

WEAR ABNORMAL CONTAMINATION NORMAL FLUID CONDITION NORMAL



TMR-Riviera Beach 231160 LIEBHERR LH40M 1202-75762

Front Right Wheel Hub

AMALIE 85W140 (--- GAL)

RECOMMENDATION

No corrective action is recommended at this time. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

WEAR

Gear wear is indicated.

CONTAMINATION

There is no indication of any contamination in the oil.

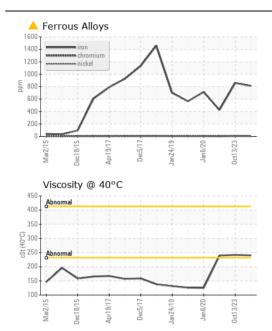
FLUID CONDITION

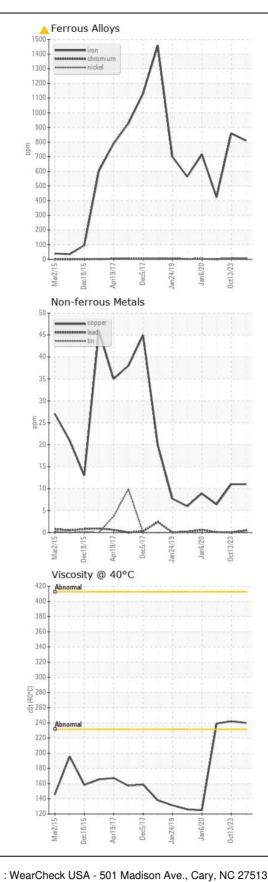
The condition of the oil is acceptable for the time in service.

