

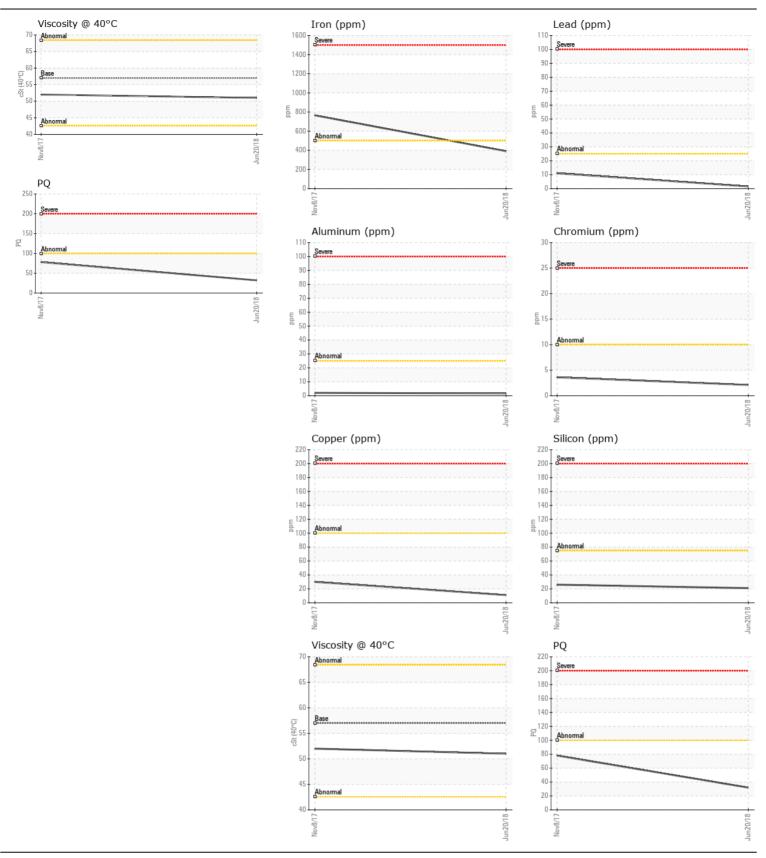
JOHN DEERE 544K 1DW544KZPFE669951

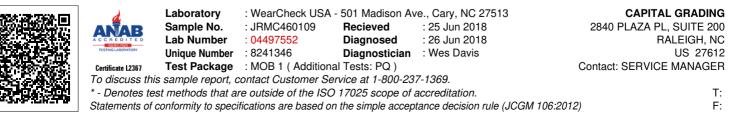
Component Front Differential

JOHN DEERE HY-GARD HYD/TRANS (--- QTS)

Test UOM Method Unterl unterline History 2 History 2 Resample at the next service interval to monitor. Sample Name Client Into C 20.40.201 8140/217								
Sample Date Client Info 20 Jun 2016 98 Nov 2017	RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample DateClinet Info20 Jun 201080% 2017Machino AgehrsClinet InfoC26392070Filter AgehrsClient Info00Filter AgehrsClient Info00Clinet InfoNANAChangeChangedChangedChangedChangedFilter ChangedStrub 1614NANAMachine AgeStrub 1614NANAAll component wear rates are normalInonppmStrub 1615100NickelppmStrub 161511All component wear rates are normalppmStrub 1615111<	Resample at the next service interval to monitor.	Sample Number		Client Info		JRMC460109	JRMC445284	
Oil Age hrs Client Info O		Sample Date		Client Info		20 Jun 2018	08 Nov 2017	
Filter Age filter Age <thfilter age<="" th=""> filter Age filter A</thfilter>		Machine Age	hrs	Client Info		2639	2070	
Oil Changed Client Irio Net Changed Pite Changed Client Irio NA <		Oil Age	hrs	Client Info		0	0	
Filter Changed Client Info NA NA NA NA WEAR PQ ASTM DEFER 32 76 All component wear rates are normal. PQ ASTM DEFER 32 76 Nickel ppm ASTM DEFER 2 4 Aluminum pm ASTM DEFER 2 2 Copper pm ASTM DEFER 10 0 Vandum pm ASTM DEFER 10 0 Value pm ASTM DEFER 10 0 Vandum pm ASTM DEFER 10 0 Value pm ASTM DEFER 10 0 Value pm ASTM DEFER 10 0 Value pm AST		Filter Age	hrs	Client Info		0	0	
Sample Status NOPMAL ANOPMAL P VEAP PQ STM D514 32 78 - All component wear rates are normal. Inon pm STM D518 500 391 4 76 Noke(a) pm STM D518 500 391 4 76 - Noke(a) pm STM D518 10 2 4 - - Noke(a) pm STM D518 10 1 1 - Silver pm STM D518 25 2 2 - Aluminum pm STM D518 25 2 2 - Copper pm STM D518 25 2 2 - Maduinum pm STM D518 25 2 2 - Copper pm STM D518 20 10 0 - Vandum pm STM D518 20 10 - - There is no indication of any contamination in the oil. Silion pm STM D518 20 10 - Debris scala Visua NORE NORE NORE NORE NORE - Silion		Oil Changed		Client Info		Not Changd	Changed	
WEAR PQ ASTM D814/ 32 78 All component wear rates are normal. Iron pm ASTM D8166 >500 391 ~765 Nickel pm ASTM D8166 >500 391 ~765 Nickel pm ASTM D8166 >10 1 Tatanim pm ASTM D8166 2 4 Aluminum pm ASTM D8166 20 0 Aluminum pm ASTM D8166 >20 2 Aluminum pm ASTM D8166 >20 1 30 Copper pm ASTM D8166 >10 0 Value pm ASTM D8166 >10 0 Value pm ASTM D8166 >10 0 Value pm ASTM D8166 >10		Filter Changed		Client Info		N/A	N/A	
All component wear rates are normal. Iron ppm ASTM D516sm >500 391 A 765 Chromium ppm ASTM D516sm >10 2 4 Nickel ppm ASTM D516sm 0 2 4 Nickel ppm ASTM D516sm 0 2 4 Nickel ppm ASTM D516sm 0 2 4 ASTM D516sm P 0 0 0 ASTM D516sm P 2 3		Sample Status				NORMAL	ABNORMAL	
