



CONSTRUCTION EQUIPMENT

572727 ALL COUNTY RE VOLVO L110H 631017 - DIESEL ENGINE



Sample No: VCP454557
Oil Type: VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3
Job No: 572727 ALL COUNTY RE



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 Contact: KENNY HANEY
 khaney@flaglerce.com
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SAMPLE INFORMATION

Sample Number	VCP454557	VCP232217	VCP208231	VCP191720
Sample Date	29 May 2024	22 Jan 2020	24 Jul 2017	25 Apr 2017
Machine Hours	12291	5500	2469	2059
Oil Hours	0	0	0	500
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	ABNORMAL	NORMAL	NORMAL	NORMAL

OIL CONDITION

Visc @ 100°C	cSt	15.7	13.8	13.77	14.18
Base Number (BN)	mg KOH/g	4.3	---	---	---
Oxidation (PA)	%	121	75	64	44

CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	1.5	0.7	0.1	0
Nitration (PA)	%	127	68	50	42
Sulfation (PA)	%	91	59	50	44
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	12	5	5	6
Sodium	ppm	3	3	3	4
Potassium	ppm	2	<1	<1	0

WEAR METALS

Iron	ppm	96	23	10	14
Copper	ppm	9	2	1	2
Lead	ppm	▲ 37	<1	0	0
Tin	ppm	4	2	<1	0
Aluminum	ppm	▲ 23	6	4	7
Chromium	ppm	3	<1	<1	1
Molybdenum	ppm	70	42	40	41
Nickel	ppm	0	<1	0	0
Titanium	ppm	0	0	0	<1
Silver	ppm	0	0	0	0
Manganese	ppm	2	<1	<1	<1
Vanadium	ppm	<1	0	0	0

ADDITIVES

Calcium	ppm	2473	1730	1549	1384
Magnesium	ppm	519	500	510	649
Zinc	ppm	1691	931	812	918
Phosphorus	ppm	1277	860	710	791
Barium	ppm	0	<1	0	0
Boron	ppm	40	30	24	24

Diagnosis

No corrective action is recommended at this time. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. The lead level is abnormal. The aluminum level is abnormal. 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 acceptable for the time in service.

Depot: VOLVO0093
Unique No: 11069858
Signed: Sean Felton
Report Date: 11 Jun 2024

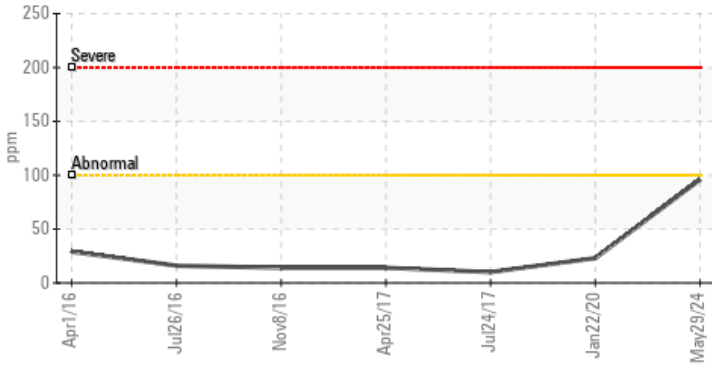


CONSTRUCTION EQUIPMENT

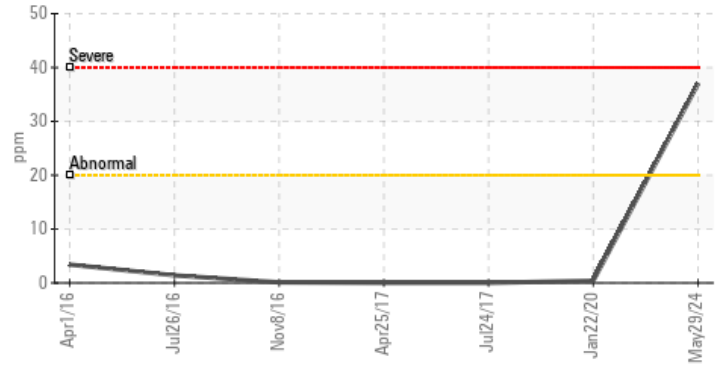


GRAPHS

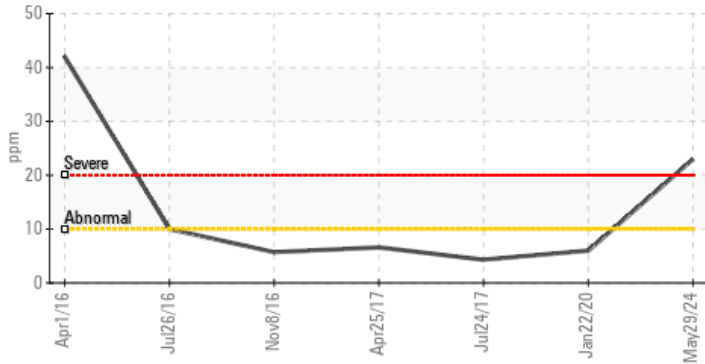
Iron (ppm)



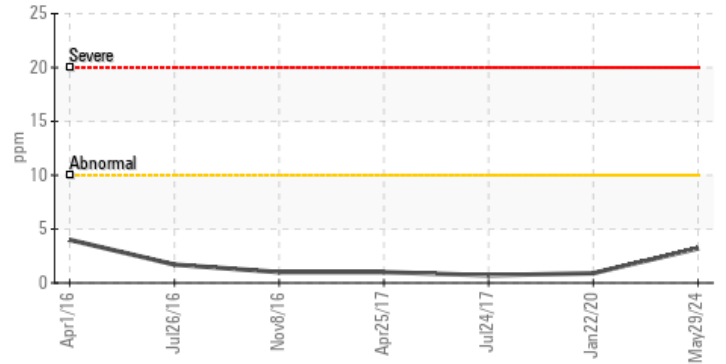
Lead (ppm)



