



# CONSTRUCTION EQUIPMENT

## SWA401361-10 VOLVO L220H 3195 - HYDRAULIC SYSTEM



**Sample No:** VCP432408  
**Oil Type:** VOLVO SUPER HYDRAULIC OIL 46  
**Job No:** SWA401361-10



### SAMPLE INFORMATION

Sample Number	<b>VCP432408</b>	VCP418710	VCP390233	VCP373355
Sample Date	<b>29 Oct 2023</b>	21 Aug 2023	01 Nov 2022	20 Jun 2022
Machine Hours	<b>11063</b>	10636	8642	7036
Oil Hours	<b>0</b>	0	0	0
Oil Changed	<b>Not Chngd</b>	Not Chngd	Not Chngd	Not Chngd
Sample Status	<b>ABNORMAL</b>	ABNORMAL	ATTENTION	ABNORMAL

**CALLANAN INDUSTRIES**  
 93 SULLIVAN RD  
 MONTICELLO, NY  
 US 12701  
 Contact: Service Manager

### OIL CONDITION

Visc @ 40°C	cSt	<b>▲ 36.9</b>	▲ 37.1	▲ 36.6	▲ 37.03
Acid Number (AN)	mg KOH/g	<b>■ 0.536</b>	■ 0.67	■ 0.53	■ 0.41

T:  
F:

### CONTAMINATION

Water	%	<b>NEG</b>	NEG	NEG	NEG
Particles >4µm		<b>▲ 18534</b>	■ 4451	■ 3584	<b>▲ 11437</b>
Particles >6µm		<b>▲ 2212</b>	■ 703	■ 181	<b>▲ 2351</b>
Particles >14µm		<b>■ 96</b>	■ 65	■ 16	■ 134
ISO 4406:1999 (c)		<b>21/18/14</b>	19/17/13	19/15/11	21/18/14
Silicon	ppm	<b>▲ 25</b>	▲ 26	■ 20	■ 17
Sodium	ppm	<b>■ 3</b>	■ 4	■ 4	■ 4
Potassium	ppm	<b>■ 7</b>	■ 6	■ 3	■ 4

### Diagnosis

We advise that you check all areas where dirt can enter the system. Resample at the next service interval to monitor. All component wear rates are normal. There is a high amount of silt (particulates < 14 microns in size) present in the oil. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. The oil viscosity is lower than normal. Confirm oil type. The AN level is acceptable for this fluid.

### WEAR METALS

Iron	ppm	<b>■ 30</b>	■ 29	■ 27	■ 24
Copper	ppm	<b>■ 3</b>	■ 3	■ 3	■ 4
Lead	ppm	<b>■ 1</b>	■ <1	■ 2	■ 1
Tin	ppm	<b>■ 0</b>	■ 0	■ <1	■ <1
Aluminum	ppm	<b>▲ 15</b>	▲ 15	■ 13	■ 12
Chromium	ppm	<b>■ 2</b>	■ 1	■ 1	■ 1
Molybdenum	ppm	<b>■ 2</b>	■ 2	■ 1	■ <1
Nickel	ppm	<b>■ 0</b>	■ 0	■ 0	■ 0
Titanium	ppm	<b>2</b>	2	1	<1
Silver	ppm	<b>0</b>	0	0	0
Manganese	ppm	<b>■ &lt;1</b>	■ <1	■ <1	■ <1
Vanadium	ppm	<b>0</b>	<1	0	0

### ADDITIVES

Calcium	ppm	<b>■ 709</b>	■ 791	■ 347	■ 217
Magnesium	ppm	<b>■ 30</b>	■ 31	■ 15	■ 9
Zinc	ppm	<b>■ 610</b>	■ 611	■ 487	■ 468
Phosphorus	ppm	<b>■ 475</b>	■ 497	■ 401	■ 372
Barium	ppm	<b>■ 0</b>	■ 0	■ 0	■ 0
Boron	ppm	<b>■ 19</b>	■ 23	■ 10	■ 10

