



# CONSTRUCTION EQUIPMENT

HERC RENTALS VOLVO A30G 752902 - DIESEL ENGINE



**Sample No:** VCP437328  
**Oil Type:** VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3  
**Job No:** HERC RENTALS



ALTA EQUIPMENT/FLAGLER CONSTRUCTION EQUIPMENT LLC  
 8418 PALM RIVER ROAD  
 TAMPA, FL  
 US 33619  
 Contact: KENNY HANEY  
 khaney@flaglerce.com  
 T: (813)630-0077  
 F: (813)630-2233



## SAMPLE INFORMATION

Sample Number	VCP437328	VCP436225	VCP425147	---
Sample Date	29 Apr 2024	11 Oct 2023	24 Aug 2023	---
Machine Hours	2093	1074	532	---
Oil Hours	0	0	0	---
Oil Changed	Changed	N/A	Changed	---
Sample Status	ABNORMAL	ABNORMAL	ABNORMAL	---



## OIL CONDITION

Visc @ 100°C	cSt	12.7	11.9	10.6	---
Base Number (BN)	mg KOH/g	7.3	10.2	5.8	---
Oxidation (PA)	%	85	77	59	---



## CONTAMINATION

Water	%	NEG	NEG	NEG	---
Soot %	%	0.6	0.2	0.4	---
Nitration (PA)	%	87	63	84	---
Sulfation (PA)	%	66	61	57	---
Glycol	%	NEG	NEG	NEG	---
Fuel	%	<1.0	<1.0	0.3	---
Silicon	ppm	6	8	31	---
Sodium	ppm	<1	<1	5	---
Potassium	ppm	2	<1	4	---



## WEAR METALS

Iron	ppm	20	7	28	---
Copper	ppm	28	97	203	---
Lead	ppm	<1	1	3	---
Tin	ppm	2	2	4	---
Aluminum	ppm	2	2	3	---
Chromium	ppm	<1	<1	<1	---
Molybdenum	ppm	53	51	87	---
Nickel	ppm	2	2	2	---
Titanium	ppm	<1	<1	<1	---
Silver	ppm	0	1	0	---
Manganese	ppm	<1	1	5	---
Vanadium	ppm	0	0	<1	---



## ADDITIVES

Calcium	ppm	1895	1784	2348	---
Magnesium	ppm	489	494	93	---
Zinc	ppm	1202	1177	1222	---
Phosphorus	ppm	914	1019	999	---
Barium	ppm	0	0	0	---
Boron	ppm	42	57	17	---

## Diagnosis

Oil and filter 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 copper level has decreased, but is still abnormal. All other 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.

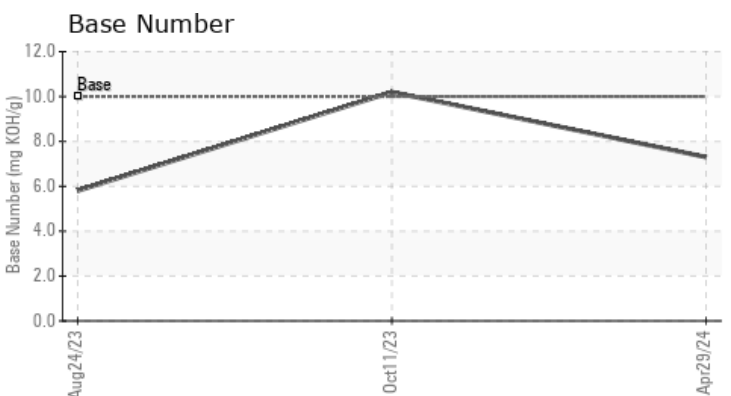
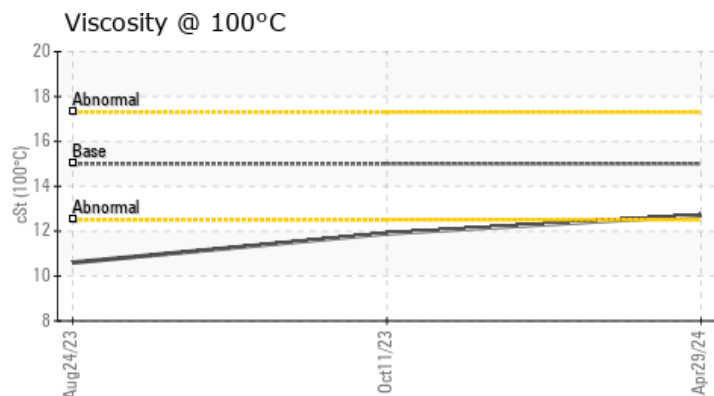
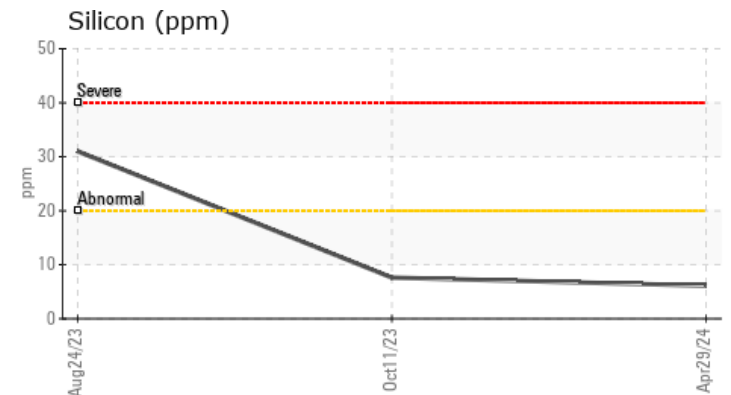
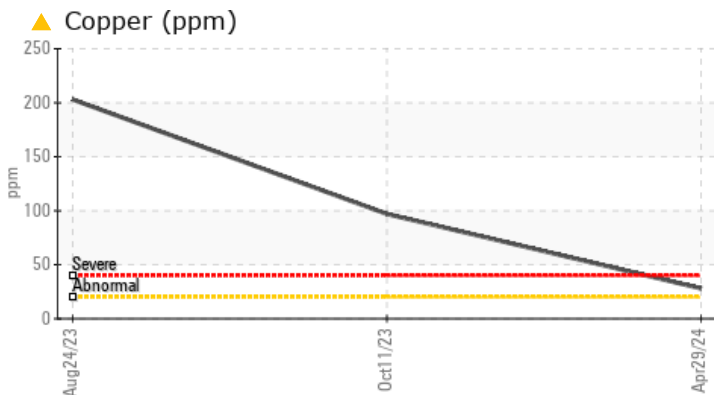
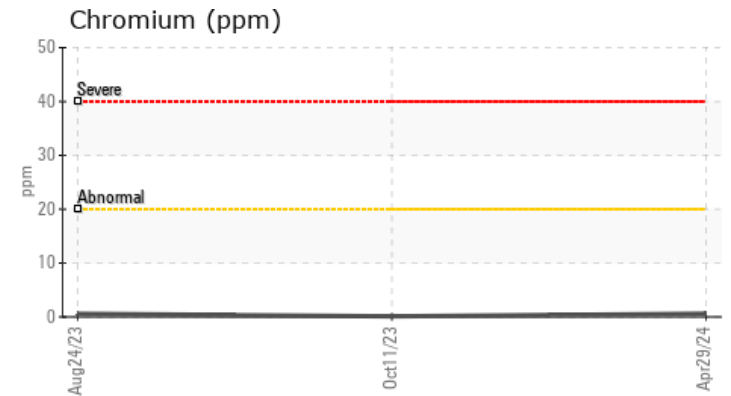
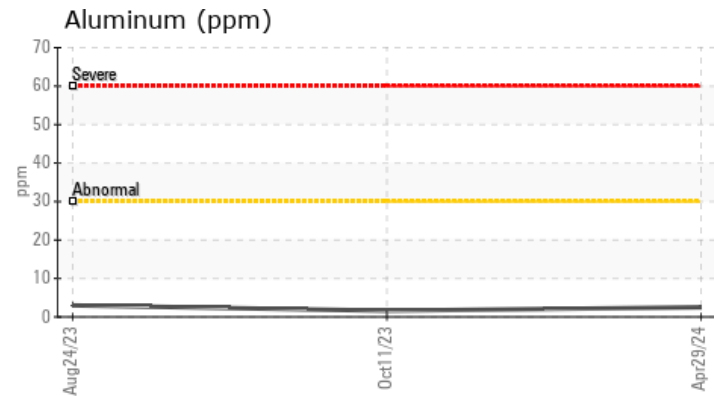
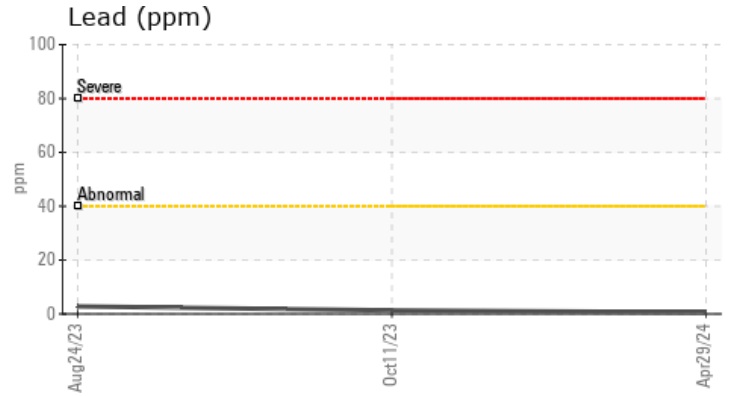
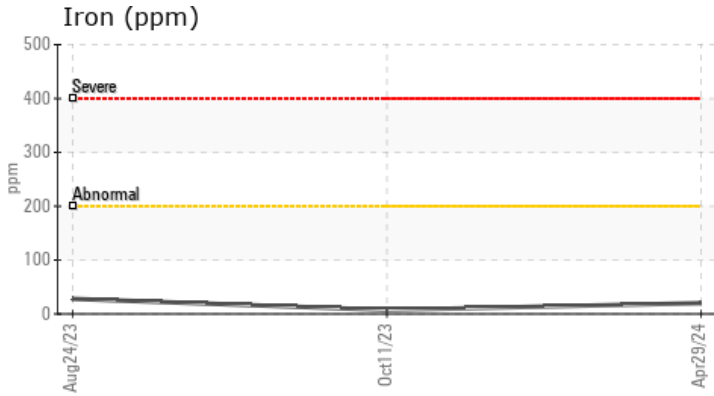
**Depot:** VOLVO0093  
**Unique No:** 11077115  
**Signed:** Don Baldrige  
**Report Date:** 17 Jun 2024