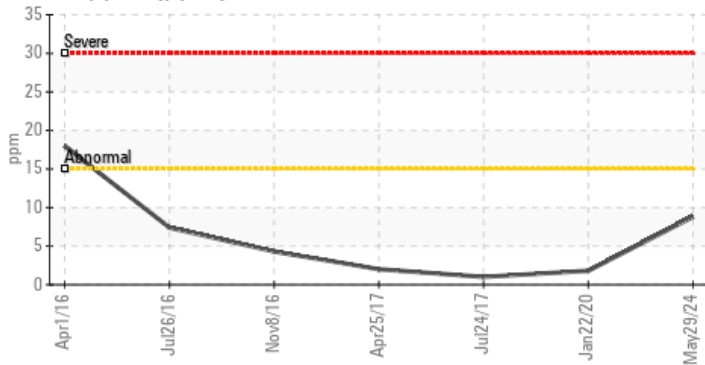
Aluminum (ppm)



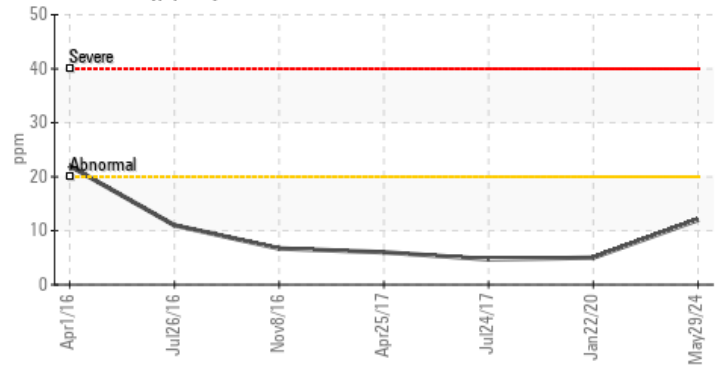
Chromium (ppm)



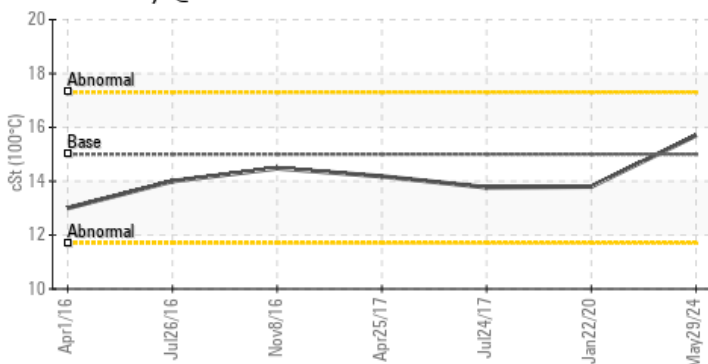
Copper (ppm)



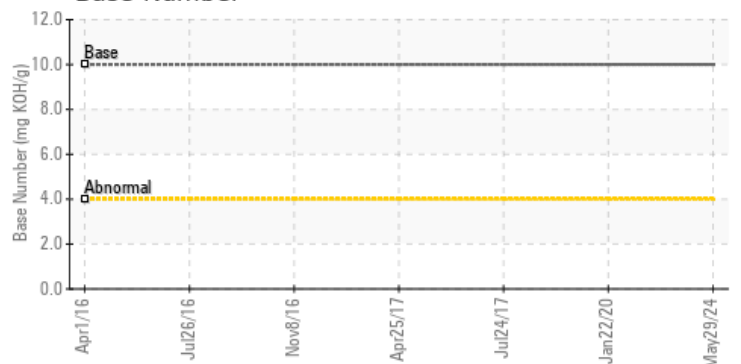
Silicon (ppm)



Viscosity @ 100°C



Base Number





CONSTRUCTION EQUIPMENT

VOLVO L110H 631017 - TRANSMISSION (AUTO)



Sample No: VCP191719
Oil Type: VOLVO AT 102
Job No:



SAMPLE INFORMATION

Sample Number	VCP191719	---	---	---
Sample Date	25 Apr 2017	---	---	---
Machine Hours	2059	---	---	---
Oil Hours	0	---	---	---
Oil Changed	Changed	---	---	---
Sample Status	NORMAL	---	---	---

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OIL CONDITION

Visc @ 40°C	cSt	█ 27.08	---	---	---
-------------	-----	---------	-----	-----	-----



CONTAMINATION

Water	%	NEG	---	---	---
Silicon	ppm	█ 9	---	---	---
Sodium	ppm	█ 6	---	---	---
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 component. The condition of the oil is acceptable for the time in service.



WEAR METALS

Iron	ppm	█ 43	---	---	---
Copper	ppm	█ 11	---	---	---
Lead	ppm	█ 0	---	---	---
Tin	ppm	█ 4	---	---	---
Aluminum	ppm	█ 3	---	---	---
Chromium	ppm	█ <1	---	---	---
Molybdenum	ppm	█ <1	---	---	---
Nickel	ppm	█ 0	---	---	---
Titanium	ppm	0	---	---	---
Silver	ppm	0	---	---	---
Manganese	ppm	█ 4	---	---	---
Vanadium	ppm	0	---	---	---



ADDITIVES

Calcium	ppm	█ 180	---	---	---
Magnesium	ppm	█ 6	---	---	---
Zinc	ppm	█ 58	---	---	---
Phosphorus	ppm	█ 196	---	---	---
Barium	ppm	█ 2	---	---	---
Boron	ppm	█ 49	---	---	---

