

## WEAR ABNORMAL CONTAMINATION NORMAL FLUID CONDITION NORMAL



# Machine Id LIEBHERR L580 069442-1762

Rear Left Wheel Hub

#### RECOMMENDATION

We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition. The fluid was not specified, however, a fluid match indicates that this fluid is (GENERIC) GEAR OIL SAE 80W90. Please confirm.

#### **WEAR**

Copper and tin ppm levels are abnormal. Bearing and/or bushing wear is indicated. Component wear metal level(s) high for break in.

#### CONTAMINATION

There is no indication of any contamination in the oil.

### FLUID CONDITION

The oil is no longer serviceable as a result of the abnormal and/or severe wear.

TestUOMMethodLimit/AnCurrentHistory1History2Sample NumberClient Info03 Jan 2024Machine AgehrsClient Info03 Jan 2024Machine AgehrsClient Info0Filter AgehrsClient Info0Filter AgehrsClient InfoN/AFilter ChangedClient InfoN/AFilter ChangedClient InfoN/ASample StatusClient InfoN/AIronppmASTMD5180m>50390NickelppmASTMD5180m>5<1NickelppmASTMD5180m>5<1SilverppmASTMD5180m>55AluminumppmASTMD5180m>55AluminumppmASTMD5180m>55VanadiumppmASTMD5180m>516YatlobscalarVisual*NONENONESiliconppmASTMD5180m>200YatlobscalarVisual*NONENONESiliconppmASTMD5180m>200YatlobscalarVisual*NORENORESiliconppmASTMD5180m>200YatlobscalarVisual*NORE </th <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>							
Sample DateClient Info03 Jan 2024Machine AgehrsClient Info3567Oil AgehrsClient Info0Filter AgehrsClient InfoN/AGli ChangedClient InfoN/AFilter ChangedClient InfoN/AFilter ChangedClient InfoN/ASample StatusClient InfoN/AIronppmASTMD5185(m) >500390IronppmASTMD5185(m) >5<1NickelppmASTMD5185(m) >5<1AluminumppmASTMD5185(m) >52AluminumppmASTMD5185(m) >55VanadiumppmASTMD5185(m) >516VanadiumppmASTMD5185(m) >516Yatlow MetalscalarVisual*NONENONESiliconppmASTMD5185(m) >216SiliconppmASTMD5185(m) >216SiliconppmASTMD5185(m) >216SiliconppmASTMD5185(m) >216SiliconppmASTMD5185(m) >216SiliconppmASTMD5185(m) >2NONE-	Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample DateClient Info03 Jan 2024Machine AgehrsClient Info3567Dil AgehrsClient Info0Filter AgehrsClient InfoN/ADil ChangedClient InfoN/AFilter ChangedClient InfoN/AFilter ChangedClient InfoN/ASample StatusClient InfoN/AIronppASTMD5185/m>50390NickelppASTMD5185/m>5<1NickelppASTMD5185/m>52AluminumppASTMD5185/m>52AluminumppASTMD5185/m>55VanadiumppASTMD5185/m>516VanadiumppASTMD5185/m>216SiliconppASTMD5185/m>216ValdervolueitvolueitNONENONESiliconppASTMD5185/m>216ValdervolueitvolueitNONENONESiliconppASTMD5185/m>20NONE	Sample Number		Client Info		LH0247604		
Oil Age Filter AgehrsClient Info0Filter AgehrsClient InfoN/AOil ChangedClient InfoN/AFilter ChangedClient InfoN/ASample StatusClient InfoN/AIronppmASTMD5185(m) >5003900IronppmASTMD5185(m) >503900NickelppmASTMD5185(m) >5<1TitaniumppmASTMD5185(m) >52AluminumppmASTMD5185(m) >55AluminumppmASTMD5185(m) >55VanadiumppmASTMD5185(m) >516VanduiumppmASTMD5185(m) >516ValodumppmASTMD5185(m) >216ValodumppmASTMD5185(m) >216SiliconppmASTMD5185(m) >216SiliconppmASTMD5185(m) >2NONESiliconppmASTMD5185(m) >216SiliconppmASTMD5185(m) >2NORESiliconppmASTMD5185(m) >2NORESiliconppmASTMD518(m) >2NORESodiumppm	Sample Date		Client Info		03 Jan 2024		
Filter AgehrsClient Info0Oil ChangedClient InfoN/AFilter ChangedClient InfoN/ASample StatusABNORMALIronppmASTMD5185(m) >500390NickelppmASTMD5185(m) >5<1NickelppmASTMD5185(m) >5<1TitaniumppmASTMD5185(m) >52AluminumppmASTMD5185(m) >55AluminumppmASTMD5185(m) >55VanadiumppmASTMD5185(m) >55VanadiumppmASTMD5185(m) >516ValendumppmASTMD5185(m) >216SiliconppmASTMD5185(m) >216SiliconppmASTMD5185(m) >216SiliconppmASTMD5185(m) >2NONESiliconppmASTMD5185(m) >2NONESiliconppmASTMD5185(m) >2NONESiliconppmASTMD5185(m) >2NONESiliconppmASTMD5185(m) >2NONESiliconppmASTMD5185(m) >2NORESodiumppmASTMD5185(m) 2<	Machine Age	hrs	Client Info		3567		
