

### **OIL ANALYSIS REPORT**

Sample Rating Trend







# FORD 3478

Component Gasoline Engine Fluid

GIBRALTAR 15W/40 SUPER S-3 LX (11 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.

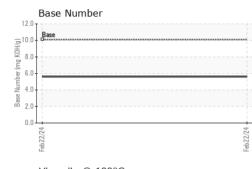
#### Fluid Condition

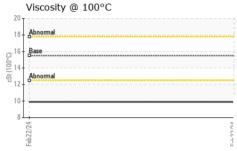
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

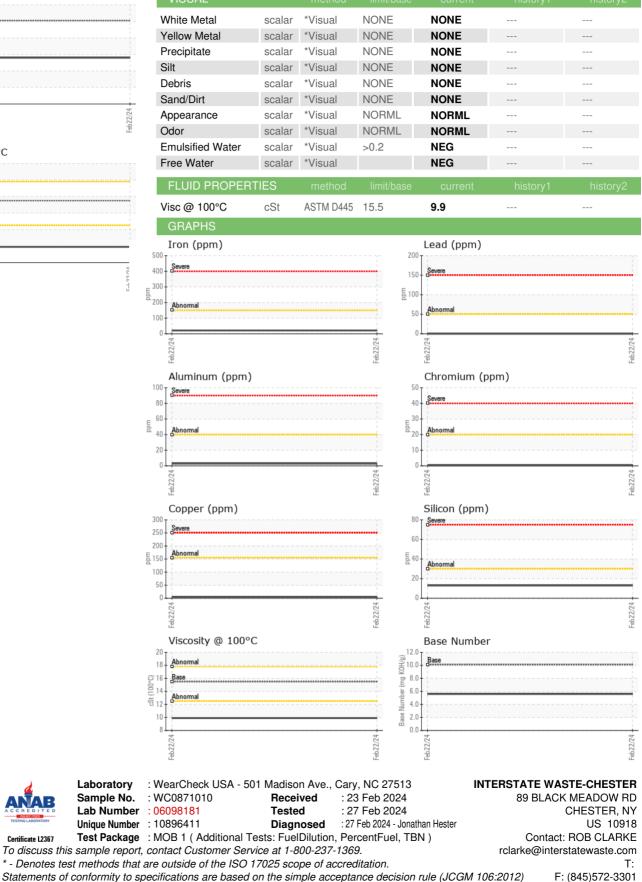
SAMPLE INFORM	1ATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0871010		
Sample Date		Client Info		22 Feb 2024		
Machine Age	mls	Client Info		0		
Oil Age	mls	Client Info		0		
Oil Changed		Client Info		N/A		
Sample Status				NORMAL		
CONTAMINATION	١	method	limit/base	current	history1	history2
Water		WC Method	>0.2	NEG		
Glycol		WC Method		NEG		
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>150	21		
Chromium	ppm	ASTM D5185m	>20	<1		
Nickel	ppm	ASTM D5185m	>5	0		
Titanium Silver	ppm	ASTM D5185m	>2			
Aluminum	ppm	ASTM D5185m ASTM D5185m	>2	0 3		
Lead	ppm	ASTM D5185m	>40 >50	3 0		
	ppm	ASTM D5185m	>155	5		
Copper Tin	ppm	ASTM D5185m	>105	5 <1		
Vanadium	ppm ppm	ASTM D5185m	>10	0		
Cadmium		ASTM D5185m		0		
	ppm			0		
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	limit/base	29		
Boron Barium	ppm	ASTM D5185m ASTM D5185m		29 0		
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	29 0 89		
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	66	29 0 89 1		
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	66 1000	29 0 89 1 649		
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	66 1000 1050	29 0 89 1 649 704	  	
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	66 1000 1050 1150	29 0 89 1 649 704 628	   	
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	66 1000 1050	29 0 89 1 649 704 628 752	    	
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	66 1000 1050 1150 1270	29 0 89 1 649 704 628	   	
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	66 1000 1050 1150	29 0 89 1 649 704 628 752	    	
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	66 1000 1050 1150 1270 limit/base	29 0 89 1 649 704 628 752 2017		
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	66 1000 1050 1150 1270 limit/base >30	29 0 89 1 649 704 628 752 2017 current		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm   ppm	ASTM D5185m ASTM D5185m	66 1000 1050 1150 1270 limit/base >30	29 0 89 1 649 704 628 752 2017 <b>current</b> 13 2 0	     history1	     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	66 1000 1050 1150 1270 <b>limit/base</b> >30 >400	29 0 89 1 649 704 628 752 2017 current 13 2	      history1	     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm   ppm	ASTM D5185m ASTM D5185m	66 1000 1050 1150 1270 270 <b>limit/base</b> >30 >400 >20	29 0 89 1 649 704 628 752 2017 <b>current</b> 13 2 0	      history1	     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel	ppm   ppm	ASTM D5185m ASTM D5185m	66 1000 1050 1150 1270 <b>i</b> mit/base >30 >400 >20 >20 >4.0	29 0 89 1 649 704 628 752 2017 <i>current</i> 13 2 0 0 <1.0	     history1  	     history2  
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	66 1000 1050 1150 1270 1270 imit/base >30 >400 >20 >20 >4.0	29 0 89 1 649 704 628 752 2017 <i>current</i> 13 2 0 0 <1.0 <i>current</i>	     history1    history1	     history2    history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm   ppm   ppm	ASTM D5185m ASTM D5185m	66 1000 1050 1150 1270 1270 imit/base >30 >400 >20 >20 >4.0	29 0 89 1 649 704 628 752 2017 <i>current</i> 13 2 0 <1.0 <i>current</i>	      history1    history1  	     history2    history2
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 D3524 <b>method</b> *ASTM D7844	66 1000 1050 1150 1270 20 >30 >400 >20 >4.0 imit/base	29 0 89 1 649 704 628 752 2017 <i>current</i> 13 2 0 <1.0 <i>current</i> 0.2 6.8	      history1    history1  	     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 D5185m	66 1000 1050 1150 1270 270 30 >400 >20 >20 >4.0 30 20 >20 >20 >20 >20 >20 >30	29 0 89 1 649 704 628 752 2017 <b>current</b> 13 2 0 <1.0 <b>current</b> 0.2 6.8 17.1	       history1   history1  	      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 D5185m	66 1000 1050 1150 1270 270 30 >400 >20 >4.0 20 >4.0 30 >20 >30 20 30 20 30 20 20 20 20 20 20 20 20 20 20 20 20 20	29 0 89 1 649 704 628 752 2017 <i>current</i> 13 2 0 <1.0 <i>current</i> 0.2 6.8 17.1 <i>current</i>	       history1  history1  history1  history1	     history2    history2  history2  history2



## **OIL ANALYSIS REPORT**







Certificate L2367

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