Depot: VOLVO0093
Unique No: 7782100
Signed: Wes Davis
Report Date: 03 May 2017



CONSTRUCTION EQUIPMENT



GRAPHS

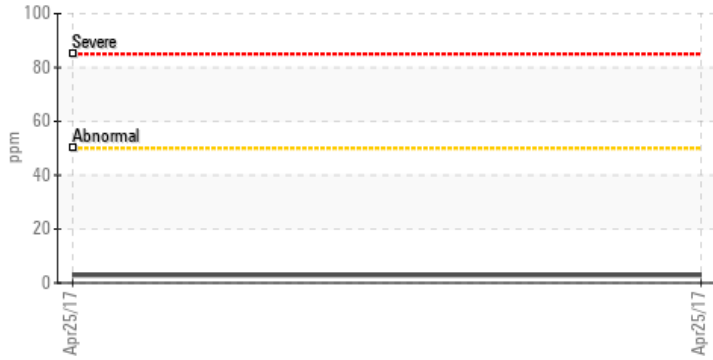
Iron (ppm)



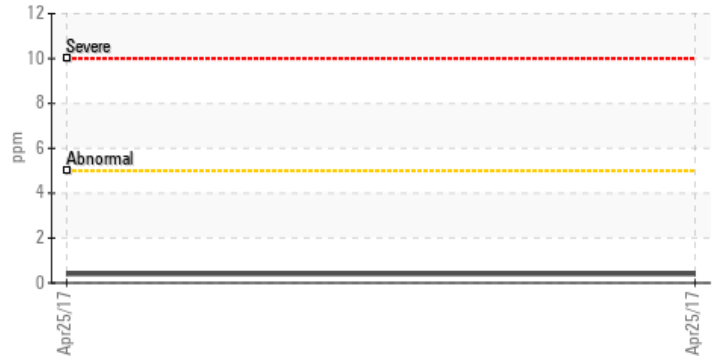
Lead (ppm)



Aluminum (ppm)



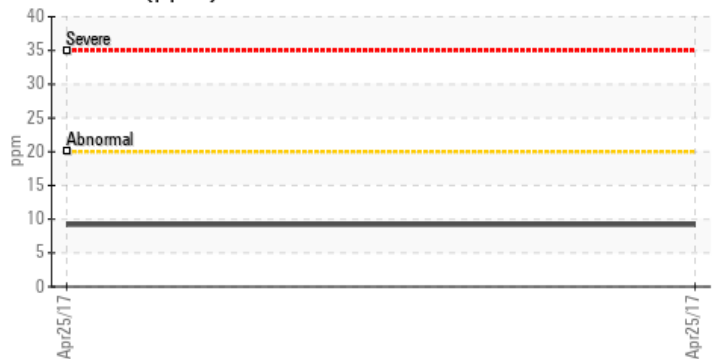
Chromium (ppm)



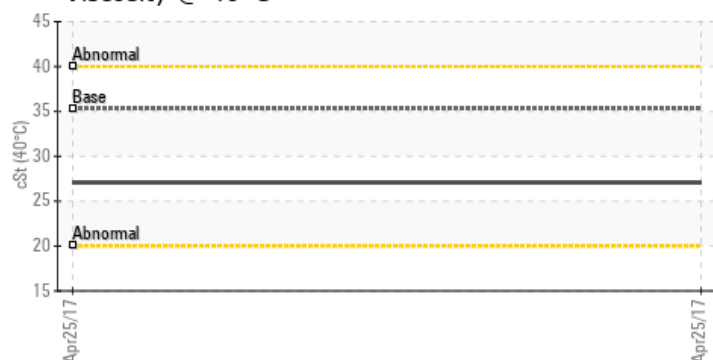
Copper (ppm)



Silicon (ppm)



Viscosity @ 40°C



Additives





CONSTRUCTION EQUIPMENT

572727 ALL COUNTY RE VOLVO L110H 631017 - WET DISC BRAKE



Sample No: VCP450648
Oil Type: VOLVO WET BRAKE TRANSAXLE OIL
Job No: 572727 ALL COUNTY RE



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SAMPLE INFORMATION

Sample Number	VCP450648	---	---	---
Sample Date	29 May 2024	---	---	---
Machine Hours	12291	---	---	---
Oil Hours	0	---	---	---
Oil Changed	Not Chngd	---	---	---
Sample Status	SEVERE	---	---	---



OIL CONDITION

Visc @ 40°C	cSt	█ 40.8	---	---	---
-------------	-----	--------	-----	-----	-----



CONTAMINATION

Water	%	NEG	---	---	---
Silicon	ppm	█ 13	---	---	---
Sodium	ppm	█ 3	---	---	---
Potassium	ppm	█ 0	---	---	---



WEAR METALS

Iron	ppm	▲ 162	---	---	---
Copper	ppm	█ 1	---	---	---
Lead	ppm	█ 0	---	---	---
Tin	ppm	█ 0	---	---	---
Aluminum	ppm	█ 0	---	---	---
Chromium	ppm	█ 2	---	---	---
Molybdenum	ppm	█ 2	---	---	---
Nickel	ppm	█ 0	---	---	---
Titanium	ppm	<1	---	---	---
Silver	ppm	0	---	---	---
Manganese	ppm	█ 3	---	---	---
Vanadium	ppm	0	---	---	---



ADDITIVES

Calcium	ppm	█ 4005	---	---	---
Magnesium	ppm	█ 21	---	---	---
Zinc	ppm	█ 1620	---	---	---
Phosphorus	ppm	█ 1342	---	---	---
Barium	ppm	█ 0	---	---	---
Boron	ppm	█ 159	---	---	---

Diagnosis

We recommend that you drain the oil from the component if this has not already been done. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition. The iron level is severe. There is no indication of any contamination in the oil. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

