



CONSTRUCTION EQUIPMENT

580221 VOLVO L110H 631108 - HYDRAULIC SYSTEM



Sample No: VCP422694
Oil Type: VOLVO SUPER HYDRAULIC OIL 46
Job No: 580221



SAMPLE INFORMATION

Sample Number	VCP422694	VCP385306	VCP310936	VCP293544
Sample Date	20 Jul 2023	27 Oct 2022	29 Jun 2021	19 Dec 2020
Machine Hours	12148	11060	9223	7981
Oil Hours	4000	3000	1223	4000
Oil Changed	Changed	Not Chngd	Not Chngd	Changed
Sample Status	ABNORMAL	ABNORMAL	ATTENTION	ATTENTION

RIPA AND ASSOCIATES

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



OIL CONDITION

Visc @ 40°C	cSt	▲ 53.9	▲ 53.4	■ 49.8	■ 51.4
Acid Number (AN)	mg KOH/g	■ 0.38	■ 0.36	■ 0.397	■ 0.338



CONTAMINATION

Particles >4µm		59439	69659	11007	23648
Particles >6µm		▲ 9618	▲ 17034	■ 1776	■ 1198
Particles >14µm		▲ 719	▲ 1888	▲ 140	▲ 109
ISO 4406:1999 (c)		23/20/17	23/21/18	21/18/14	22/17/14
Silicon	ppm	■ 4	■ 3	■ 2	■ 4
Sodium	ppm	■ 2	■ 1	■ 1	■ 1
Potassium	ppm	■ 0	■ 0	■ <1	■ <1

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 a high amount of particulates present in the oil. The oil viscosity is higher than normal. The AN level is acceptable for this fluid.



WEAR METALS

Iron	ppm	■ 12	■ 10	■ 8	■ 18
Copper	ppm	■ 2	■ 2	■ 2	■ 4
Lead	ppm	■ <1	■ 1	■ <1	■ 1
Tin	ppm	■ 0	■ 0	■ <1	■ <1
Aluminum	ppm	■ 2	■ <1	■ <1	■ <1
Chromium	ppm	■ 2	■ 2	■ 1	■ 2
Molybdenum	ppm	■ 2	■ 2	■ 1	■ 2
Nickel	ppm	■ 0	■ 0	■ 0	■ 0
Titanium	ppm	0	0	0	0
Silver	ppm	0	0	0	0
Manganese	ppm	■ <1	■ 0	■ 0	■ <1
Vanadium	ppm	<1	0	0	0



ADDITIVES

Calcium	ppm	■ 121	■ 130	■ 115	■ 102
Magnesium	ppm	■ 8	■ 10	■ 6	■ 9
Zinc	ppm	■ 450	■ 440	■ 466	■ 423
Phosphorus	ppm	■ 369	■ 363	■ 360	■ 311
Barium	ppm	■ 0	■ 0	■ 0	■ 0
Boron	ppm	■ <1	■ 4	■ 5	■ 4

Depot: RIPTAM
Unique No: 10602069
Signed: Angela Borella
Report Date: 14 Aug 2023