# CONSTRUCTION EQUIPMENT



## GRAPHS





# CONSTRUCTION EQUIPMENT

HERC RENTAL VOLVO A30G 752902 - TRANSMISSION



**Sample No:** VCP437331  
**Oil Type:** VOLVO AUTOMATIC TRANSMISSION FLUID AT102  
**Job No:** HERC RENTAL



ALTA EQUIPMENT/FLAGLER CONSTRUCTION EQUIPMENT LLC  
 8418 PALM RIVER ROAD  
 TAMPA, FL  
 US 33619  
 Contact: KENNY HANEY  
 khaney@flaglerce.com  
 T: (813)630-0077  
 F: (813)630-2233



## SAMPLE INFORMATION

Sample Number	VCP437331	---	---	---
Sample Date	16 Jun 2024	---	---	---
Machine Hours	2093	---	---	---
Oil Hours	0	---	---	---
Oil Changed	Changed	---	---	---
Sample Status	NORMAL	---	---	---



## OIL CONDITION

Visc @ 40°C	cSt	█ 28.7	---	---	---
-------------	-----	--------	-----	-----	-----



## CONTAMINATION

Water	%	NEG	---	---	---
Silicon	ppm	█ 8	---	---	---
Sodium	ppm	█ 4	---	---	---
Potassium	ppm	█ 3	---	---	---



## WEAR METALS

Iron	ppm	█ 29	---	---	---
Copper	ppm	█ 23	---	---	---
Lead	ppm	█ <1	---	---	---
Tin	ppm	█ 5	---	---	---
Aluminum	ppm	█ 20	---	---	---
Chromium	ppm	█ <1	---	---	---
Molybdenum	ppm	█ <1	---	---	---
Nickel	ppm	█ 2	---	---	---
Titanium	ppm	0	---	---	---
Silver	ppm	0	---	---	---
Manganese	ppm	█ 3	---	---	---
Vanadium	ppm	0	---	---	---



## ADDITIVES

Calcium	ppm	█ 70	---	---	---
Magnesium	ppm	█ 3	---	---	---
Zinc	ppm	█ 15	---	---	---
Phosphorus	ppm	█ 185	---	---	---
Barium	ppm	█ 1	---	---	---
Boron	ppm	█ 78	---	---	---

## Diagnosis

Oil and 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 no indication of any contamination in the fluid. The condition of the fluid is acceptable for the time in service.

**Depot:** VOLVO0093  
**Unique No:** 11083472  
**Signed:** Angela Borella  
**Report Date:** 17 Jun 2024

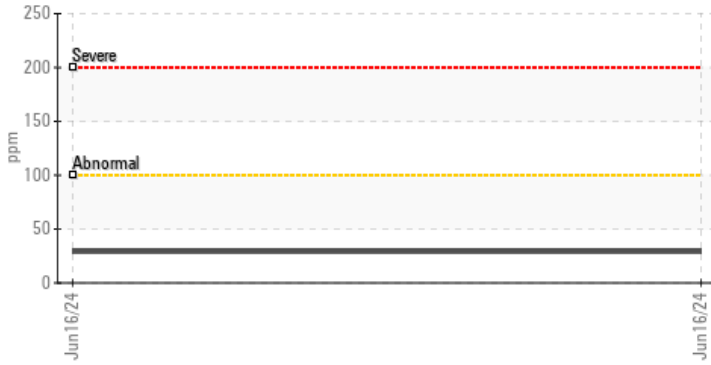


# CONSTRUCTION EQUIPMENT

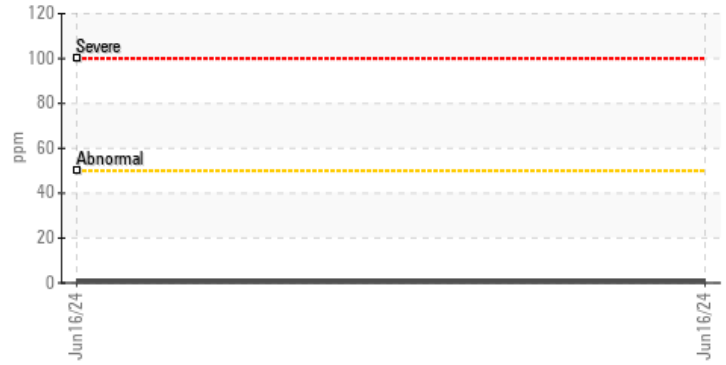


## GRAPHS

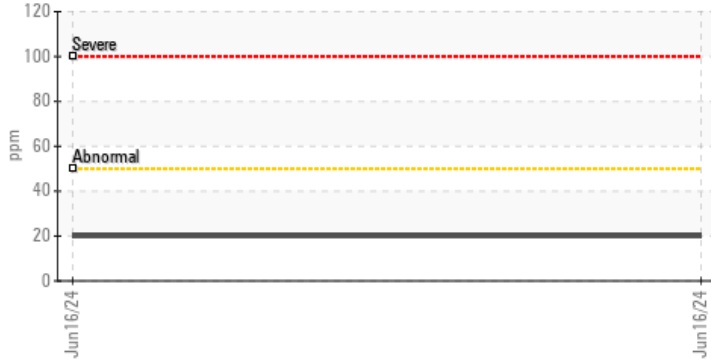
### Iron (ppm)



### Lead (ppm)



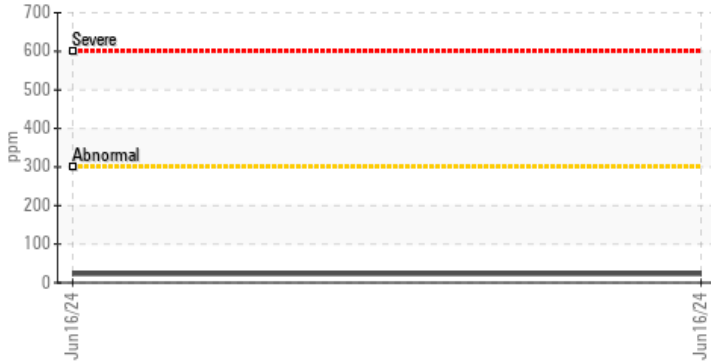
### Aluminum (ppm)