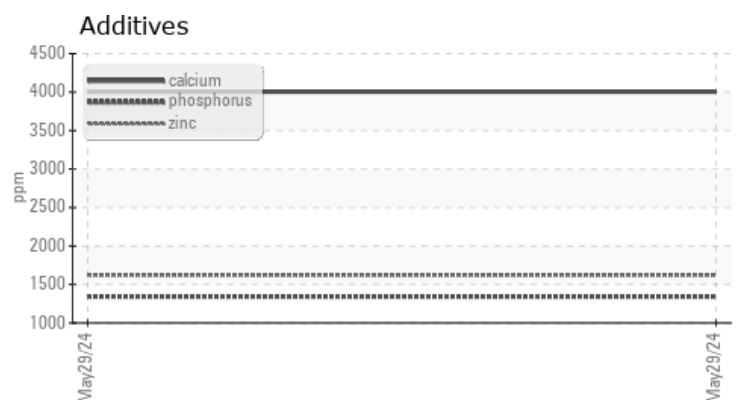
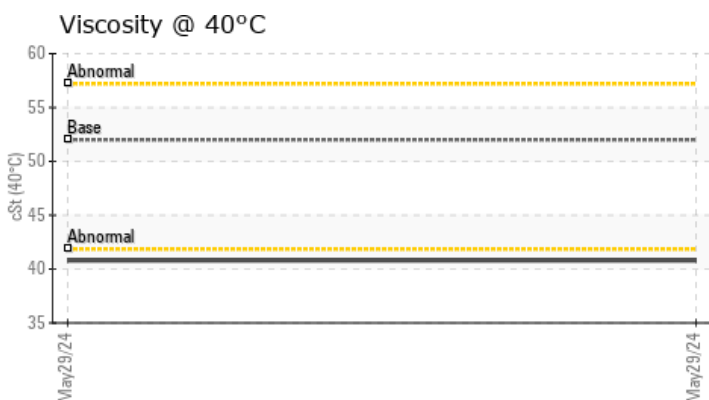
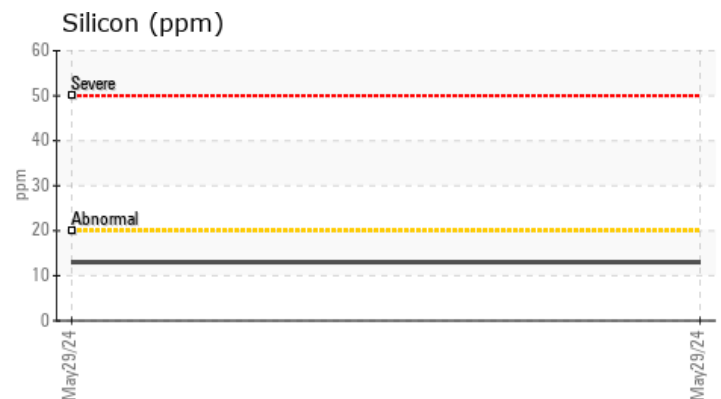
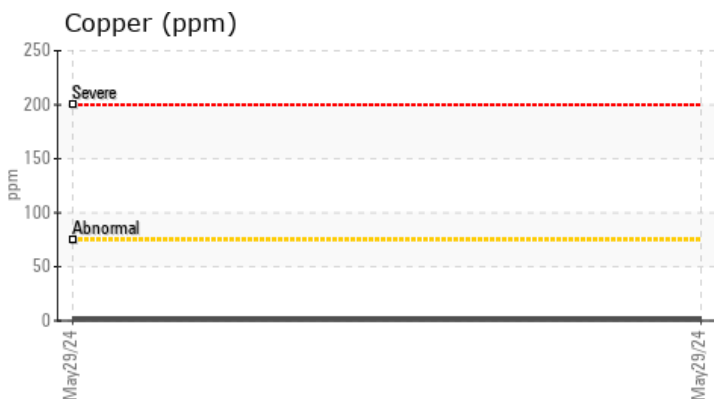
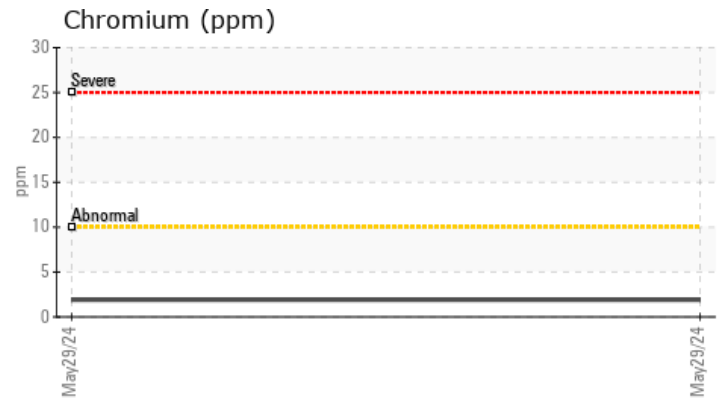
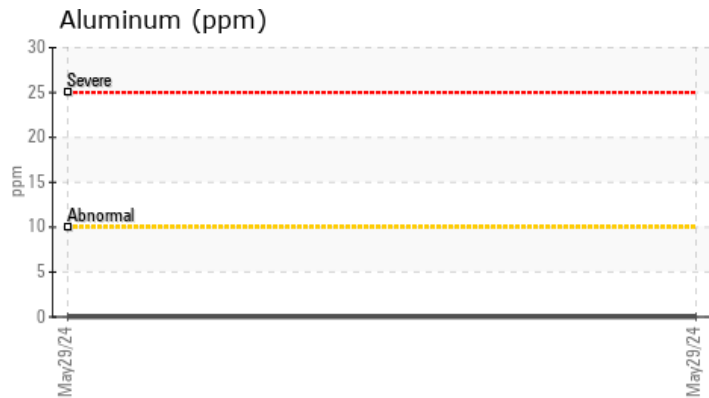
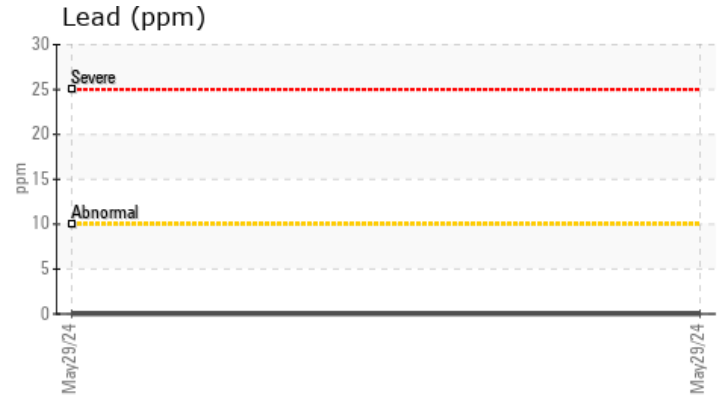
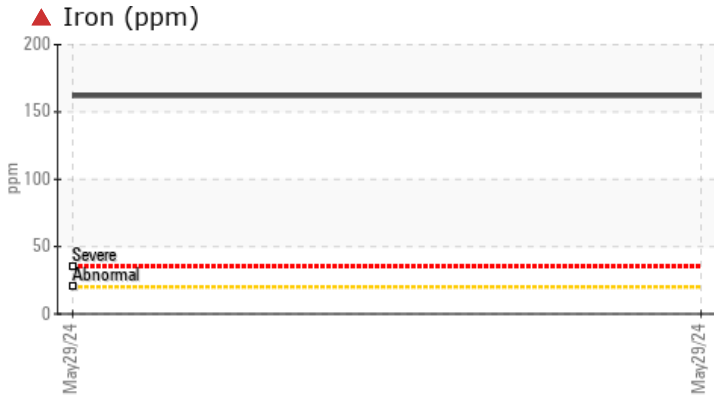
Depot: VOLVO0093
Unique No: 11070550
Signed: Don Baldrige
Report Date: 10 Jun 2024