Sample DateClient Info09 Jul 202413 Oct 202329 Mar 202Machine AgehrsClient Info15282141819701Oil AgehrsClient Info50000Filter AgehrsClient InfoChangedNot ChangedNot ChangedFilter ChangedClient InfoChangedNANASample StatusClient InfoChangedNANAIronppmASTM D5185n>650A 810A 858424ChromiumppmASTM D5185n>41<1<1NickelppmASTM D5185n>41<1<1TitaniumppmASTM D5185n>41<1<1SilverppmASTM D5185n>44000AluminumppmASTM D5185n>460011CopperppmASTM D5185n>400<11VisualNONENONENONENONENONENONENONESiliconppmASTM D5185n>400<111Yellow Metalscalar'VisualNONENONENONENONENONESiliconppmASTM D5185n>75131222PotassiumppmASTM D5185n>75131221VanddiumppmASTM D5185nNONENONENONENONESilicon </th <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>							
Sample DateClient Info99 Jul 202413 Oct 202329 Mar 202Machine AgehrsClient Info15282141819701Oil AgehrsClient Info50000Filter AgehrsClient InfoChangedNot ChangedNot ChangedFilter ChangedClient InfoChangedN/AN/ASample StatusClient InfoChangedN/AN/ASample StatusASTM D5185n>650A 810A 858424IronppmASTM D5185n>4A 60A 71NickelppmASTM D5185n>41<1<1TitaniumppmASTM D5185n>41<1<1TitaniumppmASTM D5185n>44000AluminumppmASTM D5185n>440016TinppmASTM D5185n>440<16116TinppmASTM D5185n>400<116111611161116111611 <td< th=""><th>Test</th><th>UOM</th><th>Method</th><th>Limit/Abn</th><th>Current</th><th>History1</th><th>History2</th></td<>	Test	UOM	Method	Limit/Abn	Current	History1	History2
Machine AgehrsClient Info15282141819701Oil AgehrsClient Info5000500Filter AgehrsClient Info50000Oil ChangedClient InfoChangedNANASample StatusClient InfoChangedNANASample StatusASTM D5185m>650A 810ASS8424ChromiumppmASTM D5185m>4671NickelppmASTM D5185m>4671TitaniumppmASTM D5185m>4400SilverppmASTM D5185m>4<100AluminumppmASTM D5185m>4<100Agent ASTM D5185m>4<10<11CopperppmASTM D5185m>40<10VianadiumppmASTM D5185m>40<10VianadiumppmASTM D5185m>40<10VianadiumppmASTM D5185m>400<1VianadiumppmASTM D5185m>400<1VianadiumppmASTM D5185m>400<1VianadiumppmASTM D5185m>400<1VianadiumppmASTM D5185m>400<1VianadiumppmASTM D5185m>400 <td< th=""><th>Sample Number</th><th></th><th>Client Info</th><th></th><th>DJJ0023194</th><th>DJJ0021113</th><th>DJJ0007663</th></td<>	Sample Number		Client Info		DJJ0023194	DJJ0021113	DJJ0007663
Oil Age Filter AgehrsClient Info50000Filter AgehrsClient InfoChangedNot ChangedNot ChangedNot ChangedFilter ChangedClient InfoChangedN/AN/AN/ASample StatusClient InfoChangedN/AN/AIronppmASTM D5185m>650▲ 810ASNORMALABNORMALNickelppmASTM D5185m>41<1<1NickelppmASTM D5185m>41<1<1TitaniumppmASTM D5185m>4<100SilverppmASTM D5185m>4<100GopperppmASTM D5185m>6011111161TinppmASTM D5185m>6011111161VanadiumppmASTM D5185m>6010000White Metalscalar*VisualNONENONENONENONESiliconppmASTM D5185m>7513122PotassiumppmASTM D5185m>20321WaterVisualNONENONENONENONENONESiliconppmASTM D5185m>20321WaterVisualNONENONENONENONENONESiliconppmASTM D5185m>20321WaterVisualNONENONENONE<	Sample Date		Client Info		09 Jul 2024	13 Oct 2023	29 Mar 2021
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Filter Changed Client Info Changed N/A N/A Sample Status ABNORMAL ABNORMAL ABNORMAL NORMAL Iron ppm ASTM D5185m >650 ▲ 810 ▲ 858 424 Chromium ppm ASTM D5185m >4 ▲ 6 ▲ 7 1 Nickel ppm ASTM D5185m >4 4 6 ▲ 7 1 Titanium ppm ASTM D5185m >4 4 1 <1 <1 Glead ppm ASTM D5185m >4 <1 0 0 0 Aluminum ppm ASTM D5185m >4 <1 0 <1 6 Copper ppm ASTM D5185m >4 60 11 11 6 Tin ppm ASTM D5185m >4 0 0 <1 0 Vanadium ppm ASTM D5185m >4 0 0 <1 0 Vanadium ppm ASTM D5185m >5 13 12 2 0 Vanad	Filter Age	hrs	Client Info		500	0	0
Sample StatusABNORMALABNORMALABNORMALNORMALIronppmASTM D5185m>6500A 810A 858424ChromiumppmASTM D5185m>4A 671NickelppmASTM D5185m>41<1<1TitaniumppmASTM D5185m>4<100SilverppmASTM D5185m>4<100AluminumppmASTM D5185m>25220LeadppmASTM D5185m>4<10<1CopperppmASTM D5185m>400<1VanadiumppmASTM D5185m>400<1VanadiumppmASTM D5185m>400<1VanadiumppmASTM D5185m>400<1VanadiumppmASTM D5185m>400<1VanadiumppmASTM D5185m>400<1VanadiumppmASTM D5185m>400<1VanadiumppmASTM D5185m>400<1VanadiumppmASTM D5185m>400<1VanadiumppmASTM D5185m>20321SiliconppmASTM D5185m>20321Debrisscalar*VisualNONENONENONENONEDebrisscalar	Oil Changed		Client Info		Changed	Not Changd	Not Changd
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Image ASTM D5185m >4 6 7 1 Nickel ppm ASTM D5185m >4 1 <1 <1 <1 Titanium ppm ASTM D5185m >4 <1 0 0 Silver ppm ASTM D5185m >4 <1 0 0 Aluminum ppm ASTM D5185m >25 2 2 0 Lead ppm ASTM D5185m >4 <1 0 <1 Copper ppm ASTM D5185m >4 0 0 <1 Vanadium ppm ASTM D5185m >20 3 2 1 Vellow Metal scalar *Visual NONE NONE NONE	Iron	nnm	AGTM D5185m	×650	A 910	A 959	101
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Titanium ppm ASTM D5185m >4 <1							
