



CONSTRUCTION EQUIPMENT

VOLVO A40D 13799 - DIESEL ENGINE



Sample No: VCP379362
Oil Type: MOBIL 15W40
Job No:



SAMPLE INFORMATION

Sample Number	VCP379362	VCP377259	VCP342155	VCP357633
Sample Date	26 Jun 2023	15 Mar 2023	26 Sep 2022	10 Aug 2022
Machine Hours	27910	27678	27430	27193
Oil Hours	232	248	237	73
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	ABNORMAL	ABNORMAL	ABNORMAL	ABNORMAL

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OIL CONDITION

Visc @ 100°C	cSt	13.1	13.0	13.0	13.0
Base Number (BN)	mg KOH/g	9.9	10.1	11.8	11.2
Oxidation (PA)	%	84	78	81	78

Diagnosis

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor. All component wear rates are normal. Elemental level of silicon (Si) above normal. 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 %	%	0.9	0.8	0.6	0.6
Nitration (PA)	%	58	57	54	53
Sulfation (PA)	%	65	65	66	66
Glycol	%	NEG	0.0	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	▲ 22	▲ 27	▲ 21	▲ 27
Sodium	ppm	6	0	5	4
Potassium	ppm	5	3	<1	3



WEAR METALS

Iron	ppm	35	29	26	24
Copper	ppm	1	2	1	1
Lead	ppm	0	1	2	<1
Tin	ppm	<1	0	<1	<1
Aluminum	ppm	5	5	4	▲ 7
Chromium	ppm	2	2	2	2
Molybdenum	ppm	43	43	38	39
Nickel	ppm	<1	<1	<1	2
Titanium	ppm	<1	<1	<1	<1
Silver	ppm	0	0	<1	0
Manganese	ppm	<1	<1	1	<1
Vanadium	ppm	0	0	<1	<1



ADDITIVES

Calcium	ppm	1802	1712	1642	1738
Magnesium	ppm	541	471	498	500
Zinc	ppm	987	861	883	974
Phosphorus	ppm	810	745	702	777
Barium	ppm	0	0	0	2
Boron	ppm	55	60	48	58

Depot: SCHGRE
Unique No: 10545750
Signed: Don Baldrige
Report Date: 06 Jul 2023



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GRAPHS

