



# CONSTRUCTION EQUIPMENT

405622 VOLVO L120H 632718 - DIESEL ENGINE



**Sample No:** VCP381913  
**Oil Type:** VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3  
**Job No:** 405622



## SAMPLE INFORMATION

Sample Number	<b>VCP381913</b>	VCP394458	VCP392851	VCP392893
Sample Date	<b>30 May 2024</b>	23 Feb 2024	19 Jan 2024	03 Nov 2023
Machine Hours	<b>14423</b>	13026	12361	10767
Oil Hours	<b>500</b>	0	0	0
Oil Changed	<b>Changed</b>	Changed	Changed	Changed
Sample Status	<b>NORMAL</b>	NORMAL	NORMAL	NORMAL

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 RED DEER COUNTY, AB  
 CA T4S 2L4  
 Contact: Perry Doyle  
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 T: (403)391-3520  
 F: (403)346-3487

## OIL CONDITION

Visc @ 100°C	cSt	<b>13.3</b>	13.3	13.4	13.5
Oxidation (PA)	%	<b>83</b>	82	86	84

## CONTAMINATION

Water	%	<b>NEG</b>	NEG	NEG	NEG
Soot %	%	<b>0.6</b>	0.4	0.5	0.6
Nitration (PA)	%	<b>62</b>	58	64	62
Sulfation (PA)	%	<b>65</b>	64	66	66
Glycol	%	<b>NEG</b>	NEG	NEG	NEG
Fuel	%	<b>&lt;1.0</b>	<1.0	<1.0	<1.0
Silicon	ppm	<b>4</b>	4	5	6
Sodium	ppm	<b>2</b>	2	2	3
Potassium	ppm	<b>&lt;1</b>	<1	<1	0

## 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	<b>13</b>	11	15	17
Copper	ppm	<b>&lt;1</b>	<1	<1	1
Lead	ppm	<b>0</b>	<1	<1	<1
Tin	ppm	<b>0</b>	<1	<1	<1
Aluminum	ppm	<b>5</b>	4	6	7
Chromium	ppm	<b>&lt;1</b>	<1	<1	<1
Molybdenum	ppm	<b>41</b>	41	41	42
Nickel	ppm	<b>0</b>	<1	0	<1
Titanium	ppm	<b>0</b>	0	0	0
Silver	ppm	<b>0</b>	0	0	<1
Manganese	ppm	<b>&lt;1</b>	0	0	0
Vanadium	ppm	<b>0</b>	0	0	0

## ADDITIVES

Calcium	ppm	<b>1750</b>	1752	1755	1738
Magnesium	ppm	<b>511</b>	511	512	516
Zinc	ppm	<b>1075</b>	1090	1098	1115
Phosphorus	ppm	<b>911</b>	940	936	931
Barium	ppm	<b>0</b>	0	0	<1
Boron	ppm	<b>36</b>	38	36	36

**Depot:** VOLVO9652  
**Unique No:** 5788502  
**Signed:** Wes Davis  
**Report Date:** 03 Jun 2024

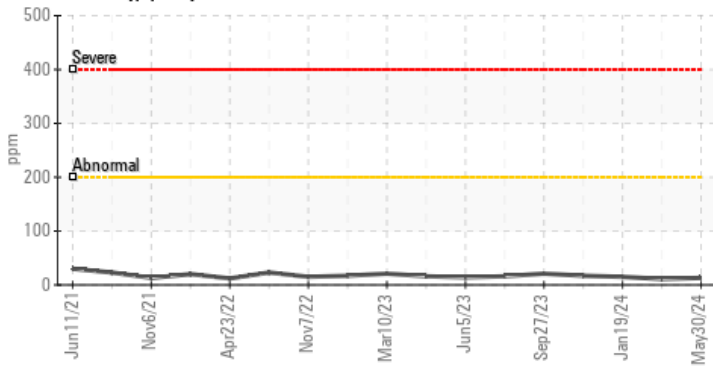


# CONSTRUCTION EQUIPMENT

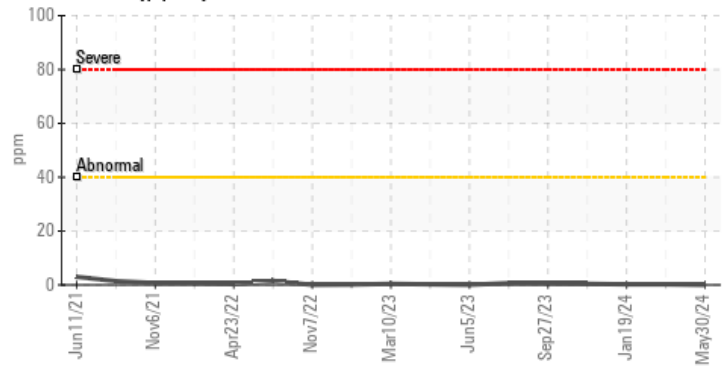


## GRAPHS

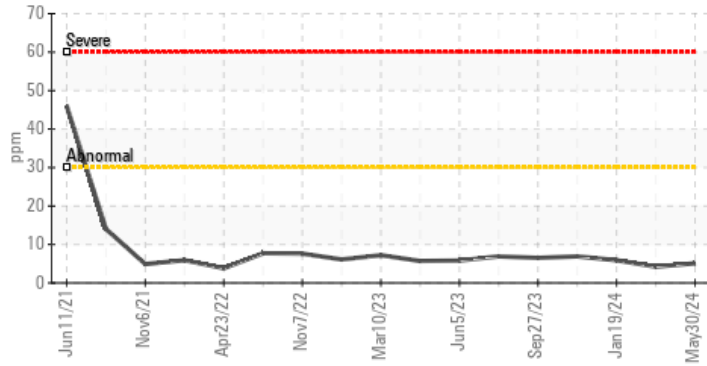
### Iron (ppm)



