



CONSTRUCTION EQUIPMENT

687003 NORTHSTAR SENNEBOGEN 850 3167 - DIESEL ENGINE



Sample No: VCP436321
Oil Type: VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3
Job No: 687003 NORTHSTAR



SAMPLE INFORMATION

Sample Number	VCP436321	VCP452290	VCP435934	VCP416277
Sample Date	19 Mar 2024	24 Jan 2024	06 Nov 2023	26 Jul 2023
Machine Hours	2430	5749	1174	494
Oil Hours	500	0	500	0
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	ABNORMAL	ABNORMAL	ATTENTION

ALTA EQUIPMENT COMPANY - METRO WEST
 56195 PONTIAC TRAIL
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OIL CONDITION

Visc @ 100°C	cSt	13.2	10.3	13.0	11.7
Base Number (BN)	mg KOH/g	8.3	6.0	7.7	8.4
Oxidation (PA)	%	78	61	84	65

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 BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.



CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0.1	0.1	0.1	0.1
Nitration (PA)	%	78	63	83	89
Sulfation (PA)	%	58	52	63	55
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	2.2	<1.0	0.4
Silicon	ppm	2	2	4	5
Sodium	ppm	3	0	3	5
Potassium	ppm	6	5	43	13



WEAR METALS

Iron	ppm	8	20	13	16
Copper	ppm	1	1	1	7
Lead	ppm	0	0	<1	1
Tin	ppm	0	0	<1	<1
Aluminum	ppm	2	2	9	4
Chromium	ppm	0	<1	<1	<1
Molybdenum	ppm	57	48	57	64
Nickel	ppm	0	0	0	0
Titanium	ppm	0	0	0	0
Silver	ppm	0	0	0	0
Manganese	ppm	<1	0	<1	2
Vanadium	ppm	<1	0	0	<1



ADDITIVES

Calcium	ppm	1130	776	1303	2777
Magnesium	ppm	1016	757	895	242
Zinc	ppm	1352	1059	1277	1394
Phosphorus	ppm	906	713	1012	1139
Barium	ppm	0	5	0	0
Boron	ppm	1	2	17	96

Depot: VOLVO2990
Unique No: 10949730
Signed: Don Baldrige
Report Date: 29 Mar 2024



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GRAPHS