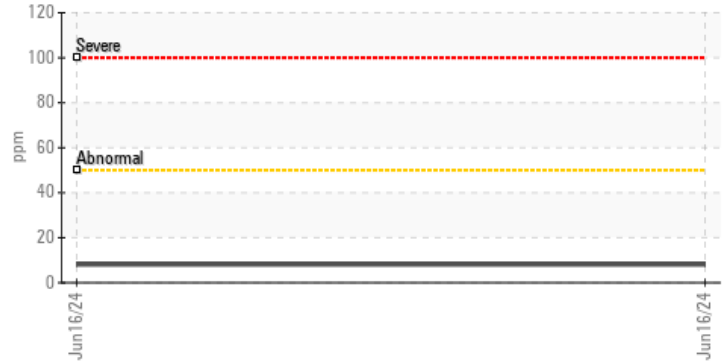
### Chromium (ppm)



### Copper (ppm)



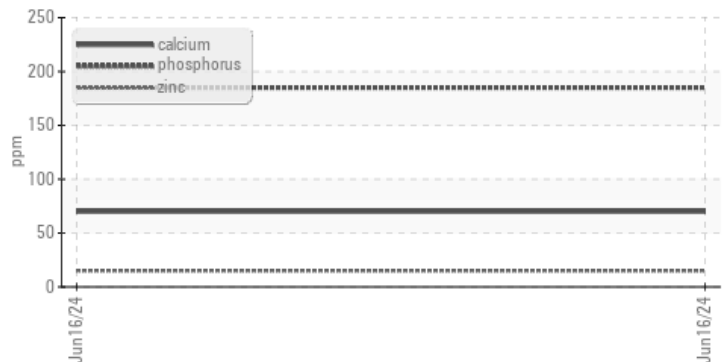
### Silicon (ppm)



### Viscosity @ 40°C



### Additives





# CONSTRUCTION EQUIPMENT

## HERC RENTAL VOLVO A30G 752902 - BRAKE COOLING SYSTEM



**Sample No:** VCP445549  
**Oil Type:** VOLVO WB 101  
**Job No:** HERC RENTAL



ALTA EQUIPMENT/FLAGLER CONSTRUCTION EQUIPMENT LLC  
 8418 PALM RIVER ROAD  
 TAMPA, FL  
 US 33619  
 Contact: KENNY HANEY  
 khaney@flaglerce.com  
 T: (813)630-0077  
 F: (813)630-2233



### SAMPLE INFORMATION

Sample Number	VCP445549	VCP436023	---	---
Sample Date	29 Apr 2024	11 Oct 2023	---	---
Machine Hours	2093	1074	---	---
Oil Hours	0	0	---	---
Oil Changed	Not Chngd	N/A	---	---
Sample Status	ABNORMAL	ABNORMAL	---	---



### OIL CONDITION

Visc @ 40°C	cSt	46.3	44.1	---	---
-------------	-----	------	------	-----	-----



### CONTAMINATION

Water	%	NEG	NEG	---	---
Silicon	ppm	15	14	---	---
Sodium	ppm	2	3	---	---
Potassium	ppm	5	3	---	---



### WEAR METALS

Iron	ppm	11	5	---	---
Copper	ppm	242	202	---	---
Lead	ppm	<1	2	---	---
Tin	ppm	0	<1	---	---
Aluminum	ppm	1	<1	---	---
Chromium	ppm	<1	0	---	---
Molybdenum	ppm	<1	0	---	---
Nickel	ppm	<1	<1	---	---
Titanium	ppm	<1	0	---	---
Silver	ppm	0	0	---	---
Manganese	ppm	1	1	---	---
Vanadium	ppm	0	0	---	---



### ADDITIVES

Calcium	ppm	3766	3624	---	---
Magnesium	ppm	8	8	---	---
Zinc	ppm	1517	1481	---	---
Phosphorus	ppm	1243	1268	---	---
Barium	ppm	2	1	---	---
Boron	ppm	123	127	---	---

### Diagnosis

No corrective action is recommended at this time. Resample at the next service interval to monitor. The copper level is abnormal. All other 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.

**Depot:** VOLVO0093  
**Unique No:** 11083360  
**Signed:** Sean Felton  
**Report Date:** 18 Jun 2024

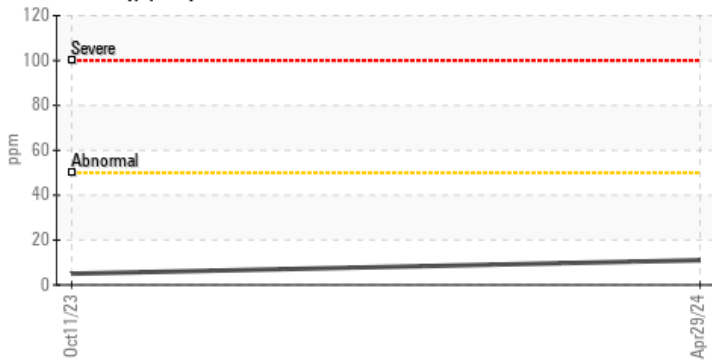


# CONSTRUCTION EQUIPMENT

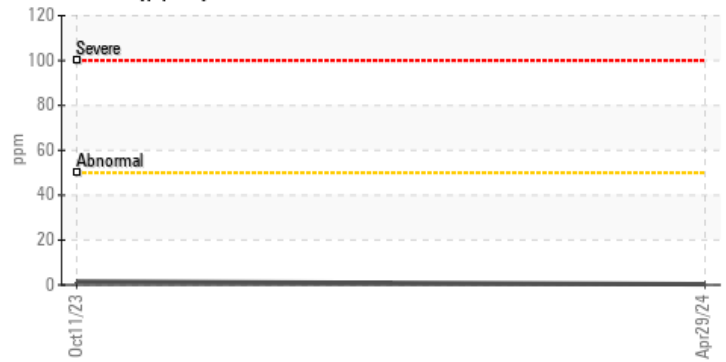


## GRAPHS

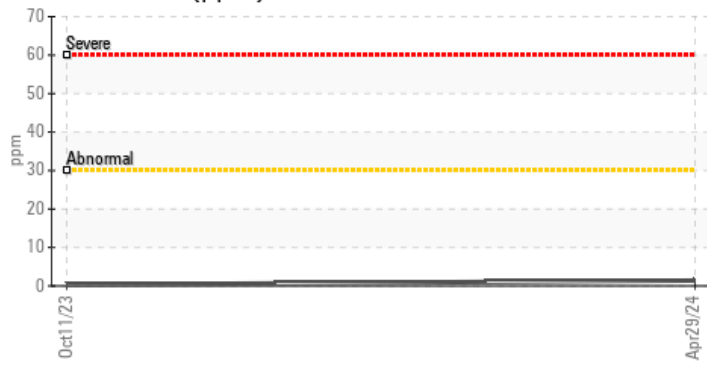
### Iron (ppm)



### Lead (ppm)



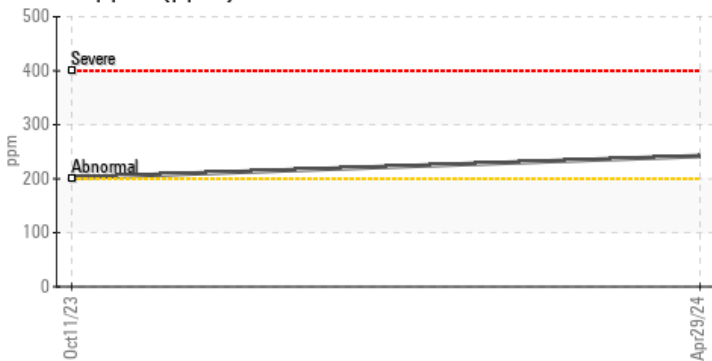
### Aluminum (ppm)



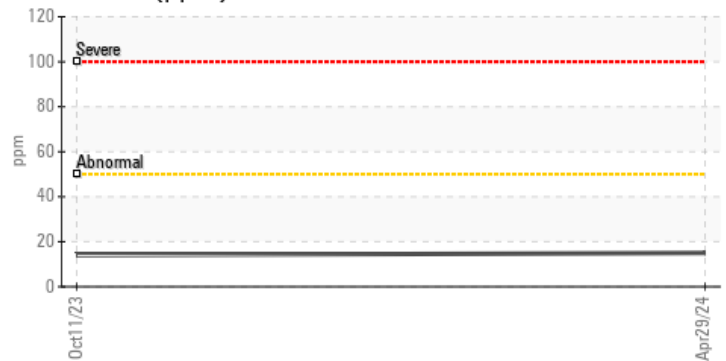
### Chromium (ppm)