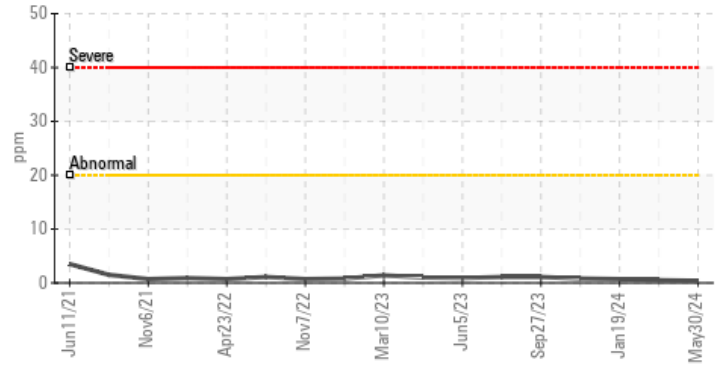
### Lead (ppm)



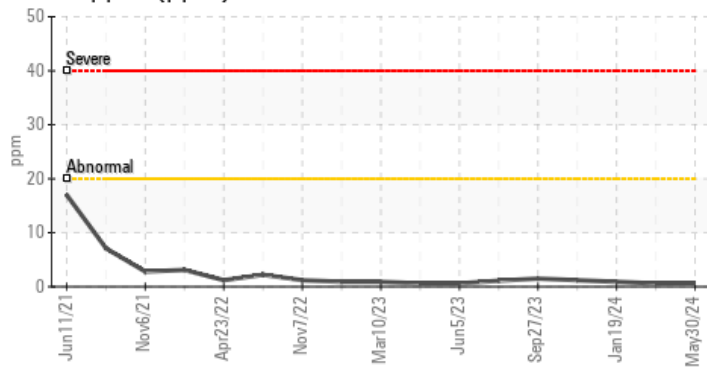
### Aluminum (ppm)



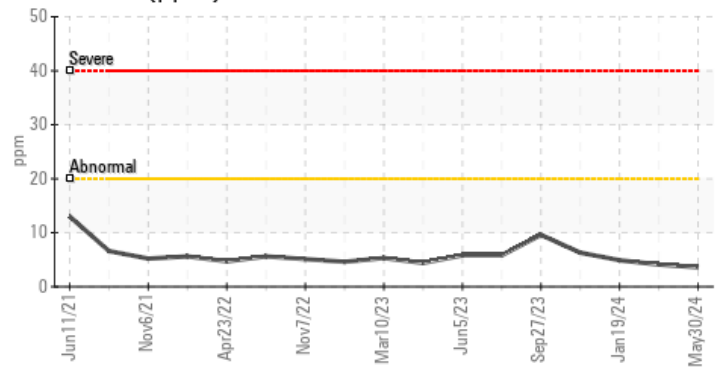
### Chromium (ppm)



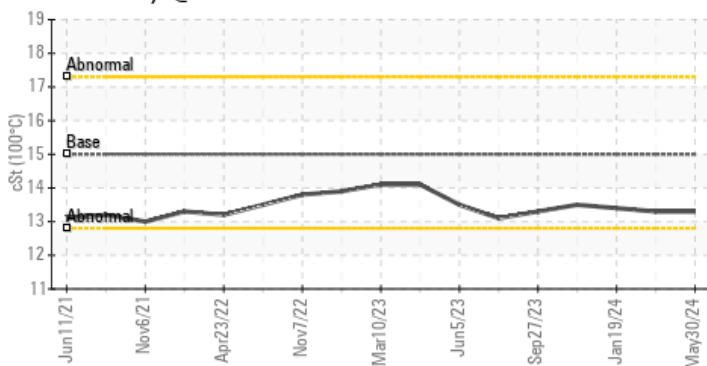
### Copper (ppm)



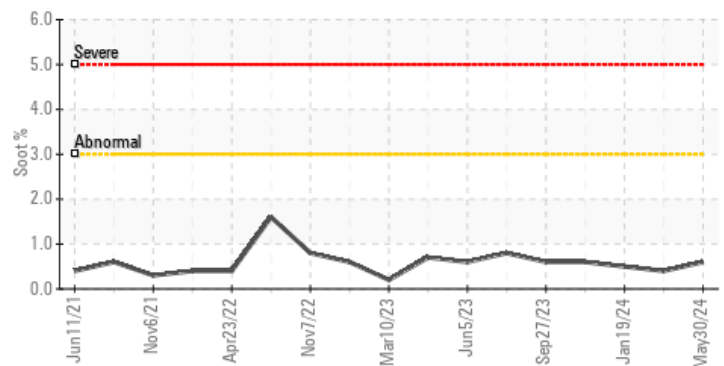
### Silicon (ppm)



