

Machine Id LIEBHERR LH60M 155308

Front Axle

GEAR OIL SAE 75W90 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor. The fluid was not specified, however, a fluid match indicates that this fluid is (GENERIC) GEAR OIL SAE 75W90. Please confirm.

**WEAR** 

All component wear rates are normal.

## CONTAMINATION

There is no indication of any contamination in the oil.

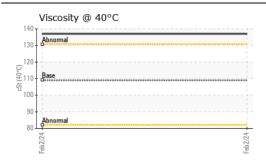
## FLUID CONDITION

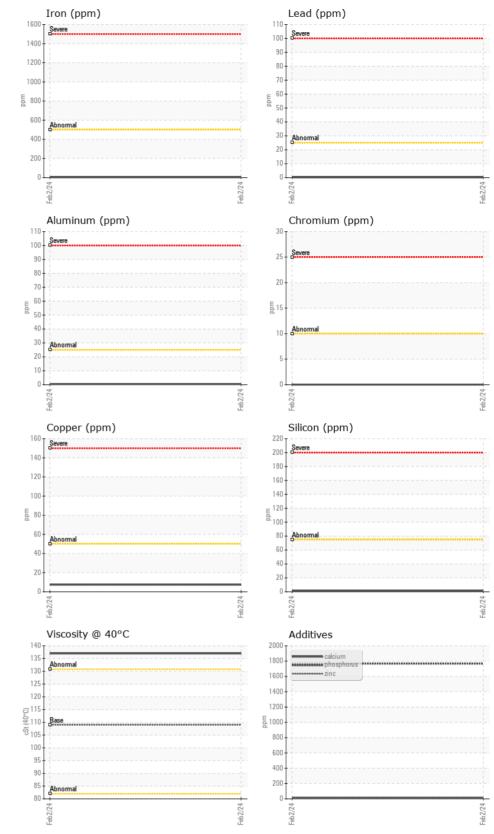
The condition of the oil is acceptable for the time in service.

