



CONSTRUCTION EQUIPMENT

PASCO COUNTY EXC VOLVO A30G 742628 - DIESEL ENGINE



Sample No: VCP431822
Oil Type: VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3
Job No: PASCO COUNTY EXC



SAMPLE INFORMATION

Sample Number	VCP431822	VCP417310	VCP393528	VCP386669
Sample Date	16 Nov 2023	21 Jun 2023	06 Mar 2023	11 Oct 2022
Machine Hours	5704	5336	4805	8403
Oil Hours	0	700	800	500
Oil Changed	N/A	Changed	Changed	Changed
Sample Status	SEVERE	ABNORMAL	ABNORMAL	ABNORMAL

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OIL CONDITION

Visc @ 100°C	cSt	▲ 11.3	▲ 11.4	▲ 11.4	▲ 11.5
Base Number (BN)	mg KOH/g	■ 9.3	■ 9.0	■ 9.4	■ 8.9
Oxidation (PA)	%	79	78	79	88

Diagnosis

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition. All component wear rates are normal. Fuel content negligible. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.



CONTAMINATION

Water	%	NEG	NEG	NEG	■ 0.105
Soot %	%	■ 0.2	■ 0.3	■ 0.2	■ 0.4
Nitration (PA)	%	63	68	60	93
Sulfation (PA)	%	58	58	60	64
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	■ 1.3	▲ 4.5	▲ 4.6	▲ 4.9
Silicon	ppm	● 77	■ 4	■ 5	■ 5
Sodium	ppm	■ 9	■ 3	■ 2	■ 5
Potassium	ppm	■ 11	■ 0	■ 0	■ 0



WEAR METALS

Iron	ppm	■ 59	■ 6	■ 5	■ 11
Copper	ppm	■ 41	■ <1	■ <1	■ 1
Lead	ppm	■ 4	■ 0	■ 0	■ <1
Tin	ppm	■ 2	■ <1	■ <1	■ 1
Aluminum	ppm	▲ 8	■ <1	■ 1	■ 1
Chromium	ppm	■ <1	■ <1	■ <1	■ <1
Molybdenum	ppm	■ 154	■ 44	■ 41	■ 39
Nickel	ppm	■ 0	■ 0	■ 0	■ 0
Titanium	ppm	<1	<1	0	0
Silver	ppm	■ 0	■ 0	■ 0	■ 0
Manganese	ppm	■ 4	■ <1	■ 1	■ <1
Vanadium	ppm	0	<1	<1	0



ADDITIVES

Calcium	ppm	■ 1348	■ 1639	■ 1496	■ 1522
Magnesium	ppm	■ 467	■ 535	■ 485	■ 498
Zinc	ppm	■ 828	■ 1075	■ 1005	■ 1062
Phosphorus	ppm	■ 641	■ 921	■ 818	■ 860
Barium	ppm	■ 0	■ 0	■ 0	■ 0
Boron	ppm	■ 34	■ 35	■ 41	■ 16

Depot: VOLVO0093
Unique No: 10777238
Signed: Jonathan Hester
Report Date: 14 Dec 2023

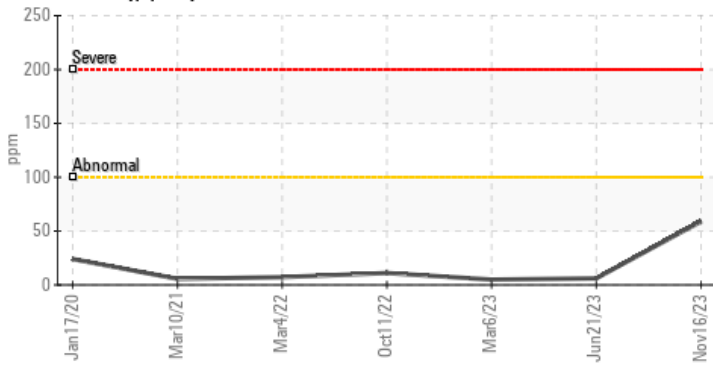


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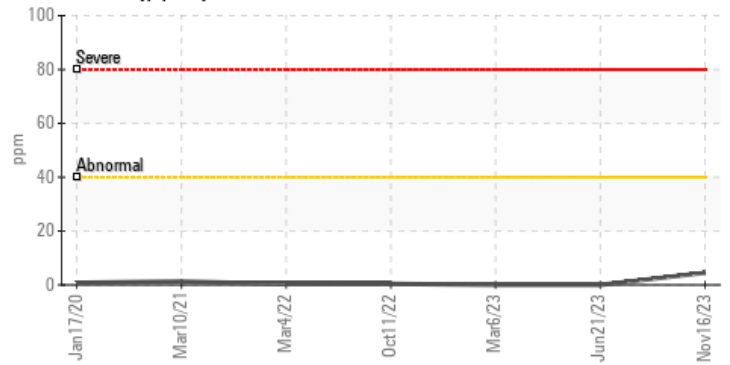