Oil ChangedClient InfoN/AFilter ChangedClient InfoN/ASample StatusASTM DS18(m) >500390IronppmASTM DS18(m) >500390ChromiumppmASTM DS18(m) >502NickelppmASTM DS18(m) >50SilverppmASTM DS18(m) >50AluminumppmASTM DS18(m) >50AluminumppmASTM DS18(m) >50CopperppmASTM DS18(m) >50YanadiumppmASTM DS18(m) >5018VanadiumppmASTM DS18(m) >50Yellow MetalscalarVisual*NONESiliconppmASTM DS18(m) >200SiliconppmASTM DS18(m) >2016SiliconppmASTM DS18(m) >20NONESiliconppmASTM DS18(m) >20NONESiliconppmASTM DS18(m) >20NONESodurppmASTM DS18(m) >20NONESodurppmASTM DS18(m) >20NONESodurppmASTM DS18(m) >20NORESodurppmASTM DS18(m) >10NORESodurppmASTM DS18(m) >10NORESodurppmASTM DS18(m) >10IncBoronppm<	Oil Age	hrs	Client Info		0		
Filter Changet         Client Info         N/A            Sample Status         AENORMAL          AENORMAL            Iron         ppm         ASTM D5185/m         >500         390             Chromium         ppm         ASTM D5185/m         >8         2             Nickel         ppm         ASTM D5185/m         >5         <1             Silver         ppm         ASTM D5185/m         0              Aluminum         ppm         ASTM D5185/m         5         2             Auminum         ppm         ASTM D5185/m         >5         5             Lead         ppm         ASTM D5185/m         >5         5             Vanadium         ppm         ASTM D5185/m         >5         5	Filter Age	hrs	Client Info		0		
Sample Status         ABNORMAL            Iron         ppm         ASTM D5185(m)         >500         3900            Chromium         ppm         ASTM D5185(m)         >8         2            Nickel         ppm         ASTM D5185(m)         >5         <1            Nickel         ppm         ASTM D5185(m)         >5         <1            Silver         ppm         ASTM D5185(m)         >5         2            Aluminum         ppm         ASTM D5185(m)         >5         5            Lead         ppm         ASTM D5185(m)         >5         5            Vanadium         ppm         ASTM D5185(m)         >5         5            Yellow Metal         scalar         Visual*         NONE         NONE            Yellow Metal         scalar         Visual*         NONE         NONE            Silicon         ppm         ASTM D5185(m)<>20         0            Silicon         ppm         ASTM D5185(m)<>20         0.0	Oil Changed		Client Info		N/A		
Iron         ppm         ASTM D5185(m)         >500 <b>390</b> Chromium         ppm         ASTM D5185(m)         >8 <b>2</b> Nickel         ppm         ASTM D5185(m)         >5 <b>1</b> Titanium         ppm         ASTM D5185(m) <b>0</b> Aluminum         ppm         ASTM D5185(m) <b>5 2</b> Aluminum         ppm         ASTM D5185(m)         >5 <b>5</b>	Filter Changed		Client Info		N/A		
Ppm         ASTM D5165(m)         >8         2             Nickel         ppm         ASTM D5165(m)         >5         <1             Tittanium         ppm         ASTM D5165(m)         0             Silver         ppm         ASTM D5165(m)         0             Aluminum         ppm         ASTM D5165(m)         >5         2            Lead         ppm         ASTM D5165(m)         >50         A 213            Copper         ppm         ASTM D5165(m)         >0             Vanadium         ppm         ASTM D5165(m)         >0         0            Vanadium         ppm         ASTM D5165(m)         >20         0            Vanadium         ppm         ASTM D5165(m)220         16             Vanadium         ppm         ASTM D5165(m)         >20         0             Silicon         ppm         ASTM D5165(m)         >20         0             Sodium         ppm         AST	Sample Status				ABNORMAL		
Ppm         ASTM D5165(m)         >8         2             Nickel         ppm         ASTM D5165(m)         >5         <1             Tittanium         ppm         ASTM D5165(m)         0             Silver         ppm         ASTM D5165(m)         0             Aluminum         ppm         ASTM D5165(m)         >5         2            Lead         ppm         ASTM D5165(m)         >50         A 213            Copper         ppm         ASTM D5165(m)         >0             Vanadium         ppm         ASTM D5165(m)         >0         0            Vanadium         ppm         ASTM D5165(m)         >20         0            Vanadium         ppm         ASTM D5165(m)220         16             Vanadium         ppm         ASTM D5165(m)         >20         0             Silicon         ppm         ASTM D5165(m)         >20         0             Sodium         ppm         AST							