### ▲ Copper (ppm)



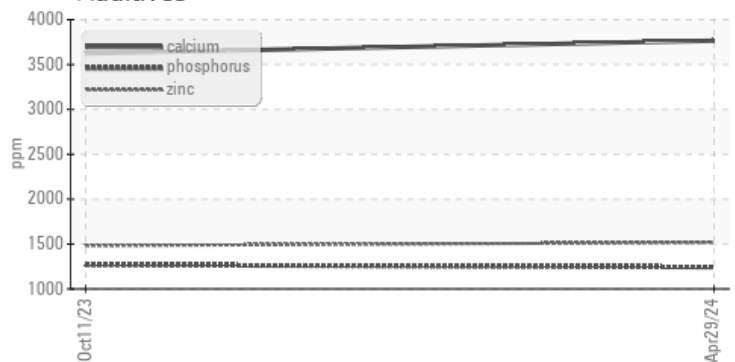
### Silicon (ppm)



### Viscosity @ 40°C



### Additives





# CONSTRUCTION EQUIPMENT

HERC RENTALS VOLVO A30G 752902 - HYDRAULIC SYSTEM



**Sample No:** VCP444777  
**Oil Type:** VOLVO SUPER HYDRAULIC OIL 46  
**Job No:** HERC RENTALS



ALTA EQUIPMENT/FLAGLER CONSTRUCTION EQUIPMENT LLC  
 8418 PALM RIVER ROAD  
 TAMPA, FL  
 US 33619  
 Contact: KENNY HANEY  
 khaney@flaglerce.com  
 T: (813)630-0077  
 F: (813)630-2233



## SAMPLE INFORMATION

Sample Number	VCP444777	VCP436014	---	---
Sample Date	04 Apr 2024	11 Oct 2023	---	---
Machine Hours	2093	1074	---	---
Oil Hours	0	0	---	---
Oil Changed	Not Chngd	N/A	---	---
Sample Status	NORMAL	ABNORMAL	---	---



## OIL CONDITION

Visc @ 40°C	cSt	█ 42.9	43.5	---	---
Acid Number (AN)	mg KOH/g	█ 0.42	---	---	---



## CONTAMINATION

Water	%	NEG	▲ 0.260	---	---
Particles >4µm		█ 2379	---	---	---
Particles >6µm		█ 725	---	---	---
Particles >14µm		█ 74	---	---	---
ISO 4406:1999 (c)		18/17/13	---	---	---
Silicon	ppm	█ 4	█ 5	---	---
Sodium	ppm	█ 1	█ <1	---	---
Potassium	ppm	█ <1	█ <1	---	---



## WEAR METALS

Iron	ppm	█ 6	█ 4	---	---
Copper	ppm	█ 4	█ 4	---	---
Lead	ppm	█ 2	█ 2	---	---
Tin	ppm	█ 0	█ 0	---	---
Aluminum	ppm	█ <1	█ <1	---	---
Chromium	ppm	█ <1	█ 0	---	---
Molybdenum	ppm	█ 0	█ 0	---	---
Nickel	ppm	█ 0	█ 0	---	---
Titanium	ppm	0	█ <1	---	---
Silver	ppm	0	0	---	---
Manganese	ppm	█ 0	█ 0	---	---
Vanadium	ppm	<1	0	---	---



## ADDITIVES

Calcium	ppm	█ 65	█ 30	---	---
Magnesium	ppm	█ 0	█ 0	---	---
Zinc	ppm	█ 459	█ 414	---	---
Phosphorus	ppm	█ 352	█ 311	---	---
Barium	ppm	█ 0	█ 0	---	---
Boron	ppm	█ 0	█ 0	---	---

## Diagnosis

Resample at the next service interval to monitor. All component wear rates are normal. The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