CONSTRUCTION EQUIPMENT



GRAPHS





CONSTRUCTION EQUIPMENT

572727 ALL COUNTY RE VOLVO L110H 631017 - HYDRAULIC SYSTEM



Sample No: VCP450649
Oil Type: VOLVO SUPER HYDRAULIC OIL 46
Job No: 572727 ALL COUNTY RE



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SAMPLE INFORMATION

Sample Number	VCP450649	VCP193849	---	---
Sample Date	29 May 2024	28 Apr 2017	---	---
Machine Hours	12291	2059	---	---
Oil Hours	0	2059	---	---
Oil Changed	Not Chngd	Changed	---	---
Sample Status	ATTENTION	NORMAL	---	---



OIL CONDITION

Visc @ 40°C	cSt	█44.6	█41.91	---	---
Acid Number (AN)	mg KOH/g	█0.39	█0.409	---	---



CONTAMINATION

Water	%	NEG	NEG	---	---
Particles 5-15µm	count	---	78830	---	---
Particles 15-25µm	count	---	1625	---	---
Particles 25-50µm	count	---	104	---	---
Particles 50-100µm	count	---	81	---	---
Particles > 100µm	count	---	1079	---	---
NAS Code		---	>12	---	---
Particles >4µm		7956	5804	---	---
Particles >6µm		█1274	█896	---	---
Particles >14µm		●87	█62	---	---
ISO 4406:1999 (c)		20/17/14	20/17/13	---	---
Silicon	ppm	█8	█7	---	---
Sodium	ppm	█<1	█4	---	---
Potassium	ppm	█<1	█2	---	---

Diagnosis

We recommend you service the filters on this component. 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	█12	█7	---	---
Copper	ppm	█3	█4	---	---
Lead	ppm	█2	█2	---	---
Tin	ppm	█<1	█5	---	---
Aluminum	ppm	█3	█2	---	---
Chromium	ppm	█<1	█<1	---	---
Molybdenum	ppm	█1	█<1	---	---
Nickel	ppm	█0	█0	---	---
Titanium	ppm	<1	0	---	---
Silver	ppm	0	<1	---	---
Manganese	ppm	█0	█<1	---	---
Vanadium	ppm	0	0	---	---



ADDITIVES

Calcium	ppm	█75	█78	---	---
Magnesium	ppm	█5	█14	---	---
Zinc	ppm	█436	█434	---	---
Phosphorus	ppm	█333	█378	---	---
Barium	ppm	█0	█0	---	---
Boron	ppm	█0	█2	---	---