Nickel         ppm         ASTM D5185(m)         >5         <1	-	ppm	( )	>500			
Titanium         ppm         ASTM D5165(m)         O            Silver         ppm         ASTM D5165(m)         0            Aluminum         ppm         ASTM D5165(m)         >5         2            Lead         ppm         ASTM D5165(m)         >5         5            Copper         ppm         ASTM D5165(m)         >50 <b>A</b> 213            Tin         ppm         ASTM D5165(m)         A         18            Vanadium         ppm         ASTM D5165(m)         A         18            Vanadium         ppm         ASTM D5165(m)         >20             Vanadium         ppm         ASTM D5165(m)         >20         0            Vanadium         ppm         ASTM D5165(m)         >20         0            Vanadium         ppm         ASTM D5165(m)         >20         0		ppm	ASTM D5185(m)	>8	_		
Silver         ppm         ASTM D5185(m)         0            Aluminum         ppm         ASTM D5185(m)         >5         2            Lead         ppm         ASTM D5185(m)         >5         5            Copper         ppm         ASTM D5185(m)         >50         213            Tin         ppm         ASTM D5185(m)         >6         213            Vanadium         ppm         ASTM D5185(m)         >0             White Metal         scalar         Visual*         NONE         NONE             Yellow Metal         scalar         Visual*         NONE         VLITE             Silicon         ppm         ASTM D5185(m)         >20         0             Silit         scalar         Visual*         NONE         NONE             Sand/Dirt         scalar         Visual*         NORE         NORE             Appearance         scalar         Visual*         NORM         NORML		ppm		>5			
Aluminum         ppm         ASTM D5185(m)         >5         2            Lead         ppm         ASTM D5185(m)         >5         5            Copper         ppm         ASTM D5185(m)         >50         ▲ 213            Tin         ppm         ASTM D5185(m)         >50         ▲ 18            Vanadium         ppm         ASTM D5185(m)         0             White Metal         scalar         Visual*         NONE         NONE            Yellow Metal         scalar         Visual*         NONE         16             Silicon         ppm         ASTM D5185(m)         >20         0             Silicon         ppm         ASTM D5185(m)         >20         0             Silit         scalar         Visual*         NONE         NONE             Debris         scalar         Visual*         NORM         NORML             Appearance         scalar         Visual*         NORML         NORML		ppm	ASTM D5185(m)		0		
Lead         ppm         ASTM D5185(m)         >5         5            Copper         ppm         ASTM D5185(m)         >50         ▲ 213            Tin         ppm         ASTM D5185(m)         ▲         18            Vanadium         ppm         ASTM D5185(m)         ▲         0            White Metal         scalar         Visual*         NONE         NONE            Yellow Metal         scalar         Visual*         NONE             Silicon         ppm         ASTM D5185(m)         >25         16             Water         WC Method         >0.2         NEG             Silit         scalar         Visual*         NONE             Appearance         scalar         Visual*         NORE             Appearance         scalar         Visual*         NORM         NORML            Sodium         ppm         ASTM D5185(m)         >170         6            Boron         ppm         ASTM D5185(m)         200		ppm	( )		-		
