

WEAR NORMAL CONTAMINATION NORMAL FLUID CONDITION NORMAL

Machine Id 132164 LIEBHERR LH60 132164

Front Differential

GEAR OIL SAE 80W90 (--- 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 80W90. Please confirm.

WEAR

All component wear rates are normal.

CONTAMINATION

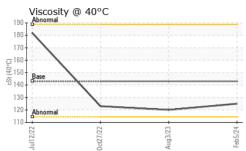
There is no indication of any contamination in the oil.

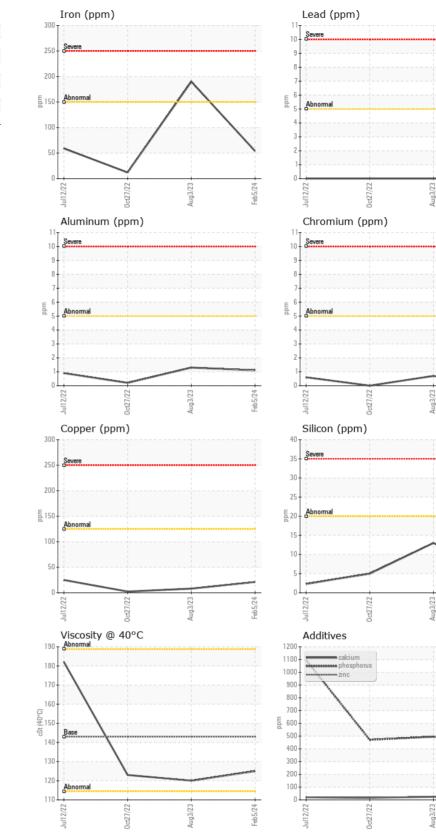
FLUID CONDITION

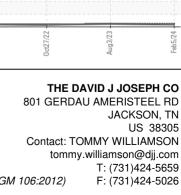
The condition of the oil is acceptable for the time in service.

