

WEAR NORMAL CONTAMINATION NORMAL FLUID CONDITION NORMAL



AMR-Columbus 17571 LIEBHERR R924CEW 031533-1069

Pump Drive

LIEBHERR GEAR BASIC 90 LS (--- GAL)

RECOMN	IENDATION

Resample at the next service interval to monitor.

WEAR

All component wear rates are normal.

CONTAMINATION

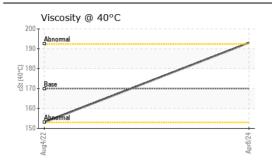
There is no indication of any contamination in the oil.

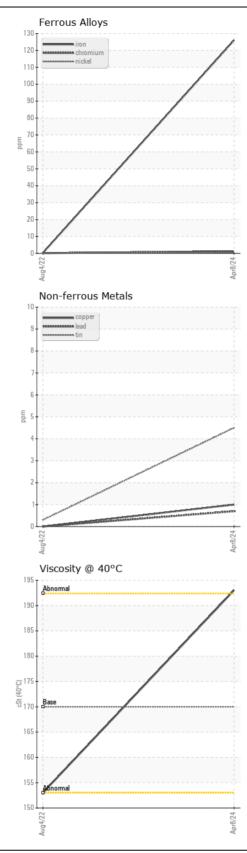
FLUID CONDITION

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

TestUOMMethodLimit/AbCurrentHistory1History2Sample NumberClient InfoDJJ0017216DJJ0015102Sample DateClient Info06 Apr 202404 Aug 2022Machine AgehrsClient Info1401111130Oil AgehrsClient Info00Filter AgehrsClient InfoChangedChangedFilter AngedClient InfoN/AN/ASample StatusClient InfoN/AN/AChromiumppmASTM D5185>500126<-1NickelppmASTM D5185>10<10NickelppmASTM D5185>10<10SilverppmASTM D5185>10JuminumppmASTM D5185>2032AuminumppmASTM D5185>510VanadiumppmASTM D5185>7521<1VanadiumppmASTM D5185>2042Valdescalar"VisualNONENONENONESiliconppmASTM D5185>2042YaldowppmASTM D5185>2042SiliconppmASTM D5185>2042YaldowppmAS	GAL)						
Sample DateClient Info08 Apr 20204 Aug 202Machine AgehrsClient Info1401111130Oil AgehrsClient Info250250Filter AgehrsClient Info00Oil ChangedClient InfoMXAN/ASample StatusClient InfoN/AN/ASample StatusClient InfoN/AN/AIronppmASTM D5185>500126<1NickelppmASTM D5185>10<10NickelppmASTM D5185>10<10NickelppmASTM D5185>10SilverppmASTM D5185>2032AluminumppmASTM D5185>5010NickelppmASTM D5185>5010CopperppmASTM D5185>5010TinppmASTM D5185>5010VanadiumppmASTM D5185>5010VanadiumppmASTM D5185>5010VanadiumppmASTM D5185>5010VanadiumppmASTM D5185>50140VanadiumppmASTM D5185>50140 </th <th>Test</th> <th>UOM</th> <th>Method</th> <th>Limit/Abn</th> <th>Current</th> <th>History1</th> <th>History2</th>	Test	UOM	Method	Limit/Abn	Current	History1	History2
Machine AgehrsClient InfoI401111130Oil AgehrsClient Info250250Filter AgehrsClient Info00Oil ChangedClient InfoN/AN/AFilter ChangedQClient InfoN/AN/ASample StatusClient InfoN/AN/AIronppmASTM D5185m500126<1ChromiumppmASTM D5185m5101<NickelppmASTM D5185m5101<NickelppmASTM D5185m510<10SilverppmASTM D5185m52032AluminumppmASTM D5185m52032LeadppmASTM D5185m520310VanadiumppmASTM D5185m520310VanadiumppmASTM D5185m520310VanadiumppmASTM D5185m520310VanadiumppmASTM D5185m52042VanadiumppmASTM D5185m5201-1SiliconppmASTM D5185m5201-1SiliconppmASTM D5185m5201Silicon <th>Sample Number</th> <th></th> <th>Client Info</th> <th></th> <th>DJJ0017216</th> <th>DJJ0015102</th> <th></th>	Sample Number		Client Info		DJJ0017216	DJJ0015102	