### Viscosity @ 100°C



### Soot %





# CONSTRUCTION EQUIPMENT

## 405627 VOLVO L120H 632718 - TRANSMISSION (AUTO)



**Sample No:** VCP381914  
**Oil Type:** VOLVO AUTOMATIC TRANSMISSION FLUID AT102  
**Job No:** 405627



### SAMPLE INFORMATION

Sample Number	<b>VCP381914</b>	VCP393853	VCP394564	VCP391969
Sample Date	<b>30 May 2024</b>	01 Mar 2024	23 Feb 2024	24 Apr 2023
Machine Hours	<b>14423</b>	13026	13026	8229
Oil Hours	<b>2000</b>	0	0	0
Oil Changed	<b>Changed</b>	Changed	Not Changd	Changed
Sample Status	<b>NORMAL</b>	ATTENTION	ATTENTION	NORMAL

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### OIL CONDITION

Visc @ 40°C	cSt	<b>28.8</b>	33.1	33.3	26.3
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### CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Silicon	ppm	<b>6</b>	5	5	4
Sodium	ppm	<b>1</b>	2	1	2
Potassium	ppm	<b>&lt;1</b>	<1	2	0

### Diagnosis

Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the fluid. The condition of the fluid is acceptable for the time in service.



### WEAR METALS

Iron	ppm	<b>12</b>	42	38	33
Copper	ppm	<b>7</b>	82	84	6
Lead	ppm	<b>0</b>	2	2	0
Tin	ppm	<b>0</b>	0	0	0
Aluminum	ppm	<b>&lt;1</b>	6	6	3
Chromium	ppm	<b>0</b>	<1	<1	0
Molybdenum	ppm	<b>0</b>	8	8	<1
Nickel	ppm	<b>0</b>	<1	<1	0
Titanium	ppm	<b>0</b>	0	0	0
Silver	ppm	<b>0</b>	0	0	0
Manganese	ppm	<b>0</b>	<1	<1	1
Vanadium	ppm	<b>0</b>	0	0	0



### ADDITIVES

Calcium	ppm	<b>97</b>	406	404	127
Magnesium	ppm	<b>10</b>	102	103	2
Zinc	ppm	<b>22</b>	213	216	23
Phosphorus	ppm	<b>203</b>	340	344	182
Barium	ppm	<b>0</b>	0	0	<1
Boron	ppm	<b>95</b>	74	73	64