Sample Date Client Info 05 Feb 2024 03 Aug 2023 27 Oct 2023 Machine Age hrs Client Info 7745 5715 2761 Oil Age hrs Client Info 0 0 0 0 Filter Age hrs Client Info N/A N/A N/A N/A Filter Changed Client Info N/A N/A N/A N/A N/A Sample Status Client Info N/A N/A N/A N/A N/A Iron ppm ASTM D5185m >150 54 190 12 Chromium ppm ASTM D5185m >10 0 0 0 Nickel ppm ASTM D5185m >10 0 0 0 Auminum ppm ASTM D5185m >55 1 1 1 1 Lead ppm ASTM D5185m >55 0 0 0 Vanadium ppm ASTM D5185m >5 1							
Sample DateClient InfoOf SFeb 202403 Aug 202327 Oct 2027Machine AgehrsClient Info774557152761Oil AgehrsClient Info000Filter AgehrsClient InfoN/AN/AN/AOil ChangedClient InfoN/AN/AN/AN/AFilter ChangedClient InfoN/AN/AN/AN/ASample StatusClient InfoN/AN/AN/AN/AIronppmASTM D5185m>1505419012ChromiumppmASTM D5185m>10000NickelppmASTM D5185m>10000SilverppmASTM D5185m>5111LeadppmASTM D5185m>5100VanadiumppmASTM D5185m>5100VanadiumppmASTM D5185m>5100VanadiumppmASTM D5185m>5100VanadiumppmASTM D5185m>51350Vellow Metalscalar"VisualNONENONENONENONESiliconppmASTM D5185m>20200VataerWC Method>0.2NEGNONENONESiliconppmASTM D5185m>20135PotassiumppmASTM D5185m>20	Test	UOM	Method	Limit/Abn	Current	History1	History2
Machine Age hrs Client Info 7745 5715 2761 Oil Age hrs Client Info 0 0 0 Filter Age hrs Client Info N/A N/A N/A Filter Changed Client Info N/A N/A N/A N/A Filter Changed Client Info N/A N/A N/A N/A Sample Status Client Info N/A N/A N/A N/A Iron ppm ASTM D5185m >150 54 A 190 12 Chromium ppm ASTM D5185m >5 0 <10 0 Nickel ppm ASTM D5185m >5 1 1 <11 <1 Lead ppm ASTM D5185m >5 0 0 0 0 Vanaduium ppm ASTM D5185m >5 <1 0 0 0 Valeaduium ppm ASTM D5185m >20 <1 0 <	Sample Number		Client Info		DJJ0017477	DJJ0021038	DJJ0017451
Oil Age Filter Age hrs Client Info O O O Filter Age Oil Changed Ns Client Info N/A N/A N/A Filter Changed Client Info N/A N/A N/A N/A Sample Status Client Info N/A N/A N/A N/A Iron ppm ASTM D5185m >150 54 A 190 12 Chromium ppm ASTM D5185m >10 0 0 0 Nickel ppm ASTM D5185m >10 0 0 0 Nickel ppm ASTM D5185m >10 0 0 0 Astm D5185m >5 1 1 <1 1 1 Lead ppm ASTM D5185m >5 0 0 0 Vanaduum ppm ASTM D5185m >20 21 0 0 Vellow Metal scalar *Visual NONE ILIGHT MODER NONE <th>Sample Date</th> <th></th> <th>Client Info</th> <th></th> <th>05 Feb 2024</th> <th>03 Aug 2023</th> <th>27 Oct 2022</th>	Sample Date		Client Info		05 Feb 2024	03 Aug 2023	27 Oct 2022
Filter Age hrs Client Info 0 0 0 0 Oil Changed Client Info N/A N/A N/A N/A Filter Changed Client Info N/A N/A N/A N/A Sample Status NORMAL ABNORMAL NORMAL ABNORMAL NORMAL Iron ppm ASTM D5185m<>50 0 <1 0 Nickel ppm ASTM D5185m<>10 0 0 0 Nickel ppm ASTM D5185m 50 0 <1 0 Aluminum ppm ASTM D5185m >5 1 1 <1 <1 Lead ppm ASTM D5185m >5 0 0 0 0 Vanadium ppm ASTM D5185m >5 1 1 <1 <1 Lead ppm ASTM D5185m >5 0 0 0 0 Vanadium ppm ASTM D5185m >20 2	Machine Age	hrs	Client Info		7745	5715	2761
Oil Changed Filter ChangedClient InfoN/AN/AN/AN/AFilter ChangedClient InfoN/AN/AN/AN/AN/ASample StatusNORMALASTM D5185m<>15054A 19012IronppmASTM D5185m<>500<10	Oil Age	hrs	Client Info		0	0	0
Filter Changed Client Info N/A N/A N/A N/A Sample Status ppm ASTM D5185m >150 54 ▲ 190 12 Iron ppm ASTM D5185m >50 0 <1 0 Nickel ppm ASTM D5185m >10 0 0 0 Silver ppm ASTM D5185m 0 <1 10 0 Silver ppm ASTM D5185m >5 0 0 0 0 Auminum ppm ASTM D5185m >5 0 0 0 0 Vanadium ppm ASTM D5185m >125 21 8 2 0 Vanadium ppm ASTM D5185m >10 0 0 0 0 Vanadium ppm ASTM D5185m >20 21 8 2 0 Vanadium ppm ASTM D5185m >20 2 0 0 0 0 0	Filter Age	hrs	Client Info		0	0	0
