



CONSTRUCTION EQUIPMENT

INGALLS GROVE RT880E 234653 - DIESEL ENGINE



Sample No: VCP438533
Oil Type: SHELL ROTELLA T 15W40
Job No: INGALLS



SAMPLE INFORMATION

Sample Number	VCP438533	VCP438534	---	---
Sample Date	07 May 2024	26 Apr 2024	---	---
Machine Hours	7111	0	---	---
Oil Hours	0	0	---	---
Oil Changed	N/A	N/A	---	---
Sample Status	ABNORMAL	NORMAL	---	---

COWIN EQUIPMENT COMPANY

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OIL CONDITION

Visc @ 100°C	cSt	▲ 8.7	■ 13.1	---	---
Base Number (BN)	mg KOH/g	■ 7.2	■ 8.1	---	---
Oxidation (PA)	%	48	52	---	---

Diagnosis

MAKING OIL All component wear rates are normal. Tests indicate that there is no fuel present in the oil. There is no indication of any contamination in the oil. The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil.



CONTAMINATION

Water	%	NEG	NEG	---	---
Soot %	%	■ 0.1	■ 0.1	---	---
Nitration (PA)	%	46	37	---	---
Sulfation (PA)	%	49	52	---	---
Glycol	%	NEG	NEG	---	---
Fuel	%	■ 0.3	■ 1.2	---	---
Silicon	ppm	■ 3	■ 5	---	---
Sodium	ppm	■ <1	■ <1	---	---
Potassium	ppm	■ 1	■ 2	---	---



WEAR METALS

Iron	ppm	■ 5	■ 3	---	---
Copper	ppm	■ <1	■ <1	---	---
Lead	ppm	■ 0	■ 0	---	---
Tin	ppm	■ 0	■ 0	---	---
Aluminum	ppm	■ 1	■ 2	---	---
Chromium	ppm	■ 0	■ 0	---	---
Molybdenum	ppm	■ 66	■ 77	---	---
Nickel	ppm	■ 0	■ 0	---	---
Titanium	ppm	0	<1	---	---
Silver	ppm	■ 0	■ 0	---	---
Manganese	ppm	■ <1	■ <1	---	---
Vanadium	ppm	0	0	---	---



ADDITIVES

Calcium	ppm	1131	■ 1438	---	---
Magnesium	ppm	■ 310	■ 403	---	---
Zinc	ppm	■ 977	■ 1281	---	---
Phosphorus	ppm	■ 848	■ 1031	---	---
Barium	ppm	■ 0	■ 0	---	---
Boron	ppm	■ 375	■ 463	---	---

Depot: VOLV08527
Unique No: 11021141
Signed: Don Baldrige
Report Date: 15 May 2024



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GRAPHS