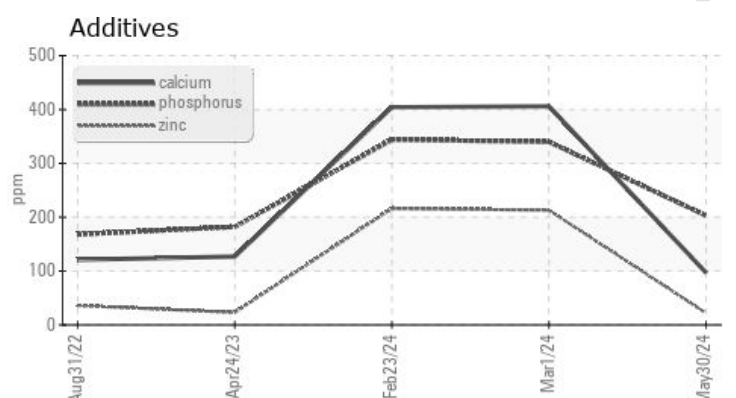
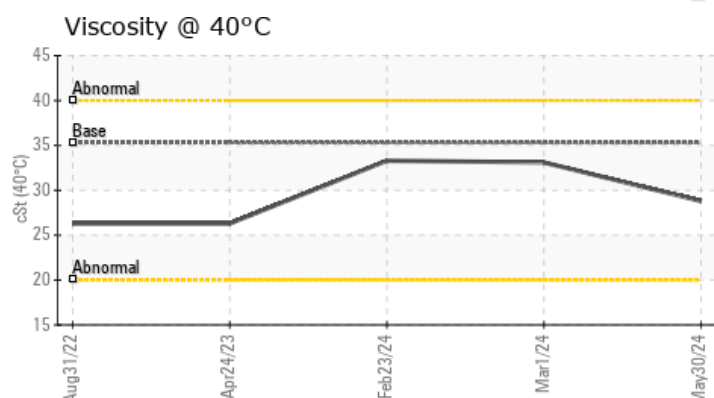
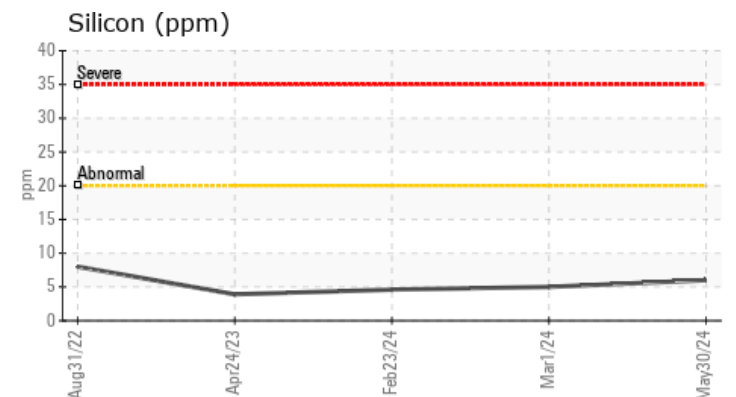
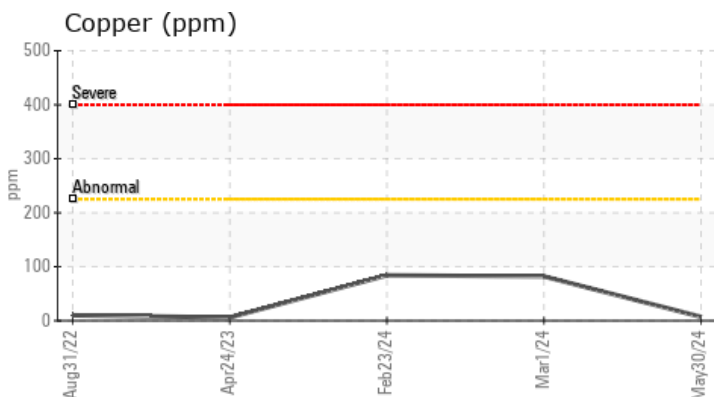
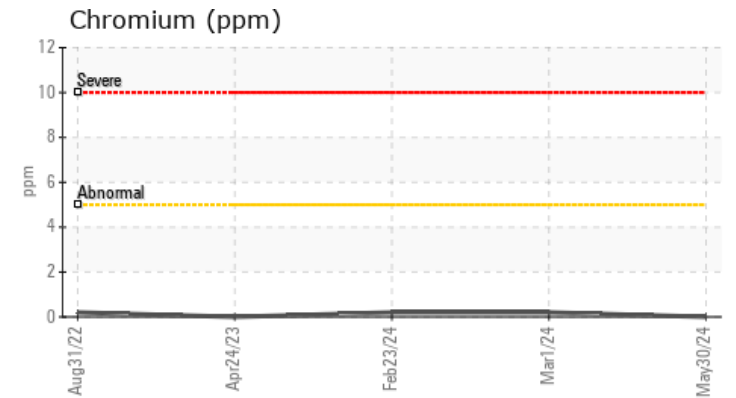
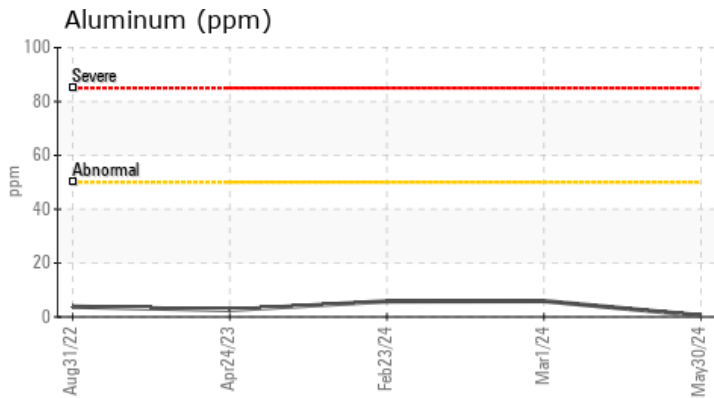
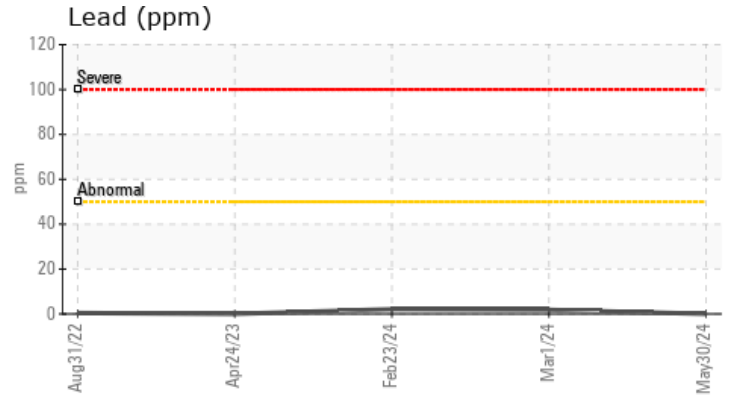
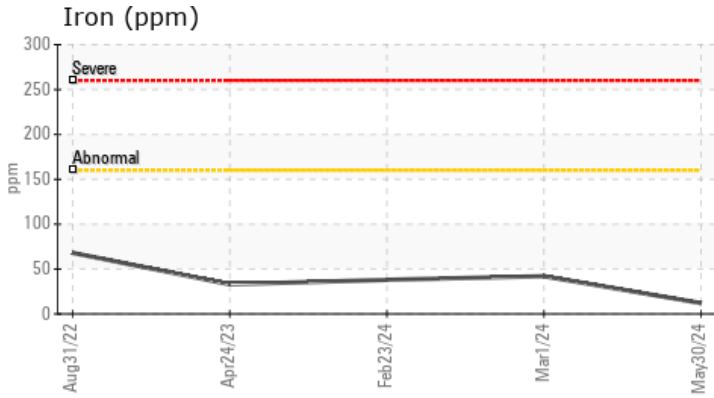
**Depot:** VOLVO9652  
**Unique No:** 5788607  
**Signed:** Wes Davis  
**Report Date:** 03 Jun 2024