Sample Number     Client Info     LH0285043         Sample Date     Client Info     02 Feb 2024         Machine Age     hrs     Client Info     0         Oil Age     hrs     Client Info     0         Filter Age     hrs     Client Info     0         Oil Changed     Client Info     N/A         Filter Changed     Client Info     N/A         Sample Status      NORMAL         Iron     ppm     ASTM D5185(m)     >10     0         Nickel     ppm     ASTM D5185(m)     >10     0         Aluminum     ppm     ASTM D5185(m)     >25     <1         Aduminum     ppm     ASTM D5185(m)     >50     7         Vanadium     ppm     ASTM D5185(m)     50     7		
Sample Date     Client Info     02 Feb 2024	est l	History2
Machine Age     hrs     Client Info     474         Oil Age     hrs     Client Info     0         Filter Age     hrs     Client Info     0         Oil Changed     Client Info     N/A         Filter Changed     Client Info     N/A         Sample Status      NORMAL         Iron     ppm     ASTMD5185(m)     >500     3         Nickel     ppm     ASTMD5185(m)     10     0         Aluminum     ppm     ASTMD5185(m)     >25     <1         Aluminum     ppm     ASTMD5185(m)     >50     7         Aluminum     ppm     ASTMD5185(m)     >50     7         Aluminum     ppm     ASTMD5185(m)     >50     7         Vanadium     ppm	ample Number	
Oil Age     hrs     Client Info     0	ample Date	
Filter Age     Irs     Client Info     O	achine Age	
Oil Changed     Client Info     KnA	il Age h	
Filter Changed     Client Info     N/A	ilter Age	
Sample Status     NORMAL         Iron     ppm     ASTM D5185(m)     >500     3         Chromium     ppm     ASTM D5185(m)     >10     0         Nickel     ppm     ASTM D5185(m)     >10     0         Titanium     ppm     ASTM D5185(m)     >25     <1         Aluminum     ppm     ASTM D5185(m)     >25     <1         Aluminum     ppm     ASTM D5185(m)     >25     <1         Aluminum     ppm     ASTM D5185(m)     >25     <1         Lead     ppm     ASTM D5185(m)     >50     7         Vanadium     ppm     ASTM D5185(m)     >10     0         Vanadium     ppm     ASTM D5185(m)     >75     1         Silicon     ppm     ASTM D5185(m)     >20	il Changed	
Iron     ppm     ASTM D5185(m)     >500     3         Chromium     ppm     ASTM D5185(m)     >10     0         Nickel     ppm     ASTM D5185(m)     >10     0         Titanium     ppm     ASTM D5185(m)     0         Aluminum     ppm     ASTM D5185(m)     >25     <1         Aluminum     ppm     ASTM D5185(m)     >25     <1         Aluminum     ppm     ASTM D5185(m)     >25     <1         Auminum     ppm     ASTM D5185(m)     >50     7         Lead     ppm     ASTM D5185(m)     >10     0         Vanadium     ppm     ASTM D5185(m)     >75     1         Yellow Metal     scalar     Visual*     NONE     NONE        Yellow Metal     scalar     Visual*<	Iter Changed	
Chromium     ppm     ASTM D5185(m)     >10     0         Nickel     ppm     ASTM D5185(m)     >10     0         Titanium     ppm     ASTM D5185(m)     0         Silver     ppm     ASTM D5185(m)     >25     <1        Aluminum     ppm     ASTM D5185(m)     >25     <1        Lead     ppm     ASTM D5185(m)     >50     7	ample Status	
Chromium     ppm     ASTM D5185(m)     >10     0         Nickel     ppm     ASTM D5185(m)     >10     0         Titanium     ppm     ASTM D5185(m)     0         Silver     ppm     ASTM D5185(m)     >25     <1        Aluminum     ppm     ASTM D5185(m)     >25     <1        Lead     ppm     ASTM D5185(m)     >50     7		
Nickel     ppm     ASTM D5185(m)     >10     0	P	
Titanium     ppm     ASTM D5185(m)     0		
Silver     ppm     ASTM D5185(m)     0		
Aluminum     pm     ASTM D5185(m)     >25     <1		
Lead     ppm     ASTM D5185(m)     >25     <1		
Copper     ppm     ASTM D5185(m)     >50     7         Tin     ppm     ASTM D5185(m)     >10     0         Vanadium     ppm     ASTM D5185(m)     0     0         White Metal     scalar     Visual*     NONE     NONE         Yellow Metal     scalar     Visual*     NONE     VLITE         Silicon     ppm     ASTM D5185(m)     >20     <1         Vater     WC Method     >0.2     NEG          Silit     scalar     Visual*     NONE     NONE         Sand/Dirt     scalar     Visual*     NORE          Appearance     scalar     Visual*     NORML     NORML         Godor     scalar     Visual*     >0.2     NEG         Sodium     ppm </th <th></th> <th></th>		
