

OIL ANALYSIS REPORT



ENCORE I - STARBOARD MAIN ENGINE

Sample No: VPA021370
Oil Type: DURON 15W40

SAMPLE INFORMATION

Sample Number	VPA021370	VPA042625	VPA039825	VPA035187
Sample Date	08 Feb 2024	05 Apr 2023	02 Aug 2022	16 Sep 2021
Machine Hours	6163	5186	4381	3926
Oil Hours	200	225	215	200
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	ATTENTION	NORMAL	ATTENTION	ATTENTION

BAY STATE CRUISE COMPANY
 200 SEAPORT BLVD, SUITE 50 LOWER LEVEL
 BOSTON, MA
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OIL CONDITION

Visc @ 100°C	cSt	14.4	14.6	14.4	10.5
Base Number (BN)	mg KOH/g	9.6	9.8	9.4	---
Oxidation (PA)	%	53	53	55	47

CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0.1	0.1	0.1	0.1
Nitration (PA)	%	45	47	48	42
Sulfation (PA)	%	48	48	49	47
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	0.1
Silicon	ppm	3	4	3	2
Sodium	ppm	1	0	1	2
Potassium	ppm	<1	2	1	3

Diagnosis

No corrective action is recommended at this time. Resample at the next service interval to monitor. The aluminum level is abnormal. All other 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.

WEAR METALS

Iron	ppm	7	3	6	4
Copper	ppm	4	2	3	2
Lead	ppm	1	<1	<1	<1
Tin	ppm	0	<1	<1	<1
Aluminum	ppm	34	1	28	1
Chromium	ppm	2	1	2	<1
Molybdenum	ppm	61	59	45	2
Nickel	ppm	1	2	<1	0
Titanium	ppm	0	<1	0	0
Silver	ppm	0	<1	0	<1
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	<1	<1	0	0

ADDITIVES

Calcium	ppm	1148	1015	1437	1317
Magnesium	ppm	1012	939	731	18
Zinc	ppm	1345	1182	1144	897
Phosphorus	ppm	1108	928	1002	736
Barium	ppm	0	0	0	0
Boron	ppm	2	5	46	153

Depot: VPBAYBOS
Unique No: 11073301
Signed: Don Baldrige
Report Date: 13 Jun 2024

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VOLVO PENTA

GRAPHS