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Aluminum ppm ASTM D5185m >25 2 2 0 Lead ppm ASTM D5185m >4 <1 0 <1 Copper ppm ASTM D5185m >60 11 111 6 Tin ppm ASTM D5185m >4 0 0 <1 Vanadium ppm ASTM D5185m >75 13 12 2 Potassium ppm ASTM D5185m >20 3 2 1 Water WC Method >0.2 NEG NONE NONE NORE Debris scalar *Visual NONE NONE NORE NORM Appearance scalar *Visual NORM NORML				>4			
Lead ppm ASTM D5185m >4 <1				. 05	-		
Copper ppm ASTM D5185m >60 11 11 6 Tin ppm ASTM D5185m >4 0 0 <1 Vanadium ppm ASTM D5185m >4 0 0 <1 Vanadium ppm ASTM D5185m <1 0 0 White Metal scalar *Visual NONE NONE NONE LIGHT Yellow Metal scalar *Visual NONE NONE NONE NONE NONE Silicon ppm ASTM D5185m >75 13 12 2 Potassium ppm ASTM D5185m >75 13 12 2 Silicon ppm ASTM D5185m >75 13 12 2 Mater wC Method >0.2 NEG NEG NEG NONE Debris scalar *Visual NONE NONE NONE NORM Appearance scalar *Visual							
TinppmASTM D5185m>400<1							
VanadiumppmASTM D5185m<1							
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PotassiumppmASTM D5185m>20321WaterWC Method>0.2NEGNEGNEGSiltscalar*VisualNONENONENONENONEDebrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGSodiumppmASTM D5185m564BoronppmASTM D5185m000MolybdenumppmASTM D5185m6334MagnesiumppmASTM D5185m633MagnesiumppmASTM D5185m2312CalciumppmASTM D5185m2158	Yellow Metal	scalar	"VISUAI	NONE	NONE	NONE	NONE
WaterWC Method>0.2NEGNEGNEGSiltscalar*VisualNONENONENONENONEDebrisscalar*VisualNONENONENONEVLITESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEGSodiumppmASTM D5185m564ABariumppmASTM D5185m0000MolybdenumppmASTM D5185m6334MagnesiumppmASTM D5185m6633MagnesiumppmASTM D5185m2312CalciumppmASTM D5185m2158	Silicon	ppm	ASTM D5185m	>75	13	12	2
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Debrisscalar*VisualNONENONENONEVLITESand/Dirtscalar*VisualNONENONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEGSodiumppmASTM D5185m564ABoronppmASTM D5185m0000MolybdenumppmASTM D5185m0000ManganeseppmASTM D5185m63312CalciumppmASTM D5185m215831	Water		WC Method	>0.2	NEG	NEG	NEG
Sand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEGSodiumppmASTM D5185m564BoronppmASTM D5185m0333412BariumppmASTM D5185m000MolybdenumppmASTM D5185m663MagnesiumppmASTM D5185m663MagnesiumppmASTM D5185m312CalciumppmASTM D5185m2158	Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearancescalar*VisualNORML<	Debris	scalar	*Visual	NONE	NONE	NONE	VLITE
Odorscalar*VisualNORML <t< th=""><th>Sand/Dirt</th><th>scalar</th><th>*Visual</th><th>NONE</th><th>NONE</th><th>NONE</th><th>NONE</th></t<>	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Emulsified Water scalar *Visual >0.2 NEG NEG NEG Sodium ppm ASTM D5185m 5 6 4 Boron ppm ASTM D5185m 5 6 4 Barium ppm ASTM D5185m 0 33 34 12 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 1 <1 <1 <1 Manganese ppm ASTM D5185m 6 6 3 3 Magnesium ppm ASTM D5185m 3 1 2 2 Calcium ppm ASTM D5185m 2 15 8	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Sodium ppm ASTM D5185m 5 6 4 Boron ppm ASTM D5185m 33 34 12 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 6 4 Manganese ppm ASTM D5185m 6 6 3 Magnesium ppm ASTM D5185m 6 6 3 Calcium ppm ASTM D5185m 2 15 8	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Boron ppm ASTM D5185m 33 34 12 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 1 <1	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Boron ppm ASTM D5185m 33 34 12 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 1 <1	Sodium	maa	ASTM D5185m		5	6	4
Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 1 <1							12
Molybdenum ppm ASTM D5185m 1 <1						0	
Manganese ppm ASTM D5185m 6 6 3 Magnesium ppm ASTM D5185m 3 1 2 Calcium ppm ASTM D5185m 2 15 8	Molybdenum		ASTM D5185m		1	<1	<1
Magnesium ppm ASTM D5185m 3 1 2 Calcium ppm ASTM D5185m 2 15 8			ASTM D5185m		6	6	3
Calcium ppm ASTM D5185m 2 15 8	-						
	e e						
Phosphorus ppm ASIM D5185m 360 401 424	Phosphorus	ppm	ASTM D5185m		360	401	424
Zinc ppm ASTM D5185m 17 8 6							
Sulfur ppm ASTM D5185m 16106 18750 14934			ASTM D5185m			18750	14934
Visc @ 40°C cSt ASTM D445 240 242 239							

Report Id: TRAWES4661 [WUSCAR] 06236514 (Generated: 07/17/2024 11:28:09) Rev: 1

Contact/Location: RYAN BOWDEN - TRAWES4661





TRADEMARK METALS RECYCLING - RIVIERA BEACH 4661 DYER BLVD WEST PALM BEACH, FL : 17 Jul 2024 - Sean Felton US 33407 Contact: RYAN BOWDEN

Test Package : CONST Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369.

Lab Number : 06236514

Unique Number : 11125348

Laboratory Sample No.

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

: DJJ0023194

T: F: (561)842-9526 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

: 15 Jul 2024

: 16 Jul 2024

Received

Diagnosed

Tested

Contact/Location: RYAN BOWDEN - TRAWES4661 Page 2 of 2