OIL ANALYSIS REPORT

OK034987 - STARBOARD DIESEL ENGINE

Sample No: VPA061289

Oil Type: CHEVRON DELO 400 MULTIGRADE 15W40

Sample Number		VPA061289	 	
Sample Date		01 Jul 2024	 	
Machine Hours		328	 	
Oil Hours		0	 	
Oil Changed		Not Changd	 	
Sample Status		SEVERE	 	
OIL CONDITION				
Visc @ 100°C	cSt	11.9	 	
Base Number (BN)	mg KOH/g	8.4	 	
Oxidation (PA)	%	60	 	
CONTAMINATION				
Water	%	NEG	 	
Soot %	%	0.1	 	
Nitration (PA)	%	103	 	
Sulfation (PA)	%	58	 	
Glycol	%	NEG	 	
Fuel	%	▲ 2.2	 	
Silicon	ppm	▲ 114	 	
Sodium	ppm	▲ 824	 	
Potassium	ppm	<u> </u>	 	
	1° 1°			
WEAR METALS				
Iron	ppm	1 085	 	
Copper	ppm	42	 	
Lead	ppm	18	 	
Tin	ppm	1 4	 	
Aluminum	ppm	4 5	 	
Chromium	ppm	A 36	 	
Molybdenum	ppm	34	 	
Nickel	ppm	2	 	
Titanium	ppm		 	
Silver	ppm	0	 	
Manganese	ppm	13	 	
Vanadium	ppm	<1	 	
ADDITIVES				
Calcium	ppm	1375	 	
Magnesium	ppm	747	 	
Zinc	ppm	852	 	
Phosphorus	ppm	827	 	
Barium	ppm	0	 	
Boron	ppm	65	 	

Depot: VPBAYSAU Unique No: Signed: Report Date:

11114669 Jonathan Hester 15 Jul 2024 Contact/Location: LUIS MARTINEZ - VPBAYSAU

BAY AREA MARINE SERVICES 420 DONAHUE ST

SAUSALITO, CA US 94965 Contact: LUIS MARTINEZ luis@bayareamarineservices.com T: (415)272-5830 F:

Diagnosis

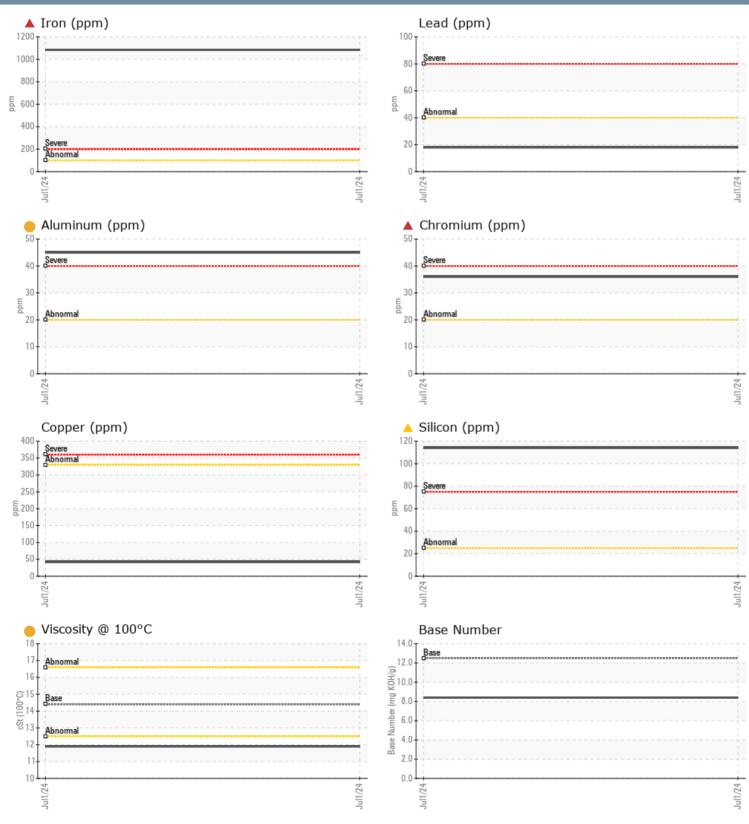
We advise that you check for the source of the coolant leak. Check for low coolant level. We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. We recommend that you drain the oil and perform a filter service on this component if not already done. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.Piston, ring and cylinder wear is indicated. Sodium and/or potassium levels are high. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. Light fuel dilution occurring. The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable as a result of the abnormal and/or severe wear.



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Contact/Location: LUIS MARTINEZ - VPBAYSAU