Oil AgehrsClient InfoS09999Filter AgehrsClient InfoChanged <td< th=""><th>Sample Date</th><th></th><th>Client Info</th><th></th><th>08 Apr 2024</th><th>04 Aug 2022</th><th></th></td<>	Sample Date		Client Info		08 Apr 2024	04 Aug 2022	
Filter Age Oil ChangedhrsClient InfoOOGlient InfoChangedChangedChangedChangedFilter ChangedClient InfoN/AN/AN/ASample StatusNORMALNORMALIronppmASTM D5185n>5101<1NickelppmASTM D5185n>10<10NickelppmASTM D5185n>10<10SilverppmASTM D5185n<10AluminumppmASTM D5185n>2032LeadppmASTM D5185n>2032CopperppmASTM D5185n>444<1Yellow Metalscalar'VisualNONENONENONESiliconppmASTM D5185n>7521<1Yellow Metalscalar'VisualNONENONENONESiliconppmASTM D5185n>7521<1SiliconppmASTM D5185n>7521<1SiliconppmASTM D5185n>7521<1SiliconppmASTM D5185n>7521<1SiliconppmASTM D5185n>7521<1SoliconppmASTM D5185n>7521<1<	Machine Age	hrs	Client Info		14011	11130	
Oli ChangedClient IntoKnagedChangedChangedFilter ChangedClient IntoN/AN/AN/ASample StatusNORMALN/ANORMALIronppmASTM D5185n>500126<1ChromiumppmASTM D5185n>10<10NickelppmASTM D5185n>10<10SilverppmASTM D5185n>10<10AluminumppmASTM D5185n>20<10LeadppmASTM D5185n>444<1CopperppmASTM D5185n>444<1VanadiumppmASTM D5185n>444VanadiumppmASTM D5185n>424<1Vellow Metalscalar'VisualNONENONENONESiliconppmASTM D5185n>7521<1VaterWC Method>0.2NEGNONESiliconppmASTM D5185n>70102SiliconppmASTM D5185n>70102SiliconppmASTM D5185n>70102SoliconppmASTM D5185n>20NORENORESiliconscalar'VisualNORENORENORE	Oil Age	hrs	Client Info		250	250	
Filter Changed Sample StatusClient InfoN/AN/AN/ASample StatusClient InfoN/ANORMALNORMALNORMALIronppmASTM D5185m>500126<1ChromiumppmASTM D5185m>10<10NickelppmASTM D5185m>10<10SilverppmASTM D5185m<10AluminumppmASTM D5185m<10LeadppmASTM D5185m>2032CopperppmASTM D5185m>3510VanadiumppmASTM D5185m>3510VanadiumppmASTM D5185m>3510Veltow Metalscalar*VisualNONENONENONEVeltow Metalscalar*VisualNONENONENONESiliconppmASTM D5185m>7521<1SiliconppmASTM D5185m>2042SiliconppmASTM D5185m>2042SiliconppmASTM D5185m>2042SiliconppmASTM D5185m>2042SiliconppmASTM D5185m>20A2SoliconppmASTM D5185m>20NONENONE<	Filter Age	hrs	Client Info		0	0	
Sample StatusNORMALNORMALIronppmASTM D5185>500126<1ChromiumppmASTM D5185>10<10NickelppmASTM D5185>10<10TitaniumppmASTM D5185<10SilverppmASTM D5185<10AluminumppmASTM D5185<10LeadppmASTM D5185>2032CopperppmASTM D5185>3510YanadiumppmASTM D5185>3510VanadiumppmASTM D5185>3510Yellow Metalscalar*VisualNONENONENONESiliconppmASTM D5185>7521<1Yellow Metalscalar*VisualNONENONENONESiliconppmASTM D5185>2042SiliconppmASTM D5185>2042SiliconppmASTM D5185>2042SiliconppmASTM D5185>20A2SiliconppmASTM D5185>20ASiliconppmASTM D5185>20NORESiliconppm <td< th=""><th>Oil Changed</th><th></th><th>Client Info</th><th></th><th>Changed</th><th>Changed</th><th></th></td<>	Oil Changed		Client Info		Changed	Changed	