GRAPHS

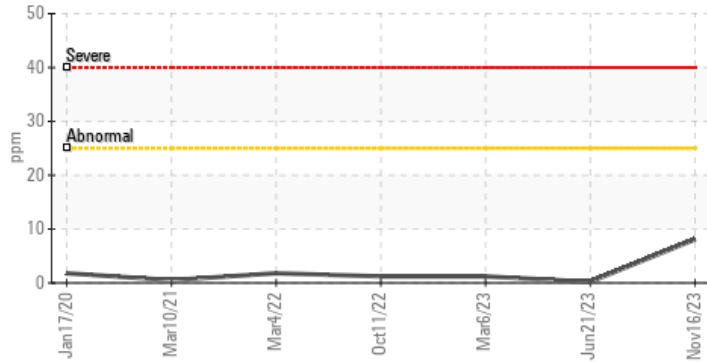
Iron (ppm)



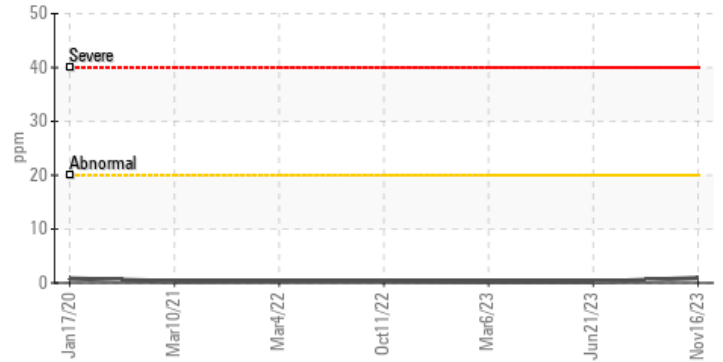
Lead (ppm)



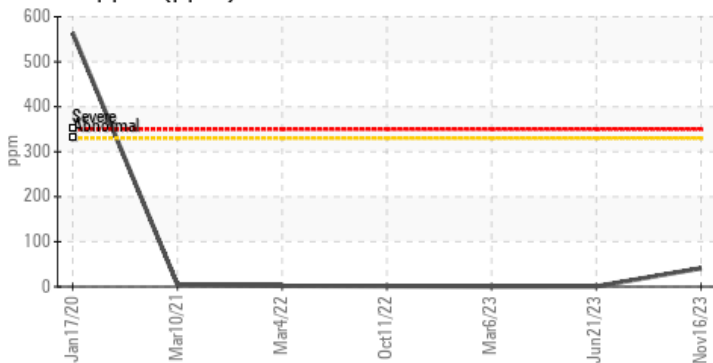
Aluminum (ppm)



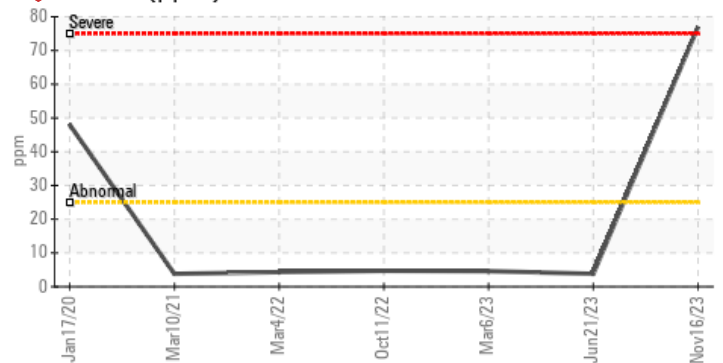
Chromium (ppm)



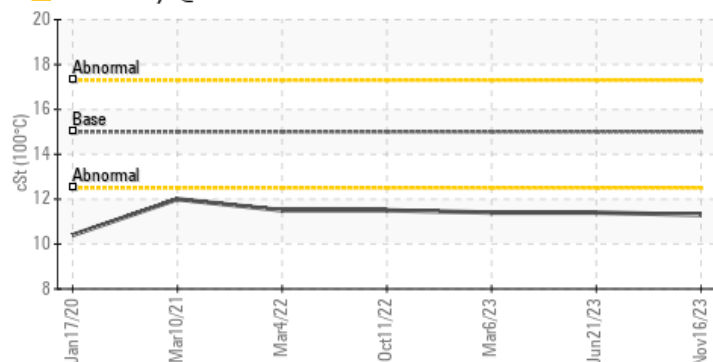
Copper (ppm)



Silicon (ppm)



Viscosity @ 100°C



Base Number