# CONSTRUCTION EQUIPMENT



## VOLVO GRAPHS





# CONSTRUCTION EQUIPMENT

## 405622 VOLVO L120H 632718 - HYDRAULIC SYSTEM



**Sample No:** VCP334155  
**Oil Type:** VOLVO SUPER HYDRAULIC OIL 46  
**Job No:** 405622



### SAMPLE INFORMATION

Sample Number	<b>VCP334155</b>	VCP391973	VCP331772	---
Sample Date	<b>30 May 2024</b>	24 Apr 2023	31 Aug 2022	---
Machine Hours	<b>14423</b>	8229	4837	---
Oil Hours	<b>2000</b>	0	4837	---
Oil Changed	<b>Changed</b>	Changed	Changed	---
Sample Status	<b>ATTENTION</b>	ATTENTION	NORMAL	---



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### OIL CONDITION

Visc @ 40°C	cSt	<b>40.9</b>	41.7	41.5	---
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### CONTAMINATION

Water	%	<b>NEG</b>	NEG	NEG	---
Particles >4µm		<b>4472</b>	4636	4510	---
Particles >6µm		<b>1365</b>	1596	1054	---
Particles >14µm		<b>85</b>	187	40	---
ISO 4406:1999 (c)		<b>19/18/14</b>	19/18/15	19/17/12	---
Silicon	ppm	<b>6</b>	5	6	---
Sodium	ppm	<b>1</b>	1	1	---
Potassium	ppm	<b>&lt;1</b>	<1	<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 condition of the oil is acceptable for the time in service.



### WEAR METALS

Iron	ppm	<b>8</b>	6	7	---
Copper	ppm	<b>1</b>	1	2	---
Lead	ppm	<b>&lt;1</b>	<1	<1	---
Tin	ppm	<b>0</b>	0	0	---
Aluminum	ppm	<b>1</b>	<1	1	---
Chromium	ppm	<b>2</b>	<1	<1	---
Molybdenum	ppm	<b>0</b>	0	0	---
Nickel	ppm	<b>0</b>	0	0	---
Titanium	ppm	<b>0</b>	0	0	---
Silver	ppm	<b>0</b>	0	0	---
Manganese	ppm	<b>0</b>	0	<1	---
Vanadium	ppm	<b>0</b>	0	0	---



### ADDITIVES

Calcium	ppm	<b>86</b>	116	103	---
Magnesium	ppm	<b>1</b>	2	4	---
Zinc	ppm	<b>413</b>	434	412	---
Phosphorus	ppm	<b>330</b>	368	332	---
Barium	ppm	<b>0</b>	0	0	---
Boron	ppm	<b>1</b>	2	2	---