IronppmASTM D5185m>500126<1	Filter Changed		Client Info		N/A	N/A	
Chromium ppm ASTM D5185m >10 <1	Sample Status				NORMAL	NORMAL	
Chromium ppm ASTM D5185m >10 <1						· · · · · · · · · · · · · · · · · · ·	
NickelppmASTM D5185m>10<10TitaniumppmASTM D5185m<	-				-		
TitaniumppmASTM D5185m<		ppm			-		
SilverppmASTM D5185m<1				>10			
AluminumppmASTM D5185m>2032LeadppmASTM D5185m>3510CopperppmASTM D5185m>3510TinppmASTM D5185m>44<1VanadiumppmASTM D5185m>44<1White Metalscalar*VisualNONENONENONEYellow Metalscalar*VisualNONENONENONESiliconppmASTM D5185m>7521<1PotassiumppmASTM D5185m>2042WaterWC Method>.20NEGNONESilitscalar*VisualNONENONENONESand/Dirtscalar*VisualNONENONENONEAppearancescalar*VisualNORMLNORMLNORMLGodrscalar*VisualNORMLNORMLNORMLSodiumppmASTM D5185m012BariumppmASTM D5185m0<10MagneseppmASTM D5185m0<10MagnesiumppmASTM D5185m0<10MagnesiumppmASTM D5185m<15415MagnesiumppmASTM D5185m<15410		ppm					
LeadppmASTM D5185m<1		ppm					
Copper ppm ASTM D5185m >35 1 0 Tin ppm ASTM D5185m >4 4 <1 Vanadium ppm ASTM D5185m >4 4 <1 White Metal scalar *Visual NONE NONE NONE Yellow Metal scalar *Visual NONE NONE NONE Silicon ppm ASTM D5185m >75 21 <1 Potassium ppm ASTM D5185m >20 4 2 Water WC Method >0.2 NEG NEG Debris scalar *Visual NONE NONE NONE Appearance scalar *Visual NORML NORML NORML Godr scalar *Visual NORML NORML NORML Godr scalar *Visual NOR		ppm		>20			
TinppmASTM D5185m>44<1		ppm					
VanadiumppmASTM D5185m<	Copper	ppm	ASTM D5185m	>35	1	0	
White Metalscalar*VisualNONENONENONENONEYellow Metalscalar*VisualNONENONENONESiliconppmASTM D5185m>7521<1PotassiumppmASTM D5185m>2042WaterWC Method>0.2NEGNEGSiltscalar*VisualNONENONENONEDebrisscalar*VisualNONENONENONESand/Dirtscalar*VisualNONENONENONEAppearancescalar*VisualNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLSodiumppmASTM D5185m012BariumppmASTM D5185m000MolybdenumppmASTM D5185m0<10MaganeseppmASTM D5185m<170MagnesiumppmASTM D5185m<15415PhosphorusppmASTM D5185m<1190SulfurppmASTM D5185m<1190	Tin	ppm	ASTM D5185m	>4	4	<1	
Yellow Metalscalar*VisualNONENONENONESiliconppmASTM D5185m>7521<1PotassiumppmASTM D5185m>2042WaterWC Method>0.2NEGNEGSiltscalar*VisualNONENONENONEDebrisscalar*VisualNONENONENONESand/Dirtscalar*VisualNONENONENONEAppearancescalar*VisualNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGSodiumppmASTM D5185m012BariumppmASTM D5185m0<10ManganeseppmASTM D5185m0<10MagnesiumppmASTM D5185m<170MagnesiumppmASTM D5185m<15415PhosphorusppmASTM D5185m<1190SulfurppmASTM D5185m234688002025056	Vanadium	ppm	ASTM D5185m		<1	0	
SiliconppmASTM D5185m>7521<1	White Metal	scalar	*Visual	NONE	NONE	NONE	