Sample StatusNORMALABNORMALNORMALIronppmASTM D5185m>1054▲ 19012ChromiumppmASTM D5185m>10000NickelppmASTM D5185m>10000TitaniumppmASTM D5185m>10000SilverppmASTM D5185m>51111LeadppmASTM D5185m>50000AluminumppmASTM D5185m>511111LeadppmASTM D5185m>5<10000VanadiumppmASTM D5185m>5<10000White Metalscalar*VisualNONENONENONENONENONESiliconppmASTM D5185m>202000WaterWC Method>0.2NEGNONENONENONESiliconppmASTM D5185m>202000WaterVisualNONENONENONENONENONESolitscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMNORMLNORMLNORMLAppearancescalar*VisualNORMNORMLNORMLNORMLGodrscalar*VisualNORMNORMLNORMLNORML	Oil Changed		Client Info		N/A	N/A	N/A
Iron ppm ASTM D5185m >150 54 ▲ 190 12 Chromium ppm ASTM D5185m >5 0 <1 0 Nickel ppm ASTM D5185m >10 0 0 0 Titanium ppm ASTM D5185m 0 <1 0 0 Aluminum ppm ASTM D5185m >5 1 1 <1 <1 Lead ppm ASTM D5185m >5 0 0 0 0 Copper ppm ASTM D5185m >5 <1 0 0 0 Vanadium ppm ASTM D5185m >5 <1 0 0 0 Vanadium ppm ASTM D5185m >5 <1 0 0 0 Vanadium ppm ASTM D5185m >20 2 0 0 0 Water wC Method >0.2 NORE NORE NORE NORE NORE	Filter Changed		Client Info		N/A	N/A	N/A
Chromium ppm ASTM D5185m >50 <1	Sample Status				NORMAL	ABNORMAL	NORMAL
Chromium ppm ASTM D5185m >50 <1							
Nickel ppm ASTM D5185m >10 0 0 0 Titanium ppm ASTM D5185m 0 <-1 0 Silver ppm ASTM D5185m 0 0 0 Aluminum ppm ASTM D5185m >5 1 1 <1 Lead ppm ASTM D5185m >5 0 0 0 Copper ppm ASTM D5185m >5 <1 0 0 Vanadium ppm ASTM D5185m >5 <1 0 0 Vanadium ppm ASTM D5185m >5 <1 0 0 Vanadium ppm ASTM D5185m >20 S 13 5 Yellow Metal scalar *Visual NONE NONE NONE NONE Silicon ppm ASTM D5185m >20 2 0 0 Water wC Method >0.2 NEG NONE NONE NONE <td< th=""><th>-</th><th></th><th></th><th></th><th>-</th><th></th><th></th></td<>	-				-		
Titanium ppm ASTM D5185m 0 <1					-		
Silver ppm ASTM D5185m 0 0 0 Aluminum ppm ASTM D5185m >5 1 1 <1 Lead ppm ASTM D5185m >5 0 0 0 Copper ppm ASTM D5185m >125 21 8 2 Tin ppm ASTM D5185m >5 <1 0 0 Vanadium ppm ASTM D5185m >5 <1 0 0 White Metal scalar *Visual NONE LIGHT MODER MODEF Yellow Metal scalar *Visual NONE NONE NONE NONE Silicon ppm ASTM D5185m<>20 5 13 5 Potassium ppm ASTM D5185m<>20 2 0 0 Water wC Method >0.2 NEG NORE NONE Sand/Dirt scalar *Visual NONE NONE NORMI NORMI				>10	-	-	
Aluminum ppm ASTM D5185m >5 1 1 <1					-		
Lead ppm ASTM D5185m >5 0 0 0 Copper ppm ASTM D5185m >125 21 8 2 Tin ppm ASTM D5185m >5 <1 0 0 Vanadium ppm ASTM D5185m >5 <1 0 0 White Metal scalar *Visual NONE LIGHT MODER MODER Yellow Metal scalar *Visual NONE NONE NONE NONE NONE Silicon ppm ASTM D5185m >20 2 0 0 Water WC Method >0.2 NEG NEG NORE Debris scalar *Visual NONE NONE NONE NORE Appearance scalar *Visual NOR NORML NORML NORML Odor scalar *Visual NOR NORML NORML NORML Appearance scalar *Visual					-	-	÷
Copper ppm ASTM D5185m >125 21 8 2 Tin ppm ASTM D5185m >5 <1 0 0 Vanadium ppm ASTM D5185m >5 <1 0 0 White Metal scalar *Visual NONE LIGHT MODER MODER Yellow Metal scalar *Visual NONE NONE NONE NONE NONE Silicon ppm ASTM D5185m >20 2 0 0 Water WC Method >.20 2 NONE NONE NONE Debris scalar *Visual NONE NONE NONE NONE Appearance scalar *Visual NOR NORML NORML NORML NORML Odor scalar *Visual NORE NORML NORML </th <th></th> <th></th> <th></th> <th></th> <th>-</th> <th></th> <th></th>					-		
Tin ppm ASTM D5185m >5 <1					-	-	÷