**Depot:** VOLVO0093  
**Unique No:** 11082865  
**Signed:** Wes Davis  
**Report Date:** 17 Jun 2024

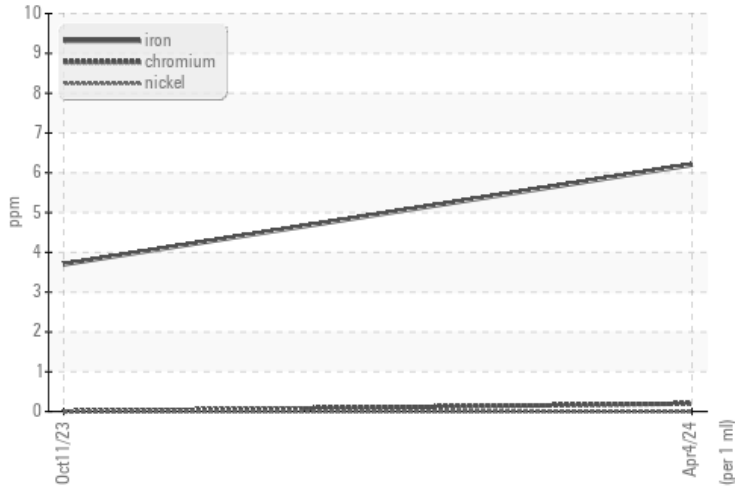


# CONSTRUCTION EQUIPMENT

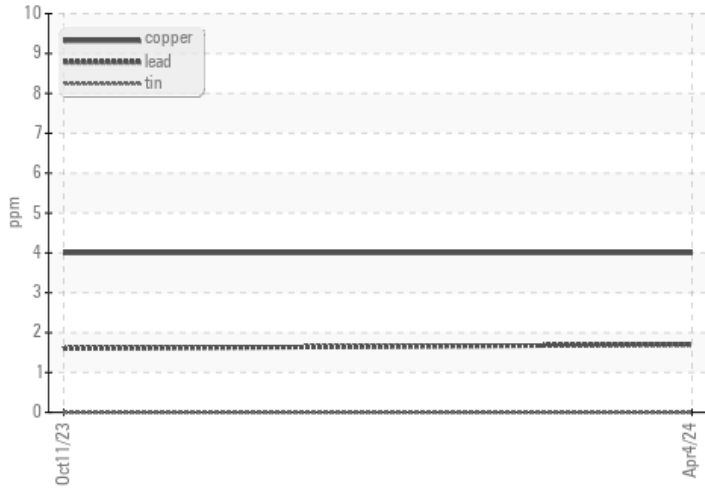


## GRAPHS

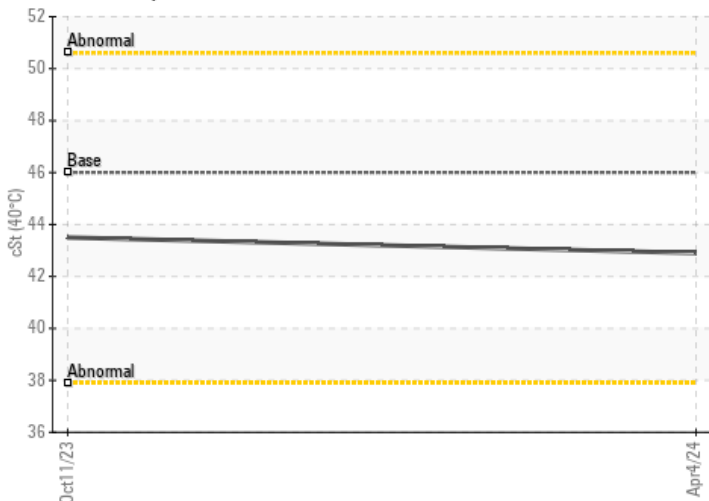
### Ferrous Alloys



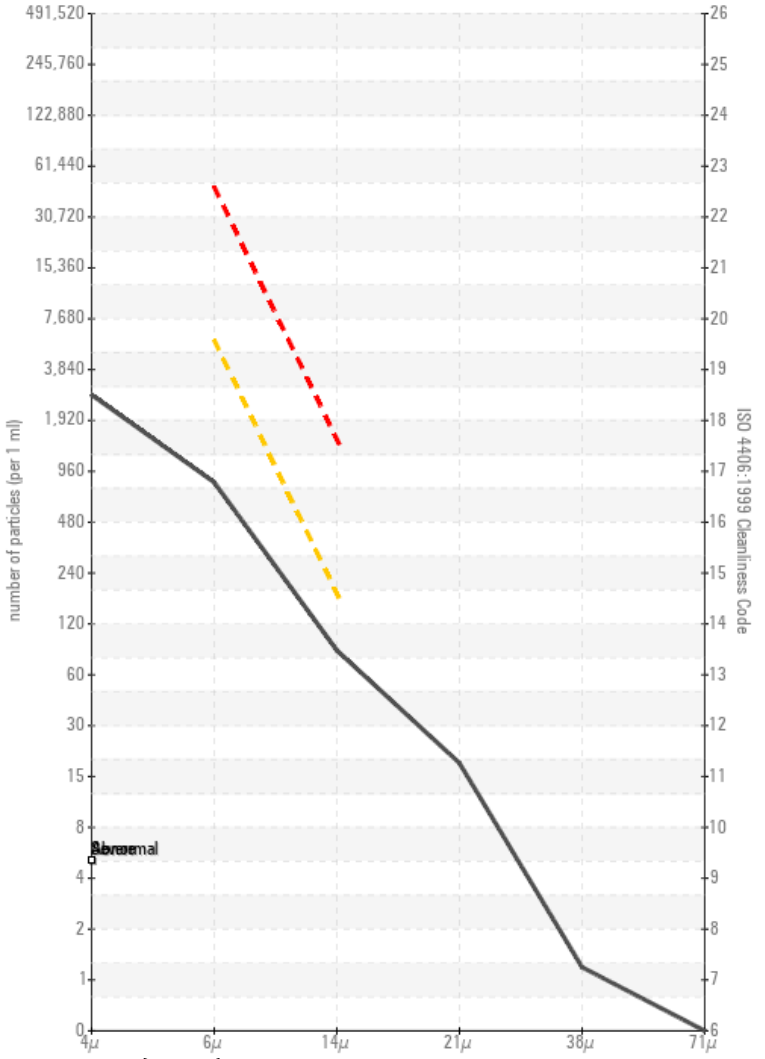
### Non-ferrous Metals



### Viscosity @ 40°C



### Particle Count



### Acid Number







# CONSTRUCTION EQUIPMENT

HERC VOLVO A30G 752902 - FRONT AXLE



**Sample No:** VCP445540  
**Oil Type:** VOLVO PREMIUM GEAR OIL 85W-140 GL-5  
**Job No:** HERC



## SAMPLE INFORMATION

Sample Number	VCP445540	VCP426215	---	---
Sample Date	29 Apr 2024	24 Aug 2023	---	---
Machine Hours	2093	532	---	---
Oil Hours	0	0	---	---
Oil Changed	Changed	Not Changd	---	---
Sample Status	NORMAL	NORMAL	---	---

ALTA EQUIPMENT/FLAGLER CONSTRUCTION EQUIPMENT LLC  
 8418 PALM RIVER ROAD  
 TAMPA, FL  
 US 33619  
 Contact: KENNY HANEY  
 khaney@flaglerce.com  
 T: (813)630-0077  
 F: (813)630-2233



## OIL CONDITION

Visc @ 40°C	cSt	█ 232	█ 92.1	---	---
-------------	-----	-------	--------	-----	-----



## CONTAMINATION

Water	%	NEG	NEG	---	---
Silicon	ppm	█ 10	█ 6	---	---
Sodium	ppm	█ 0	█ 2	---	---
Potassium	ppm	█ 2	█ 4	---	---



## WEAR METALS

Iron	ppm	█ 110	█ 237	---	---
Copper	ppm	█ 5	█ 17	---	---
Lead	ppm	█ <1	█ 0	---	---
Tin	ppm	█ <1	█ <1	---	---
Aluminum	ppm	█ 1	█ 2	---	---
Chromium	ppm	█ 2	█ 5	---	---
Molybdenum	ppm	█ 5	9	---	---
Nickel	ppm	█ 1	█ 3	---	---
Titanium	ppm	<1	<1	---	---
Silver	ppm	0	<1	---	---
Manganese	ppm	█ 2	8	---	---
Vanadium	ppm	0	<1	---	---



## ADDITIVES

Calcium	ppm	█ 204	786	---	---
Magnesium	ppm	█ 43	0	---	---
Zinc	ppm	█ 141	318	---	---
Phosphorus	ppm	█ 955	1294	---	---
Barium	ppm	█ 0	0	---	---
Boron	ppm	█ 132	223	---	---

## 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.

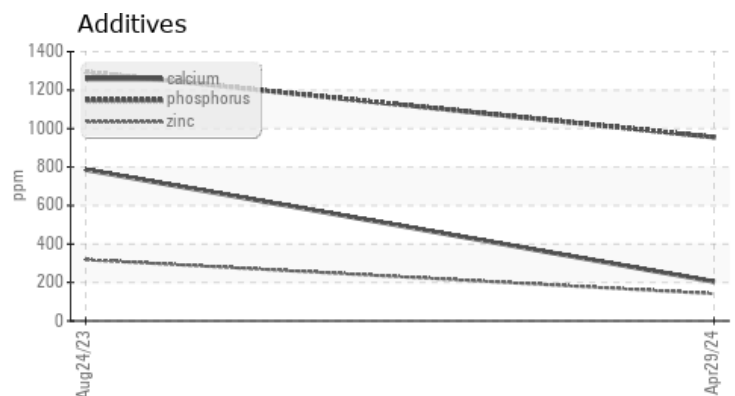
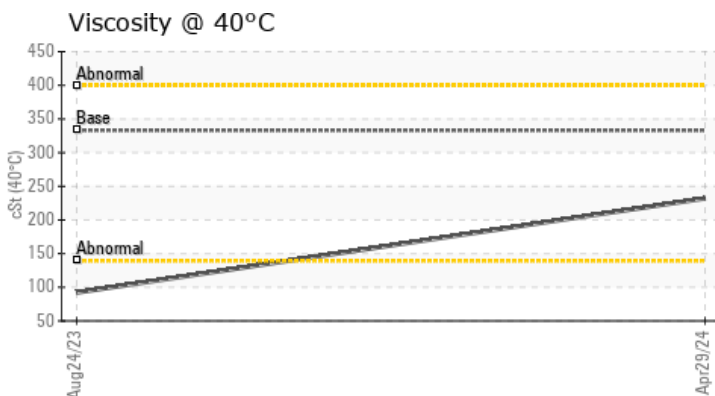
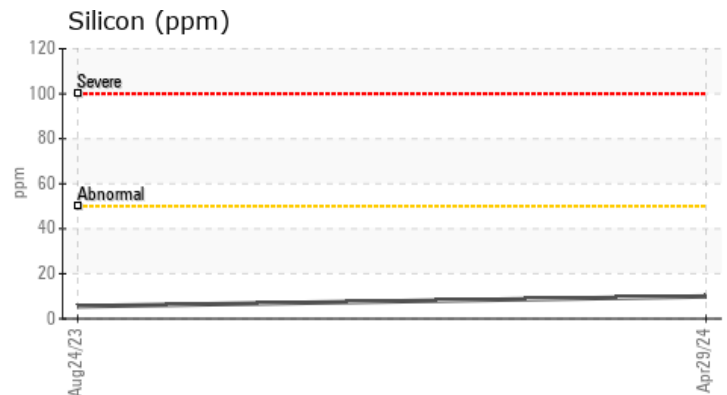
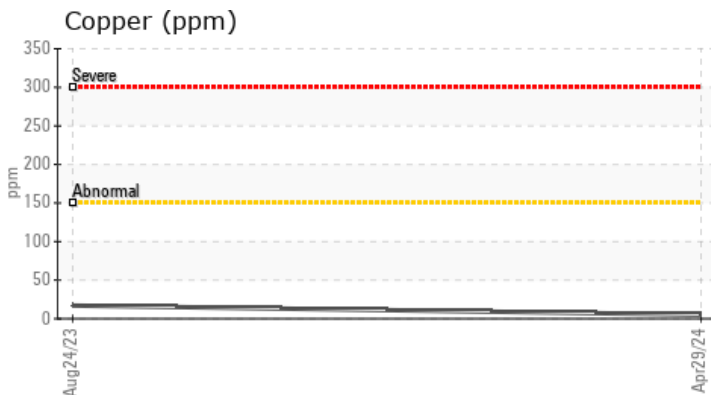
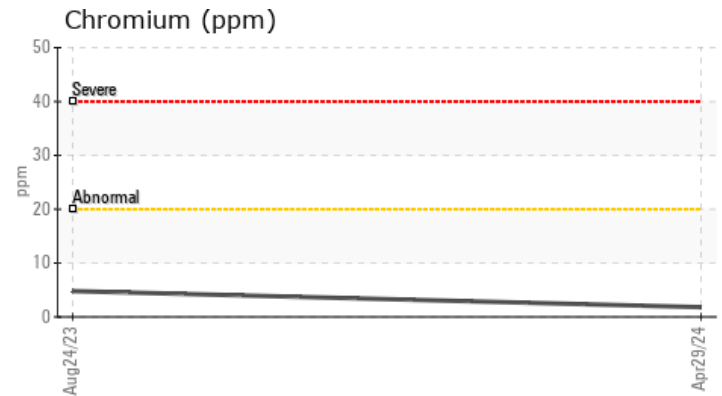
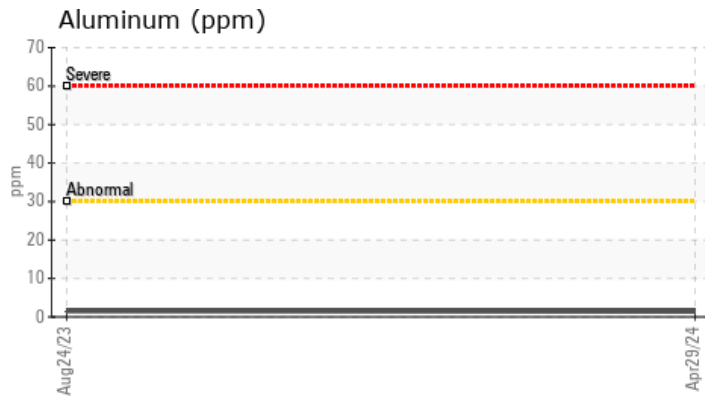
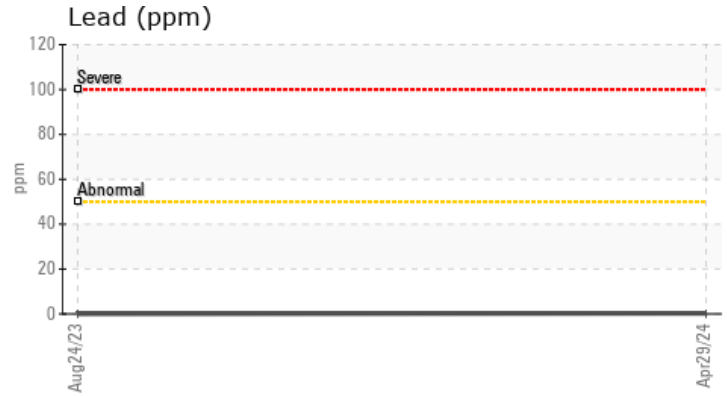
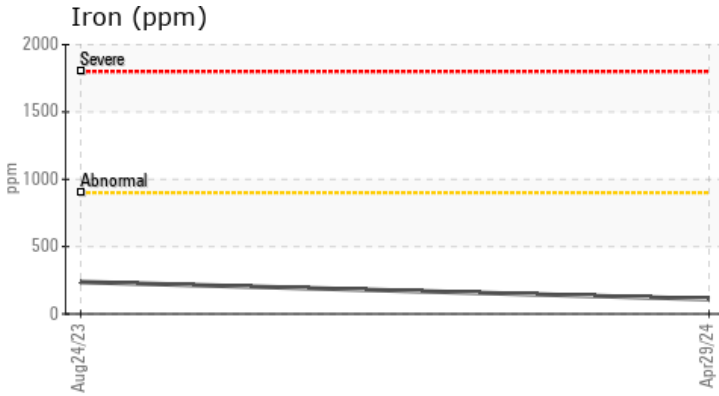
**Depot:** VOLVO0093  
**Unique No:** 11083368  
**Signed:** Wes Davis  
**Report Date:** 17 Jun 2024



