OIL ANALYSIS REPORT

RANGER TUG TWO 7716611 VOLVO PENTA A 1055830 - CENTER DIESEL ENGINE

Sample No: VPA046788

Oil Type: VOLVO VDS-4.5 Premium Motor Oil 15W40

Sample Number		VPA046788	VPA046171	
Sample Date		05 Sep 2023	01 Feb 2023	
Machine Hours		973	731	
Oil Hours		0	124	
Oil Changed		N/A	Not Changd	
Sample Status		NORMAL	NORMAL	
OIL CONDITION				
Visc @ 100°C	cSt	13.2	13.8	
Base Number (BN)	mg KOH/g	9.4	8.9	
Oxidation (PA)	%	59	56	
CONTAMINATION				
	<i></i>			
Soot %	%	0.5	0.3	
Nitration (PA)	%	65	61	
Sulfation (PA)	%	53 NEG	53 NEG	
Glycol Fuel	%	<1.0	□ 0.4	
Silicon		< 1.0 5	5	
Sodium	ppm	■ 3 ■ 14	7	
Potassium	ppm	2	3	
Fotassium	ppm	2	3	
WEAR METALS				
Iron	ppm	22	11	
Copper	ppm	10	5	
Lead	ppm	2	1	
Tin	ppm		□ <1	
Aluminum	ppm	4	2	
Chromium	ppm	1	□ <1	
Molybdenum	ppm	6 1	■46	
Nickel	ppm	2	1	
Titanium	ppm	□<1	0	
Silver	ppm	0	0	
Manganese Vanadium	ppm	■<1 <1	<1	
	ppm	<1		
ADDITIVES				
Calcium	ppm	1279	1249	
Magnesium	ppm	1061	679	
Zinc	ppm	1337	970	
Phosphorus	ppm	1072	831	
Barium	ppm	0	0	
Boron	ppm	27	231	

Pacific Power Group - VP981534

7215 S 228th St Kent, WA US 98032 Contact: PAT RYAN pryan@pacificpowergroup.com T: (253)520-5163

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:
 VP99031103

 Unique No:
 10649611

 Signed:
 Sean Felton

 Report Date:
 20 Sep 2023

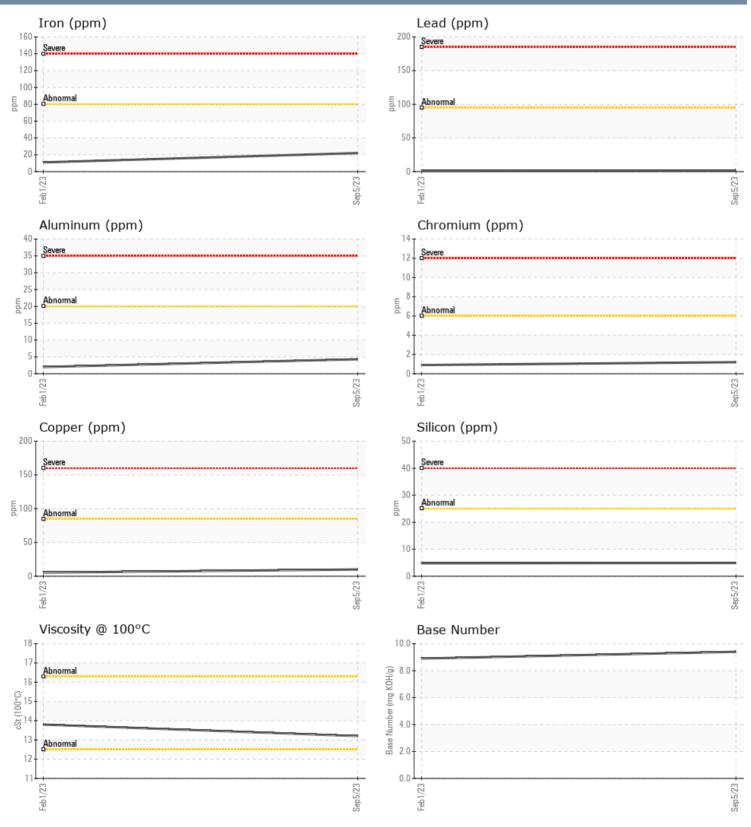
Contact/Location: PAT RYAN - VP99031103



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GRAPHS



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Contact/Location: PAT RYAN - VP99031103