Depot: VOLVO0093
Unique No: 11070110
Signed: Wes Davis
Report Date: 10 Jun 2024

Contact/Location: KENNY HANEY - VOLVO0093

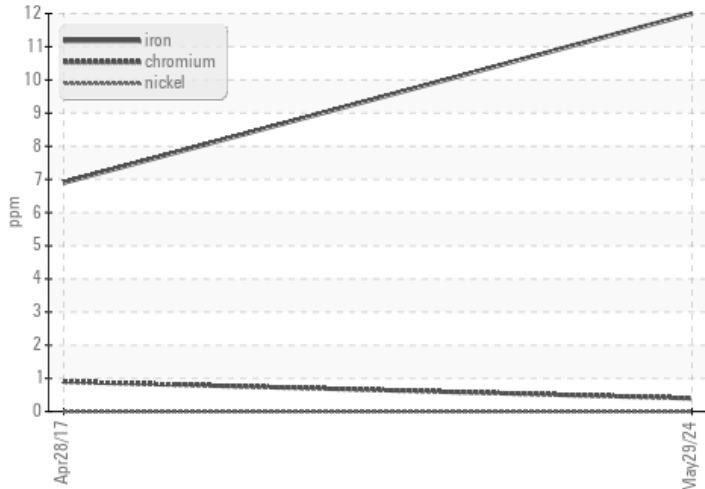


CONSTRUCTION EQUIPMENT

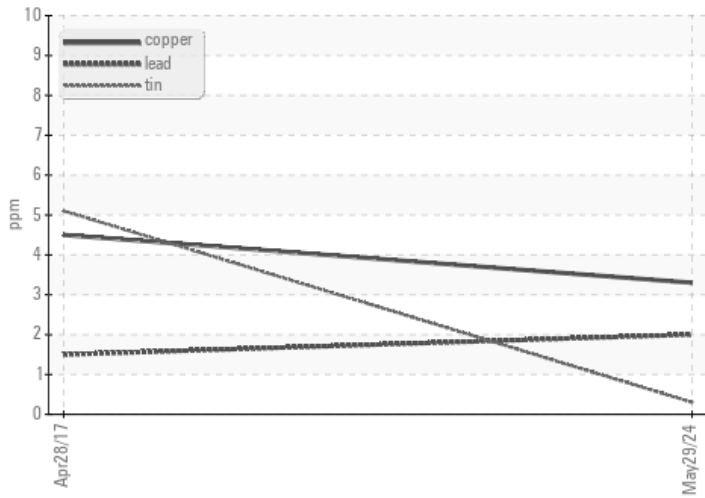


GRAPHS

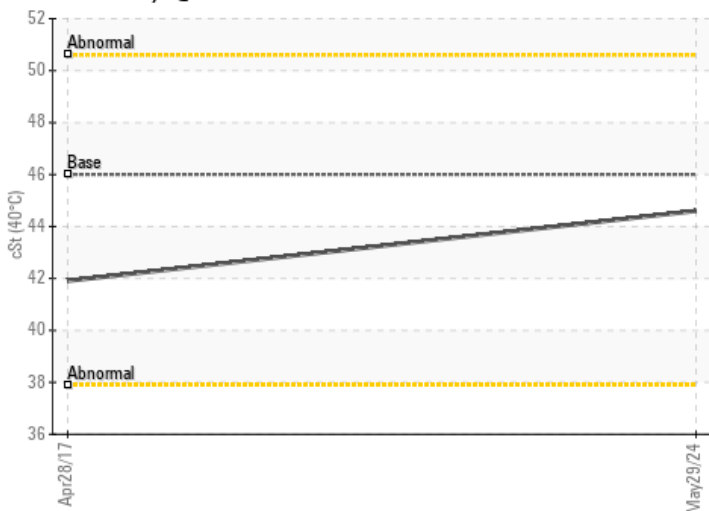
Ferrous Alloys



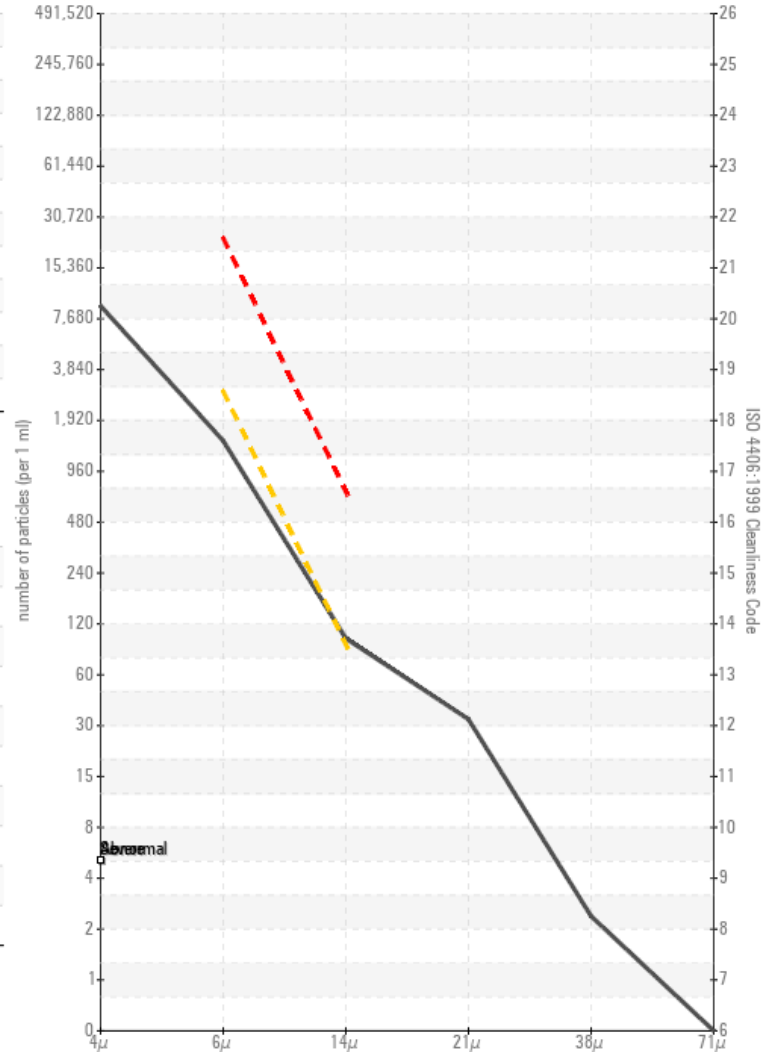
Non-ferrous Metals



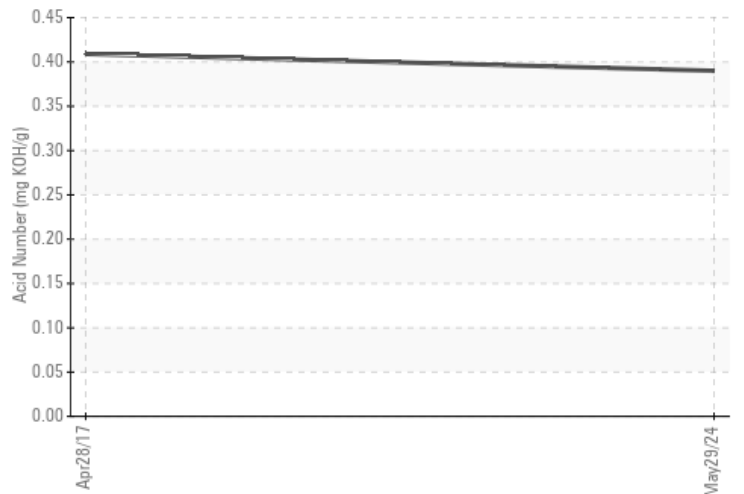
Viscosity @ 40°C



Particle Count



Acid Number





CONSTRUCTION EQUIPMENT

VOLVO L110H 631017 - FRONT AXLE



Sample No: VCP194061
Oil Type: VOLVO WB 102
Job No:



SAMPLE INFORMATION

Sample Number	VCP194061	---	---	---
Sample Date	25 Apr 2017	---	---	---
Machine Hours	2059	---	---	---
Oil Hours	0	---	---	---
Oil Changed	Changed	---	---	---
Sample Status	NORMAL	---	---	---

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OIL CONDITION

Visc @ 40°C	cSt	█ 41.06	---	---	---
-------------	-----	---------	-----	-----	-----



CONTAMINATION

Water	%	NEG	---	---	---
Silicon	ppm	█ 18	---	---	---
Sodium	ppm	█ 6	---	---	---
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 component. The condition of the oil is acceptable for the time in service.