# CONSTRUCTION EQUIPMENT



## GRAPHS





# CONSTRUCTION EQUIPMENT

HERC RENTAL VOLVO A30G 752902 - BOGIE/CENTER AXLE



**Sample No:** VCP437334  
**Oil Type:** VOLVO PREMIUM GEAR OIL 85W-140 GL-5  
**Job No:** HERC RENTAL



ALTA EQUIPMENT/FLAGLER CONSTRUCTION EQUIPMENT LLC  
 8418 PALM RIVER ROAD  
 TAMPA, FL  
 US 33619  
 Contact: KENNY HANEY  
 khaney@flaglerce.com  
 T: (813)630-0077  
 F: (813)630-2233



## SAMPLE INFORMATION

Sample Number	VCP437334	---	---	---
Sample Date	09 Apr 2024	---	---	---
Machine Hours	2093	---	---	---
Oil Hours	0	---	---	---
Oil Changed	Not Chngd	---	---	---
Sample Status	NORMAL	---	---	---



## OIL CONDITION

Visc @ 40°C	cSt	█ 221	---	---	---
-------------	-----	-------	-----	-----	-----



## CONTAMINATION

Water	%	NEG	---	---	---
Silicon	ppm	█ 7	---	---	---
Sodium	ppm	█ <1	---	---	---
Potassium	ppm	█ 2	---	---	---



## WEAR METALS

Iron	ppm	█ 105	---	---	---
Copper	ppm	█ 4	---	---	---
Lead	ppm	█ <1	---	---	---
Tin	ppm	█ <1	---	---	---
Aluminum	ppm	█ 1	---	---	---
Chromium	ppm	█ 2	---	---	---
Molybdenum	ppm	█ 5	---	---	---
Nickel	ppm	█ 1	---	---	---
Titanium	ppm	<1	---	---	---
Silver	ppm	0	---	---	---
Manganese	ppm	█ 2	---	---	---
Vanadium	ppm	0	---	---	---



## ADDITIVES

Calcium	ppm	█ 398	---	---	---
Magnesium	ppm	█ 45	---	---	---
Zinc	ppm	█ 228	---	---	---
Phosphorus	ppm	█ 1097	---	---	---
Barium	ppm	█ 0	---	---	---
Boron	ppm	█ 161	---	---	---

