

OIL ANALYSIS REPORT

Sample Rating Trend





Machine Id JOHN DEERE 700K 6X45 (S/N 1T0700KXTKF364911) Component Diesel Engine

Thuid XTREME 15W40 (--- QTS)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

Metal levels are typical for a new component breaking in.

Contamination

There is no indication of any contamination in the oil.

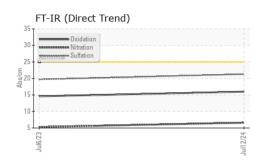
Fluid Condition

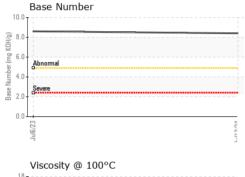
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		JR0197253	JR0141071	
Sample Date		Client Info		12 Jul 2024	06 Jul 2023	
Machine Age	hrs	Client Info		518	405	
Oil Age	hrs	Client Info		356	356	
Oil Changed		Client Info		Not Changd	Not Changd	
Sample Status				NORMAL	NORMAL	
CONTAMINATION	٧	method	limit/base	current	history1	history2
Fuel		WC Method	>2.1	<1.0	<1.0	
Water		WC Method	>0.21	NEG	NEG	
Glycol		WC Method		NEG	NEG	
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>51	24	8	
Chromium	ppm	ASTM D5185m	>11	<1	<1	
Nickel	ppm		>5	2	<1	
Titanium	ppm	ASTM D5185m		0	0	
Silver	ppm	ASTM D5185m	>3	0	0	
Aluminum	ppm	ASTM D5185m	>31	3	1	
Lead	ppm	ASTM D5185m	>26	0	0	
Copper	ppm	ASTM D5185m	>26	3	0	
Tin	ppm	ASTM D5185m	>4	0	0	
Vanadium	ppm	ASTM D5185m		0	0	
Cadmium	ppm	ASTM D5185m		0	0	
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 470	history1 600	history2
	ppm ppm		limit/base			
Boron		ASTM D5185m	limit/base	470	600	
Boron Barium	ppm	ASTM D5185m ASTM D5185m	limit/base	470 0	600 0	
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	470 0 95	600 0 92	
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	470 0 95 <1	600 0 92 0	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	470 0 95 <1 454	600 0 92 0 487	
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	470 0 95 <1 454 1450	600 0 92 0 487 1462	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	470 0 95 <1 454 1450 1042	600 0 92 0 487 1462 1115	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	470 0 95 <1 454 1450 1042 1226	600 0 92 0 487 1462 1115 1414	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method		470 0 95 <1 454 1450 1042 1226 3910 current 7	600 0 92 0 487 1462 1115 1414 4750 history1 4	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	470 0 95 <1 454 1450 1042 1226 3910 current	600 0 92 0 487 1462 1115 1414 4750 history1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	limit/base	470 0 95 <1 454 1450 1042 1226 3910 current 7	600 0 92 0 487 1462 1115 1414 4750 history1 4	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	limit/base >22 >31	470 0 95 <1 454 1450 1042 1226 3910 current 7 3	600 0 92 0 487 1462 1115 1414 4750 history1 4 0 0 0	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m	limit/base >22 >31 >20 limit/base >3	470 0 95 <1 454 1450 1042 1226 3910 current 7 3 <1 2 current 0.1	600 0 92 0 487 1462 1115 1414 4750 history1 4 0 0 0 history1 0.1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >22 >31 >20 limit/base	470 0 95 <1 454 1450 1042 1226 3910 current 7 3 <1 current 0.1 6.6	600 0 92 0 487 1462 1115 1414 4750 history1 4 0 0 0 history1 0.1 5.3	 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m	limit/base >22 >31 >20 limit/base >3	470 0 95 <1 454 1450 1042 1226 3910 current 7 3 <1 2 current 0.1	600 0 92 0 487 1462 1115 1414 4750 history1 4 0 0 0 history1 0.1	 history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >22 >31 >20 limit/base >3 >20	470 0 95 <1 454 1450 1042 1226 3910 current 7 3 <1 current 0.1 6.6	600 0 92 0 487 1462 1115 1414 4750 history1 4 0 0 0 history1 0.1 5.3	 history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	Imit/base >22 >31 >20 Imit/base >3 >20 >30	470 0 95 <1 454 1450 1042 1226 3910 <u>current</u> 7 3 <1 <u>current</u> 0.1 6.6 21.3	600 0 92 0 487 1462 1115 1414 4750 history1 4 0 0 0 history1 0.1 5.3 19.7	 history2 history2 history2



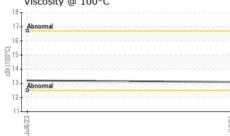
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VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	
ellow Metal	scalar	*Visual	NONE	NONE	NONE	
Precipitate	scalar	*Visual	NONE	NONE	NONE	
Silt	scalar	*Visual	NONE	NONE	NONE	
Debris	scalar	*Visual	NONE	NONE	NONE	
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	
Appearance	scalar	*Visual	NORML	NORML	NORML	
Odor	scalar	*Visual	NORML	NORML	NORML	
Emulsified Water	scalar	*Visual	>0.21	NEG	NEG	
Free Water	scalar	*Visual		NEG	NEG	
FLUID PROPER	TIES	method	limit/base	current	history1	history2
/isc @ 100°C	cSt	ASTM D445		13.1	13.2	
GRAPHS						
Iron (ppm)			100	Lead (ppm)		
Severe			80	Severe		
			е ⁶⁰			
Abnormal			e 40	Abnormal		
Abnormal			20	d Honomia		
Jul6/23			Jul12/24	Jul6/23		
Aluminum (ppm)				Chromium (p	pm)	
Severe			25	Severe		
			20	+		
Abnormal			E 10	Abnormal		
				+		
1			5			
/23			0	/23		
Jul6/23			Jul12/24	Jul6/23		
Copper (ppm)				Silicon (ppm)		
Severe			40	Severe		
			30	Severe		
			튭 20	Abnormal		
Abnormal			10			
/23			0	/23+		
Jul6/23			Jul12/24	Jul6/23		
Viscosity @ 100°	C			Base Number		
т ,				1		
Abnormal			0.8 KOH	-		
			je 6.0	Abnormal		
Abnormal			- 4.0	Severe		
1			(B/HO) 6.0 By Homper 4.0 2.0	Devele		
			→ 0.0			
Jul6/23			Jul12/24	Jul6/23		
			7			

Laboratory Sample No. Lab Number : 06237542 : 17 Jul 2024 FAYETTEVILLE, NC Tested : 17 Jul 2024 - Wes Davis Unique Number : 11126376 Diagnosed US 28306 Test Package : MOBCE (Additional Tests: TBN) Contact: WALTER CAPPS Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. WATER.CAPPS@NCAGR.GOV * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. Т: Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F:

Contact/Location: WALTER CAPPS - NCFFAY

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