

OIL ANALYSIS REPORT



MCGUIRE ANDIAMO ENCORE VOLVO D3-C-AQ-1 2003018715 - STARBOARD DIESEL ENGINE

Sample No: VPA030159
Oil Type: SHELL ROTELLA T 15W40

SAMPLE INFORMATION

Sample Number	VPA030159	VPA018383	VPA022310	VPA022302
Sample Date	15 Oct 2020	01 Oct 2019	24 Jul 2018	05 Jul 2018
Machine Hours	879	856	760	744
Oil Hours	0	52	741	728
Oil Changed	Changed	Not Changd	Not Changd	Changed
Sample Status	NORMAL	ATTENTION	ATTENTION	NORMAL

McMichael Yacht Yard No1 Inc
 700 Rushmore Ave
 MAMARONECK, NY
 US 10543
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OIL CONDITION

Visc @ 100°C	cSt	14.6	14.7	14.78	14.75
Oxidation (PA)	%	68	68	66	56

CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0.1	0.2	0.1	0
Nitration (PA)	%	53	60	49	42
Sulfation (PA)	%	59	58	57	50
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	8	10	6	7
Sodium	ppm	10	10	18	8
Potassium	ppm	10	7	8	11

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 condition of the oil is acceptable for the time in service.

WEAR METALS

Iron	ppm	127	145	43	30
Copper	ppm	20	38	18	9
Lead	ppm	2	2	<1	0
Tin	ppm	0	5	<1	<1
Aluminum	ppm	36	21	72	7
Chromium	ppm	10	11	4	2
Molybdenum	ppm	<1	2	3	2
Nickel	ppm	2	2	1	1
Titanium	ppm	<1	0	0	<1
Silver	ppm	0	0	0	0
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	0	0	0	0

ADDITIVES

Calcium	ppm	2302	2270	2079	2170
Magnesium	ppm	16	18	47	55
Zinc	ppm	1062	1159	1010	1114
Phosphorus	ppm	1000	894	923	1030
Barium	ppm	<1	0	0	0
Boron	ppm	168	175	150	164

Depot: VP153367
Unique No: 9242364
Signed: Angela Borella
Report Date: 04 Nov 2020

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VOLVO PENTA

GRAPHS

