

Area

WEAR NORMAL CONTAMINATION NORMAL FLUID CONDITION NORMAL

[W52449] JOHN DEERE 644K 1DW644KZCHF681183

Diesel Engine

{not provided} (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. Please specify the brand, type, and viscosity of the oil on your next sample.

	W	FΔ	R		
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All component wear rates are normal.

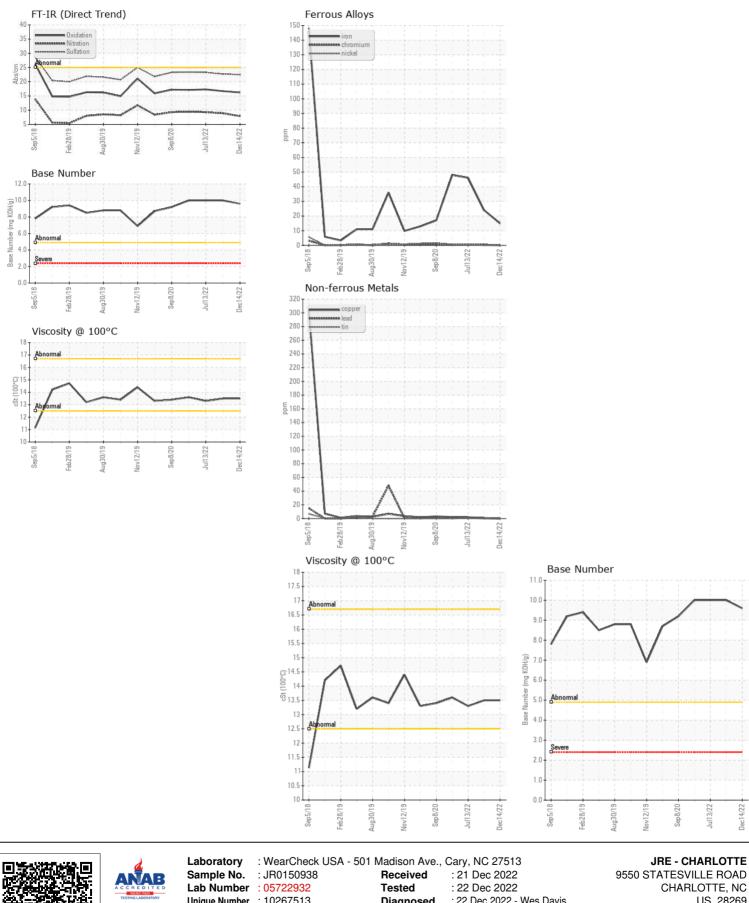
CONTAMINATION

There is no indication of any contamination in the oil.

