



CONSTRUCTION EQUIPMENT

VOLVO L110H 631301 - DIESEL ENGINE



Sample No: VCP424531
Oil Type: VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3
Job No:



SAMPLE INFORMATION

Sample Number	VCP424531	VCP392750	VCP274969	VCP247535
Sample Date	11 Aug 2023	01 Mar 2023	03 May 2020	16 Jul 2019
Machine Hours	16069	15336	11442	9806
Oil Hours	0	500	500	500
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	ABNORMAL	NORMAL	ABNORMAL	ABNORMAL

COVANTA
 350 FLAKENBURG ROAD
 TAMPA, FL
 US 33619
 Contact: SERVICE MANAGER



OIL CONDITION

Visc @ 100°C	cSt	12.6	12.6	13.9	13.8
Base Number (BN)	mg KOH/g	10.4	10.8	---	---
Oxidation (PA)	%	79	80	104	96

T: (813)684-5688
 F:

Diagnosis

Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. The aluminum level is abnormal. Piston wear is indicated. 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 acceptable for the time in service.



CONTAMINATION

Soot %	%	0.4	0.2	0.8	0.5
Nitration (PA)	%	73	60	101	92
Sulfation (PA)	%	57	60	70	62
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	15	9	32	29
Sodium	ppm	12	45	4	4
Potassium	ppm	<1	3	<1	10



WEAR METALS

Iron	ppm	25	29	28	20
Copper	ppm	3	6	3	2
Lead	ppm	0	2	3	6
Tin	ppm	<1	<1	2	0
Aluminum	ppm	31	19	24	15
Chromium	ppm	1	1	1	1
Molybdenum	ppm	48	53	34	39
Nickel	ppm	0	<1	<1	<1
Titanium	ppm	<1	<1	0	<1
Silver	ppm	0	0	0	0
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	<1	<1	0	0



ADDITIVES

Calcium	ppm	1825	1658	1576	1807
Magnesium	ppm	536	482	521	542
Zinc	ppm	1162	1124	818	893
Phosphorus	ppm	990	943	761	748
Barium	ppm	0	2	0	0
Boron	ppm	28	31	20	13

Depot: COVTAM
Unique No: 10609117
Signed: Jonathan Hester
Report Date: 22 Aug 2023



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GRAPHS

