



CONSTRUCTION EQUIPMENT

D12587 WM A1 JOHN DEERE 544K 640193 - DIESEL ENGINE



Sample No: VCP418910
Oil Type: JOHN DEERE ENGINE OIL PLUS 50 II 15W40
Job No: D12587 WM A1



SAMPLE INFORMATION

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

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OIL CONDITION

Visc @ 100°C	cSt	14.7	14.0	15.9	---
Base Number (BN)	mg KOH/g	10.0	10.9	6.2	---
Oxidation (PA)	%	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

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



WEAR METALS

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



ADDITIVES

Calcium	ppm	1075	1454	1862	---
Magnesium	ppm	1169	685	395	---
Zinc	ppm	1328	1073	1228	---
Phosphorus	ppm	1168	891	972	---
Barium	ppm	2	0	0	---
Boron	ppm	158	237	14	---

Depot: VOLVO0069
Unique No: 10586107
Signed: Jonathan Hester
Report Date: 04 Aug 2023



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GRAPHS