All component wear rates are notinal. Chromium ppm ASTM DS18m >10 2 4.4 Nickel ppm ASTM DS18m I 2 4.4 Titanium ppm ASTM DS18m I 0 0 0 Aluminum ppm ASTM DS18m >25 2 2 Aluminum ppm ASTM DS18m >100 11 30 Copper ppm ASTM DS18m >100 11 30 Vanadium ppm ASTM DS18m >100 0 Vanadium ppm ASTM DS18m >20 0 0 Silico	WEAR	PQ		ASTM D8184		32	78	
ChromiumNPMATM 0516m-1024NickelpmASTM 0516m-11SilverpmASTM 0516m-11AluminumpmASTM 0516m-22AluminumpmASTM 0516m-211CopperpmASTM 0516m-2113CopperpmASTM 0516m-13VanadiumpmASTM 0516m-13VanadiumpmASTM 0516m-13VanadiumpmASTM 0516m-13VanadiumpmASTM 0516m-13VanadiumpmASTM 0516m-113VanadiumpmASTM 0516m-113VanadiumpmASTM 0516m-113VanadiumpmASTM 0516m-113VanadiumpmASTM 0516m-113VanadiumpmASTM 0516m-21111VanadiumpmASTM 0516m-111111There is no indication of any contamination in the oil.Silion1<		Iron	ppm	ASTM D5185m	>500	391	▲ 765	
Nickel ppm ASTM D5185m C 2 4		Chromium						
Titanium pm ASTM 05185··· 1 1 ··· Silver pm ASTM 05185··· C 0 ··· Aluminum pm MSTM 05185··· 2 2 2 ··· Lead ppm ASTM 05185··· 20 10 ··· ··· Copper pm ASTM 05185··· 100 11 300 ··· Mine pm ASTM 05185··· 100 10 0 ··· Vanadium pm ASTM 05185··· 100 0 ··· White Metal scalar 'Visual NONE Light MODER ··· Vanadium pm ASTM 05185··· ASTM 20 0 ··· Valow Metal scalar 'Visual NONE Light MODER ··· Valow Metal scalar 'Visual NONE Light ··· ··· Mater calar 'Visual NONE Light ··· ··· Debris scalar 'Visual NONE Light ···< ··· Sadr/Diri scalar 'Visual NONE Light ···< ··· Debris scalar		Nickel		ASTM D5185m			4	
Silver ppm ASTM D5185m Q 0 0 Aluminum ppm ASTM D5185m >25 2 2 Lead ppm ASTM D5185m >20 1 0 Copper ppm ASTM D5185m >100 0 0 Tin ppm ASTM D5185m >10 0 0 Vanadium ppm ASTM D5185m >10 0 0 Wite Metal scalar Visual NONE LIGH MODE Velow Metal scalar Visual NONE NONE Silicon ppm ASTM D5185m >7 21 26 Silicon scalar Visual NONE NONE NONE Debris scalar Visual NONE NORM NORM NORM NORM NORM Appearance </th <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>								
Aluminum ppm ASTM D585m >25 2 11 Lead ppm ASTM D585m >20 11 30 Copper ppm ASTM D585m >10 11 30 Tin ppm ASTM D585m 10 10 30 Winte Metal scalar Visual NONE LIGHT MODER White Metal scalar Visual NONE LIGHT MODER CONTAMINATION Stilicon ppm ASTM D585m >75 21 26 There is no indication of any contamination in the oil. Stilicon ppm ASTM D585m >-75 21 26 Stilicon ppm StM D585m >-70 0 0 Stilicon scalar Visual NONE NONE NONE Stilicon scalar Visual NONE NONE								
LeadppmASTM D518m>252111CopperpmASTM D518m>100111300TinpmASTM D518m>1000VanadiumpmMSTM D518m>10100White MetalscalarVisualNONELIGHTMODERYellow MetalscalarVisualNONE1000SiliconpmASTM D518m>75211260MaterScalarVisualNONENONE100WaterWaterWaterWMEtalscalarNONENONENONESiliconscalarVisualNONENONENONENONESand/DirtscalarVisualNONENONENONENONEAppearancescalarVisualNONENONENONEAppearancescalarVisualNORENORENORENOREFLUID CONDITIONSodiumpmASTM D518m000BoronpmASTM D518m0004MaiganesepmASTM D518m0004MaighdenumpmASTM D518m0004The condition of the oil is					>25	2	2	
