

Ascendum Machinery/250 Hour Service SANDVIK 56875

Transfer Gearbox

CITGO CITGO CITGEAR® Synthetic EP 150 (--- GAL)

RECOMMENDATION

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor.

WEAR

All component wear rates are normal.

CONTAMINATION

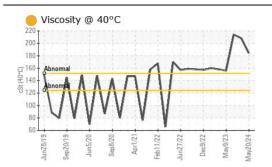
There is no indication of any contamination in the oil.

FLUID CONDITION

The oil viscosity is higher than normal. Confirm oil type.

TestUOMMethodLimit/AbCurrentHistory1History2Sample NumberClient InfoASC0009503ASC0000111Sample DateClient Info20 May 202420 Cd 202324 Jul 2023Machine AgehrsClient Info989589698516Oil AgehrsClient Info000Oil ChangedClient InfoChangedN/AN/AN/ASample StatusClient InfoN/AN/AN/AN/ASample StatusClient InfoN/AATTENTIONATTENTIONATTENTIONIronppmASTM D5185m>2002244ChromiumppmASTM D5185m>1000NickelppmASTM D5185m>1000SilverppmASTM D5185m>1000AluminumppmASTM D5185m0000AgadadiumppmASTM D5185m0000VanadiumppmASTM D5185m0000VanadiumppmASTM D5185m10000ValuetvaluetvaluetNONENONENONENONESiliconppmASTM D5185m2002<1ValuetvaluetvaluetNONENONENONENONESiliconppmASTM D5185m2002<1Valuetvaluetvaluet	GAL)								
Sample DateClient Info20 May 20220 Ct 202324 Jul 2023Machine AgehrsClient Info989589698516Oil AgehrsClient Info8969926473Filter AgehrsClient InfoCChangedNot ChangedFilter ChangedClient InfoMXNANACSample StatusClient InfoMXNANASample StatusClient InfoMXNANASample StatusSample StatusSample StatusATTENTIONATTENTIONIronppmASTM D5185S2002244ChromiumppmASTM D5185Sample Status000NickelppmASTM D5185Sample Status000SilverppmASTM D5185Sample Status000SilverppmASTM D5185M6144CooperppmASTM D5185Ga000VanadiumppmASTM D5185M6141Yellow Metalscalar"VisualNONENONENONENONESiliconppmASTM D5185SampleNONENONENONENONESiliconppmASTM D5185SampleNONENONENONENONESiliconppmASTM D5185SampleNONENONENONENONESiliconppmASTM D5185SampleNONE	Test	UOM	Method	Limit/Abn	Current	History1	History2		
Machine AgeInsClient Into989589698516Oil AgehrsClient Into8969926473Filter AgehrsClient Into000Oil ChangedClient IntoKANAC AnangeNat ChangedFilter ChangedClient IntoN/AN/AN/ASample StatusClient IntoN/AN/AN/AIronppmASTM D5185n>2002244ChromiumppmASTM D5185n>10Client00NickelppmASTM D5185n>10000SilverppmASTM D5185n0000AluminumppmASTM D5185n0000CopperppmASTM D5185n0000VanadiumppmASTM D5185n0000VanadiumppmASTM D5185n0000Vellow Metalscalar'VisualNONENONENONENONEVellow Metalscalar'VisualNONENONENONENONENONESiliconppmASTM D5185n>2002<1Vellow Metalscalar'VisualNONENONENONENONESiliconppmASTM D5185n>20NONENONENONESiliconppmASTM D5185n>20NONENONENONESoliconp	Sample Number		Client Info		ASC0009582	ASC0005063	ASC0000011		
Cili Age Filter AgehrsCilent InfoM9969926473Filter AgehrsCilent InfoOOOOOil ChangedCilent InfoN/AN/AN/AN/ASample StatusCilent InfoN/AN/AN/AN/ASample StatusS2002244OIronppmASTM D5185>2002244ChromiumppmASTM D5185>10OOONickelppmASTM D5185Io00OSilverppmASTM D5185OOOOAuminumppmASTM D5185IoOOOCopperppmASTM D5185IoOOOVandadiumppmASTM D5185IoOOOVandadiumppmASTM D5185IoOOOValow Metalscalar'VisualNONENONENONENONESiliconppmASTM D5185IoIoIoIoIoSiliconppmASTM D5185ScalarNONENONENONENONESiliconppmASTM D5185IoIoIoIoIoSiliconppmASTM D5185IoIoIoIoIoSiliconppmASTM D5185IoNONENONENONENONESiliconppmASTM D5185IoIo <th>Sample Date</th> <th></th> <th>Client Info</th> <th></th> <th>20 May 2024</th> <th>20 Oct 2023</th> <th>24 Jul 2023</th>	Sample Date		Client Info		20 May 2024	20 Oct 2023	24 Jul 2023		
