

LIEBHERR LTR1100 liebherr ltr1100 #33 (S/N 074946)

Hydraulic System

{not provided} (--- GAL)

RECOMMENDATION

We recommend you service the filters on this component. Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

WEAR	

All component wear rates are normal.

CONTAMINATION

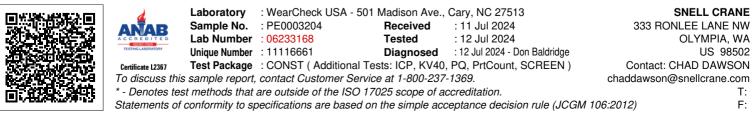
There is a high amount of particulates present in the oil.

FLUID CONDITION

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Test UOM Method Limit/An Current History1 History2 Sample Number Client Info 09 Jul 2024 Machine Age hrs Client Info 5000 Oil Age hrs Client Info 500 Oil Age hrs Client Info N/A Sample Status Client Info N/A Sample Status Client Info N/A Sample Status Sample Status PQ ASTM D8185m<>-10 2 Sample Dation O Silker ppm ASTM D8185m<>-10 0 Silker ppm ASTM D8185m -22 0 Silker ppm ASTM D5185m >4 0 <					~~~~~		
Sample Date Client Info 09 Jul 2024 Machine Age hrs Client Info 16453 Oil Age hrs Client Info 5000 Oil Changed Client Info N/A Filter Age Irs Client Info N/A Sample Status ASTM D5185m >30 4 Sample Status ASTM D5185m >10 0 Nickel ppm ASTM D5185m >10 0 Silver ppm ASTM D5185m 0 0 Silver ppm ASTM D5185m >22 0 Silver ppm ASTM D5185m >4 0 Aluminum ppm ASTM D5185m >4 0 Yanadium ppm ASTM D5185m<	Test	UOM	Method	Limit/Abn	Current	History1	History2
Machine Age hrs Client Info 16453 Filter Age hrs Client Info 5000 Gil Age hrs Client Info N/A Filter Changed Client Info N/A Sample Status ABNORMAL PQ ASTM D5185 >30 4 Iron ppm ASTM D5185 >10 2 Nickel ppm ASTM D5185 >10 0 Nickel ppm ASTM D5185 0 0 Silver ppm ASTM D5185 22 0 Lead ppm ASTM D5185 >4 0 Vanadium ppm ASTM D5185 5 1 Vanadium ppm ASTM D5185 20 0	Sample Number		Client Info		PE0003204		
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Copper ppm ASTM D5185m >35 1 Tin ppm ASTM D5185m 0 Vanadium ppm ASTM D5185m 0 White Metal scalar *Visual NONE NONE Yellow Metal scalar *Visual NONE NONE Silicon ppm ASTM D5185m<>15 3 Potassium ppm ASTM D5185m<>20 0 Water WC Method >0.1 NEG Particles >4µm ASTM D7647 >20000 4 132821 Particles >21µm ASTM D7647 >600 4 417 Particles >21µm ASTM D7647 >10 0 Oil Cleanliness ISO 4406 (c) >2119/16 4 4/23/19 Sand/Dirt	Lead		ASTM D5185m	>22	0		
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Potassium ppm ASTM D5185m >20 0 Water WC Method >0.1 NEG Particles >4µm ASTM D7647 >20000 ▲ 132821 Particles >6µm ASTM D7647 >5000 ▲ 54499 Particles >14µm ASTM D7647 >640 ▲ 2758 Particles >21µm ASTM D7647 >100 Particles >38µm ASTM D7647 >40 19 Particles >71µm ASTM D7647 >10 0 Oil Cleanliness ISO 4406 (c) >21/19/16 ▲ 24/23/19 Silt scalar *Visual NONE Sand/Dirt scalar *Visual NORML NORML Appearance scalar *Visual NORML <th>Yellow Metal</th> <th></th> <th>*Visual</th> <th>NONE</th> <th>-</th> <th></th> <th></th>	Yellow Metal		*Visual	NONE	-		
