

### **OIL ANALYSIS REPORT**

Sample Rating Trend



# FORD 00

Component Gasoline Engine

Fluid CHEVRON SUPREME MOTOR OIL 5W30 (8 QTS)

#### 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. The amount and size of particulates present in the system are acceptable.

#### Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

	Feb2024		
SAMPLE INFORMATION method limit/bas	e current	history1	history2
Sample Number Client Info	KLM2327535	KLM2327544	
Sample Date Client Info	23 Feb 2024	15 Dec 2023	
Machine Age mls Client Info	93146	87792	
Oil Age mls Client Info	10000	4000	
Oil Changed Client Info	Not Changd	Not Changd	
Sample Status	NORMAL	NORMAL	
CONTAMINATION method limit/bas	e current	history1	history2
Fuel WC Method >4.0	<1.0	<1.0	
Water WC Method >0.2	NEG	NEG	
Glycol WC Method	NEG	NEG	
WEAR METALS method limit/bas	e current	history1	history2
Iron ppm ASTM D5185m >150	7	5	
Chromium ppm ASTM D5185m >20	<1	<1	
Nickel ppm ASTM D5185m >5	0	0	
Titanium ppm ASTM D5185m	<1	<1	
Silver ppm ASTM D5185m >2	0	0	
Aluminum ppm ASTM D5185m >40	2	3	
Lead ppm ASTM D5185m >50	<1	0	
Copper ppm ASTM D5185m >155	22	2	
Tin ppm ASTM D5185m >10	0	<1	
Vanadium ppm ASTM D5185m	0	0	
Cadmium ppm ASTM D5185m	0	0	
			history2
ADDITIVES method limit/bas	e current	history1	THSTOLYZ
ADDITIVES method limit/bas Boron ppm ASTM D5185m	e current 9	nistory i 32	
-			
Boron ppm ASTM D5185m	9	32	
BoronppmASTM D5185mBariumppmASTM D5185m	9 10	32 15	
BoronppmASTM D5185mBariumppmASTM D5185mMolybdenumppmASTM D5185mManganeseppmASTM D5185mMagnesiumppmASTM D5185m	9 10 69	32 15 98 0 547	
BoronppmASTM D5185mBariumppmASTM D5185mMolybdenumppmASTM D5185mManganeseppmASTM D5185mMagnesiumppmASTM D5185mCalciumppmASTM D5185m	9 10 69 <1 366 1405	32 15 98 0 547 987	
BoronppmASTM D5185mBariumppmASTM D5185mMolybdenumppmASTM D5185mManganeseppmASTM D5185mMagnesiumppmASTM D5185mCalciumppmASTM D5185mPhosphorusppmASTM D5185m	9 10 69 <1 366 1405 644	32 15 98 0 547 987 671	   
BoronppmASTM D5185mBariumppmASTM D5185mMolybdenumppmASTM D5185mManganeseppmASTM D5185mMagnesiumppmASTM D5185mCalciumppmASTM D5185mPhosphorusppmASTM D5185mZincppmASTM D5185m	9 10 69 <1 366 1405 644 821	32 15 98 0 547 987 671 773	  
BoronppmASTM D5185mBariumppmASTM D5185mMolybdenumppmASTM D5185mManganeseppmASTM D5185mMagnesiumppmASTM D5185mCalciumppmASTM D5185mPhosphorusppmASTM D5185mZincppmASTM D5185mSulfurppmASTM D5185m	9 10 69 <1 366 1405 644	32 15 98 0 547 987 671	   
BoronppmASTM D5185mBariumppmASTM D5185mMolybdenumppmASTM D5185mManganeseppmASTM D5185mMagnesiumppmASTM D5185mCalciumppmASTM D5185mPhosphorusppmASTM D5185mZincppmASTM D5185m	9 10 69 <1 366 1405 644 821 2729	32 15 98 0 547 987 671 773	   
BoronppmASTM D5185mBariumppmASTM D5185mMolybdenumppmASTM D5185mManganeseppmASTM D5185mMagnesiumppmASTM D5185mCalciumppmASTM D5185mPhosphorusppmASTM D5185mZincppmASTM D5185mSulfurppmASTM D5185mCONTAMINANTSmethodlimit/basSiliconppmASTM D5185m	9 10 69 <1 366 1405 644 821 2729 e current 7	32 15 98 0 547 987 671 773 2743 history1 11	
BoronppmASTM D5185mBariumppmASTM D5185mMolybdenumppmASTM D5185mManganeseppmASTM D5185mMagnesiumppmASTM D5185mCalciumppmASTM D5185mPhosphorusppmASTM D5185mZincppmASTM D5185mSulfurppmASTM D5185mSiliconppmASTM D5185mSodiumppmASTM D5185mSodiumppmASTM D5185m	9 10 69 <1 366 1405 644 821 2729 e <u>current</u> 7 0	32 15 98 0 547 987 671 773 2743 <b>history1</b> 11 1	     history2
BoronppmASTM D5185mBariumppmASTM D5185mMolybdenumppmASTM D5185mManganeseppmASTM D5185mMagnesiumppmASTM D5185mCalciumppmASTM D5185mPhosphorusppmASTM D5185mZincppmASTM D5185mSulfurppmASTM D5185mCONTAMINANTSmethodlimit/basSiliconppmASTM D5185m	9 10 69 <1 366 1405 644 821 2729 e current 7	32 15 98 0 547 987 671 773 2743 history1 11	     history2
BoronppmASTM D5185mBariumppmASTM D5185mMolybdenumppmASTM D5185mManganeseppmASTM D5185mMagnesiumppmASTM D5185mCalciumppmASTM D5185mPhosphorusppmASTM D5185mZincppmASTM D5185mSulfurppmASTM D5185mSiliconppmASTM D5185mSodiumppmASTM D5185mSodiumppmASTM D5185m	9 10 69 <1 366 1405 644 821 2729 e current 7 0 0 0	32 15 98 0 547 987 671 773 2743 <b>history1</b> 11 1	     history2
BoronppmASTM D5185mBariumppmASTM D5185mMolybdenumppmASTM D5185mManganeseppmASTM D5185mMagnesiumppmASTM D5185mCalciumppmASTM D5185mPhosphorusppmASTM D5185mZincppmASTM D5185mSulfurppmASTM D5185mCONTAMINANTSmethodlimit/basSiliconppmASTM D5185m>30SodiumppmASTM D5185m>400PotassiumppmASTM D5185m>20	9 10 69 <1 366 1405 644 821 2729 e current 7 0 0 0	32 15 98 0 547 987 671 773 2743 history1 11 1 1 0	     history2  
BoronppmASTM D5185mBariumppmASTM D5185mMolybdenumppmASTM D5185mManganeseppmASTM D5185mMagnesiumppmASTM D5185mCalciumppmASTM D5185mPhosphorusppmASTM D5185mZincppmASTM D5185mSulfurppmASTM D5185mSodiumppmASTM D5185mSiliconppmASTM D5185mSodiumppmASTM D5185mPotassiumppmASTM D5185mSIMppmASTM D5185mSodiumppmASTM D5185mSodiumppmASTM D5185mPotassiumppmASTM D5185mSINFRA-REDmethodlimit/base	9 10 69 <1 366 1405 644 821 2729 e current 7 0 0 0 current	32 15 98 0 547 987 671 773 2743 history1 11 1 1 0 history1	     history2   history2