Copper         ppm         ASTM D5185(m)         >50         ▲ 213            Tin         ppm         ASTM D5185(m)         ▲         18            Vanadium         ppm         ASTM D5185(m)         0            White Metal         scalar         Visual*         NONE            Yellow Metal         scalar         Visual*         NONE            Silicon         ppm         ASTM D5185(m)         >25         16            Silicon         ppm         ASTM D5185(m)         >20         0            Water         WC Method         >0.2         NEG             Sad/Dirt         scalar         Visual*         NONE         NONE             Appearance         scalar         Visual*         NORM         NORML             Godr         scalar         Visual*         NORM         NORML             Appearance         scalar         Visual*         NORM         NORML             Godr         scalar         Visual*         0.2 <th></th> <th>ppm</th> <th></th> <th></th> <th>_</th> <th></th> <th></th>		ppm			_		
TinppmASTM D5185(m)▲18VanadiumppmASTM D5185(m)0White MetalscalarVisual*NONENONEYellow MetalscalarVisual*NONEVLITESiliconppmASTM D5185(m)>200PotassiumppmASTM D5185(m)>200WaterWC Method>0.2NEGSilitscalarVisual*NONENONEDebrisscalarVisual*NONENONESand/DirtscalarVisual*NORMNORMLAppearancescalarVisual*NORMNORMLGodorscalarVisual*NORMNORMLSodiumppmASTM D5185(m)>1706BoronppmASTM D5185(m)200<1MalganeseppmASTM D5185(m)120MagnesiumppmASTM D5185(m)121PhosphorusppmASTM D5185(m)125215SollfurppmASTM D5185(m)125215MagnesiumppmASTM D5185(m)12524914Phos		ppm			-		
Vanadium         ppm         ASTM D5185(m)         O            White Metal         scalar         Visual*         NONE         NONE            Yellow Metal         scalar         Visual*         NONE         VLITE            Silicon         ppm         ASTM D5185(m)         >20         0            Potassium         ppm         ASTM D5185(m)         >20         0            Water         WC Method         >0.2         NEG             Silt         scalar         Visual*         NONE         NONE             Sand/Dirt         scalar         Visual*         NONE         NONE             Appearance         scalar         Visual*         NORM         NORML             Sodium         ppm         ASTM D5185(m)         >17.0         6             Boron         ppm         ASTM D5185(m)         >17.0         6             Molybclenum         ppm         ASTM D5185(m)         200         <-1	Copper	ppm	ASTM D5185(m)	>50	<u> </u>		
White MetalscalarVisual*NONENONEYellow MetalscalarVisual*NONEVLITESiliconppmASTM D5185(m)>2516PotassiumppmASTM D5185(m)>200WaterWC Method>0.2NEGSiltscalarVisual*NONENONEDebrisscalarVisual*NONENONESand/DirtscalarVisual*NOREAppearancescalarVisual*NORMNORMLOdorscalarVisual*NORMNORMLSodiumppmASTM D5185(m)>1706BoronppmASTM D5185(m)200<1MolybdenumppmASTM D5185(m)120ManganeseppmASTM D5185(m)121ManganeseppmASTM D5185(m)1504PhosphorusppmASTM D5185(m)125215SulfurppmASTM D5185(m)12524914SolufurppmASTM D5185(m)12524914	Tin	ppm	( )		<b>1</b> 8		
Yellow Metal         scalar         Visual*         NONE         VLITE            Silicon         ppm         ASTM D5185(m)         >25         16             Potassium         ppm         ASTM D5185(m)         >20         0             Water         WC Method         >0.2         NEG             Silt         scalar         Visual*         NONE         NONE             Debris         scalar         Visual*         NONE         NONE             Sand/Dirt         scalar         Visual*         NONE         NORE             Appearance         scalar         Visual*         NORM         NORML             Odor         scalar         Visual*         NORM         NORML             Sodium         ppm         ASTM D5185(m)         >170         6             Boron         ppm         ASTM D5185(m)         200         <11             Molybdenum         ppm         ASTM D5185(m)	Vanadium	ppm	ASTM D5185(m)		0		