Filter AgehrsClient Info000Oil ChangedClient InfoChangedNot ChangedNot ChangedNot ChangedFilter ChangedClient InfoN/AN/AN/AN/ASample StatusTATTENTIONATTENTIONATTENTIONIronppmASTM D5185m<>2002244ChromiumppmASTM D5185m<>10<100NickelppmASTM D5185m<<10000SilverppmASTM D5185m<<0000AuminumppmASTM D5185m0000CopperppmASTM D5185m0000VanadiumppmASTM D5185m0000VanadiumppmASTM D5185m10000Vellow Metalscalar'VisualNONENONENONENONESiliconppmASTM D5185m2002<1Vellow Metalscalar'VisualNONENONENONENONESiliconppmASTM D5185m2002<1VaterVO Method0.2NEGNONENONENONESiliconppmASTM D5185m2002<1Optisscalar'VisualNONENONENONENONESiliconppmASTM D5185m2002<1SiliconppmASTM D51	Machine Age	hrs	Client Info		9895	8969	8516		
Cili Changed Filter ChangedCilent InfoChangedNot ChangedNot Changed <th>Oil Age</th> <th>hrs</th> <th>Client Info</th> <th></th> <th>8969</th> <th>926</th> <th>473</th>	Oil Age	hrs	Client Info		8969	926	473		
Filter Changed Sample StatusClient InfoIVAIVAN/AN/ASample StatusClient InfoATTENTIONATTENTIONATTENTIONATTENTIONATTENTIONIronppmASTM D5185m>20022444ChromiumppmASTM D5185m>10C1000NickelppmASTM D5185m>1000000SilverppmASTM D5185m0000000SilverppmASTM D5185m000	Filter Age	hrs	Client Info		0	0	0		
Sample StatusATTENTIONATTENTIONATTENTIONATTENTIONIronppmASTM D5185>2002244ChromiumppmASTM D5185>10C100NickelppmASTM D5185>10000TitaniumppmASTM D5185Image context000SilverppmASTM D5185Image context000AluminumppmASTM D5185Image context000CopperppmASTM D5185Image context000VanadiumppmASTM D5185Image context000VanadiumppmASTM D5185Image contextNONENONENONEVellow Metalscalar*VisualNONENONENONENONENONESiliconppmASTM D5185Image contextNONENONENONENONESiliconppmASTM D5185Image contextNONENONENONENONESiliconppmASTM D5185Image contextNONENONENONENONESiliconppmASTM D5185Image contextNONENONENONESiliconppmASTM D5185Image contextNONENONENONESiliconppmASTM D5185Image contextNONENONENONESolidorscalar*VisualNONENONENONENONE <td< th=""><th>Oil Changed</th><th></th><th>Client Info</th><th></th><th>Changed</th><th>Not Changd</th><th>Not Changd</th></td<>	Oil Changed		Client Info		Changed	Not Changd	Not Changd		
IronppmASTM D5185m>20022244ChromiumppmASTM D5185m>10<100NickelppmASTM D5185m>10000TitaniumppmASTM D5185m<0000SilverppmASTM D5185m<0000AluminumppmASTM D5185m<00<1<1LeadppmASTM D5185m<0000CopperppmASTM D5185m<0000VanadiumppmASTM D5185m<0000Vitite Metalscalar*VisualNONENONENONENONEYellow Metalscalar*VisualNONENONENONENONENONESiliconppmASTM D5185m>2002<1Yellow Metalscalar*VisualNONENONENONENONESiliconppmASTM D5185m>2002<1WaterVisualNONENONENONENONENORESiliconppmASTM D5185m>2002<1VaterWC Method>.2NEGNORENORENORESiliconppmASTM D5185m>2002<1Soliconpscalar*VisualNORENORENORENORESoliconscalar*VisualNORENORENOR	Filter Changed		Client Info		N/A	N/A	N/A		
