



CONSTRUCTION EQUIPMENT

VOLVO A45G 352882 - DIESEL ENGINE



Sample No: VCP435303
Oil Type: MOBIL 15W40
Job No:



SAMPLE INFORMATION

Sample Number	VCP435303	VCP404187	VCP360546	VCP324732
Sample Date	23 Oct 2023	13 Mar 2023	07 Jul 2022	23 Feb 2022
Machine Hours	2584	1862	880	400
Oil Hours	0	500	880	400
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	ABNORMAL	NORMAL	NORMAL	ABNORMAL

ARNOLD MACHINERY COMPANY
 3330 NORTH YELLOWSTONE HIGHWAY
 IDAHO FALLS, ID
 US 83401
 Contact: JASON MERRILL
 jmerrill@arnoldmachinery.com
 T: (208)523-0822
 F: (208)523-9918



OIL CONDITION

Visc @ 100°C	cSt	12.3	12.3	12.5	▲ 10.5
Base Number (BN)	mg KOH/g	7.6	9.5	9.8	6.7
Oxidation (PA)	%	59	57	63	53



CONTAMINATION

Soot %	%	0.6	0.3	0.6	0.4
Nitration (PA)	%	64	57	73	76
Sulfation (PA)	%	54	53	58	51
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	0.5
Silicon	ppm	7	6	10	▲ 33
Sodium	ppm	0	4	1	2
Potassium	ppm	1	1	2	0



WEAR METALS

Iron	ppm	18	11	21	35
Copper	ppm	8	22	13	50
Lead	ppm	<1	<1	1	3
Tin	ppm	<1	1	3	5
Aluminum	ppm	<1	1	2	2
Chromium	ppm	<1	<1	<1	1
Molybdenum	ppm	67	54	61	85
Nickel	ppm	▲ 5	3	1	1
Titanium	ppm	0	0	0	<1
Silver	ppm	0	<1	0	0
Manganese	ppm	0	<1	<1	2
Vanadium	ppm	0	0	0	0



ADDITIVES

Calcium	ppm	1148	1094	1437	2273
Magnesium	ppm	911	776	709	32
Zinc	ppm	1220	1112	1224	1164
Phosphorus	ppm	1003	933	1002	1030
Barium	ppm	0	0	0	0
Boron	ppm	12	55	21	55

Diagnosis

The oil 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. Exhaust valve wear is indicated. 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: VOLVO0077
Unique No: 10724888
Signed: Sean Felton
Report Date: 03 Nov 2023