Silicon         ppm         ASTM D5185(m)         >25         16             Potassium         ppm         ASTM D5185(m)         >20         0             Water         WC Method         >0.2         NEG             Silt         scalar         Visual*         NONE         NONE             Debris         scalar         Visual*         NONE         NONE             Sand/Dirt         scalar         Visual*         NONE         NONE             Appearance         scalar         Visual*         NORM         NORML             Odor         scalar         Visual*         NORM         NORML             Sodium         ppm         ASTM D5185(m)         >170         6             Boron         ppm         ASTM D5185(m)         200         <1             Molybdenum         ppm         ASTM D5185(m)         200         <1             Magnesium         ppm         ASTM D5	White Metal	scalar	Visual*	NONE	NONE		
PotassiumppmASTM D5185(m)>200WaterWC Method>0.2NEGSiltscalarVisual*NONENONEDebrisscalarVisual*NONENONESand/DirtscalarVisual*NONENONEAppearancescalarVisual*NORMLNORMLOdorscalarVisual*NORMLNORMLOdorscalarVisual*NORMLNORMLSodiumppmASTM D5185(m)>1706BoronppmASTM D5185(m)200<1MalganeseppmASTM D5185(m)120MagnesiumppmASTM D5185(m)121PhosphorusppmASTM D5185(m)1504ZincppmASTM D5185(m)125215SulfurppmASTM D5185(m)125215	Yellow Metal	scalar	Visual*	NONE	VLITE		
PotassiumppmASTM D5185(m)>200WaterWC Method>0.2NEGSiltscalarVisual*NONENONEDebrisscalarVisual*NONENONESand/DirtscalarVisual*NONENONEAppearancescalarVisual*NORMLNORMLOdorscalarVisual*NORMLNORMLOdorscalarVisual*NORMLNORMLSodiumppmASTM D5185(m)>1706BoronppmASTM D5185(m)200<1MalganeseppmASTM D5185(m)120MagnesiumppmASTM D5185(m)121PhosphorusppmASTM D5185(m)1504ZincppmASTM D5185(m)125215SulfurppmASTM D5185(m)125215	Silicon	nnm	ASTM D5185(m)	>25	16		
WaterWC Method>0.2NEGSiltscalarVisual*NONENONEDebrisscalarVisual*NONENONESand/DirtscalarVisual*NONENONEAppearancescalarVisual*NORMLNORMLOdorscalarVisual*NORMLNORMLCodorscalarVisual*NORMLNORMLEmulsified WaterscalarVisual*NORSodiumppmASTM D5185(m)>1706BoronppmASTM D5185(m)200<1MalganeseppmASTM D5185(m)200<1MagnesiumppmASTM D5185(m)120MagnesiumppmASTM D5185(m)1504PhosphorusppmASTM D5185(m)1502337ZincppmASTM D5185(m)125215SulfurppmASTM D5185(m)12524914					-		
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DebrisscalarVisual*NONENONESand/DirtscalarVisual*NONENONEAppearancescalarVisual*NORMLNORMLOdorscalarVisual*NORMLNORMLDdorscalarVisual*NORMLNORMLEmulsified WaterscalarVisual*NORMLNORMLSodiumppmASTM D5185(m) >1706BoronppmASTM D5185(m) 200<1BariumppmASTM D5185(m) 200<1MolybdenumppmASTM D5185(m) 120MagnesiumppmASTM D5185(m) 121PhosphorusppmASTM D5185(m) 1504ZincppmASTM D5185(m) 1252337SulfurppmASTM D5185(m) 125215SulfurppmASTM D5185(m) 12524914	Silt	scalar	Visual*	NONE	NONE		
AppearancescalarVisual*NORMLNORMLOdorscalarVisual*NORMLNORMLEmulsified WaterscalarVisual*>0.2NEGSodiumppmASTM D5185(m)>1706BoronppmASTM D5185(m)200<1BariumppmASTM D5185(m)200<1MolybdenumppmASTM D5185(m)120ManganeseppmASTM D5185(m)121MagnesiumppmASTM D5185(m)1504PhosphorusppmASTM D5185(m)16502337ZincppmASTM D5185(m)125215SulfurppmASTM D5185(m)225024914	Debris		Visual*	NONE	NONE		
OdorscalarVisual*NORMLNORMLEmulsified WaterscalarVisual*>0.2NEGSodiumppmASTM D5185(m)>1706BoronppmASTM D5185(m)200<1BariumppmASTM D5185(m)200<1MolybdenumppmASTM D5185(m)120ManganeseppmASTM D5185(m)121MagnesiumppmASTM D5185(m)121CalciumppmASTM D5185(m)1504PhosphorusppmASTM D5185(m)16502337ZincppmASTM D5185(m)125215SulfurppmASTM D5185(m)2250024914	Sand/Dirt	scalar	Visual*	NONE	NONE		
OdorscalarVisual*NORMLNORMLNORMLImage: constraint of the state of	Appearance	scalar	Visual*	NORML	NORML		
Sodium         ppm         ASTM D5185(m)         >170         6            Boron         ppm         ASTM D5185(m)         400         <1             Barium         ppm         ASTM D5185(m)         200         <1             Malybdenum         ppm         ASTM D5185(m)         200         <1             Manganese         ppm         ASTM D5185(m)         12         0             Magnesium         ppm         ASTM D5185(m)         12         1             Calcium         ppm         ASTM D5185(m)         12         1             Phosphorus         ppm         ASTM D5185(m)         150         4             Zinc         ppm         ASTM D5185(m)         1650         2337             Sulfur         ppm         ASTM D5185(m)         125         215							