PotassiumppmASTM D5185m>2042WaterWC Method>0.2NEGNEGSiltscalar*VisualNONENONENONEDebrisscalar*VisualNONENONENONESand/Dirtscalar*VisualNONENONENONEAppearancescalar*VisualNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGSodiumppmASTM D5185m012BariumppmASTM D5185m0<10MolybdenumppmASTM D5185m0<10MagnesiumppmASTM D5185m<170PhosphorusppmASTM D5185m<14544155PhosphorusppmASTM D5185m<1435402108SulfurppmASTM D5185m<14335402108SulfurppmASTM D5185m<14190	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
WaterWC Method>0.2NEGNEGSiltscalar*VisualNONENONENONEDebrisscalar*VisualNONENONENONESand/Dirtscalar*VisualNONENONENONEAppearancescalar*VisualNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLEmulsified Waterscalar*VisualNORMLNORMLNORMLSodiumppmASTM D5185m012BariumppmASTM D5185m012MolybdenumppmASTM D5185m0<10MagnesiumppmASTM D5185m<170PhosphorusppmASTM D5185m<1454415PhosphorusppmASTM D5185m<1435402108SilturppmASTM D5185m<1435402108SollfurppmASTM D5185m<1190	Silicon	ppm	ASTM D5185m	>75	21	<1	
Siltscalar*VisualNONENONENONEDebrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGSodiumppmASTM D5185m012BoronppmASTM D5185m0<10BariumppmASTM D5185m0<10MolybdenumppmASTM D5185m0<10MagnesiumppmASTM D5185m<170PhosphorusppmASTM D5185m<1435402108PhosphorusppmASTM D5185m214335402108SulfurppmASTM D5185m<1190	Potassium	ppm	ASTM D5185m	>20	4	2	
Debrisscalar*VisualNONENONENONESand/Dirtscalar*VisualNONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGSodiumppmASTM D5185m012BoronppmASTM D5185m012MolybdenumppmASTM D5185m0<10MagnesiumppmASTM D5185m0<10PhosphorusppmASTM D5185m<15415PhosphorusppmASTM D5185m214335402108ZincppmASTM D5185m<1190SulfurppmASTM D5185m21433602025056	Water		WC Method	>0.2	NEG	NEG	
Sand/Dirtscalar*VisualNONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGSodiumppmASTM D5185m012BoronppmASTM D5185m012BariumppmASTM D5185m0<10MolybdenumppmASTM D5185m0<10MagnesiumppmASTM D5185m<170CalciumppmASTM D5185m<15415PhosphorusppmASTM D5185m214335402108ZincppmASTM D5185m<1190SulfurppmASTM D5185m234688002025056	Silt	scalar	*Visual	NONE	NONE	NONE	
Appearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGSodiumppmASTM D5185m012BoronppmASTM D5185m012BariumppmASTM D5185m0<10MolybdenumppmASTM D5185m0<10ManganeseppmASTM D5185m0<10MagnesiumppmASTM D5185m<170PhosphorusppmASTM D5185m<15415ZincppmASTM D5185m<1190SulfurppmASTM D5185m214338002025056	Debris	scalar	*Visual	NONE	NONE	NONE	
Odorscalar*VisualNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGSodiumppmASTM D5185m04BoronppmASTM D5185m012BariumppmASTM D5185m0<10MolybdenumppmASTM D5185m0<10ManganeseppmASTM D5185m0<10MagnesiumppmASTM D5185m<170PhosphorusppmASTM D5185m<15415PhosphorusppmASTM D5185m<1190SulfurppmASTM D5185m<18002025056	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	
