

OIL ANALYSIS REPORT

Area [LOGAN PIERCE] JOHN DEERE 120X 030604

Diesel Engine

Fluid DIESEL ENGINE OIL SAE 15W40 (--- GAL)

DIAGNOSIS

Recommendation

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



Sample Rating Trend

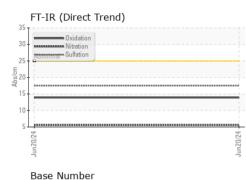


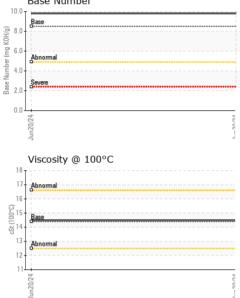
NORMAL

SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		JR0201996		
Sample Date		Client Info		20 Jun 2024		
Machine Age	hrs	Client Info		0		
Oil Age	hrs	Client Info		0		
Oil Changed		Client Info		Not Changd		
Sample Status				NORMAL		
CONTAMINATION	N	method	limit/base	current	history1	history2
Fuel		WC Method	>2.1	<1.0		
Water		WC Method	>0.21	NEG		
Glycol		WC Method		NEG		
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>51	6		
Chromium	ppm	ASTM D5185m	>11	<1		
Nickel	ppm	ASTM D5185m	>5	<1		
Titanium	ppm	ASTM D5185m		<1		
Silver	ppm	ASTM D5185m	>3	0		
Aluminum	ppm	ASTM D5185m	>31	2		
Lead	ppm	ASTM D5185m	>26	<1		
Copper	ppm	ASTM D5185m	>26	<1		
Tin	ppm	ASTM D5185m	>4	0		
Vanadium	ppm	ASTM D5185m		0		
Cadmium	ppm	ASTM D5185m		0		
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 250	current 4	history1	history2
Boron Barium	ppm ppm					history2
Boron		ASTM D5185m	250	4		history2
Boron Barium	ppm	ASTM D5185m ASTM D5185m	250 10	4 0		history2
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450	4 0 59 0 949		
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000	4 0 59 0 949 1054		
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	250 10 100 450 3000 1150	4 0 59 0 949 1054 1005	 	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350	4 0 59 0 949 1054 1005 1240	 	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250	4 0 59 0 949 1054 1005 1240 2943		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250	4 0 59 0 949 1054 1005 1240 2943 current	 history1	
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 ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >22	4 0 59 0 949 1054 1005 1240 2943 current 3	 history1 	 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 ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >22 >158	4 0 59 0 949 1054 1005 1240 2943 current 3 0	 history1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >22 >158 >20	4 0 59 0 949 1054 1005 1240 2943 current 3 0 2	 history1 	 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 ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >22 >158	4 0 59 0 949 1054 1005 1240 2943 current 3 0 2 2	 history1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >22 >158 >20	4 0 59 0 949 1054 1005 1240 2943 <u>current</u> 3 0 2 2 <u>current</u> 0.1	 history1 	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 Imit/base >22 >158 >20 Imit/base	4 0 59 0 949 1054 1005 1240 2943 <i>current</i> 3 0 2 2 <i>current</i> 0.1 5.6	 history1 history1	 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >22 >158 >20 limit/base >3	4 0 59 0 949 1054 1005 1240 2943 <u>current</u> 3 0 2 2 <u>current</u> 0.1	 history1 history1 	 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	250 10 100 450 3000 1150 1350 4250 imit/base >22 >158 >20 imit/base >3 >3	4 0 59 0 949 1054 1005 1240 2943 <i>current</i> 3 0 2 2 <i>current</i> 0.1 5.6	 history1 history1 history1	 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	250 10 100 450 3000 1150 1350 4250 imit/base >22 >158 >20 imit/base >3 >20	4 0 59 0 949 1054 1005 1240 2943 <u>current</u> 3 0 2 2 <u>current</u> 0.1 5.6 17.5	 history1 history1 history1	 history2 history2 history2

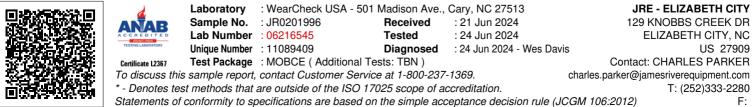


OIL ANALYSIS REPORT





NONE *Visual NONE White Metal scalar Yellow Metal *Visual NONE NONE scalar Precipitate NONE scalar *Visual NONE Silt scalar *Visual NONE NONE Debris *Visual NONE scalar NONE Sand/Dirt NONE NONE scalar *Visual NORML NORML Appearance scalar *Visual Odor *Visual NORML NORML scalar **Emulsified Water** scalar *Visual >0.21 NEG Free Water scalar *Visual NEG FLUID PROPERTIES Visc @ 100°C cSt ASTM D445 14.4 14.5 GRAPHS Iron (ppm) Lead (ppm) 200 100 Severe 80 150 60 E 100 ppm Δſ 50 20 Aluminum (ppm) Chromium (ppm) 60 2 Severe Seve 50 20 40 15 E 30 20 10 0 Silicon (ppm) Copper (ppm) 150 100 ۲ מ 50 10 Abnor Viscosity @ 100°C Base Number 10. 18 Ab (mg KOH/g) Base 8.0 6. umber 4. Abnorma Base Nu 2.0 10 0.0 Jun20/24



mag

(100°C)

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Contact/Location: CHARLES PARKER - JAMELI