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Particles >21µm ASTM D7647 >160 417 Particles >38µm ASTM D7647 >40 19 Particles >71µm ASTM D7647 >10 0 Oil Cleanliness ISO 4406 (c) >21/19/16 24/23/19 Silt scalar *Visual NONE LIGHT Debris scalar *Visual NONE NONE Sand/Dirt scalar *Visual NONE NONE Appearance scalar *Visual NORM NORML Odor scalar *Visual NORM NORML Gor scalar *Visual NORM NORML Sodium ppm ASTM D5185m 3 Boron ppm ASTM D5185m 0 Malganese ppm ASTM D5185m 0 </th <th>Particles >6µm</th> <th></th> <th>ASTM D7647</th> <th>>5000</th> <th>🔺 54499</th> <th></th> <th></th>	Particles >6µm		ASTM D7647	>5000	🔺 54499		
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Particles >71µm ASTM D7647 >10 0 Oil Cleanliness ISO 4406 (c) >21/19/16 ▲ 24/23/19 Silt scalar *Visual NONE LIGHT Debris scalar *Visual NONE NONE Sand/Dirt scalar *Visual NONE NONE Appearance scalar *Visual NORM NORML Odor scalar *Visual NORM NORML Odor scalar *Visual NORM NORML Odor scalar *Visual >0.1 NEG Sodium ppm ASTM D5185m 3 Boron ppm ASTM D5185m 0 Molybdenum ppm ASTM D5185m	Particles >21µm		ASTM D7647	>160	🔺 417		
Oil CleanlinessISO 4406 (c)>21/19/1624/23/19Siltscalar*VisualNONELIGHTDebrisscalar*VisualNONENONESand/Dirtscalar*VisualNONENONEAppearancescalar*VisualNORMLNORMLOdorscalar*VisualNORMLNORMLOdorscalar*VisualNORMLNORMLEmulsified Waterscalar*Visual>0.1NEGSodiumppmASTM D5185m3BoronppmASTM D5185m0BariumppmASTM D5185m0MolybdenumppmASTM D5185m0MagnesiumppmASTM D5185m2MagnesiumppmASTM D5185m280ZincppmASTM D5185m280SulfurppmASTM D5185m280Acid Number (AN)mg KOHgASTM D50450.21	Particles >38µm		ASTM D7647	>40	19		
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Sand/Dirtscalar*VisualNONENONEAppearancescalar*VisualNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.1NEGSodiumppmASTM D5185m3BoronppmASTM D5185m19BariumppmASTM D5185m0MolybdenumppmASTM D5185m0MaganeseppmASTM D5185m2MagnesiumppmASTM D5185m2PhosphorusppmASTM D5185m280ZincppmASTM D5185m280SulfurppmASTM D5185m0.21	Silt	scalar	*Visual	NONE	LIGHT		
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Odor scalar *Visual NORML Emulsified Water scalar *Visual >0.1 NORML Sodium ppm ASTM D5185m 3 Boron ppm ASTM D5185m 19 Barium ppm ASTM D5185m 0 Molybdenum ppm ASTM D5185m 0 Magnesium ppm ASTM D5185m 0 Magnesium ppm ASTM D5185m 2 Phosphorus ppm ASTM D5185m 85 Zinc ppm ASTM D5185m 280 Sulfur ppm ASTM D5185m 280 Kid Number (AN) mg KOH/g ASTM D5185m 0.21	Sand/Dirt	scalar	*Visual	NONE	NONE		