Tin     ppm     ASTM D5185(m)     >10     0         Vanadium     ppm     ASTM D5185(m)     0     0         White Metal     scalar     Visual*     NONE     NONE          Yellow Metal     scalar     Visual*     NONE     VLITE         Silicon     ppm     ASTM D5185(m)     >75     1         Potassium     ppm     ASTM D5185(m)     >20     <1		
Vanadium     ppm     ASTM D5185(m)     O         White Metal     scalar     Visual*     NONE          Yellow Metal     scalar     Visual*     NONE     VLITE         Silicon     ppm     ASTM D5185(m)     >75     1         Potassium     ppm     ASTM D5185(m)     >20     <1         Water     WC Method     >0.2     NEG          Silt     scalar     Visual*     NONE          Silt     scalar     Visual*     NONE     NONE         Sand/Dirt     scalar     Visual*     NORML     NORML         Appearance     scalar     Visual*     NORM     NORML         Odor     scalar     Visual*     NORM     NORML         Sodium     ppm     <		
White Metal     scalar     Visual*     NONE     NONE         Yellow Metal     scalar     Visual*     NONE     VLITE         Silicon     ppm     ASTM D5185(m)     >75     1         Potassium     ppm     ASTM D5185(m)     >20     <1	1	
Yellow Metal     scalar     Visual*     NONE     VLITE         Silicon     ppm     ASTM D5185(m)     >75     1         Potassium     ppm     ASTM D5185(m)     >20     <1         Water     WC Method     >0.2     NEG          Silt     scalar     Visual*     NONE     NONE         Debris     scalar     Visual*     NONE     NONE         Sand/Dirt     scalar     Visual*     NORM     NORML         Appearance     scalar     Visual*     NORML     NORML         Odor     scalar     Visual*     NORML     NORML         Sodium     ppm     ASTM D5185(m)     2.0     2         Barium     ppm     ASTM D5185(m)     12     0         Magnesium     <		
SiliconppmASTM D5185(m)>751PotassiumppmASTM D5185(m)>20<1WaterWC Method>0.2NEGSiltscalarVisual*NONENONEDebrisscalarVisual*NONENONESand/DirtscalarVisual*NONENONEAppearancescalarVisual*NORMLNORMLOdorscalarVisual*NORMLNORMLSodiumppmASTM D5185(m)-0.2NEGBoronppmASTM D5185(m)2002MolybdenumppmASTM D5185(m)120MagnesiumppmASTM D5185(m)1210MagnesiumppmASTM D5185(m)12010PhosphorusppmASTM D5185(m)12510		
PotassiumppmASTM D5185(m)>20<1	ellow Metal s	
PotassiumppmASTM D5185(m)>20<1	ilicon r	
WaterWC Method>0.2NEGSiltscalarVisual*NONENONEDebrisscalarVisual*NONENONESand/DirtscalarVisual*NONENONEAppearancescalarVisual*NORMLNORMLOdorscalarVisual*NORMLNORMLOdorscalarVisual*NORMLNORMLSodiumppmASTM D5185(m)2.0NEGBoronppmASTM D5185(m)2002MolybdenumppmASTM D5185(m)2002MagnesiumppmASTM D5185(m)120MagnesiumppmASTM D5185(m)15010PhosphorusppmASTM D5185(m)12510ZincppmASTM D5185(m)12510		
DebrisscalarVisual*NONENONESand/DirtscalarVisual*NONENONEAppearancescalarVisual*NORMLNORMLOdorscalarVisual*NORMLNORMLOdorscalarVisual*NORMLNORMLEmulsified WaterscalarVisual*>0.2NEGSodiumppmASTM D5185(m)400138BoronppmASTM D5185(m)2002BariumppmASTM D5185(m)120MolybdenumppmASTM D5185(m)120MagnesiumppmASTM D5185(m)1210PhosphorusppmASTM D5185(m)12510ZincppmASTM D5185(m)12510		
Sand/Dirt     scalar     Visual*     NONE     NONE         Appearance     scalar     Visual*     NORML     NORML         Odor     scalar     Visual*     NORML     NORML         Odor     scalar     Visual*     NORML     NORML         Emulsified Water     scalar     Visual*     >0.2     NEG         Sodium     ppm     ASTM D5185(m)     400     138         Boron     ppm     ASTM D5185(m)     200     2         Barium     ppm     ASTM D5185(m)     200     2         Molybdenum     ppm     ASTM D5185(m)     12     0         Magnesium     ppm     ASTM D5185(m)     12          Calcium     ppm     ASTM D5185(m)     150     10    Phosphorus <t< th=""><th>ilt s</th><th></th></t<>	ilt s	
AppearancescalarVisual*NORMLNORMLOdorscalarVisual*NORMLNORMLEmulsified WaterscalarVisual*>0.2NEGSodiumppmASTM D5185(m)400138BoronppmASTM D5185(m)2002BariumppmASTM D5185(m)2002MolybdenumppmASTM D5185(m)120ManganeseppmASTM D5185(m)12<MagnesiumppmASTM D5185(m)15010PhosphorusppmASTM D5185(m)12510ZincppmASTM D5185(m)12510	ebris s	