Emulsified Waterscalar*Visual>0.2NEGNEGSodiumppmASTM D5185m04BoronppmASTM D5185m012BariumppmASTM D5185m0<10MolybdenumppmASTM D5185m0<10ManganeseppmASTM D5185m0<10MagnesiumppmASTM D5185m<170CalciumppmASTM D5185m<15415PhosphorusppmASTM D5185m214335402108ZincppmASTM D5185m<1190SulfurppmASTM D5185m234688002025056	Appearance	scalar	*Visual	NORML	NORML	NORML	
Sodium ppm ASTM D5185m 0 4 Boron ppm ASTM D5185m 0 1 2 Barium ppm ASTM D5185m 0 1 2 Barium ppm ASTM D5185m 0 <1 0 Molybdenum ppm ASTM D5185m 0 <1 0 Manganese ppm ASTM D5185m 0 <1 0 Magnesium ppm ASTM D5185m <1 7 0 Calcium ppm ASTM D5185m <1 54 15 Phosphorus ppm ASTM D5185m 2143 3540 2108 Zinc ppm ASTM D5185m <1 19 0 Sulfur ppm ASTM D5185m 23468 80020 250566	Odor	scalar	*Visual	NORML	NORML	NORML	
Boron ppm ASTM D5185m 0 1 2 Barium ppm ASTM D5185m 0 <1 0 Barium ppm ASTM D5185m 0 <1 0 Molybdenum ppm ASTM D5185m 0 <0 0 Manganese ppm ASTM D5185m 0 <1 0 Magnesium ppm ASTM D5185m <1 7 0 Calcium ppm ASTM D5185m <1 54 15 Phosphorus ppm ASTM D5185m <1 3540 2108 Zinc ppm ASTM D5185m <1 19 0 Sulfur ppm ASTM D5185m 23468 80020 25056	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	
Boron ppm ASTM D5185m 0 1 2 Barium ppm ASTM D5185m 0 <1 0 Molybdenum ppm ASTM D5185m 0 <1 0 Manganese ppm ASTM D5185m 0 <1 0 Magnesium ppm ASTM D5185m <1 7 0 Calcium ppm ASTM D5185m <1 54 15 Phosphorus ppm ASTM D5185m <14 3540 2108 Zinc ppm ASTM D5185m <1 19 0 Sulfur ppm ASTM D5185m <1 19 0	Sodium	ppm	ASTM D5185m		0	4	
Barium ppm ASTM D5185m 0 <1	Boron		ASTM D5185m	0	1	2	
Manganese ppm ASTM D5185m 0 <1	Barium		ASTM D5185m	0	<1		
Manganese ppm ASTM D5185m 0 <1	Molybdenum	ppm	ASTM D5185m	0	0	0	
Magnesium ppm ASTM D5185m <1	-		ASTM D5185m	0	<1	0	
Calcium ppm ASTM D5185m <1	Magnesium	ppm	ASTM D5185m	<1	7	0	
Zinc ppm ASTM D5185m <1	Calcium		ASTM D5185m	<1	54	15	
Zinc ppm ASTM D5185m <1	Phosphorus		ASTM D5185m	2143	3540	2108	
	Zinc		ASTM D5185m		19	0	
			ASTM D5185m	23468	80020	25056	

Contact/Location: TERRY PROFFITT - ADVCOLKS





ADVANTAGE METALS RECYCLING - COLUMBUS : WearCheck USA - 501 Madison Ave., Cary, NC 27513 : 16 Apr 2024 2466 NW K-7 HWY : 17 Apr 2024 COLUMBUS, KS US 66725 Contact: TERRY PROFFITT terry.proffitt@advantagerecycling.com T: (620)674-3800 F: (620)674-3822



Unique Number : 10980823 Diagnosed : 18 Apr 2024 - Don Baldridge Test Package : CONST Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. * - 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)

Received

Tested

Laboratory

Sample No.

Lab Number : 06150745

: DJJ0017216

Contact/Location: TERRY PROFFITT - ADVCOLKS Page 2 of 2