OIL ANALYSIS REPORT

MATT GRUNTNER JR 42075 20611592 - STARBOARD DIESEL ENGINE

Sample No: VPA044550

Oil Type: MOBIL DELVAC 1300 SUPER15W40

SAMPLE INFORMATION

Sample Number		VPA044550	 	
Sample Date		29 Jun 2023	 	
Machine Hours		2880	 	
Oil Hours		0	 	
Oil Changed		Not Changd	 	
Sample Status		NORMAL	 	
OIL CONDITION				
Visc @ 100°C	cSt	14.6	 	
Base Number (BN)	mg KOH/g	8.7	 	
Oxidation (PA)	%	65	 	
I NN I AMINA I INN '				
CONTAMINATION				
LONTAMINATION Soot %	%	0.1	 	
	% %	0 .1	 	
Soot %				
Soot % Nitration (PA)	%	61	 	
Soot % Nitration (PA) Sulfation (PA)	% %	61 63	 	
Soot % Nitration (PA) Sulfation (PA) Glycol	% %	61 63 NEG	 	
Soot % Nitration (PA) Sulfation (PA) Glycol Fuel	% % %	61 63 NEG <1.0	 	

WEAR METALS

Iron	ppm	29	 	
Copper	ppm	1 9	 	
Lead	ppm	2	 	
Tin	ppm		 	
Aluminum	ppm	1	 	
Chromium	ppm		 	
Molybdenum	ppm	83	 	
Nickel	ppm	4	 	
Titanium	ppm	0	 	
Silver	ppm	0	 	
Manganese	ppm	■ <1	 	
Vanadium	ppm	<1	 	

ADDITIVES

Calcium	ppm	2222	 	
Magnesium	ppm	51	 	
Zinc	ppm	1245	 	
Phosphorus	ppm	1071	 	
Barium	ppm	0	 	
Boron	ppm	73	 	

INTERSTATE POWER SYSTEMS

2901 E 78TH ST MINNEAPOLIS, MN US 55425 Contact: BRADY GARBRECHT brady.garbrecht@istate.com T: F:

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 BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

 Depot:
 VP1103105

 Unique No:
 10538659

 Signed:
 Don Baldridge

 Report Date:
 04 Jul 2023

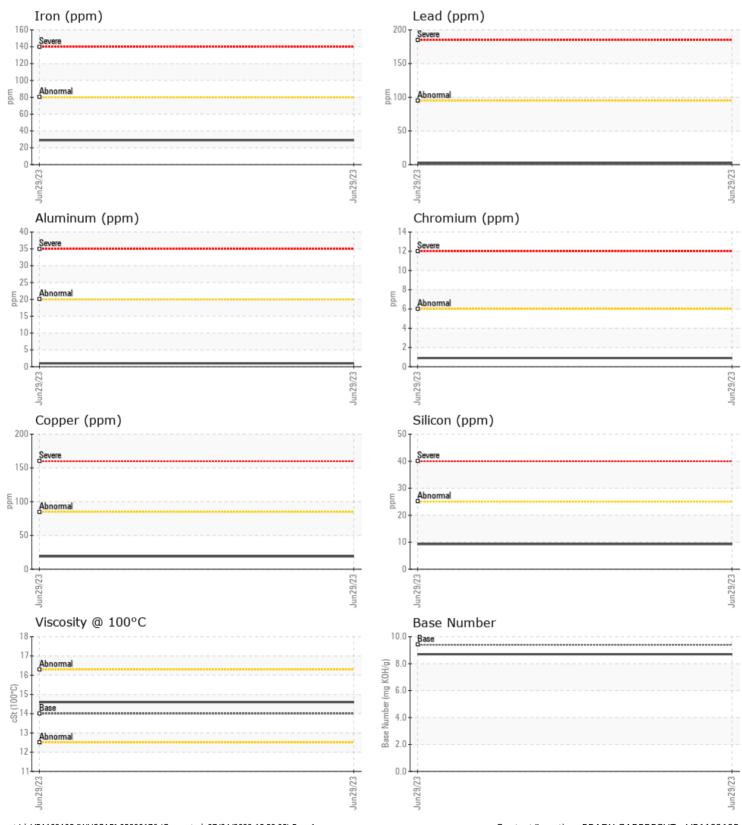
Contact/Location: BRADY GARBRECHT - VP1103105



OIL ANALYSIS REPORT



GRAPHS



Report Id: VP1103105 [WUSCAR] 05888176 (Generated: 07/04/2023 15:59:05) Rev: 1

Contact/Location: BRADY GARBRECHT - VP1103105