Odor     scalar     Visual*     NORML     NORML         Emulsified Water     scalar     Visual*     >0.2     NEG         Sodium     ppm     ASTM D5185(m)     3         Boron     ppm     ASTM D5185(m)     400     138         Barium     ppm     ASTM D5185(m)     200     2         Molybdenum     ppm     ASTM D5185(m)     12     0         Magnesium     ppm     ASTM D5185(m)     12     0         Calcium     ppm     ASTM D5185(m)     12          Phosphorus     ppm     ASTM D5185(m)     150     10         Zinc     ppm     ASTM D5185(m)     125     10	and/Dirt s	
OdorscalarVisual*NORMLNORMLEmulsified WaterscalarVisual*>0.2NEGSodiumppmASTM D5185(m)400138BoronppmASTM D5185(m)2002BariumppmASTM D5185(m)2002MolybdenumppmASTM D5185(m)120MagnesiumppmASTM D5185(m)120MagnesiumppmASTM D5185(m)12<PhosphorusppmASTM D5185(m)15010ZincppmASTM D5185(m)12510	ppearance s	
Sodium     ppm     ASTM D5185(m)     3         Boron     ppm     ASTM D5185(m)     400     138         Barium     ppm     ASTM D5185(m)     200     2         Molybdenum     ppm     ASTM D5185(m)     200     2         Manganese     ppm     ASTM D5185(m)     12     0         Magnesium     ppm     ASTM D5185(m)     12     <1         Calcium     ppm     ASTM D5185(m)     150     10         Phosphorus     ppm     ASTM D5185(m)     1650     1768         Zinc     ppm     ASTM D5185(m)     125     10		
Boron     ppm     ASTM D5185(m)     400     138         Barium     ppm     ASTM D5185(m)     200     2         Molybdenum     ppm     ASTM D5185(m)     12     0         Manganese     ppm     ASTM D5185(m)     12     0         Magnesium     ppm     ASTM D5185(m)     12     <1         Calcium     ppm     ASTM D5185(m)     150     10         Phosphorus     ppm     ASTM D5185(m)     1650     1768         Zinc     ppm     ASTM D5185(m)     125     10	mulsified Water	
Boron     ppm     ASTM D5185(m)     400     138         Barium     ppm     ASTM D5185(m)     200     2         Molybdenum     ppm     ASTM D5185(m)     12     0         Manganese     ppm     ASTM D5185(m)     12     0         Magnesium     ppm     ASTM D5185(m)     12     <1         Calcium     ppm     ASTM D5185(m)     150     10         Phosphorus     ppm     ASTM D5185(m)     1650     1768         Zinc     ppm     ASTM D5185(m)     125     10		
Barium     ppm     ASTM D5185(m)     200     2         Molybdenum     ppm     ASTM D5185(m)     12     0         Manganese     ppm     ASTM D5185(m)     12     0         Magnesium     ppm     ASTM D5185(m)     12     <1         Calcium     ppm     ASTM D5185(m)     150     10         Phosphorus     ppm     ASTM D5185(m)     1650     1768         Zinc     ppm     ASTM D5185(m)     125     10	odium p	
Molybdenum     ppm     ASTM D5185(m)     12     0         Manganese     ppm     ASTM D5185(m)     0		
Manganese     ppm     ASTM D5185(m)     0         Magnesium     ppm     ASTM D5185(m)     12     <1	arium p	
Magnesium     ppm     ASTM D5185(m)     12     <1	alubdonum	
Calcium     ppm     ASTM D5185(m)     150     10         Phosphorus     ppm     ASTM D5185(m)     1650     1768         Zinc     ppm     ASTM D5185(m)     125     10		
Phosphorus     ppm     ASTM D5185(m)     1650     1768         Zinc     ppm     ASTM D5185(m)     125     10		
Zinc ppm ASTM D5185(m) 125 10	langanese p lagnesium p	
	langanese p lagnesium p	
	langanese p lagnesium p alcium p	
Sulfur     ppm     ASTM D5185(m)     22500     29044	langanese p lagnesium p alcium p hosphorus p	  
Visc @ 40°C cSt ASTM D7279(m) 109 137	langanese p lagnesium p alcium p hosphorus p inc p	

Report Id: LAKWHI [WCAMIS] 02616396 (Generated: 02/16/2024 16:30:12) Rev: 1

Contact/Location: Tyson Young - LAKWHI





**GERDAU AMERISTEEL** Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 CALA Sample No. : 16 Feb 2024 1 GERDAU COURT : LH0285043 Received (四) Lab Number : 02616396 WHITBY, ON Tested : 16 Feb 2024 ISO 17025:2017 Accredited : 16 Feb 2024 - Wes Davis Unique Number : 5733506 Diagnosed CA L1N 5T1 Laboratory Test Package : MOB 1 Contact: Tyson Young To discuss this sample report, contact Customer Service at 1-800-268-2131. tyoung@gerdauameristeel.com Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab. T: (905)668-8811 Validity of results and interpretation are based on the sample and information as supplied. F: (905)668-6469

Contact/Location: Tyson Young - LAKWHI