



CONSTRUCTION EQUIPMENT

VOLVO L220H 3440 - DIESEL ENGINE



Sample No: VCP410511
Oil Type: SHELL ROTELLA T3 15W40
Job No:



SAMPLE INFORMATION

Sample Number	VCP410511	VCP419616	VCP419614	VCP408059
Sample Date	21 Jul 2023	05 Jul 2023	20 Jun 2023	01 Jun 2023
Machine Hours	3864	3590	3287	2995
Oil Hours	274	303	292	267
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL

COVANTA ENERGY
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OIL CONDITION

Visc @ 100°C	cSt	13.2	13.2	13.2	13.2
Base Number (BN)	mg KOH/g	7.8	8.0	7.5	8.4
Oxidation (PA)	%	50	53	60	56



CONTAMINATION

Soot %	%	0.1	0.1	0.1	0.1
Nitration (PA)	%	50	52	51	48
Sulfation (PA)	%	49	50	52	52
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	10	9	10	7
Sodium	ppm	2	2	<1	1
Potassium	ppm	<1	<1	<1	<1



WEAR METALS

Iron	ppm	2	4	3	2
Copper	ppm	<1	4	<1	<1
Lead	ppm	0	0	0	0
Tin	ppm	<1	0	<1	<1
Aluminum	ppm	<1	<1	0	<1
Chromium	ppm	<1	<1	<1	<1
Molybdenum	ppm	47	53	52	57
Nickel	ppm	0	0	0	0
Titanium	ppm	0	0	0	<1
Silver	ppm	0	0	0	0
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	0	0	0	0



ADDITIVES

Calcium	ppm	2121	2014	2024	1856
Magnesium	ppm	288	343	345	366
Zinc	ppm	1285	1290	1356	1223
Phosphorus	ppm	1057	1065	1064	978
Barium	ppm	0	0	0	0
Boron	ppm	58	64	69	85

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.

Depot: COVWES
Unique No: 10575259
Signed: Wes Davis
Report Date: 27 Jul 2023



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GRAPHS

