



CONSTRUCTION EQUIPMENT

D13222 WM AI RECYC JOHN DEERE 544K 640193 - DIESEL ENGINE



Sample No: VCE030361
Oil Type: VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3
Job No: D13222 WM AI RECYC



SAMPLE INFORMATION

Sample Number	VCE030361	VCP418910	VCP381334	VCP382378
Sample Date	22 Jan 2024	28 Jul 2023	01 Mar 2023	28 Nov 2022
Machine Hours	13486	13337	13276	13151
Oil Hours	149	186	125	0
Oil Changed	Changed	Changed	Not Changd	Not Changd
Sample Status	NORMAL	NORMAL	NORMAL	ABNORMAL

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OIL CONDITION

Visc @ 100°C	cSt	15.2	14.7	14.0	15.9
Base Number (BN)	mg KOH/g	9.1	10.0	10.9	6.2
Oxidation (PA)	%	56	57	74	61

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 %	%	1.8	1	0.7	4.3
Nitration (PA)	%	64	50	120	81
Sulfation (PA)	%	61	55	51	74
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	6	4	6	5
Sodium	ppm	3	2	8	11
Potassium	ppm	2	1	4	0



WEAR METALS

Iron	ppm	16	16	12	82
Copper	ppm	0	3	1	8
Lead	ppm	<1	0	<1	1
Tin	ppm	<1	0	0	<1
Aluminum	ppm	6	2	15	6
Chromium	ppm	0	<1	<1	2
Molybdenum	ppm	223	85	232	70
Nickel	ppm	1	<1	<1	3
Titanium	ppm	0	<1	<1	<1
Silver	ppm	0	<1	<1	0
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	<1	0	<1	0



ADDITIVES

Calcium	ppm	1229	1075	1454	1862
Magnesium	ppm	795	1169	685	395
Zinc	ppm	1041	1328	1073	1228
Phosphorus	ppm	900	1168	891	972
Barium	ppm	1	2	0	0
Boron	ppm	256	158	237	14

Depot: VOLVO0069
Unique No: 10847957
Signed: Don Baldrige
Report Date: 29 Jan 2024



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GRAPHS