Emulsified Water scalar *Visual >0.1 NEG Sodium ppm ASTM D5185m 3 Boron ppm ASTM D5185m 19 Barium ppm ASTM D5185m 0 Molybdenum ppm ASTM D5185m 0 Manganese ppm ASTM D5185m 0 Magnesium ppm ASTM D5185m 0 Calcium ppm ASTM D5185m 2 Phosphorus ppm ASTM D5185m 85 Zinc ppm ASTM D5185m 280 Sulfur ppm ASTM D5185m 1059 Acid Number (AN) mg KOH/g ASTM D8045 0.21	Appearance	scalar	*Visual	NORML	NORML		
Sodium ppm ASTM D5185m 3 Boron ppm ASTM D5185m 19 Barium ppm ASTM D5185m 0 Molybdenum ppm ASTM D5185m 0 Manganese ppm ASTM D5185m 0 Magnesium ppm ASTM D5185m 0 Calcium ppm ASTM D5185m 2 Phosphorus ppm ASTM D5185m 85 Zinc ppm ASTM D5185m 280 Sulfur ppm ASTM D5185m 1059 Acid Number (AN) mg KOH/g ASTM D8045 0.21	Odor	scalar	*Visual	NORML	NORML		
Boron ppm ASTM D5185m 19 Barium ppm ASTM D5185m 0 Molybdenum ppm ASTM D5185m 0 Manganese ppm ASTM D5185m 0 Magnesium ppm ASTM D5185m 0 Calcium ppm ASTM D5185m 2 Phosphorus ppm ASTM D5185m 85 Zinc ppm ASTM D5185m 280 Sulfur ppm ASTM D5185m 1059 Acid Number (AN) mg KOH/g ASTM D8045 0.21	Emulsified Water	scalar	*Visual	>0.1	NEG		
Boron ppm ASTM D5185m 19 Barium ppm ASTM D5185m 0 Molybdenum ppm ASTM D5185m 0 Manganese ppm ASTM D5185m 0 Magnesium ppm ASTM D5185m 0 Calcium ppm ASTM D5185m 2 Phosphorus ppm ASTM D5185m 85 Zinc ppm ASTM D5185m 280 Sulfur ppm ASTM D5185m 1059 Acid Number (AN) mg KOH/g ASTM D8045 0.21							
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Molybdenum ppm ASTM D5185m 0 Manganese ppm ASTM D5185m 0 Magnesium ppm ASTM D5185m 2 Magnesium ppm ASTM D5185m 25 Calcium ppm ASTM D5185m 85 Phosphorus ppm ASTM D5185m 280 Zinc ppm ASTM D5185m 280 Sulfur ppm ASTM D5185m 1059 Acid Number (AN) mg KOH/g ASTM D8045 0.21		ppm	ASTM D5185m		19		
Manganese ppm ASTM D5185m 0 Magnesium ppm ASTM D5185m 2 Calcium ppm ASTM D5185m 85 Phosphorus ppm ASTM D5185m 276 Zinc ppm ASTM D5185m 280 Sulfur ppm ASTM D5185m 1059 Acid Number (AN) mg KOH/g ASTM D8045 0.21		ppm	ASTM D5185m		0		
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Calcium ppm ASTM D5185m 85 Phosphorus ppm ASTM D5185m 276 Zinc ppm ASTM D5185m 280 Sulfur ppm ASTM D5185m 1059 Acid Number (AN) mg KOH/g ASTM D8045 0.21		ppm					
Phosphorus ppm ASTM D5185m 276 Zinc ppm ASTM D5185m 280 Sulfur ppm ASTM D5185m 1059 Acid Number (AN) mg KOH/g ASTM D8045 0.21	J J	ppm			2		
Zinc ppm ASTM D5185m 280 Sulfur ppm ASTM D5185m 1059 Acid Number (AN) mg KOH/g ASTM D8045 0.21		ppm					
Sulfur ppm ASTM D5185m 1059 Acid Number (AN) mg KOH/g ASTM D8045 0.21	Phosphorus	ppm	ASTM D5185m		276		
Acid Number (AN) mg KOH/g ASTM D8045 0.21					280		
		ppm	ASTM D5185m		1059		
Visc @ 40°C cSt ASTM D445 32.0	. ,	mg KOH/g					
	Visc @ 40°C	cSt	ASTM D445		32.0		





Submitted By: Sean McNealley Page 2 of 2