

# **OIL ANALYSIS REPORT**

Sample Rating Trend







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

#### DIAGNOSIS

#### Recommendation

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

## Wear

Metal levels are typical for a components first oil change.

## 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	<b>MATION</b>	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0759986		
Sample Date		Client Info		10 May 2023		
Machine Age	hrs	Client Info		5737		
Oil Age	hrs	Client Info		5737		
Oil Changed	1110	Client Info		Changed		
Sample Status				NORMAL		
CONTAMINATIO	N	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0		
Glycol		WC Method	20	NEG		
,				NEG		
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>120	40		
Chromium	ppm	ASTM D5185m	>20	1		
Nickel	ppm	ASTM D5185m	>5	5		
Titanium	ppm	ASTM D5185m	>2	0		
Silver	ppm	ASTM D5185m	>2	0		
Aluminum	ppm	ASTM D5185m	>20	5		
Lead	ppm	ASTM D5185m	>40	<1		
Copper	ppm	ASTM D5185m	>330	23		
Tin	ppm	ASTM D5185m	>15	<1		
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 2	history1	history2
	ppm ppm					
Boron		ASTM D5185m	250	2		
Boron Barium	ppm	ASTM D5185m ASTM D5185m	250 10	2 0		
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	250 10	2 0 67		
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100	2 0 67 1		
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450	2 0 67 1 903		
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000	2 0 67 1 903 1146	  	  
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	2 0 67 1 903 1146 944	   	   
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	250 10 100 450 3000 1150 1350	2 0 67 1 903 1146 944 1191		    
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 Limit/base	2 0 67 1 903 1146 944 1191 2989		
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 ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>limit/base</b> >25	2 0 67 1 903 1146 944 1191 2989 current		
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 <b>method</b>	250 10 100 450 3000 1150 1350 4250 kimit/base >25 >158	2 0 67 1 903 1146 944 1191 2989 current 6	     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 <b>method</b> ASTM D5185m	250 10 100 450 3000 1150 1350 4250 kimit/base >25 >158	2 0 67 1 903 1146 944 1191 2989 current 6 4	     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 ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>limit/base</b> >25 >158 >20	2 0 67 1 903 1146 944 1191 2989 current 6 4 2	     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 ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>imit/base</b> >25 >158 >20	2 0 67 1 903 1146 944 1191 2989 <u>current</u> 6 4 2 2 <u>current</u> 0.9	     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	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>Imit/base</b> >25 >158 >20 <b>Imit/base</b> >20	2 0 67 1 903 1146 944 1191 2989 current 6 4 2 2	     history1   history1  history1	     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 <b>Imit/base</b> >25 >158 >20 <b>Imit/base</b> >20	2 0 67 1 903 1146 944 1191 2989 current 6 4 2 2 current 0.9 9.5	history1 history1	     history2  history2  history2
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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 <b>imit/base</b> >25 >158 >20 <b>imit/base</b> >4 >20 >30 <b>imit/base</b>	2 0 67 1 903 1146 944 1191 2989 <u>current</u> 6 4 2 2 <u>current</u> 0.9 9.5 21.6	history1 history1 history1 history1 history1	



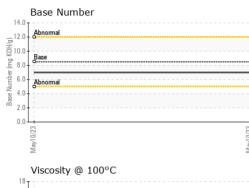
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# **OIL ANALYSIS REPORT**



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Debris scalar Visual NONE NONE Sand/Dirt scalar Visual NORML NORML		Precipitate	scalar	*Visual	NONE	NONE		
Sand/Dirt scalar Visual NONE NORE		Silt	scalar	*Visual	NONE	NONE		
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Ferrous Alloys		Visc @ 100°C	cSt	ASTM D445	14.4	13.5		
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		Viscosity @ 100 <sup>18</sup> <sup>17</sup> <sup>Abnomal</sup>			≥ 14.0	Abnormal		
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Laboratory: WearCheck USA - 501 Madison Ave., Cary, NC 27513Apple Valley Waste - Chambersburg LocaSample No.: WC0759986Received: 18 May 20235436 Sunset PLab Number: 05851139Diagnosed: 19 May 2023Chambersburg,Unique Number: 10480494Diagnostician: Wes DavisUS 172titicate L2367: CONST (Additional Tests: TBN )Contact: Service Mana	Sample No. Lab Number Unique Number Test Package	Viscosity @ 1000 Viscosity @ 1000 Base Base internationalisti international international international internatio	<ul> <li>501 Madia</li> <li>Received</li> <li>Diagnost</li> <li>al Tests: T</li> </ul>	d : 18   ed : 19   tician : Wes 'BN )	14.0 12.0 10.0 10.0 10.0 10.0 10.0 10.0 10	Abnormal Base Abnormal	54 Cha	36 Sunset P mbersburg, US 172
Laboratory: WearCheck USA - 501 Madison Ave., Cary, NC 27513Apple Valley Waste - Chambersburg LocaSample No.: WC0759986Received: 18 May 20235436 Sunset PLab Number: 05851139Diagnosed: 19 May 2023Chambersburg, US 172Unique Number: 10480494Diagnostician: Wes DavisUS 172	Artificate L2367 Constraints this sample report,	Viscosity @ 1000 Viscosity @ 1000 Abnomal Base : WearCheck USA - : WC0759986 : 05851139 r : 10480494 e : CONST ( Addition ; contact Customer Set	<ul> <li>- 501 Madia</li> <li>Received</li> <li>Diagnost</li> <li>al Tests: T</li> <li>rvice at 1-8</li> </ul>	d : 18   ed : 19   tician : We 'BN ) 800-237-1369	14.0 12.0 (0)(10.0 0)(10.0 0)(10.0 0)(10.0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	Abnormal Base Abnormal	54 Cha	36 Sunset Pi mbersburg, I US 172

Submitted By: BOB MCQUADE

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