ChromiumppmASTM D5185m>10<1	Sample Status				ATTENTION	ATTENTION	ATTENTION		
ChromiumppmASTM D5185m>10<1									
NickelppmASTM D5185m>10000TitaniumppmASTM D5185mI000SilverppmASTM D5185m00<1	-								
TitaniumppmASTM D5185m000SilverppmASTM D5185m0000AluminumppmASTM D5185m0-1<1LeadppmASTM D5185m0000CopperppmASTM D5185m0000TinppmASTM D5185m0000VanadiumppmASTM D5185m0000Wite Metalscalar*VisualNONENONENONENONEYellow Metalscalar*VisualNONENONENONENONESiliconppmASTM D5185m2002<1WaterWC Method>0.2NEGNEGNONESilitscalar*VisualNONENONENONENONEDebrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNORNONENONENONEAppearancescalar*VisualNORNORMLNORMLNORMLCdorscalar*VisualNORNORMLNORMLNORMLBaronppmASTM D5185m1310BaronppmASTM D5185m000MolybdenumppmASTM D5185m1310BariumppmASTM D5185m1310BariumppmASTM D									
SilverppmASTM D5185m000AluminumppmASTM D5185m00<1<1LeadppmASTM D5185m0000CopperppmASTM D5185m0<1<10TinppmASTM D5185m0000VanadiumppmASTM D5185m0000VanadiumppmASTM D5185m0000White Metalscalar"VisualNONENONENONENONEYellow Metalscalar"VisualNONENONENONENONESiliconppmASTM D5185m>2002<1WaterWC Method >0.2NEGNEGNEGNONESilitscalar"VisualNONENONENONENONESand/Dirtscalar"VisualNONENONENONENONEAppearancescalar"VisualNORNORMLNORMLNORMLAdorscalar"VisualNORNORMLNORMLNORMLGorscalar"VisualNORNORMLNORMLNORMLAppearancescalar"VisualNORNORMLNORMLNORMLGorscalar"VisualNORNORMLNORMLNORMLGorscalar"VisualNOR1310BariumppmASTM D5185m<1<1<1 </th <th></th> <th></th> <th></th> <th>>10</th> <th>-</th> <th></th> <th></th>				>10	-				
Aluminum ppm ASTM D5185m 0 <1					-				
LeadppmASTM D5185mOOOCopperppmASTM D5185m<<1<1OTinppmASTM D5185mOOOOVanadiumppmASTM D5185mOOOOWhite Metalscalar*VisualNONENONENONENONEYellow Metalscalar*VisualNONENONENONENONESiliconppmASTM D5185m20O2<1WaterWC Method>0.2NEGNEGNEGSilitscalar*VisualNONENONENONENONEDebrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORENORMLNORMLNORMLOdorscalar*VisualNORENORMLNORMLNORMLOdorscalar*VisualNORENORMLNORMLNORMLOdorscalar*VisualNORENORMLNORMLNORMLBariumppmASTM D5185m<100BariumppmASTM D5185m<1000MaganeseppmASTM D5185m<1000MaganeseppmASTM D5185m<1<1< <td><1<<td><1</td><1</td> CalciumppmASTM D5185m<1000	<1< <td><1</td> <1	<1					-		
Copper ppm ASTM D5185m <1					-				
TinppmASTM D5185m000VanadiumppmASTM D5185m000White Metalscalar*VisualNONENONENONENONEYellow Metalscalar*VisualNONENONENONENONEYellow Metalscalar*VisualNONENONENONENONESiliconppmASTM D5185m>2002<1PotassiumppmASTM D5185m>2002<1WaterWC Method>0.2NEGNEGNONESilitscalar*VisualNONENONENONENONEDebrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNORNORMLNORMLNORMLAppearancescalar*VisualNORNORMLNORMLNORMLGoronscalar*VisualNORNORMLNORMLNORMLBariumppmASTM D5185m1100BariumppmASTM D5185m2100ManganeseppmASTM D5185m11<1<1CalciumppmASTM D5185m117827719PhosphorusppmASTM D5185m157717242787ZincppmASTM D5185m1577188<1					-				