**Depot:** CALMONNY  
**Unique No:** 10803724  
**Signed:** Don Baldrige  
**Report Date:** 26 Dec 2023

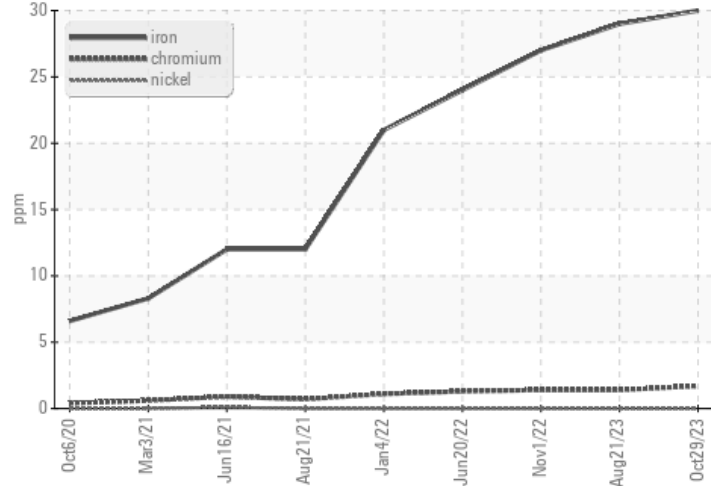


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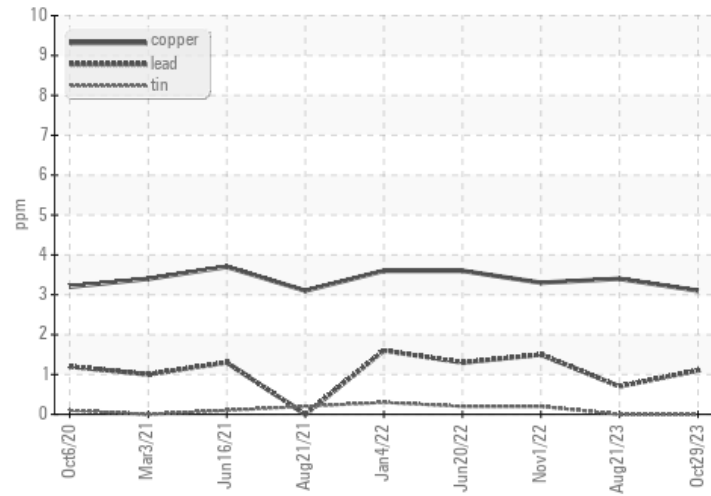


## GRAPHS

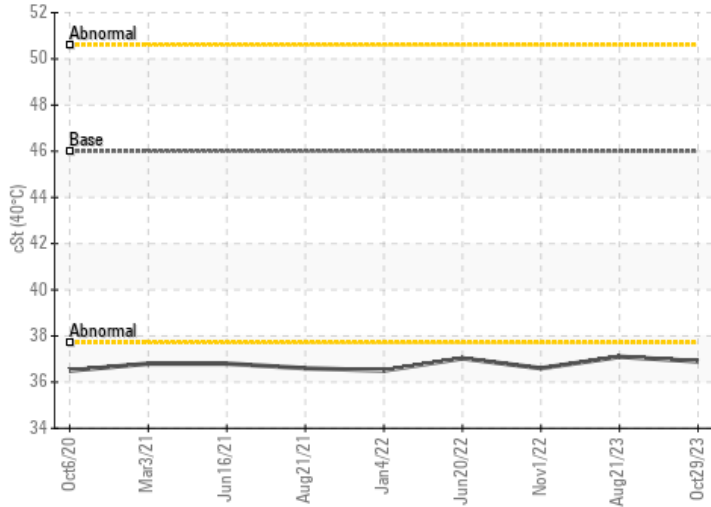
### Ferrous Alloys



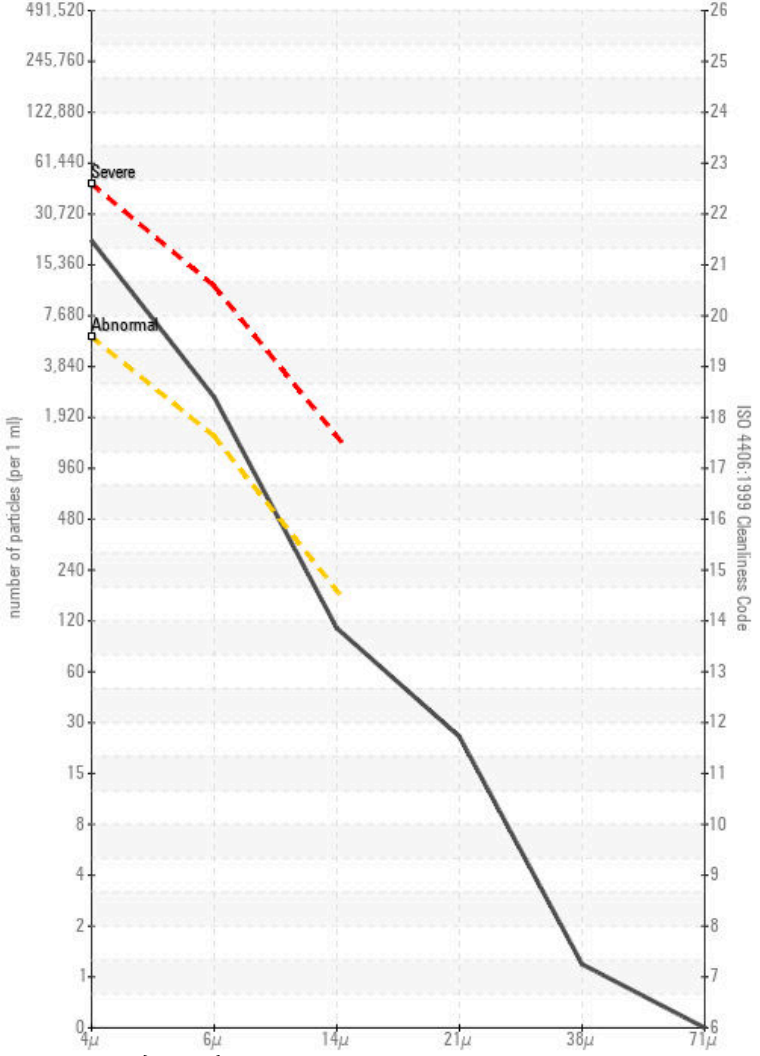
### Non-ferrous Metals



### Viscosity @ 40°C



### Particle Count



### Acid Number