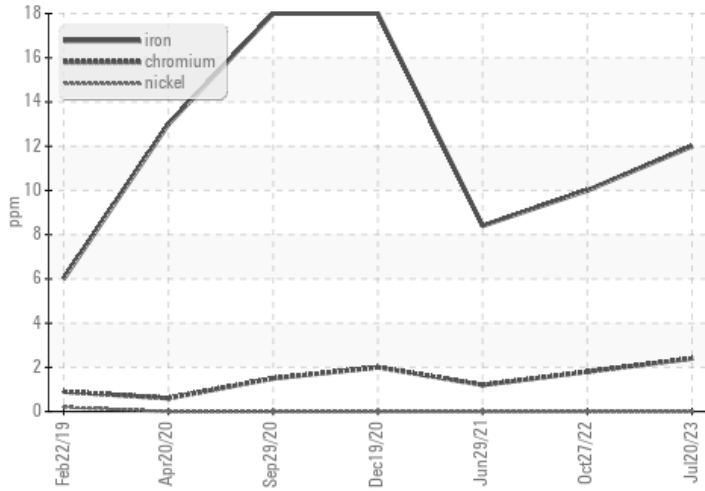


CONSTRUCTION EQUIPMENT

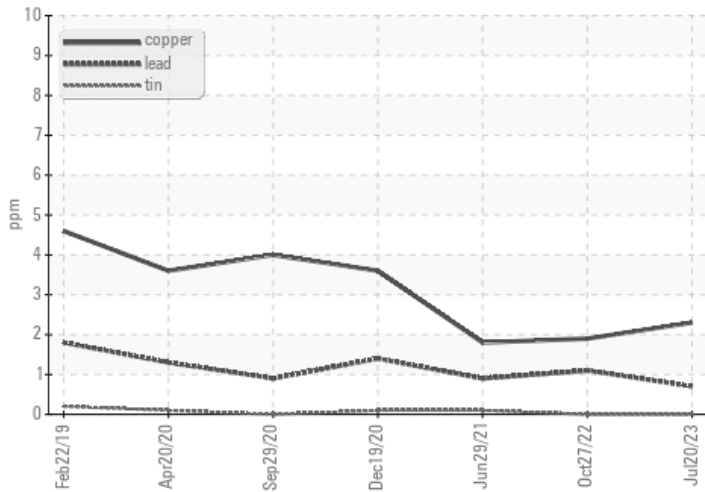


GRAPHS

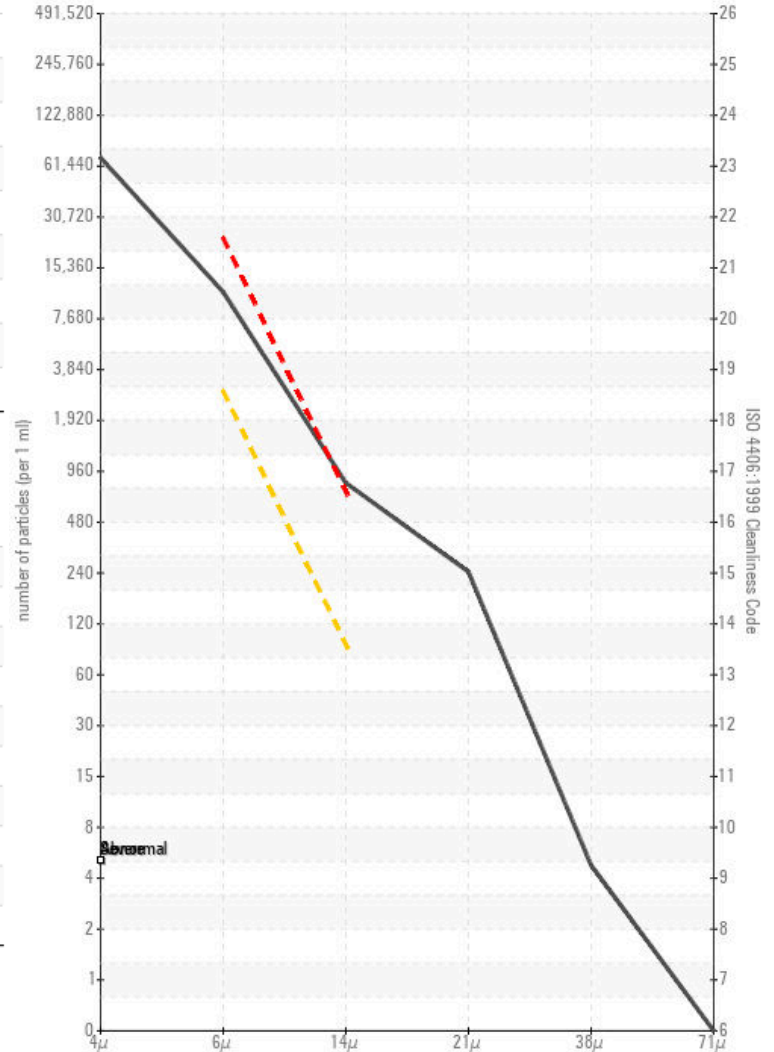
Ferrous Alloys



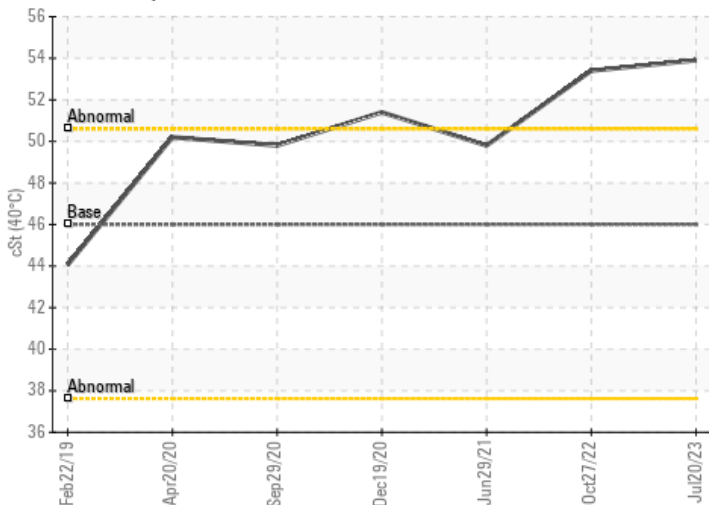
Non-ferrous Metals



Particle Count



Viscosity @ 40°C



Acid Number