WEAR METALS

Iron	ppm	█ 471	---	---	---
Copper	ppm	█ 2	---	---	---
Lead	ppm	█ 0	---	---	---
Tin	ppm	█ 14	---	---	---
Aluminum	ppm	█ 1	---	---	---
Chromium	ppm	█ 10	---	---	---
Molybdenum	ppm	█ 9	---	---	---
Nickel	ppm	█ 2	---	---	---
Titanium	ppm	0	---	---	---
Silver	ppm	0	---	---	---
Manganese	ppm	█ 14	---	---	---
Vanadium	ppm	0	---	---	---



ADDITIVES

Calcium	ppm	█ 4164	---	---	---
Magnesium	ppm	█ 20	---	---	---
Zinc	ppm	█ 1578	---	---	---
Phosphorus	ppm	█ 1414	---	---	---
Barium	ppm	█ <1	---	---	---
Boron	ppm	█ 112	---	---	---

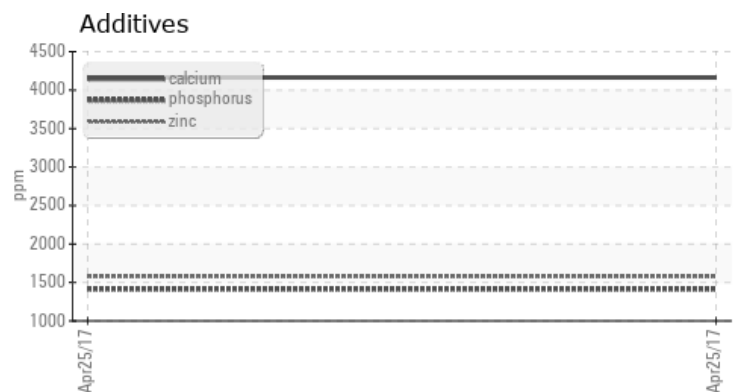
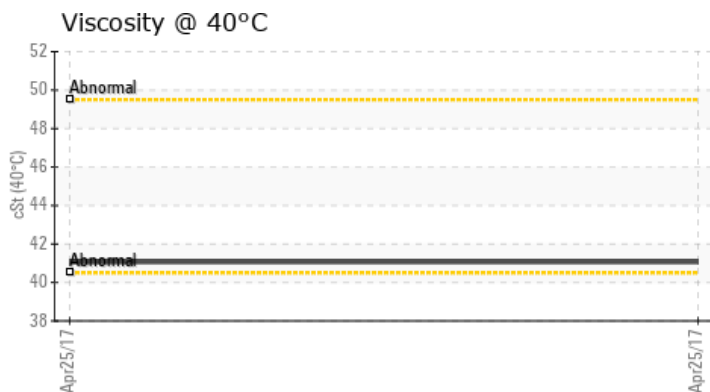
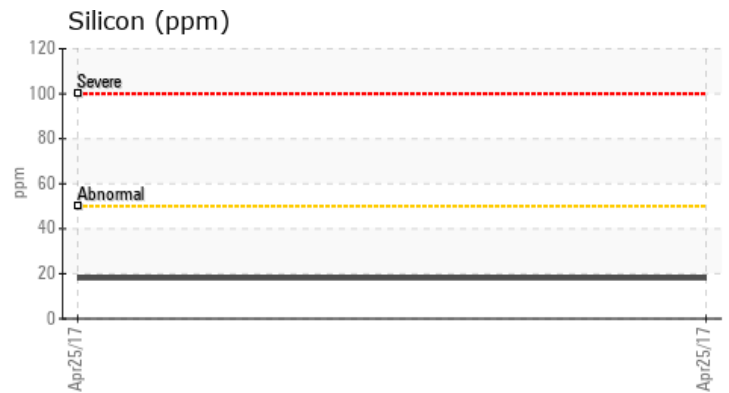
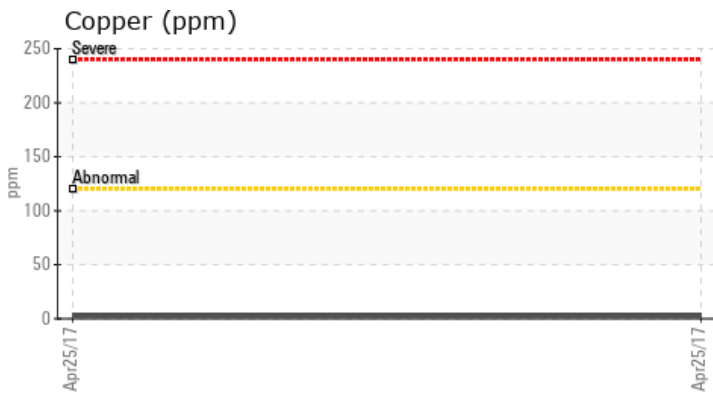
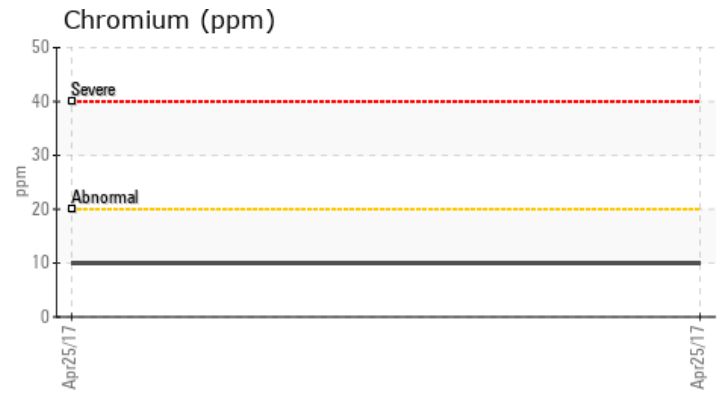
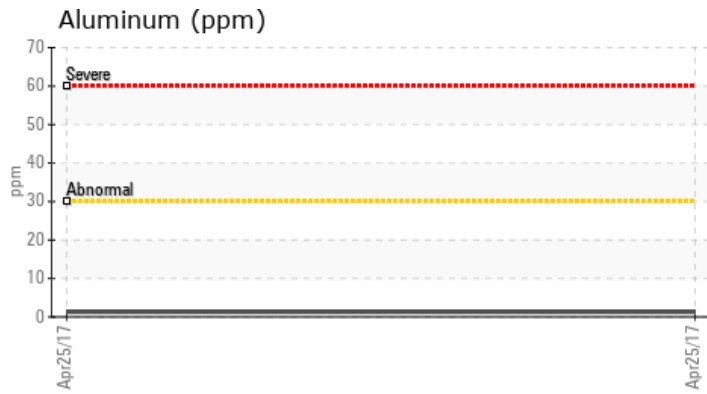
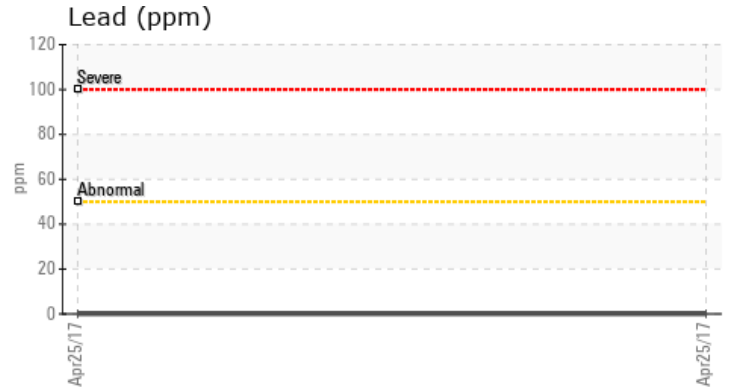
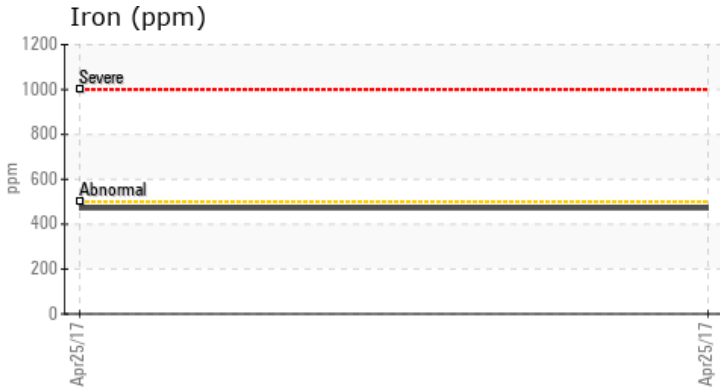
Depot: VOLVO0093
Unique No: 7782091
Signed: Wes Davis
Report Date: 03 May 2017