## 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.

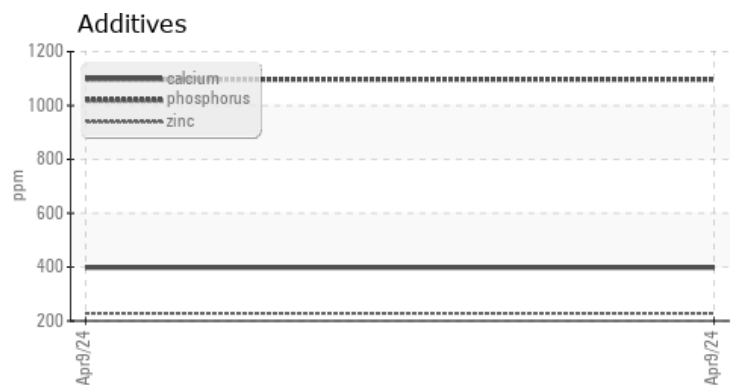
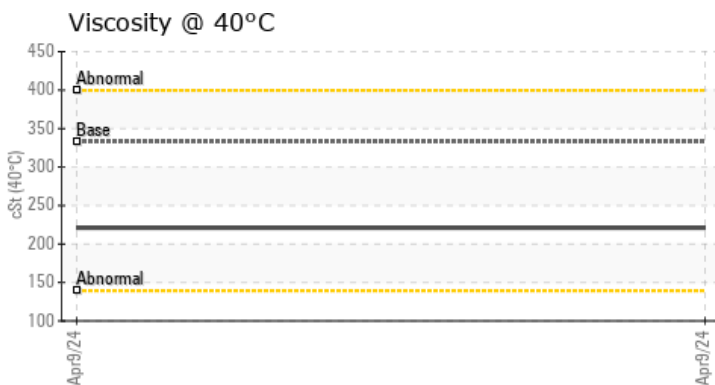
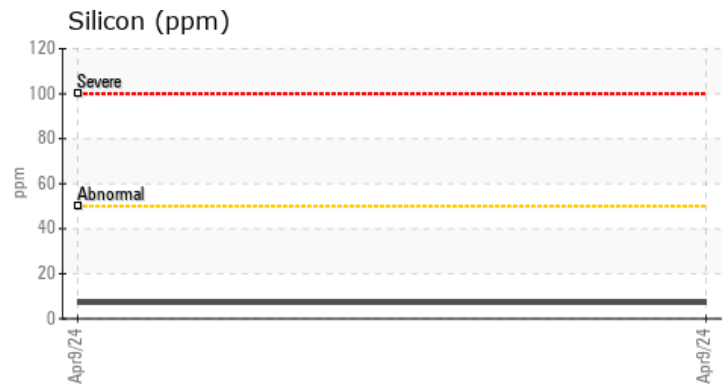
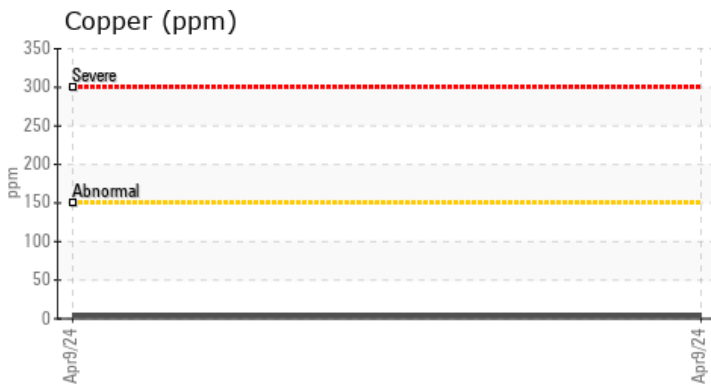
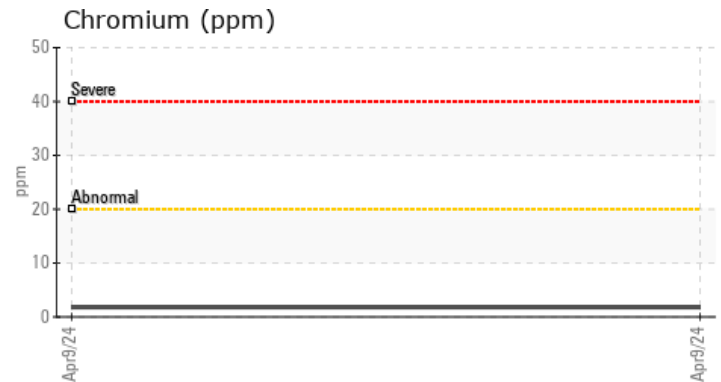
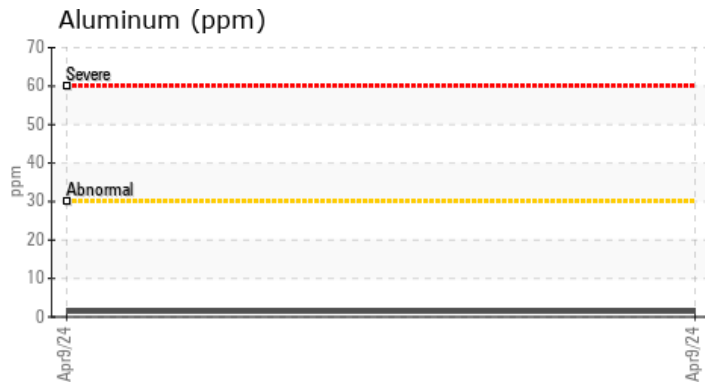
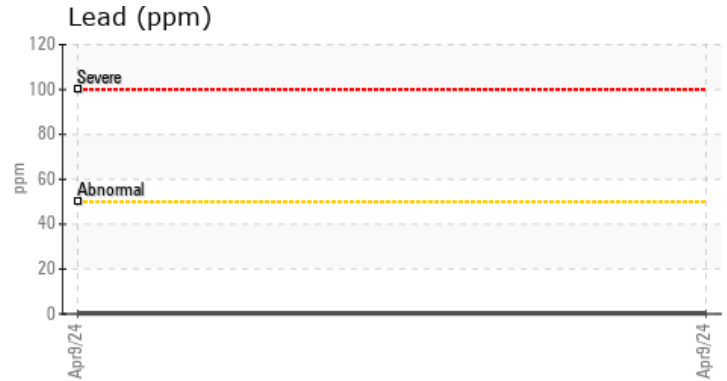
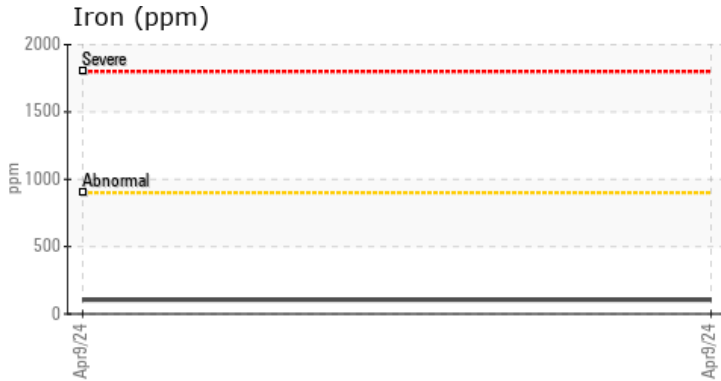
**Depot:** VOLVO0093  
**Unique No:** 11083366  
**Signed:** Wes Davis  
**Report Date:** 17 Jun 2024



# CONSTRUCTION EQUIPMENT



## GRAPHS





# CONSTRUCTION EQUIPMENT

## HERC VOLVO A30G 752902 - REAR AXLE



**Sample No:** VCP436018  
**Oil Type:** VOLVO PREMIUM GEAR OIL 85W-140 GL-5  
**Job No:** HERC



### SAMPLE INFORMATION

Sample Number	<b>VCP436018</b>	VCP426217	VCP426216	---
Sample Date	<b>11 Oct 2023</b>	24 Aug 2023	24 Aug 2023	---
Machine Hours	<b>1074</b>	532	532	---
Oil Hours	<b>0</b>	0	0	---
Oil Changed	<b>N/A</b>	Changed	Changed	---
Sample Status	<b>NORMAL</b>	NORMAL	NORMAL	---

ALTA EQUIPMENT/FLAGLER CONSTRUCTION EQUIPMENT LLC  
 8418 PALM RIVER ROAD  
 TAMPA, FL  
 US 33619  
 Contact: KENNY HANEY  
 khaney@flaglerce.com  
 T: (813)630-0077  
 F: (813)630-2233



### OIL CONDITION

Visc @ 40°C	cSt	<b>251</b>	91.4	92.0	---
-------------	-----	------------	------	------	-----



### CONTAMINATION

Silicon	ppm	<b>10</b>	5	6	---
Sodium	ppm	<b>0</b>	2	2	---
Potassium	ppm	<b>1</b>	4	4	---

### 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>99</b>	259	261	---
Copper	ppm	<b>3</b>	13	16	---
Lead	ppm	<b>&lt;1</b>	0	0	---
Tin	ppm	<b>&lt;1</b>	<1	<1	---
Aluminum	ppm	<b>&lt;1</b>	<1	2	---
Chromium	ppm	<b>2</b>	5	5	---
Molybdenum	ppm	<b>3</b>	11	11	---
Nickel	ppm	<b>1</b>	3	4	---
Titanium	ppm	<b>0</b>	<1	<1	---
Silver	ppm	<b>0</b>	0	0	---
Manganese	ppm	<b>3</b>	9	9	---
Vanadium	ppm	<b>0</b>	<1	<1	---



### ADDITIVES

Calcium	ppm	<b>140</b>	747	819	---
Magnesium	ppm	<b>13</b>	0	<1	---
Zinc	ppm	<b>91</b>	295	338	---
Phosphorus	ppm	<b>1028</b>	1374	1370	---
Barium	ppm	<b>0</b>	0	0	---
Boron	ppm	<b>100</b>	251	250	---

