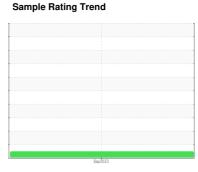


# **OIL ANALYSIS REPORT**



**NORMAL** 



Machine Id 305 Component **Diesel Engine** 

**DIESEL ENGINE OIL SAE 40 (--- GAL)** 

#### Recommendation

Resample at the next service interval to monitor. The fluid was not specified, however, a fluid match indicates that this fluid is (GENERIC) DIESEL ENGINE OIL SAE 40. Please confirm.

#### Wear

All component wear rates are normal.

### Contamination

There is no indication of any contamination in the

#### **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.

Oil Age da Oil Changed Sample Status  CONTAMINATION  Fuel Glycol  WEAR METALS  Iron properties of the	Cli ays Cli ays Cli ays Cli  Cli  m WC WC m pm AST	nethod ent Info  Method Meth	limit/base >3.0 limit/base >90 >20 >2 >2 >2 >2 >2 >2 >40	current WC0584575 28 Sep 2023 0 458 Changed NORMAL current <1.0 NEG current 38 2 <1 0 0 3 7 4 2	history1 history1 history1	history2 history2 history2
Sample Number Sample Date Machine Age da Oil Age da Oil Changed Sample Status  CONTAMINATION  Fuel Glycol  WEAR METALS  Iron pr Chromium pr Nickel pr Titanium pr Aluminum pr Vanadium pr Vanadium pr Cadmium pr ADDITIVES  Boron pr	Cli Cli ays Cli ays Cli ays Cli  Cli  m WC  m WC  m AST pm AST	ent Info  Method Meth	limit/base >3.0 limit/base >90 >20 >2 >2 >2 >2 >2 >2 >30 >40 >330	WC0584575 28 Sep 2023 0 458 Changed NORMAL	history1 history1	history2 history2
Sample Date  Machine Age Oil Age Oil Age Oil Changed Sample Status  CONTAMINATION  Fuel Glycol  WEAR METALS  Iron Chromium Nickel Titanium Silver Aluminum Lead Copper Tin Vanadium Cadmium PR  ADDITIVES  Boron  data	ays Cli ays Cli ays Cli Cli  m WC WC  m pm AST	ent Info ent Info ent Info ent Info ent Info ent Info ent Info ent Info Method	>3.0  limit/base >90 >20 >2 >2 >2 >2 >2 >40 >330	28 Sep 2023 0 458 Changed NORMAL  current <1.0 NEG  current 38 2 <1 0 0 3 7 4	history1 history1	history2 history2
Machine Age da Oil Age da Oil Age da Oil Changed Sample Status  CONTAMINATION  Fuel Glycol  WEAR METALS  Iron proper prop	ays Cli ays Cli Cli  m WC WC  m pm AST	ent Info ent Info ent Info ent Info ent Info ent Info Method Method Method M D5185m M D5185m M D5185m M D5185m M D5185m M D5185m M D5185m M D5185m M D5185m M D5185m	>3.0  limit/base >90 >20 >2 >2 >2 >2 >2 >40 >330	0 458 Changed NORMAL  current  <1.0 NEG  current  38 2 <1 0 0 3 7 4	history1 history1	history2 history2
Oil Age da Oil Changed Sample Status CONTAMINATION  Fuel Glycol WEAR METALS  Iron process of the Chromium process of the Chrom	ays Cli Cli  m WC WC  m pm AST	ent Info ent Info ent Info Dethod Dethod Method M D5185m M D5185m M D5185m M D5185m M D5185m M D5185m M D5185m M D5185m M D5185m M D5185m	>3.0  limit/base >90 >20 >2 >2 >2 >2 >2 >40 >330	458 Changed NORMAL current <1.0 NEG current 38 2 <1 0 0 3 7 4	history1 history1 history1	history2 history2 history2
Oil Changed Sample Status  CONTAMINATION  Fuel Glycol  WEAR METALS  Iron pr Chromium pr Nickel pr Titanium pr Aluminum pr Vanadium pr Vanadium pr ADDITIVES  Boron pr	m WC WC m AST pm AST	nethod C Method C Method MD5185m M D5185m	>3.0  limit/base >90 >20 >2 >2 >2 >2 >2 >40 >330	Changed NORMAL  current  <1.0 NEG  current  38 2 <1 0 0 3 7 4	history1 history1 history1	history2 history2 history2
Sample Status  CONTAMINATION  Fuel Glycol  WEAR METALS  Iron pr Chromium pr Nickel pr Titanium pr Silver pr Aluminum pr Lead pr Copper pr Tin pr Vanadium pr Cadmium pr ADDITIVES  Boron pr	pm AST	method C Method C Method TM D5185m	>3.0  limit/base >90 >20 >2 >2 >2 >2 >2 >40 >330	Current <1.0 NEG  current  38 2 <1 0 0 3 7 4	history1 history1	history2 history2