Copper TinppmASTM D5186 PIM>10011300 TinppmASTM D5186 						2	11	
Tin pm ASTM D5185m >10 0 Vanadium pm ASTM D5185m -0 White Metal scalar 'Visual NONE LIGHT MODER White Metal scalar 'Visual NONE LIGHT MODER CONTAMINATION Stillcorn pm ASTM D5185m >2 21 26 There is no indication of any contamination in the oil. Potassium pm ASTM D5185m >20 0 0 Water VC Method >-2 NEG NEG Stand Orbita scalar 'Visual NONE NONE NONE Stand/Dirt scalar 'Visual NONE NONE NONE Appearance scalar 'Visual NORM NORML NORML Mody Denvine scalar 'Visual NORM NORML FUID CONDITION Scalar 'Visual NORM NORML NORML The condition of the oil is acceptable for the time in service. Scalar 'Visual NOR Que Molybdenum		Copper		ASTM D5185m	>100	11	30	
VanadiumppmASTM D5186<						0	0	
White Metal Yellow MetalScalar'VisualNONELIGHTMODERIYellow Metalscalar'VisualNONENONENONENONENONECONTAMINATIONSiliconppmASTMD518m>752126There is no indication of any contamination in the oil.PotassiumppmASTMD518m>2000WaterVisualNONENONENONENONENONENONENONESilitscalar'VisualNONEVIsualNONENONENONESand/Dirscalar'VisualNONENORENONENONEAppearancescalar'VisualNORENORENOREThe condition of the oil is acceptable for the time in service.SodiumppmASTMD518m624MagneseppmASTMD518m624.4MagneseppmASTMD518m624.4MagneseppmASTMD518m1.49.41.1MagnesimppmASTMD518m1.49.41.1MagnesimppmASTMD518m1.49.41.1MagnesimppmASTMD518m1.49.41.1MagnesimppmASTMD518m1.49.41.1MagnesimppmASTMD518m1.4 <th></th> <th>Vanadium</th> <th></th> <th></th> <th></th> <th><1</th> <th>0</th> <th></th>		Vanadium				<1	0	
Yellow Metalscalar"VisualNONENONENONECONTAMINATIONSiliconppmASTM D5185m>752126PotassiumppmASTM D5185m>200000WaterWC Metoo>.2NEGNCNEDebrisscalar"VisualNONENONENONEDebrisscalar"VisualNONENONENONESand/Dirtscalar"VisualNONENONENONEAppearancescalar"VisualNORMNORMLNORMLOdorscalar"VisualNORMNORMLNORMLNORMLEmulsified Waterscalar"VisualNORMNORMLNORMLFLUID CONDITIONSodiumppmASTM D5185m624BoronppmASTM D5185m00.08MolybdenumppmASTM D5185m00.04MaganeseppmASTM D5185m00.04MaganesiumppmASTM D5185m1459497PhosphorusppmASTM D5185m1649439.0ColaciumppmASTM D5185m1649439.0MaganesiumppmASTM D5185m1649439.0PhosphorusppmASTM D5185m164933 <t< th=""><th></th><th>White Metal</th><th></th><th>*Visual</th><th>NONE</th><th>LIGHT</th><th>MODER</th><th></th></t<>		White Metal		*Visual	NONE	LIGHT	MODER	
Potassium ppd ASTM D516m >20 0 0 Water Water WC Method 2 NEG NCBC Silt scalar Visual NONE NONE NONE Debris scalar Visual NONE LIGHT NONE Sand/Dirt scalar Visual NONE ILGHT NONE Appearance scalar Visual NORM NORML NORML Odor scalar Visual NORM NORML NORML Odor scalar Visual NORM NORML NORML Odor scalar Visual NORM NORML NORML The condition of the oil is acceptable for the time in service. Sodium pm ASTM D518m G 2 4 Barium pm ASTM D518m G 0 8 Magaerse pm ASTM D518m G 0 4 Magnesium pm ASTM D518m 15 12 Magnesium pm ASTM D518m 150								