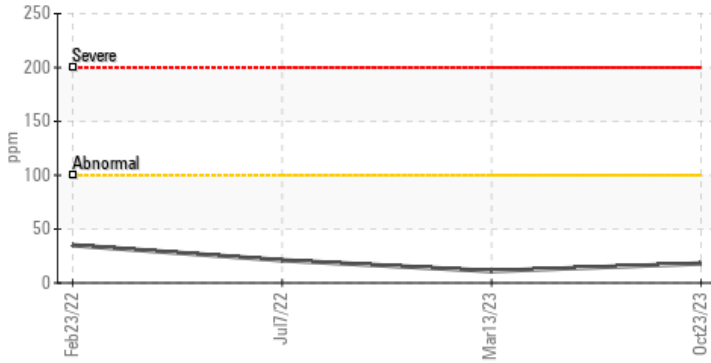


CONSTRUCTION EQUIPMENT

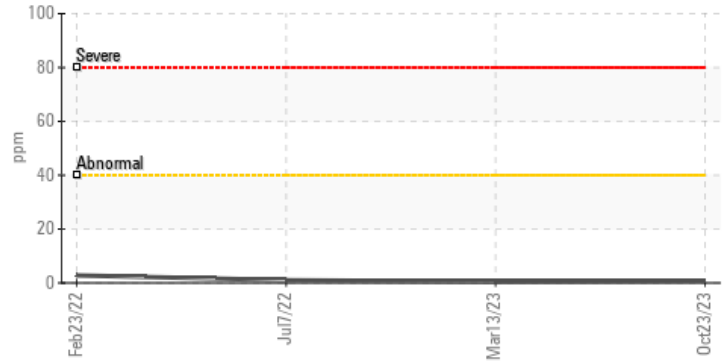


GRAPHS

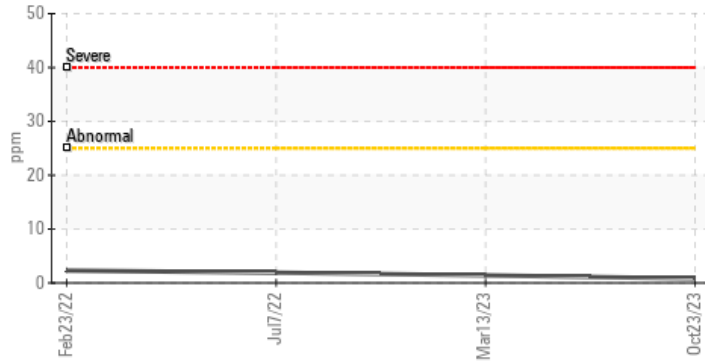
Iron (ppm)



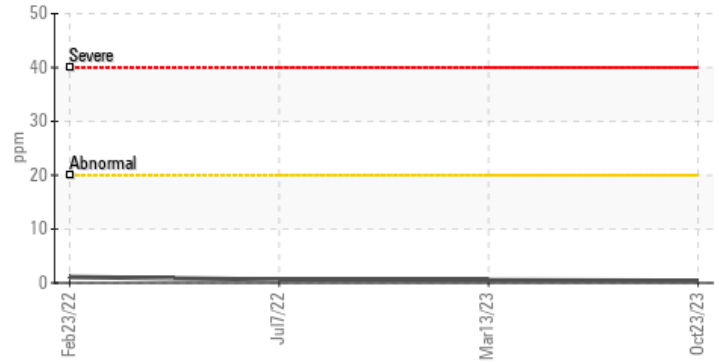
Lead (ppm)



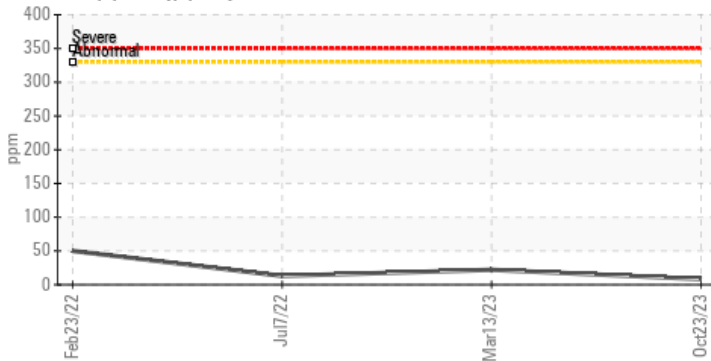
Aluminum (ppm)



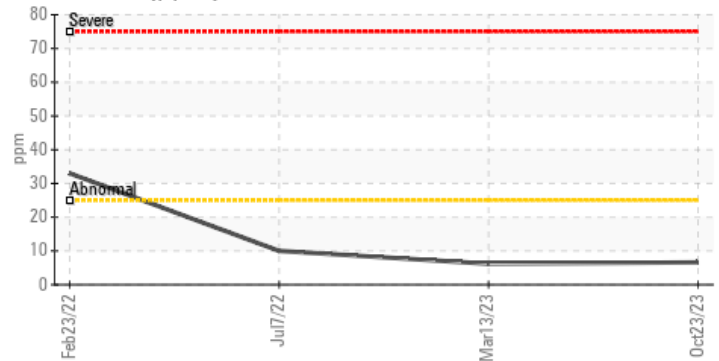
Chromium (ppm)



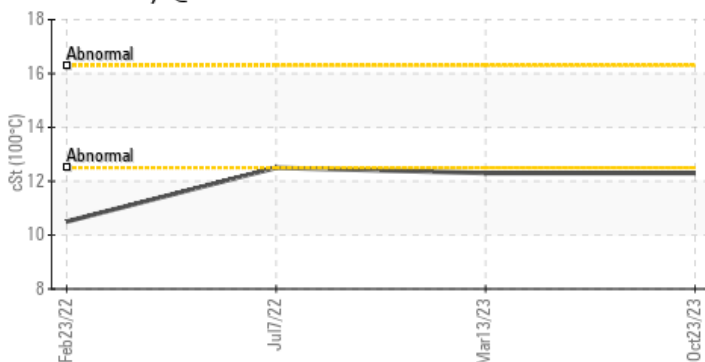
Copper (ppm)



Silicon (ppm)



Viscosity @ 100°C



Base Number

