



2010.04.6319 - Diesel Engine

Sample No: LH0276194

Oil Type: DIESEL ENGINE OIL SAE 10W30

SAMPLE INFORMATION					
Sample Number		LH0276194	LH0276193		
Sample Date		20 Mar 2024	19 Mar 2024		
Machine Hours		5	1		
Oil Hours		0	0		
Oil Changed		N/A	N/A		
Sample Status		SEVERE	SEVERE		
	ONDITI	DN			
Visc @ 100°C	cSt	<u> </u>	0 15.8		
Oxidation (PA)	%	53	99		
- 1					

Water	%	NEG	NEG		
Soot %	%	0 ()	0.7		
Nitration (PA)	%	43	74		
Sulfation (PA)	%	49	45		
Glycol	%	0.192	>.70		
Fuel	%	<1.0	<1.0		
Silicon	ppm	10	20		
Sodium	ppm	0 28	0 43		
Potassium	ppm	<u> </u>	0 169		

WEAR METALS

Iron	ppm	0 11	○ 74	
Copper	ppm	04	0 5	
Lead	ppm	0 2	0 1	
Tin	ppm	0 🔘	0 0	
Aluminum	ppm	 <1	0 1	
Chromium	ppm	0 🔘	○ <1	
Molybdenum	ppm	0 16	0 17	
Nickel	ppm	0 🔘	0	
Titanium	ppm	0 51	51	
Silver	ppm	0 🔘	0	
Manganese	ppm	0	2	
Vanadium	ppm	0	0	

	DITIVES			
Calcium	ppm	0 1245	1357	
Magnesium	ppm	310	0 402	
Zinc	ppm	0 1086	0 1089	
Phosphorus	ppm	0 768	○ 774	
Barium	ppm	54	64	
Boron	ppm	0 22	0 46	
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LIEBHERR CANADA LTD. - REMAN 1015 SUTTON DRIVE BURLINGTON, ON

CA L7L 5Z8 Contact: Morteza Mahmoudi morteza.mahmoudi@liebherr.com T: (905)319-9222 F: (905)319-6622

Diagnosis

We advise that you check for the source of the coolant leak. We recommend that you drain the oil from the component if this has not already been done. We advise that you flush the component thoroughly before re-filling with oil. We recommend an early resample to monitor this condition.Metal levels are typical for a new component breaking in. Test for glycol is positive. There is a high concentration of glycol present in the oil. There is a moderate concentration of water present in the oil. Free water present. Viscosity of sample indicates oil is within SAE 40 range, advise investigate. The oil is no longer serviceable due to the presence of contaminants.

Depot:REMANUnique No:5748411Signed:Kevin MarsonReport Date:21 Mar 2024

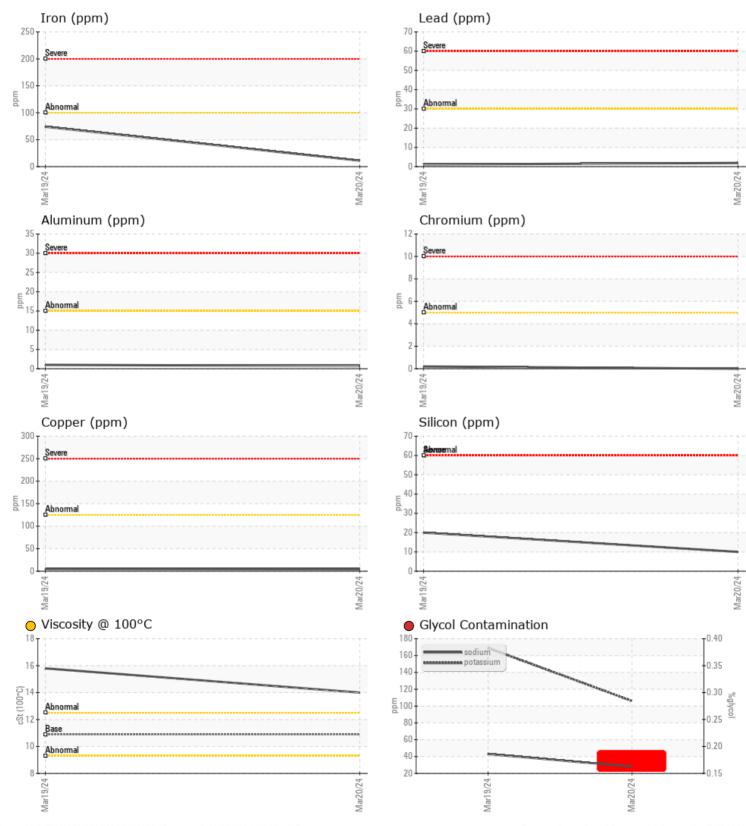
Contact/Location: Morteza Mahmoudi - REMAN

CONSTRUCTION EQUIPMENT



GRAPHS

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Report Id: REMAN [WCAMIS] 02623292 (Generated: 03/21/2024 07:40:14) Rev: 1

Contact/Location: Morteza Mahmoudi - REMAN