CONSTRUCTION EQUIPMENT



GRAPHS





CONSTRUCTION EQUIPMENT

572727 ALL COUNTY RE VOLVO L110H 631017 - REAR AXLE



Sample No: VCP450652
Oil Type: VOLVO WB 102
Job No: 572727 ALL COUNTY RE



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SAMPLE INFORMATION

Sample Number	VCP450652	VCP191718	---	---
Sample Date	29 May 2024	28 Apr 2017	---	---
Machine Hours	12291	2059	---	---
Oil Hours	0	2059	---	---
Oil Changed	Not Chngd	Changed	---	---
Sample Status	SEVERE	ABNORMAL	---	---



OIL CONDITION

Visc @ 40°C	cSt	█ 40.6	█ 40.61	---	---
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CONTAMINATION

Water	%	NEG	NEG	---	---
Silicon	ppm	█ 30	█ 18	---	---
Sodium	ppm	█ 3	█ 4	---	---
Potassium	ppm	█ 0	█ 0	---	---



WEAR METALS

Iron	ppm	▲ 1741	▲ 565	---	---
Copper	ppm	█ 4	█ 3	---	---
Lead	ppm	█ 0	█ 0	---	---
Tin	ppm	█ <1	█ 13	---	---
Aluminum	ppm	█ 2	█ <1	---	---
Chromium	ppm	█ 12	█ 8	---	---
Molybdenum	ppm	█ 201	█ 10	---	---
Nickel	ppm	█ 7	█ 2	---	---
Titanium	ppm	<1	0	---	---
Silver	ppm	0	0	---	---
Manganese	ppm	█ 15	█ 14	---	---
Vanadium	ppm	<1	0	---	---



ADDITIVES

Calcium	ppm	█ 3973	█ 4136	---	---
Magnesium	ppm	█ 21	█ 18	---	---
Zinc	ppm	█ 1592	█ 1598	---	---
Phosphorus	ppm	█ 1322	█ 1431	---	---
Barium	ppm	█ 0	█ <1	---	---
Boron	ppm	█ 163	█ 113	---	---

Diagnosis

We recommend that you drain the oil from the component if this has not already been done. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition. The iron level is severe. Gear wear is indicated. There is no indication of any contamination in the oil. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Depot: VOLVO0093
Unique No: 11070551
Signed: Don Baldrige
Report Date: 10 Jun 2024



CONSTRUCTION EQUIPMENT



GRAPHS