VanadiumppmASTM D5185m0000White Metalscalar*VisualNONENONENONENONENONEYellow Metalscalar*VisualNONENONENONENONENONESiliconppmASTM D5185m>2002<1PotassiumppmASTM D5185m>2002<1WaterWC Method>0.2NEGNEGNEGSilitscalar*VisualNONENONENONENONEDebrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNORNORENONENONEAppearancescalar*VisualNORMNORMLNORMLNORMLOdorscalar*VisualNORNORMLNORMLNORMLOdorscalar*VisualNORNORMLNORMLNORMLOdorscalar*VisualNORNORMLNORMLNORMLOdorscalar*VisualNORNORMLNORMLNORMLBariumppmASTM D5185m100ManganeseppmASTM D5185m1<1<1CalciumppmASTM D5185m17827719PhosphorusppmASTM D5185m1577188< <td><1</td> SulfurppmASTM D5185m7518<1	<1		ppm						
White Metalscalar*VisualNONENONENONENONENONEYellow Metalscalar*VisualNONENONENONENONENONESiliconppmASTM D5185m>2002<1PotassiumppmASTM D5185m>2002<1WaterWC Method>0.2NEGNEGNEGSilitscalar*VisualNONENONENONENONEDebrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLDebrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNORMLNORMLNORMLNORMLAppearancescalar*VisualNORMLNORMLNORMLNORMLDdorscalar*Visual>0.2NEGNEGNEGSodiumppmASTM D5185m00BariumppmASTM D5185m000ManganeseppmASTM D5185m11<1<1CalciumppmASTM D5185m157718<1PhosphorusppmASTM D5185m7518<1Sulfurppm	Tin	ppm	ASTM D5185m		-	0	0		
Yellow Metalscalar*VisualNONENONENONENONESiliconppmASTM D5185m>2002<1PotassiumppmASTM D5185m>2002<1WaterWC Method>0.2NEGNEGNEGSiltscalar*VisualNONENONENONENONEDebrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLCodorscalar*VisualNORMLNORMLNORMLNORMLBariumppmASTM D5185m0000BariumppmASTM D5185m22000MaganeseppmASTM D5185m11<1<1CalciumppmASTM D5185m117827719PhosphorusppmASTM D5185m7518<1SulfurppmASTM D5185m7518<1	Vanadium	ppm	ASTM D5185m		0	0	0		
SiliconppmASTM D5185m1054PotassiumppmASTM D5185m>2002<1	White Metal	scalar	*Visual	NONE	NONE	NONE	NONE		
PotassiumppmASTM D5185m>2002<1	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE		
WaterWC Method>0.2NEGNEGNEGSiltscalar*VisualNONENONENONENONEDebrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEGSodiumppmASTM D5185m<1100BariumppmASTM D5185mI13100MagnesiumppmASTM D5185m<2000MagnesiumppmASTM D5185mI178<11<11<1CalciumppmASTM D5185mI178<27871919PhosphorusppmASTM D5185mI1577118<11<1SulfurppmASTM D5185mI57918<1<1SulfurppmASTM D5185mI589I589I18<1SulfurppmASTM D5185mI589I589I8460I589	Silicon	ppm	ASTM D5185m		10	5	4		
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Debrisscalar*VisualNONENONENONENONENONESand/Dirtscalar*VisualNONENONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEGSodiumppmASTM D5185m<100BoronppmASTM D5185m000BariumppmASTM D5185m000MolybdenumppmASTM D5185m<100MagnesiumppmASTM D5185m<100PhosphorusppmASTM D5185m<100PhosphorusppmASTM D5185m<18<1<1SulfurppmASTM D5185m18<1<1SulfurppmASTM D5185m<18<1<1SulfurppmASTM D5185m<18<1<1SulfurppmASTM D5185m<18<1<1SulfurppmASTM D5185m<18<1<1SulfurppmASTM D5185m<366<589<1	Water		WC Method	>0.2	NEG	NEG	NEG		
Sand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEGSodiumppmASTM D5185m<100BoronppmASTM D5185m13310BariumppmASTM D5185m000MolybdenumppmASTM D5185m2200ManganeseppmASTM D5185m11<1<1CalciumppmASTM D5185m17827719PhosphorusppmASTM D5185m157717242787ZincppmASTM D5185m7518<1SulfurppmASTM D5185m446036965589	Silt	scalar	*Visual	NONE	NONE	NONE	NONE		
Appearancescalar*VisualNORML<	Debris	scalar	*Visual	NONE	NONE	NONE	NONE		