Vanadium ppm ASTM D5185m 0 0 <1							
White Metalscalar*VisualNONELIGHTMODERMODERYellow Metalscalar*VisualNONENONENONENONENONENONESiliconppmASTM D5185m>2051350PotassiumppmASTM D5185m>202000WaterWC Method>0.2NEGNEGNEGNEGSiltscalar*VisualNONENONENONENONEDebrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNORENONENONENONEAppearancescalar*VisualNORMNORMLNORMLNORMIOdorscalar*VisualNORMNORMLNORMLNORMIOdorscalar*Visual>0.2NEGNEGNEGSodiumppmASTM D5185m200000MolybdenumppmASTM D5185m12<1<1<1MagnesiumppmASTM D5185m12282CalciumppmASTM D5185m1501824416PhosphorusppmASTM D5185m125232715SulfurppmASTM D5185m125232715SulfurppmASTM D5185m1252322715		ppm		>5		-	÷
Yellow Metalscalar*VisualNONENONENONENONENONESiliconppmASTM D5185m>205135PotassiumppmASTM D5185m>20200WaterWC Method>0.2NEGNEGNEGSiltscalar*VisualNONENONENONENONEDebrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNORMNONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGSodiumppmASTM D5185m>17002<1BoronppmASTM D5185m200000MolybdenumppmASTM D5185m12<1<1<1ManganeseppmASTM D5185m12232715SulfurppmASTM D5185m125232715SulfurppmASTM D5185m1252322715							Ū
Silicon ppm ASTM D5185m >20 5 13 5 Potassium ppm ASTM D5185m >20 2 0 0 Water WC Method >0.2 NEG NEG NEG NEG Sitt scalar *Visual NONE NONE NONE NONE NONE Debris scalar *Visual NONE NONE NONE NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE NONE NONE Appearance scalar *Visual NORML NORML NORML NORML NORMI Odor scalar *Visual NORM NORML NORML NORMI Boron ppm ASTM D5185m >170 0 2 <1		scalar				-	
Potassium ppm ASTM D5185m >20 2 0 0 Water WC Method >0.2 NEG NEG NEG NEG Silt scalar *Visual NONE NONE NONE NONE NONE Debris scalar *Visual NONE NONE NONE NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE NONE NONE Appearance scalar *Visual NORML N	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
WaterWC Method>0.2NEGNEGNEGSiltscalar*VisualNONENONENONENONENONEDebrisscalar*VisualNONENONENONENONENONESand/Dirtscalar*VisualNONENONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEGSodiumppmASTM D5185m>17002<1BoronppmASTM D5185m200000MolybdenumppmASTM D5185m12<1<1<1MagnesiumppmASTM D5185m12282CalciumppmASTM D5185m150182416PhosphorusppmASTM D5185m125232715SulfurppmASTM D5185m125232715	Silicon	ppm	ASTM D5185m	>20	5	13	5
Siltscalar*VisualNONENONENONENONEDebrisscalar*VisualNONENONENONENONENONESand/Dirtscalar*VisualNONENONENONENONENONEAppearancescalar*VisualNORMNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEGSodiumppmASTM D5185m>17002<1BoronppmASTM D5185m200000MolybdenumppmASTM D5185m12<1<1<1ManganeseppmASTM D5185m12282CalciumppmASTM D5185m150182416PhosphorusppmASTM D5185m125232715SulfurppmASTM D5185m22500178912294523016	Potassium	ppm	ASTM D5185m	>20	2	0	0
Debrisscalar*VisualNONENONENONENONENONESand/Dirtscalar*VisualNONENONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEGSodiumppmASTM D5185m>17002<1BoronppmASTM D5185m200000MolybdenumppmASTM D5185m12<1<1<1ManganeseppmASTM D5185m12282CalciumppmASTM D5185m150182416PhosphorusppmASTM D5185m125232715SulfurppmASTM D5185m125232715	Water		WC Method	>0.2	NEG	NEG	NEG
