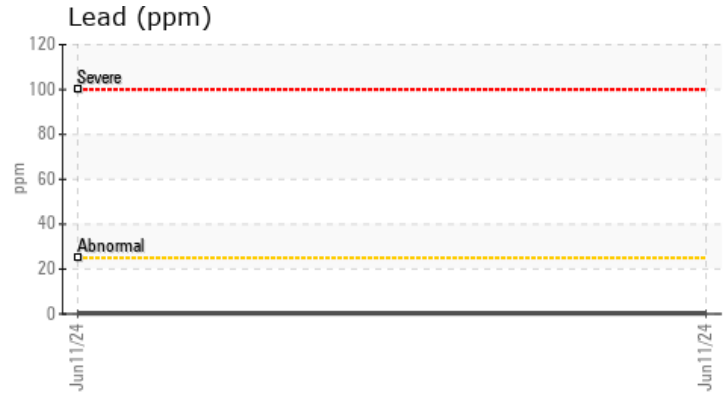
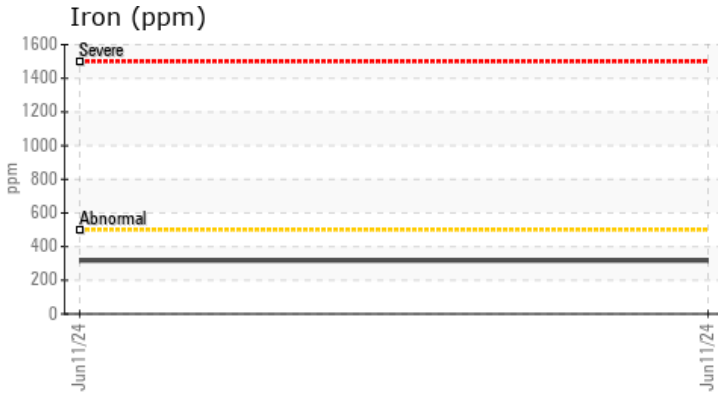
Depot: RIPTAM
Unique No: 11083351
Signed: Sean Felton
Report Date: 18 Jun 2024



CONSTRUCTION EQUIPMENT



GRAPHS





CONSTRUCTION EQUIPMENT

VOLVO ECR145 316780 - REAR RIGHT FINAL DRIVE



Sample No: VCP439653
Oil Type: GEAR OIL SAE 85W140
Job No:



SAMPLE INFORMATION

Sample Number	VCP439653	---	---	---
Sample Date	11 Jun 2024	---	---	---
Machine Hours	516	---	---	---
Oil Hours	0	---	---	---
Oil Changed	Changed	---	---	---
Sample Status	ABNORMAL	---	---	---

RIPA AND ASSOCIATES

10149 FISHER AVENUE
TAMPA, FL
US 33619
Contact: ROBERT TURNER
rtturner@ripatampa.com
T:
F:



OIL CONDITION

Visc @ 40°C	cSt	█ 137	---	---	---
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CONTAMINATION

Water	%	NEG	---	---	---
Silicon	ppm	█ 18	---	---	---
Sodium	ppm	█ 2	---	---	---
Potassium	ppm	█ 1	---	---	---



WEAR METALS

Iron	ppm	█ 281	---	---	---
Copper	ppm	█ <1	---	---	---
Lead	ppm	█ <1	---	---	---
Tin	ppm	▲ 13	---	---	---
Aluminum	ppm	█ 1	---	---	---
Chromium	ppm	█ 5	---	---	---
Molybdenum	ppm	█ <1	---	---	---
Nickel	ppm	█ <1	---	---	---
Titanium	ppm	<1	---	---	---
Silver	ppm	0	---	---	---
Manganese	ppm	█ 4	---	---	---
Vanadium	ppm	0	---	---	---



ADDITIVES

Calcium	ppm	█ 3	---	---	---
Magnesium	ppm	█ <1	---	---	---
Zinc	ppm	█ 18	---	---	---
Phosphorus	ppm	█ 213	---	---	---
Barium	ppm	█ <1	---	---	---
Boron	ppm	█ <1	---	---	---

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. The tin level is abnormal. All other 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.

Depot: RIPTAM
Unique No: 11083349
Signed: Sean Felton
Report Date: 18 Jun 2024



CONSTRUCTION EQUIPMENT



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