Potassium ppd ASTM D516m >20 0 0 Water Water WC Method 2 NEG NCBC Silt scalar Visual NONE NONE NONE Debris scalar Visual NONE LIGHT NONE Sand/Dirt scalar Visual NONE ILGHT NONE Appearance scalar Visual NORM NORML NORML Odor scalar Visual NORM NORML NORML Odor scalar Visual NORM NORML NORML Odor scalar Visual NORM NORML NORML The condition of the oil is acceptable for the time in service. Sodium pm ASTM D518m G 2 4 Barium pm ASTM D518m G 0 8 Magaerse pm ASTM D518m G 0 4 Magnesium pm ASTM D518m 15 12 Magnesium pm ASTM D518m 150	CONTAMINATION	Silicon	mqq	ASTM D5185m	>75	21	26	
Water WC Method >.2 NEG NEG Silt scalar "Visual NONE NONE NONE Debris scalar "Visual NONE LIGHT NONE Sand/Dirt scalar "Visual NONE LIGHT NONE Appearance scalar "Visual NORE NORML NORML NORML Odor scalar "Visual NORML NORML NORML NORML Emulsified Water scalar "Visual NORML NORML NORML The condition of the oil is acceptable for the time in service. Sodium ppm ASTM DS185m 6 2 4 Baron ppm ASTM DS185m 0 0 8 Molybdenum ppm ASTM DS185m 0 0 4 Maganesium ppm ASTM DS185m 0 0 4 Calcium ppm ASTM DS185m 145 94 97							0	
Siltscalar'VisualNONENONEINONEDebrisscalar'VisualNONELIGHTNONESand/Dirtscalar'VisualNONENONENONEINONEAppearancescalar'VisualNORMNORMLNORMLNORMLOdorscalar'VisualNORMNORMLNORMLNORMLEmulsified Waterscalar'VisualNORNORMLNORMLEncondition of the oil is acceptable for the time in service.SodiumpmASTM D5185m624BariumppmASTM D5185m000.08.8MolybdenumppmASTM D5185m000.4MagnesiumppmASTM D5185m1459497CalciumppmASTM D5185m12909099905PhosphorusppmASTM D5185m16409939050SuffurppmASTM D5185m16409933912SuffurppmASTM D5185m16409933912SuffurppmASTM D5185m16409933912SuffurppmASTM D5185m16409933912SuffurppmASTM D5185m16409933912 <t< th=""><th></th><th></th><th></th><th></th><th>NEG</th><th>NEG</th><th></th></t<>						NEG	NEG	
Debrisscalar*VisualNONELIGHTNONESand/Dirtscalar*VisualNONENONENONEAppearancescalar*VisualNORMNORMLNORMLOdorscalar*VisualNORMNORMLNORMLEmulsified Watescalar*Visual>.2NEG0.2%FLUID CONDITIONSodiumppmASTM D5185m6244BoronppmASTM D5185m008BariumppmASTM D5185m008MolybdenumppmASTM D5185m0044MaganeseppmASTM D5185m0044MagnesiumppmASTM D5185m1459497CalciumppmASTM D5185m14559497PhosphorusppmASTM D5185m1290909534455ZincppmASTM D5185m16409939055SulfurppmASTM D5185m16409939055SulfurppmASTM D5185m16409939012SulfurppmASTM D5185m16409939012ASTM D5185mppmASTM D5185m16409939012ASTM D5185mppmASTM D5185m16409939012			scalar			NONE		