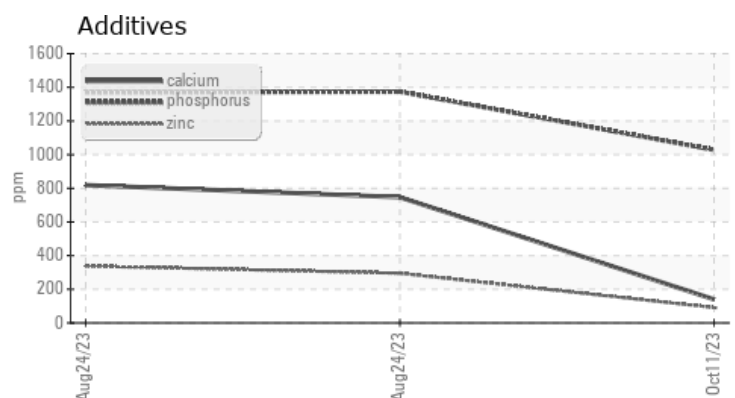
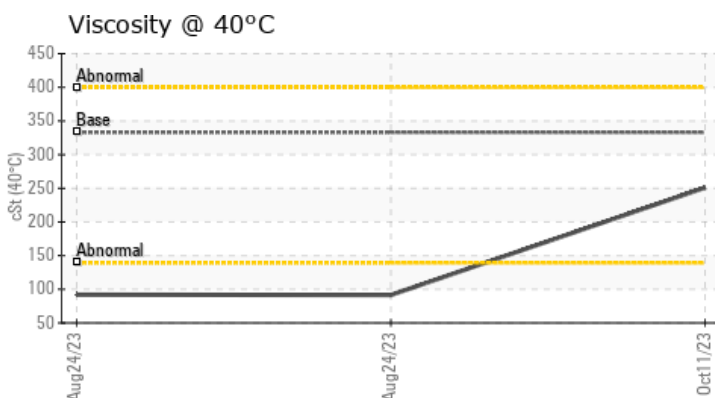
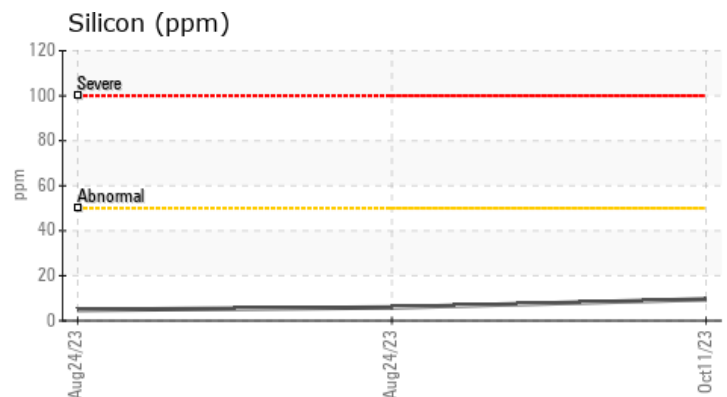
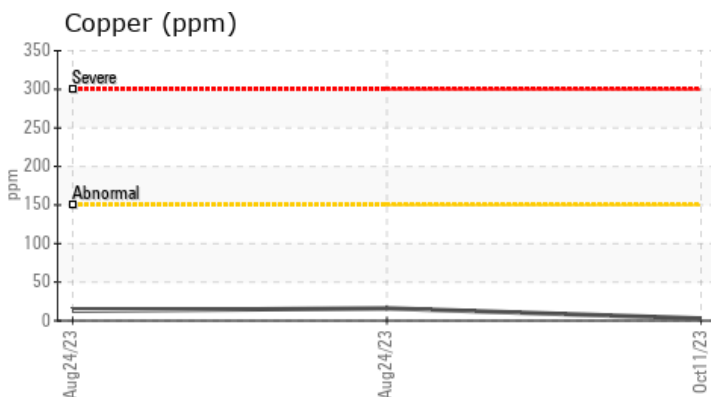
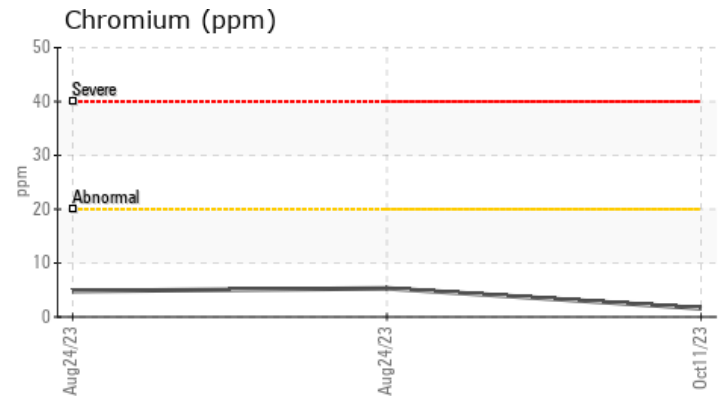
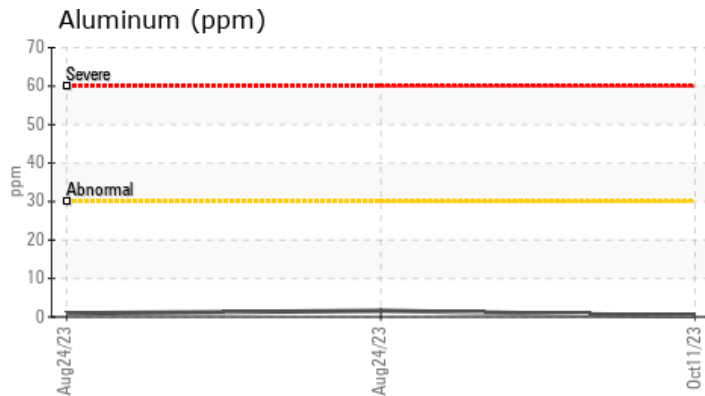
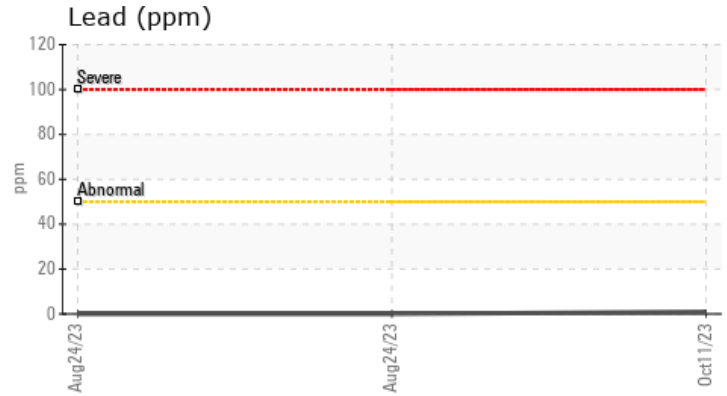
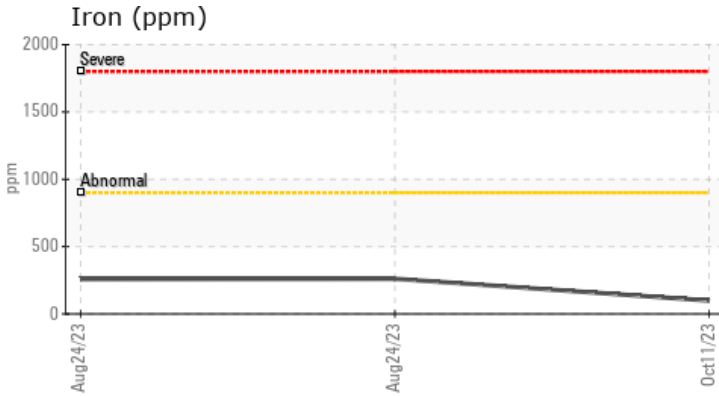
**Depot:** VOLVO0093  
**Unique No:** 10739712  
**Signed:** Wes Davis  
**Report Date:** 14 Nov 2023



# CONSTRUCTION EQUIPMENT



## GRAPHS





# CONSTRUCTION EQUIPMENT

HERC RENTAL VOLVO A30G 752902 - DROP BOX



**Sample No:** VCP437067  
**Oil Type:** VOLVO PREMIUM GEAR OIL 85W-140 GL-5  
**Job No:** HERC RENTAL



ALTA EQUIPMENT/FLAGLER CONSTRUCTION EQUIPMENT LLC  
 8418 PALM RIVER ROAD  
 TAMPA, FL  
 US 33619  
 Contact: KENNY HANEY  
 khaney@flaglerce.com  
 T: (813)630-0077  
 F: (813)630-2233



## SAMPLE INFORMATION

Sample Number	VCP437067	---	---	---
Sample Date	29 Apr 2024	---	---	---
Machine Hours	2093	---	---	---
Oil Hours	0	---	---	---
Oil Changed	Not Chngd	---	---	---
Sample Status	NORMAL	---	---	---



## OIL CONDITION

Visc @ 40°C	cSt	█ 60.3	---	---	---
-------------	-----	--------	-----	-----	-----



## CONTAMINATION

Water	%	NEG	---	---	---
Silicon	ppm	█ 33	---	---	---
Sodium	ppm	█ 5	---	---	---
Potassium	ppm	█ 2	---	---	---



## WEAR METALS

Iron	ppm	█ 98	---	---	---
Copper	ppm	█ 2	---	---	---
Lead	ppm	█ <1	---	---	---
Tin	ppm	█ <1	---	---	---
Aluminum	ppm	█ 9	---	---	---
Chromium	ppm	█ 1	---	---	---
Molybdenum	ppm	█ 10	---	---	---
Nickel	ppm	█ <1	---	---	---
Titanium	ppm	<1	---	---	---
Silver	ppm	0	---	---	---
Manganese	ppm	█ 2	---	---	---
Vanadium	ppm	0	---	---	---



## ADDITIVES

Calcium	ppm	█ 107	---	---	---
Magnesium	ppm	█ 4	---	---	---
Zinc	ppm	█ 88	---	---	---
Phosphorus	ppm	█ 2037	---	---	---
Barium	ppm	█ <1	---	---	---
Boron	ppm	█ 148	---	---	---

## 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.

**Depot:** VOLVO0093  
**Unique No:** 11083354  
**Signed:** Sean Felton  
**Report Date:** 18 Jun 2024



# CONSTRUCTION EQUIPMENT



## GRAPHS

