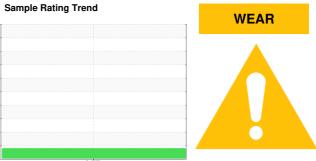


OIL ANALYSIS REPORT



MACK 7005 Diesel Engine



DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

Valve wear is indicated. All other component wear rates are normal.

Contamination

Fuel content negligible. There is no indication of any contamination in the oil.

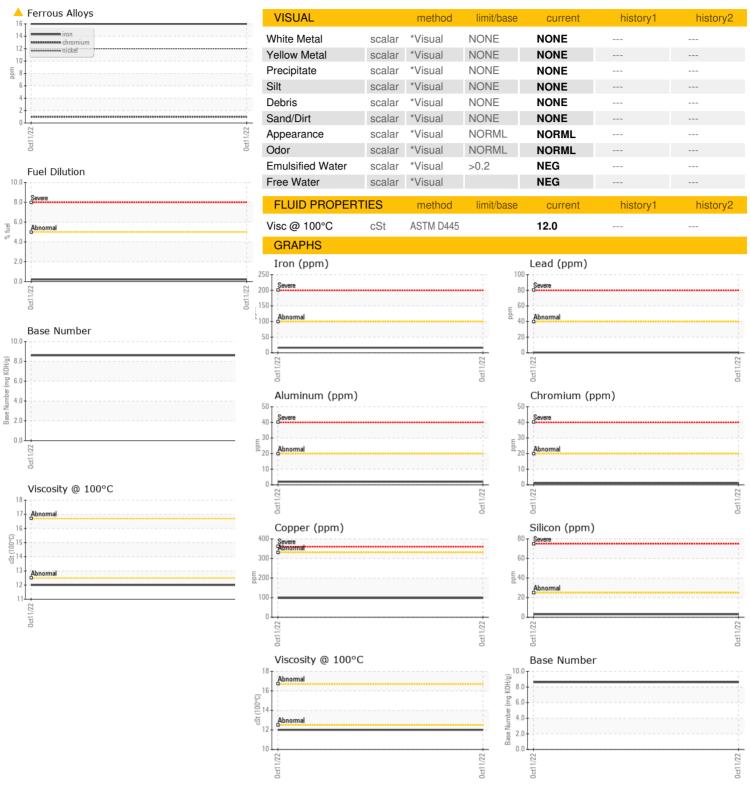
Fluid Condition

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

0.1.151.5.1150.51				0ct2022		
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0744186		
Sample Date		Client Info		11 Oct 2022		
Machine Age	mls	Client Info		46547		
Oil Age	mls	Client Info		0		
Oil Changed		Client Info		N/A		
Sample Status				ABNORMAL		
CONTAMINATION	N	method	limit/base	current	history1	history2
Glycol		WC Method		NEG		
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	16		
Chromium	ppm	ASTM D5185m	>20	1		
Nickel	ppm	ASTM D5185m	>4	<u> 12</u>		
Titanium	ppm	ASTM D5185m		<1		
Silver	ppm	ASTM D5185m	>3	<1		
Aluminum	ppm	ASTM D5185m		2		
Lead	ppm	ASTM D5185m	>40	_ <1		
Copper	ppm	ASTM D5185m		98		
Tin	ppm	ASTM D5185m	>15	1		
Vanadium	ppm	ASTM D5185m	>10	0		
Cadmium		ASTM D5185m		0		
Caumum	ppm	ASTIVI DSTOSIII		U		
ADDITIVES		method	limit/base	current	history1	history2
	ppm	method ASTM D5185m	limit/base	current 21	history1	history2
Boron	ppm ppm		limit/base			
Boron Barium		ASTM D5185m	limit/base	21		
Boron Barium Molybdenum	ppm	ASTM D5185m ASTM D5185m	limit/base	21 0		
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	21 0 66		
Boron Barium Molybdenum Manganese Magnesium	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	21 0 66 <1		
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	21 0 66 <1 895		
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	21 0 66 <1 895 1169		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	21 0 66 <1 895 1169 919	 	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	21 0 66 <1 895 1169 919	 	
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 ASTM D5185m ASTM D5185m		21 0 66 <1 895 1169 919 1138 3102	 	
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 ASTM D5185m ASTM D5185m	limit/base	21 0 66 <1 895 1169 919 1138 3102 current	 history1	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base	21 0 66 <1 895 1169 919 1138 3102 current	 history1	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base >25	21 0 66 <1 895 1169 919 1138 3102 current 3 7	 history1	history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base >25 >20	21 0 66 <1 895 1169 919 1138 3102 current 3 7 <1	 history1	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base >25 >20 >5 limit/base	21 0 66 <1 895 1169 919 1138 3102 current 3 7 <1 0.2 current	history1	history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base >25 >20 >5 limit/base >3	21 0 66 <1 895 1169 919 1138 3102 current 3 7 <1 0.2 current 0.6	history1 history1	history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base >25 >20 >5 limit/base	21 0 66 <1 895 1169 919 1138 3102 current 3 7 <1 0.2 current 0.6 9.5	history1 history1	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844	limit/base >25 >20 >5 limit/base >3 >20	21 0 66 <1 895 1169 919 1138 3102 current 3 7 <1 0.2 current 0.6	history1 history1	history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm	ASTM D5185m ASTM D78185m ASTM D78144 *ASTM D7624 *ASTM D7624 *ASTM D7415 method	limit/base >25 >20 >5 limit/base >3 >20 >30 limit/base	21 0 66 <1 895 1169 919 1138 3102 current 3 7 <1 0.2 current 0.6 9.5 22.6 current	history1 history1 history1 history1	history2 history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7624	limit/base >25 >20 >5 limit/base >3 >20 >30 >30	21 0 66 <1 895 1169 919 1138 3102 current 3 7 <1 0.2 current 0.6 9.5 22.6	history1 history1	history2 history2



OIL ANALYSIS REPORT







Certificate L2367

Laboratory Sample No. Lab Number **Unique Number**

: WC0744186 : 05674928 : 10189499

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 24 Oct 2022 : 26 Oct 2022 Diagnosed Diagnostician : Don Baldridge

Test Package : MOB 1 (Additional Tests: FuelDilution, PercentFuel, TBN) To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - 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)

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