FLUID CONDITION

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sample Date Client Info 14 Dec 2022 14 Oct 2022 13 Jul 2022 Machine Age hrs Client Info 9609 9323 8804 Oil Age hrs Client Info 0 0 0 0 Oil Changed Client Info N/A N/A N/A Changed Filter Age hrs Client Info N/A N/A N/A Changed Sample Status Client Info N/A N/A N/A Changed Iron ppm ASIM D5185m >51 15 24 46 Chromium ppm ASIM D5185m >10 0 0 11 Silver ppm ASIM D5185m >31 2 3 4 Lead ppm ASIM D5185m >26 0 -1 -1 Vanadium ppm ASIM D5185m >26 0 -1 -1 Vanadum ppm ASIM D5185m >20 0 -1 -1								
Sample Date Client Info 14 Dec 2022 14 Oct 2022 13 Jul 2022 Machine Age hrs Client Info 9609 9323 8804 Oil Age hrs Client Info 0 0 0 Oil Changed Client Info N/A N/A Changed Filter Age hrs Client Info N/A N/A Changed Sample Status Client Info N/A N/A Changed Iron ppm ASTM D5185n >51 15 24 46 Chromium ppm ASTM D5185n >10 0 0 <1	Test	UOM	Method	Limit/Abn	Current	History1	History2	
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Oil Age hrs Client Info 0 0 0 0 Filter Age hrs Client Info N/A N/A N/A Changed Filter Changed Client Info N/A N/A N/A Changed Sample Status Client Info N/A N/A N/A Changed Iron ppm ASTM D5185m >51 15 24 46 Chromium ppm ASTM D5185m >51 0 0 <1 Nickel ppm ASTM D5185m >5 0 0 <1 Silver ppm ASTM D5185m >31 2 3 4 Lead ppm ASTM D5185m >26 0 <1 <1 Vanadium ppm ASTM D5185m >26 0 <1 <1 Vanadium ppm ASTM D5185m >22 6 6 6 Potassium ppm ASTM D5185m >22 6 6	Sample Date		Client Info		14 Dec 2022	14 Oct 2022	13 Jul 2022	
Filter Age hrs Client Info NA N/A N/A Changed Filter Changed Client Info N/A N/A N/A Changed Sample Status Vian N/A N/A N/A Changed Iron ppm ASTM D5185m >51 15 2.4 4.6 Chromium ppm ASTM D5185m >5 0 0 <1 <1 Nickel ppm ASTM D5185m >5 0 0 <1 <1 Titanium ppm ASTM D5185m >31 0 0 <1 <1 Silver ppm ASTM D5185m >26 0 <1 <1 <1 Copper ppm ASTM D5185m >26 0 <1 <1 <1 Variadium ppm ASTM D5185m >22 6 6 6 6 Silicon ppm ASTM D5185m >22 6 6 6 6 6	Machine Age	hrs	Client Info		9609	9323	8804	
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Filter Changed Sample Status Client Into N/A NORMAL N/A NORMAL N/A NORMAL N/A NORMAL N/A NORMAL N/A NORMAL N/A NORMAL Iron ppm ASTM D5185m >51 15 24 46 Chromium ppm ASTM D5185m >5 0 0 <1 Nickel ppm ASTM D5185m >5 0 0 <1 Silver ppm ASTM D5185m >3 0 0 <1 Lead ppm ASTM D5185m >3 0 <1 <1 Copper ppm ASTM D5185m >26 0 <1 <1 Vanadium ppm ASTM D5185m >4 0 <1 <1 Vanadium ppm ASTM D5185m >22 6 6 6 Yellow Metal scalar "Visual NONE NONE NONE NONE Yellow Metal scalar "Visual NONE NONE NONE NONE <	Filter Age	hrs	Client Info		0	0	0	
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Iron ppm ASTM D5185m >51 15 24 46 Chromium ppm ASTM D5185m >11 0 <1 <1 Nickel ppm ASTM D5185m >5 0 0 <1 Titanium ppm ASTM D5185m >3 0 0 <1 Silver ppm ASTM D5185m >3 0 0 <1 Copper ppm ASTM D5185m >26 0 <1 <1 Copper ppm ASTM D5185m >26 0 <1 <1 Vanadium ppm ASTM D5185m >26 0 <1 <1 Vanadium ppm ASTM D5185m >26 0 <1 <1 Vanadium ppm ASTM D5185m >22 6 6 6 6 Potassium ppm ASTM D5185m >22 6 6 6 6 Givcol WC Method >5 <1.0	Filter Changed		Client Info		N/A	N/A	Changed	
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Nickel ppm ASTM D5185m >5 0 0 <1	-	ppm		>51	-	24		
Titanium ppm ASTM D5185m 0 0 <1		ppm	ASTM D5185m	>11	0	<1	<1	
Silver ppm ASTM D5185m >3 0 0 0 Aluminum ppm ASTM D5185m >31 2 3 4 Lead ppm ASTM D5185m >26 0 <1	Nickel	ppm	ASTM D5185m	>5	0	0	<1	
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Potassium ppm ASTM D5185m >20 0 0 0 Fuel WC Method >5 <1.0 <1.0 <1.0 <1.0 Water WC Method >0.21 NEG NEG NEG Glycol WC Method >0.21 NEG NEG NEG Soot % % *ASTM D7844 >3 0.1 0.2 0.3 Nitration Abs/cm *ASTM D7624 >20 7.9 8.9 9.3 Sulfation Abs/cm *ASTM D7145 >30 22.5 22.7 23.3 Silt scalar *Visual NONE NONE NONE NORML Appearance scalar *Visual NORML	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE	
Potassium ppm ASTM D5185m >20 0 0 0 Fuel WC Method >5 <1.0 <1.0 <1.0 <1.0 Water WC Method >0.21 NEG NEG NEG Glycol WC Method >0.21 NEG NEG NEG Soot % % *ASTM D7844 >3 0.1 0.2 0.3 Nitration Abs/cm *ASTM D7624 >20 7.9 8.9 9.3 Sulfation Abs/cm *ASTM D7145 >30 22.5 22.7 23.3 Silt scalar *Visual NONE NONE NONE NORML Appearance scalar *Visual NORML	0''''''''''''''''''''''''''''''''''''''				•	0		
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Barium ppm ASTM D5185m 0 0 5 Molybdenum ppm ASTM D5185m 231 237 261 Manganese ppm ASTM D5185m <1 <1 <1 Magnesium ppm ASTM D5185m 751 791 791 Calcium ppm ASTM D5185m 1435 1484 1503 Phosphorus ppm ASTM D5185m 893 895 891 Zinc ppm ASTM D5185m 1046 1064 1107 Sulfur ppm ASTM D5185m 3476 3576 3528 Oxidation Abs/.tmm<*ASTM D7414 >25 16.2 16.7 17.3 Base Number (BN) mg KOH/g ASTM D2896 9.6 10.0 10.0	Boron		ASTM D5185m		268	228	241	
Molybdenum ppm ASTM D5185m 231 237 261 Manganese ppm ASTM D5185m <1 <1 <1 <1 Magnesium ppm ASTM D5185m 751 791 791 Calcium ppm ASTM D5185m 1435 1484 1503 Phosphorus ppm ASTM D5185m 893 895 891 Zinc ppm ASTM D5185m 1046 1064 1107 Sulfur ppm ASTM D5185m 3476 3576 3528 Oxidation Abs/.tmm *ASTM D7414<>25 16.2 16.7 17.3 Base Number (BN) mg KOH/g ASTM D2896 9.6 10.0 10.0								
Manganese ppm ASTM D5185m <1	Molybdenum		ASTM D5185m		231	237	261	
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Base Number (BN) mg KOH/g ASTM D2896 9.6 10.0 10.0				>25				
			ASTM D2896					
	Visc @ 100°C		ASTM D445			13.5		



 Unique Number
 : 00722302
 Diagnosed
 : 22 Dec 2022
 West Davis
 UNARLUTTE; NC

 Unique Number
 : 10267513
 Diagnosed
 : 22 Dec 2022
 West Davis
 US 28269

 Certificate 12367
 Test Package
 : CONST (Additional Tests: TBN)
 Contact: CHARLOTTE SHOP
 Contact: CHARLOTTE SHOP

 To discuss this sample report, contact Customer Service at 1-800-237-1369.
 myoung@jamesriverequipment.com
 T: (704)597-0211

 * - Denotes test methods that are outside of the ISO 17025 scope of accreditation.
 T: (704)597-0211
 T: (704)596-6198

 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)
 F: (704)596-6198

Contact/Location: Mike Young - CHARLOTTE SHOP - JAMCHA

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