Sand/Dirtscalar*VisualNONENONENONEAppearancescalar*VisualNORLNORMLNORMLNORMLOdorscalar*VisualNORMNORMLNORMLNORMLEmulsified Watescalar*VisualNORNORMNORMLFLUID CONDITIONSodiumppmASTM D5185m624BoronppmASTM D5185m0088BariumppmASTM D5185m0088MolybdenumppmASTM D5185m0044MaganeseppmASTM D5185m1459497712CalciumppmASTM D5185m1450909978PhosphorusppmASTM D5185m1200909978SulfurppmASTM D5185m16409939055SulfurppmASTM D5185m164029663912		Debris				LIGHT	NONE	
Appearancescalar*VisualNORMNORMLNORMLNORMLOdorscalar*VisualNORMNORMLNORMLNORMLEmulsified Watescalar*Visualscalar*VisualScalarNORMLNORMLFLUID CONDITIONSodiumppmASTM D5185/**411BoronppmASTM D5185/**008BariumppmASTM D5185/**008MagneseeppmASTM D5185/**0044MagnesiumppmASTM D5185/**145949712CalciumppmASTM D5185/**1299445PhosphorusppmASTM D5185/**1459497ZincppmASTM D5185/**140993905SulfurppmASTM D5185/**140993905		Sand/Dirt		*Visual		NONE	NONE	
Odorscalar*VisualNORMLNORMLNORMLEmulsified Waterscalar*Visual>.2NEG0.2%FLUID CONDITIONSodiumppmASTM D5185m624BoronppmASTM D5185m6244.0BariumppmASTM D5185m00088.0MolybdenumppmASTM D5185m0044.0MagnesiumppmASTM D5185m004MagnesiumppmASTM D5185m1459497.0CalciumppmASTM D5185m12032903445PhosphorusppmASTM D5185m120909.997.8ZincppmASTM D5185m16499.390.5SulfurppmASTM D5185m16429.8639.12		Appearance	scalar			NORML		
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Boron ppm ASTM D5185m G 2 4 Barium ppm ASTM D5185m 0 0 8 Molybdenum ppm ASTM D5185m 0 0 4 Manganese ppm ASTM D5185m 145 94 Magnesium ppm ASTM D5185m 145 94 Magnesium ppm ASTM D5185m 145 94 97 Calcium ppm ASTM D5185m 145 94 97 Phosphorus ppm ASTM D5185m 145 94 97 Zinc ppm ASTM D5185m 149 909 978 Sulfur ppm ASTM D5185m 1640 993 9055		Emulsified Water	scalar	*Visual	>.2		0.2%	
Boron ppm ASTM D5185m G 2 4 Barium ppm ASTM D5185m 0 0 8 Molybdenum ppm ASTM D5185m 0 0 4 Manganese ppm ASTM D5185m 145 94 Magnesium ppm ASTM D5185m 145 94 Magnesium ppm ASTM D5185m 145 94 97 Calcium ppm ASTM D5185m 145 94 97 Phosphorus ppm ASTM D5185m 145 94 97 Zinc ppm ASTM D5185m 149 909 978 Sulfur ppm ASTM D5185m 1640 993 9055	FLUID CONDITION	Sodium	 maa	ASTM D5185m		4	11	
Barium ppm ASTM D5185m 0 0 8 Molybdenum ppm ASTM D5185m 0 0 4 Manganese ppm ASTM D5185m 145 94 97 Magnesium ppm ASTM D5185m 145 94 97 Calcium ppm ASTM D5185m 3570 3290 3445 Phosphorus ppm ASTM D5185m 1290 9978 Zinc ppm ASTM D5185m 1640 993 9055 Sulfur ppm ASTM D5185m 1640 3912					6			
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Manganese ppm ASTM D5185m 7 12 Magnesium ppm ASTM D5185m 145 94 97 5 Calcium ppm ASTM D5185m 3570 3290 3445 Phosphorus ppm ASTM D5185m 1290 909 978 Zinc ppm ASTM D5185m 1640 993 9055 Sulfur ppm ASTM D5185m 1640 3912							4	
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Sulfur ppm ASTM D5185m 2986 3912								
					-			
					57.0			

Contact/Location: SERVICE MANAGER ? - CAPRALJR





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