Odorscalar*VisualNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEGSodiumppmASTM D5185m<1100BoronppmASTM D5185m13310BariumppmASTM D5185m000MolybdenumppmASTM D5185m000MaganeseppmASTM D5185m<11<1<1CalciumppmASTM D5185m11<1<1PhosphorusppmASTM D5185m117827719PhosphorusppmASTM D5185m7518<1SulfurppmASTM D5185m7518<1	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE		
Emulsified Waterscalar*Visual>0.2NEGNEGNEGSodiumppmASTM D5185m<100BoronppmASTM D5185m1310BariumppmASTM D5185m000MolybdenumppmASTM D5185m200ManganeseppmASTM D5185m<100MagnesiumppmASTM D5185m<11<1<1CalciumppmASTM D5185m17827719PhosphorusppmASTM D5185m157717242787ZincppmASTM D5185m7518<1SulfurppmASTM D5185m446036965589	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML		
Sodium ppm ASTM D5185m <1	Odor	scalar	*Visual	NORML	NORML	NORML	NORML		
Boron ppm ASTM D5185m 13 1 0 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 2 0 0 0 Manganese ppm ASTM D5185m <1 0 0 0 Magnesium ppm ASTM D5185m <1 <1 <1 <1 Calcium ppm ASTM D5185m 178 277 19 Phosphorus ppm ASTM D5185m 1577 1724 2787 Zinc ppm ASTM D5185m 75 18 <1 Sulfur ppm ASTM D5185m 3696 5589	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG		
Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 2 0 0 Manganese ppm ASTM D5185m <1	Sodium	ppm	ASTM D5185m		<1	0	0		
Molybdenum ppm ASTM D5185m 2 0 0 Manganese ppm ASTM D5185m <1 0 0 Magnesium ppm ASTM D5185m 1 <1 <1 Calcium ppm ASTM D5185m 178 277 19 Phosphorus ppm ASTM D5185m 1577 1724 2787 Zinc ppm ASTM D5185m 75 18 <1 Sulfur ppm ASTM D5185m 4460 3696 5589	Boron	ppm	ASTM D5185m		13	1	0		
Manganese ppm ASTM D5185m <1	Barium	ppm	ASTM D5185m		0	0	0		
Magnesium ppm ASTM D5185m 1 <1	Molybdenum	ppm	ASTM D5185m		2	0	0		
Calcium ppm ASTM D5185m 178 27 19 Phosphorus ppm ASTM D5185m 1577 1724 2787 Zinc ppm ASTM D5185m 75 18 <1	Manganese	ppm	ASTM D5185m		<1	0	0		
Phosphorus ppm ASTM D5185m 1577 1724 2787 Zinc ppm ASTM D5185m 75 18 <1	Magnesium	ppm	ASTM D5185m		1	<1	<1		
Phosphorus ppm ASTM D5185m 1577 1724 2787 Zinc ppm ASTM D5185m 75 18 <1	Calcium	ppm	ASTM D5185m		178	27	9 19		
Zinc ppm ASTM D5185m 75 18 <1	Phosphorus		ASTM D5185m		1577	1724	2787		
Sulfur ppm ASTM D5185m 4460 3696 5589			ASTM D5185m		75	18	<1		
	Sulfur		ASTM D5185m			3696	5589		
		cSt			184				

Submitted By: CLAYTON SMITH



Ferrous Alloys 70 65 60 55 50 45 40 Ed 35 30 25 20 15 10 5 0. Dec9/22+ Feb11/22 /av9/23 Apr1/21 an8/20 Jun28/1 Sep20/1 Non-ferrous Metals 150 140 130 120 110 100 90 80 bpm 70 60 50 40 30 20 10 Feb11/22 Dec9/22 Sep8/20 lay9/23 Sep20/19 Apr1/2 sv20/24 Jun28/ Viscosity @ 40°C 220 210 200 190 180 170 160 ().00 경 130 120 110 100 90 80 70 60 Jun5/20 -Sep8/20. Feb11/22 -Dec9/22 -Jun28/19 Sep20/19 Apr1/21 May9/23 /lav/20/24

> MARTIN MARIETTA 4551 BEATTIES FORD ROAD CHARLOTTE, NC US 28216

> > Contact: TIM BYLES

T: (704)392-1333

F:

Unique Number : 11048140 Diagnosed : 29 May 2024 - Sean Felton Test Package : CONST Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. tim.byles@martinmarrietta.com * - 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

: 24 May 2024

: 29 May 2024

Laboratory

Sample No.

Lab Number : 06191388

: ASC0009582