**Depot:** VOLVO9652  
**Unique No:** 5788588  
**Signed:** Wes Davis  
**Report Date:** 04 Jun 2024



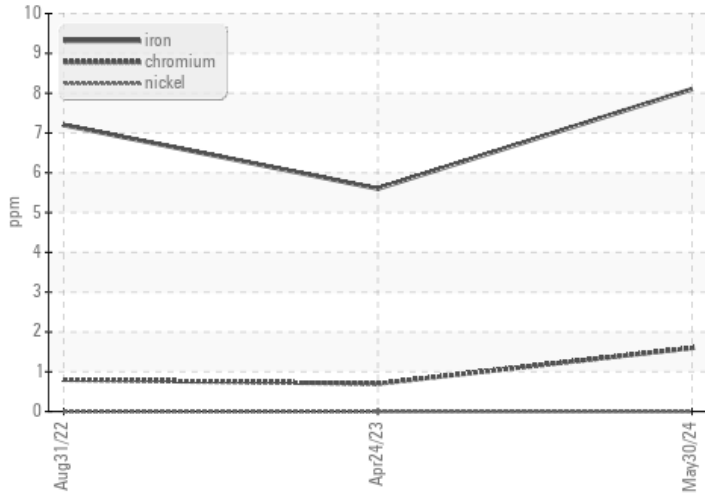


# CONSTRUCTION EQUIPMENT

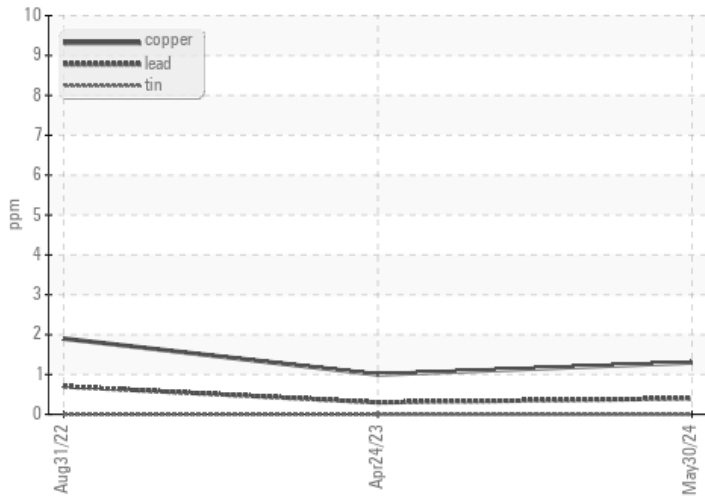


## GRAPHS

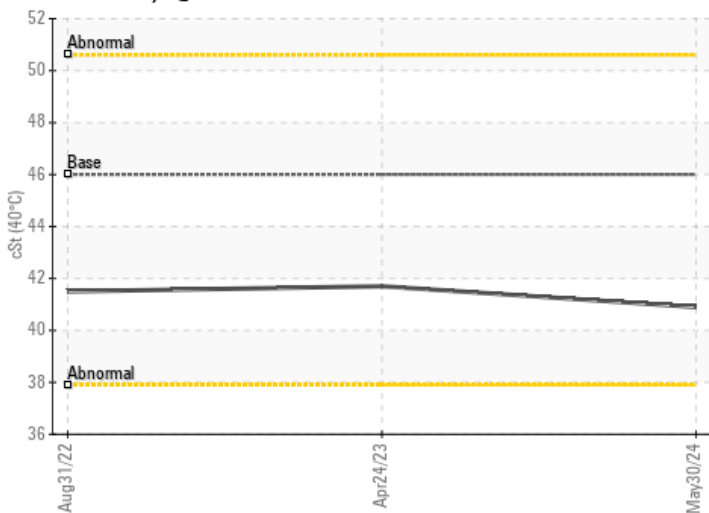
### Ferrous Alloys



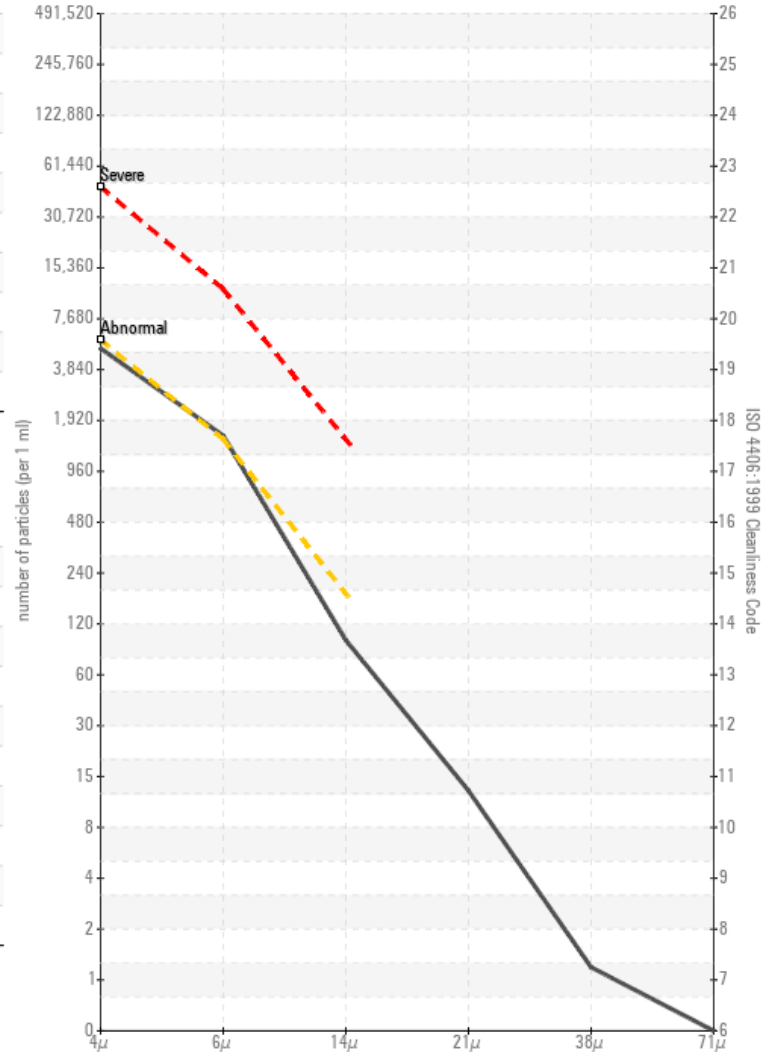
### Non-ferrous Metals



### Viscosity @ 40°C



### Particle Count





# CONSTRUCTION EQUIPMENT

## 405622 VOLVO L120H 632718 - FRONT AXLE



**Sample No:** VCP381912  
**Oil Type:** VOLVO WB 102  
**Job No:** 405622



### SAMPLE INFORMATION

Sample Number	<b>VCP381912</b>	VCP394660	VCP391970	VCP332777
Sample Date	<b>30 May 2024</b>	27 Sep 2023	24 Apr 2023	31 Aug 2022
Machine Hours	<b>14423</b>	10000	8229	4837
Oil Hours	<b>2000</b>	2000	0	2837
Oil Changed	<b>Changed</b>	Changed	Changed	Changed
Sample Status	<b>NORMAL</b>	NORMAL	NORMAL	NORMAL

**STRONGCO EQUIP (AB)**  
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 F: (403)346-3487



### OIL CONDITION

Visc @ 40°C	cSt	<b>47.5</b>	47.9	50.3	50.1
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### CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Silicon	ppm	<b>15</b>	17	14	15
Sodium	ppm	<b>2</b>	1	9	9
Potassium	ppm	<b>4</b>	<1	0	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	<b>36</b>	26	44	56
Copper	ppm	<b>&lt;1</b>	<1	<1	<1
Lead	ppm	<b>0</b>	<1	0	0
Tin	ppm	<b>0</b>	0	0	0
Aluminum	ppm	<b>1</b>	1	1	1
Chromium	ppm	<b>&lt;1</b>	<1	<1	1
Molybdenum	ppm	<b>0</b>	0	<1	<1
Nickel	ppm	<b>0</b>	<1	<1	<1
Titanium	ppm	<b>0</b>	0	<1	<1
Silver	ppm	<b>0</b>	<1	3	0
Manganese	ppm	<b>&lt;1</b>	<1	1	2
Vanadium	ppm	<b>0</b>	0	0	0