Sand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEGNEGSodiumppmASTM D5185m>17002<166BoronppmASTM D5185m2000000MolybdenumppmASTM D5185m12<1<1<1<1MagnesiumppmASTM D5185m12282<1MagnesiumppmASTM D5185m150182416PhosphorusppmASTM D5185m125232715SulfurppmASTM D5185m125232294523016	Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearancescalar*VisualNORML<	Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Odor scalar *Visual NORML <	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Emulsified Water scalar *Visual >0.2 NEG NEG NEG Sodium ppm ASTM D5185m >170 0 2 <1 Boron ppm ASTM D5185m 400 2 6 6 Barium ppm ASTM D5185m 200 0 0 0 Molybdenum ppm ASTM D5185m 12 <1 <1 <1 Manganese ppm ASTM D5185m 12 <1 <1 <1 Magnesium ppm ASTM D5185m 12 2 8 2 Calcium ppm ASTM D5185m 12 2 8 2 Phosphorus ppm ASTM D5185m 150 18 24 16 Phosphorus ppm ASTM D5185m 1650 451 495 471 Zinc ppm ASTM D5185m 125 23 27 15 Sulfur ppm ASTM D5185m 25500	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Sodium ppm ASTM D5185m >170 0 2 <1	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Boron ppm ASTM D5185m 400 2 6 6 Barium ppm ASTM D5185m 200 0 0 0 Molybdenum ppm ASTM D5185m 12 <1 <1 <1 Manganese ppm ASTM D5185m 12 <1 2 <1 Magnesium ppm ASTM D5185m 12 2 8 2 Calcium ppm ASTM D5185m 150 18 24 16 Phosphorus ppm ASTM D5185m 1650 451 495 471 Zinc ppm ASTM D5185m 125 23 27 15 Sulfur ppm ASTM D5185m 22500 17891 22945 23016	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Boron ppm ASTM D5185m 400 2 6 6 Barium ppm ASTM D5185m 200 0 0 0 Molybdenum ppm ASTM D5185m 12 <1 <1 <1 Manganese ppm ASTM D5185m 12 <1 2 <1 Magnesium ppm ASTM D5185m 12 2 8 2 Calcium ppm ASTM D5185m 12 2 8 2 Phosphorus ppm ASTM D5185m 150 18 24 16 Phosphorus ppm ASTM D5185m 1650 451 495 471 Zinc ppm ASTM D5185m 125 23 27 15 Sulfur ppm ASTM D5185m 22500 17891 22945 23016	Sodium	ppm	ASTM D5185m	>170	0	2	<1
Barium ppm ASTM D5185m 200 0 0 0 Molybdenum ppm ASTM D5185m 12 <1	Boron		ASTM D5185m	400	2	6	6
Manganese ppm ASTM D5185m <1	Barium		ASTM D5185m	200	0	0	0
Manganese ppm ASTM D5185m <1	Molybdenum		ASTM D5185m	12	<1	<1	<1
Magnesium ppm ASTM D5185m 12 2 8 2 Calcium ppm ASTM D5185m 150 18 24 16 Phosphorus ppm ASTM D5185m 1650 451 495 471 Zinc ppm ASTM D5185m 125 23 27 15 Sulfur ppm ASTM D5185m 22500 17891 22945 23016			ASTM D5185m		<1	2	<1
Calcium ppm ASTM D5185m 150 18 24 16 Phosphorus ppm ASTM D5185m 1650 451 495 471 Zinc ppm ASTM D5185m 125 23 27 15 Sulfur ppm ASTM D5185m 22500 17891 22945 23016	Magnesium	ppm	ASTM D5185m	12	2	8	2
Zinc ppm ASTM D5185m 125 23 27 15 Sulfur ppm ASTM D5185m 22500 17891 22945 23016	Calcium		ASTM D5185m	150	18	24	
Zinc ppm ASTM D5185m 125 23 27 15 Sulfur ppm ASTM D5185m 22500 17891 22945 23016	Phosphorus	ppm	ASTM D5185m	1650	451	495	471
	Zinc	ppm	ASTM D5185m	125	23	27	15
Visc @ 40°C cSt ASTM D445 143 125 120 123	Sulfur	ppm	ASTM D5185m	22500	17891	22945	23016
	Visc @ 40°C		ASTM D445			120	123

Contact/Location: TOMMY WILLIAMSON - DAVJACTN









 Vertificate L2367
 Unique Number
 : 10896258
 Diagnosed
 : 23 Feb 2024 - Wes Davis

 Certificate L2367
 Test Package
 : MOBCE
 Contact:

 To discuss this sample report, contact Customer Service at 1-800-237-1369.
 tom

 * - Denotes test methods that are outside of the ISO 17025 scope of accreditation.
 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

: WearCheck USA - 501 Madison Ave., Cary, NC 27513

Received

Tested

: 22 Feb 2024

: 23 Feb 2024

Report Id: DAVJACTN [WUSCAR] 06098028 (Generated: 02/24/2024 08:17:03) Rev: 1

Laboratory

Sample No.

Lab Number : 06098028

: DJJ0017477

Contact/Location: TOMMY WILLIAMSON - DAVJACTN

Feb5/24