CONTAMINATION Fuel Glycol  WEAR METALS Iron pr Chromium pr Nickel pr Titanium pr Aluminum pr Lead pr Copper pr Tin pr Vanadium pr Cadmium pr ADDITIVES Boron pr	pm AST	C Method C Method M D5185m M D5185m	>3.0  limit/base >90 >20 >2 >2 >2 >2 >2 >40 >330	current <1.0 NEG  current  38 2 <1 0 0 3 7 4	history1 history1	history2 history2
Fuel Glycol  WEAR METALS  Iron pr Chromium pr Nickel pr Titanium pr Aluminum pr Lead pr Copper pr Tin pr Vanadium pr ADDITIVES  Boron pr	pm AST	C Method C Method M D5185m M D5185m	>3.0  limit/base >90 >20 >2 >2 >2 >2 >2 >40 >330	<1.0 NEG  current  38 2 <1 0 0 3 7 4	history1	history2
Glycol  WEAR METALS  Iron pr Chromium pr Nickel pr Titanium pr Silver pr Aluminum pr Lead pr Copper pr Tin pr Vanadium pr ADDITIVES  Boron pr	pm AST	C Method  TM D5185m	limit/base >90 >20 >2 >2 >2 >2 >2 >2 >3 >3 >3 >3 >3 >3 >3 >3 >3 >3 >3 >3 >3	NEG current 38 2 <1 0 0 3 7 4	history1	history2
WEAR METALS  Iron properties of the properties o	pm AST	TM D5185m	>90 >20 >2 >2 >2 >2 >2 >2 >40 >40 >330	current  38 2 <1 0 0 3 7 4	history1	history2
Iron pr Chromium pr Nickel pr Titanium pr Silver pr Aluminum pr Lead pr Copper pr Tin pr Vanadium pr Cadmium pr ADDITIVES Boron pr	pm AST	TM D5185m	>90 >20 >2 >2 >2 >2 >2 >2 >40 >40 >330	38 2 <1 0 0 3 7		
Chromium properties of the control o	pm AST	TM D5185m	>20 >2 >2 >2 >2 >2 >2 >20 >40 >330	2 <1 0 0 3 7 4		
Chromium properties of the control o	pm AST	TM D5185m TM D5185m TM D5185m TM D5185m TM D5185m TM D5185m TM D5185m TM D5185m	>2 >2 >2 >2 >20 >40 >330	<1 0 0 3 7 4		
Nickel properties of the control of	pm AST pm AST pm AST pm AST pm AST pm AST pm AST pm AST	TM D5185m TM D5185m TM D5185m TM D5185m TM D5185m TM D5185m TM D5185m	>2 >2 >20 >40 >330	0 0 3 7 4		
Titanium properties of the state of the stat	pm AST pm AST pm AST pm AST pm AST pm AST pm AST	TM D5185m TM D5185m TM D5185m TM D5185m TM D5185m TM D5185m	>2 >20 >40 >330	0 3 7 4		
Silver pp Aluminum pp Lead pp Copper pp Tin pp Vanadium pp ADDITIVES Boron pp	pm AST pm AST pm AST pm AST pm AST pm AST	TM D5185m TM D5185m TM D5185m TM D5185m TM D5185m TM D5185m	>20 >40 >330	3 7 4		
Aluminum pr Lead pr Copper pr Tin pr Vanadium pr Cadmium pr ADDITIVES Boron pr	pm AST pm AST pm AST pm AST pm AST	TM D5185m TM D5185m TM D5185m TM D5185m TM D5185m	>20 >40 >330	3 7 4		
Lead pp Copper pp Tin pp Vanadium pp Cadmium pp ADDITIVES Boron pp	pm AST pm AST pm AST pm AST	TM D5185m TM D5185m TM D5185m	>330	4		
Copper pp Tin pp Vanadium pp Cadmium pp ADDITIVES Boron pp	pm AST pm AST pm AST	M D5185m M D5185m		-		
Tin pp Vanadium pp Cadmium pp ADDITIVES Boron pp	pm AST pm AST	M D5185m	>15	2		
Vanadium pp Cadmium pp ADDITIVES Boron pp	pm AST					
Cadmium pp ADDITIVES Boron pp		M DE10Em		0		
ADDITIVES Boron pr	•	M D5185m		0		
1-1	m	nethod	limit/base	current	history1	history2
1-1	pm AST	M D5185m	250	350		
- a.i.a.ii			10	0		
Molybdenum pr		M D5185m	100	75		
		M D5185m	100	<1		
		M D5185m	450	359		
		M D5185m	3000	1480		
1-1		M D5185m	1150	1003		
		M D5185m	1350	1262		
- 1-1		M D5185m	4250	3320		
CONTAMINANTS	m	nethod	limit/base	current	history1	history2
		M D5185m	>25	16		
		M D5185m	>216	1		
		M D5185m	>20	3		
INFRA-RED	m	nethod	limit/base	current	history1	history2
Soot % %	6 *AS	TM D7844	>6	3		
		TM D7624	>20	9.4		
		TM D7415	>30	26.7		
FLUID DEGRADATION	ON m	nethod	limit/base	current	history1	history2
Oxidation Ab	bs/.1mm *AS	TM D7414	>25	17.1		
Base Number (BN) mg			8.5	6.5		



## **OIL ANALYSIS REPORT**







Certificate L2367

Laboratory Sample No. Lab Number Unique Number

: WC0584575 : 05965986 : 10672537 Test Package : MOB1+

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 02 Oct 2023 Diagnosed : 02 Oct 2023 : Wes Davis Diagnostician

MIDDLESBORO COCA-COLA BOTTLING - MCCB 1324 E CUMBERLAND AVE MIDDLESBORO, KY US 40965 Contact: TIM GOINS

tgoins@mccbw.com T: (606)248-0362

F: (606)248-1382

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)