### ADDITIVES

Calcium	ppm	<b>3619</b>	3859	3864	3780
Magnesium	ppm	<b>17</b>	16	16	16
Zinc	ppm	<b>1373</b>	1512	1447	1390
Phosphorus	ppm	<b>1143</b>	1240	1234	1110
Barium	ppm	<b>0</b>	<1	0	0
Boron	ppm	<b>115</b>	113	107	104

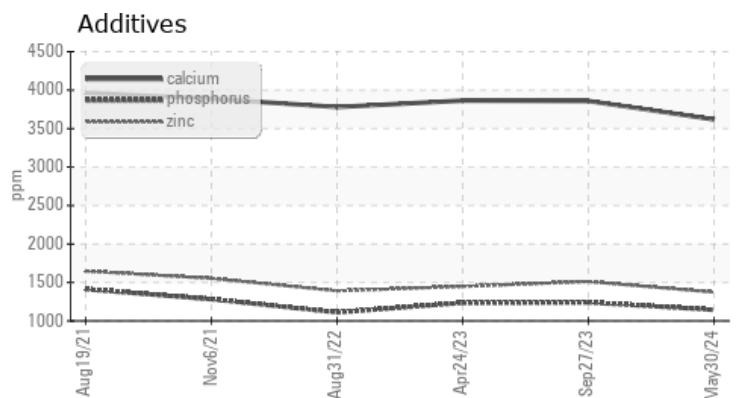
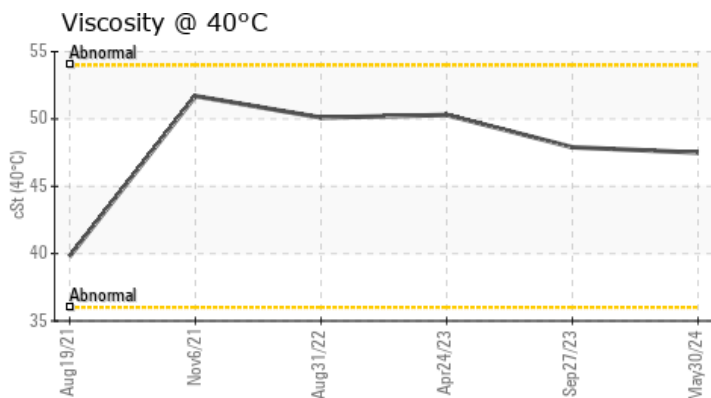
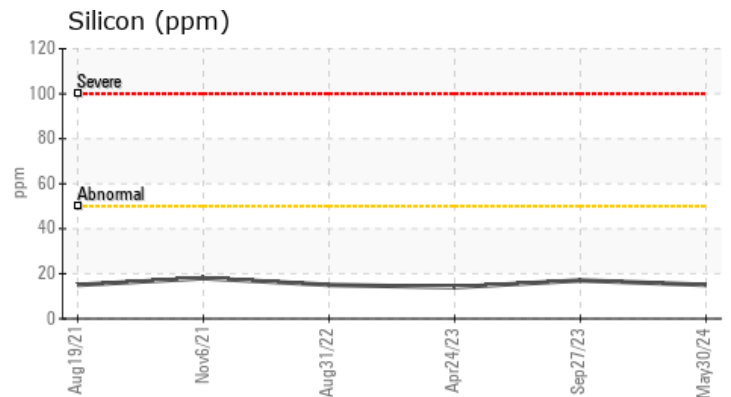
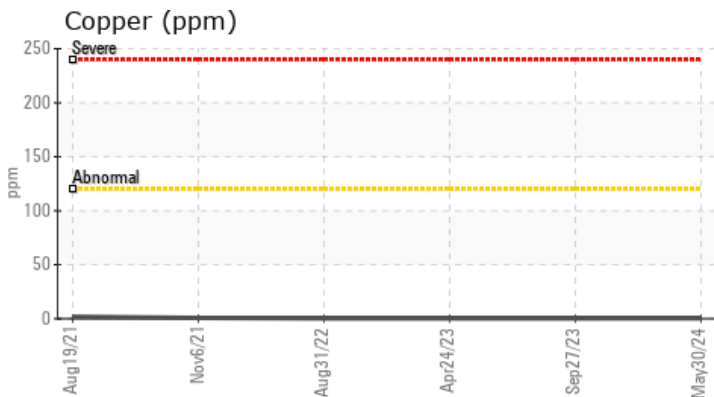
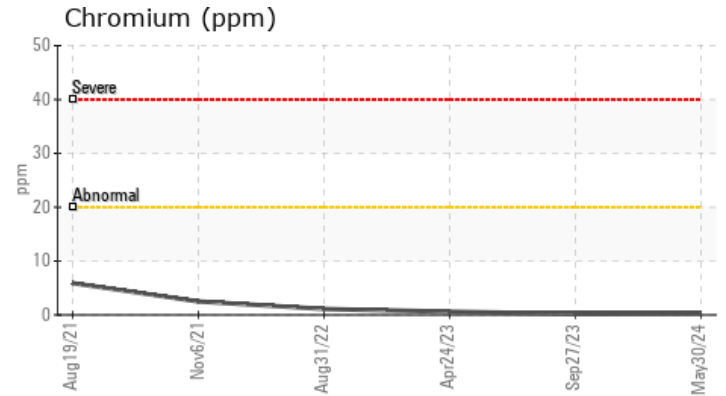
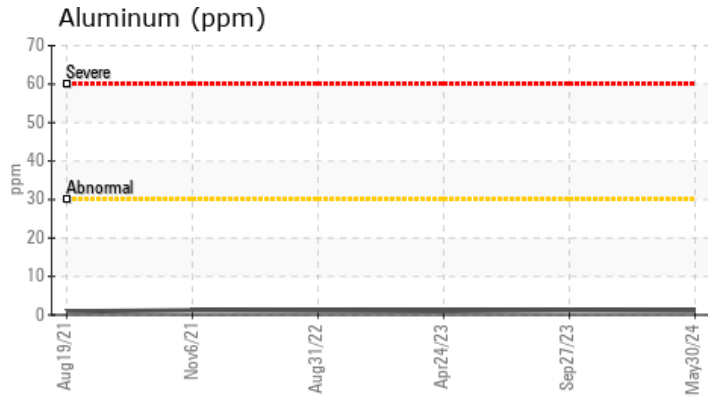
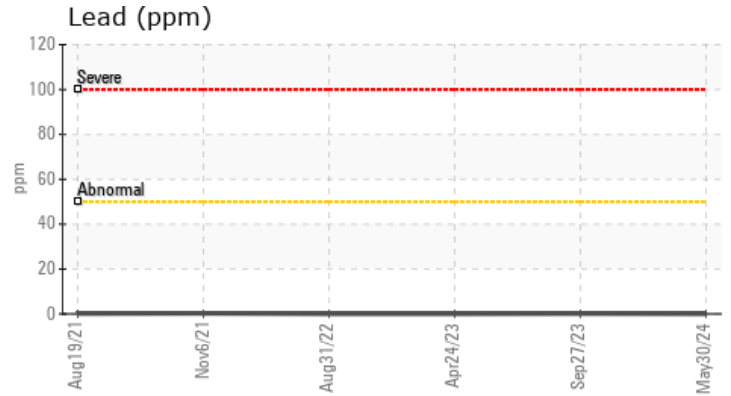
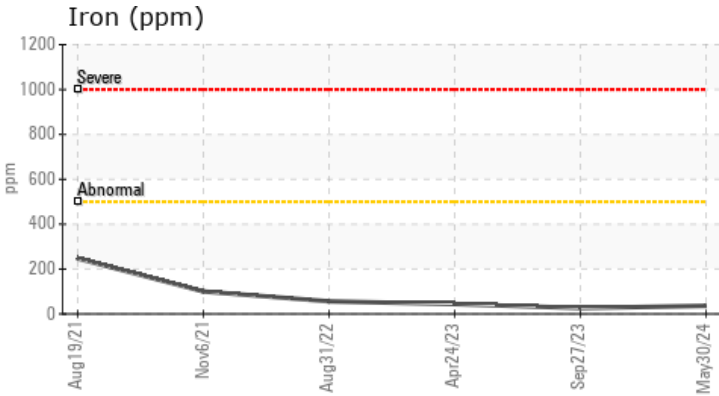
**Depot:** VOLVO9652  
**Unique No:** 5788613  
**Signed:** Wes Davis  
**Report Date:** 03 Jun 2024