Boron         ppm         ASTM D5185(m)         400         <1	Odor	scalar	Visual*	NORML	NORML		
Boron         ppm         ASTM D5185(m)         400         <1							
Barium         ppm         ASTM D5185(m)         200         <1							
Molybdenum         ppm         ASTM D5185(m)         12         0            Manganese         ppm         ASTM D5185(m)         23             Magnesium         ppm         ASTM D5185(m)         12         1             Calcium         ppm         ASTM D5185(m)         120         4             Phosphorus         ppm         ASTM D5185(m)         150         4             Zinc         ppm         ASTM D5185(m)         1650         2337             Sulfur         ppm         ASTM D5185(m)         125         215	Emulsified Water Sodium	scalar	Visual* ASTM D5185(m)	>0.2 >170	NEG 6		
Manganese         ppm         ASTM D5185(m)         23            Magnesium         ppm         ASTM D5185(m)         12         1            Calcium         ppm         ASTM D5185(m)         150         4             Phosphorus         ppm         ASTM D5185(m)         1650         2337             Zinc         ppm         ASTM D5185(m)         125         215             Sulfur         ppm         ASTM D5185(m)         22500         24914	Emulsified Water Sodium	scalar ppm	Visual* ASTM D5185(m) ASTM D5185(m)	>0.2 >170	NEG 6		
Magnesium         ppm         ASTM D5185(m)         12         1            Calcium         ppm         ASTM D5185(m)         150         4             Phosphorus         ppm         ASTM D5185(m)         1650         2337             Zinc         ppm         ASTM D5185(m)         125         215             Sulfur         ppm         ASTM D5185(m)         22500         24914	Emulsified Water Sodium Boron Barium	scalar ppm ppm	Visual* ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	>0.2 >170 400	NEG 6 <1 <1		
Calcium         ppm         ASTM D5185(m)         150         4            Phosphorus         ppm         ASTM D5185(m)         1650         2337             Zinc         ppm         ASTM D5185(m)         125         215             Sulfur         ppm         ASTM D5185(m)         22500         24914	Emulsified Water Sodium Boron Barium	scalar ppm ppm ppm	Visual* ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	>0.2 >170 400 200	NEG 6 <1 <1 0		
Phosphorus         ppm         ASTM D5185(m)         1650         2337             Zinc         ppm         ASTM D5185(m)         125         215             Sulfur         ppm         ASTM D5185(m)         22500         24914	Emulsified Water Sodium Boron Barium Molybdenum	scalar ppm ppm ppm ppm	Visual* ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	>0.2 >170 400 200	NEG 6 <1 <1 0		
Zinc         ppm         ASTM D5185(m)         125         215            Sulfur         ppm         ASTM D5185(m)         22500         24914	Emulsified Water Sodium Boron Barium Molybdenum Manganese	scalar ppm ppm ppm ppm ppm	Visual* ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	>0.2 >170 400 200 12	NEG 6 <1 <1 0 23	   	   
Sulfur         ppm         ASTM D5185(m)         22500         24914	Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium	scalar ppm ppm ppm ppm ppm	Visual* ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	>0.2 >170 400 200 12 12	NEG 6 <1 <1 0 23 1		
	Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium	scalar ppm ppm ppm ppm ppm ppm	Visual* ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	>0.2 >170 400 200 12 12 12	NEG 6 <1 <1 0 23 1 4		
Visc @ 40°C cSt ASTM D7279(m) 143 175	Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	scalar ppm ppm ppm ppm ppm ppm ppm	Visual* ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	>0.2 >170 400 200 12 12 12 150 1650	NEG 6 <1 <1 0 23 1 4 2337		
	Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	scalar ppm ppm ppm ppm ppm ppm ppm ppm	Visual* ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	>0.2 >170 400 200 12 12 12 150 1650 125	NEG 6 <1 <1 0 23 1 4 2337 215		