# CONSTRUCTION EQUIPMENT



## VOLVO GRAPHS







# CONSTRUCTION EQUIPMENT

## 405622 VOLVO L120H 632718 - REAR AXLE



**Sample No:** VCP381911  
**Oil Type:** VOLVO WB 102  
**Job No:** 405622



### SAMPLE INFORMATION

Sample Number	VCP381911	VCP394283	VCP391974	VCP331778
Sample Date	<b>30 May 2024</b>	27 Sep 2023	24 Apr 2023	31 Aug 2022
Machine Hours	<b>14423</b>	10000	8229	4837
Oil Hours	<b>2000</b>	2000	0	2837
Oil Changed	<b>Changed</b>	Changed	Changed	Changed
Sample Status	<b>NORMAL</b>	NORMAL	NORMAL	NORMAL

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### OIL CONDITION

Visc @ 40°C	cSt	47.2	49.3	48.5	50.1



### CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Silicon	ppm	16	20	17	15
Sodium	ppm	<1	1	1	9
Potassium	ppm	<1	<1	0	<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	37	33	34	50
Copper	ppm	<1	<1	0	0
Lead	ppm	0	<1	0	0
Tin	ppm	0	0	0	0
Aluminum	ppm	1	2	1	1
Chromium	ppm	<1	<1	<1	1
Molybdenum	ppm	0	0	<1	<1
Nickel	ppm	0	0	<1	<1
Titanium	ppm	0	0	<1	<1
Silver	ppm	0	<1	0	0
Manganese	ppm	<1	<1	<1	2
Vanadium	ppm	0	0	0	0



### ADDITIVES

Calcium	ppm	3616	3746	3917	3700
Magnesium	ppm	17	27	16	17
Zinc	ppm	1401	1490	1476	1376
Phosphorus	ppm	1152	1198	1271	1105
Barium	ppm	0	<1	0	0
Boron	ppm	116	108	110	103

**Depot:** VOLVO9652  
**Unique No:** 5788614  
**Signed:** Wes Davis  
**Report Date:** 03 Jun 2024



# CONSTRUCTION EQUIPMENT



## GRAPHS