r of particles (1 ml) 1 k 1 k 1 k

je ol į ok 0k

8.0

(mg KOH/s 4.0

ag 2.0

0.0

4 (100°C) 11. 12. 11. 12.

14

13

1k

f particles (1 ml) 1 k 1 k

₫ Ok 5 O

0k L

8.0

BE 5.0

ag 2.0 1.0 0.0

## **OIL ANALYSIS REPORT**

k-	Particle Trend	FLUID CLEANLIN	IESS	method	limit/base	current
k۰		Particles >4µm		ASTM D7647		1105
k۰		Particles >6µm		ASTM D7647	>5000	602
k۰		Particles >14µm		ASTM D7647	>640	102
lk •		Particles >21µm		ASTM D7647	>160	34
lk •		Particles >38µm		ASTM D7647		5
lk -		Particles >71µm		ASTM D7647		1
	Dec15/23 Feb23/24	Oil Cleanliness		ISO 4406 (c)	>19/16	16/14
		FLUID DEGRADA	ATION	method	limit/base	current
.0-	Base Number	Oxidation	Abs/.1mm	*ASTM D7414	>25	15.0
0.		Acid Number (AN)	mg KOH/g	ASTM D8045		2.322
.0. .0.		VISUAL		method	limit/base	current
0.		White Metal	scalar	*Visual	NONE	NONE
.0.		Yellow Metal	scalar	*Visual	NONE	NONE
.0.		Precipitate	scalar	*Visual	NONE	NONE
0.	23 +	Silt	scalar	*Visual	NONE	NONE
	Dec15/23 Feb23/24	Debris	scalar	*Visual	NONE	NONE
		Sand/Dirt	scalar	*Visual	NONE	NONE
4	Viscosity @ 100°C	Appearance	scalar	*Visual	NORML	NORML
2		Odor	scalar	*Visual	NORML	NORML
2.	Abnormal	Emulsified Water	scalar	*Visual	>0.2	NEG
11-		Free Water	scalar	*Visual		NEG
0.	Base	FLUID PROPERT	TIES	method	limit/base	current
9.	Absormst	Visc @ 100°C	cSt	ASTM D445	9.7	9.3
8-	23 +	GRAPHS				
	Dec15/23	Ferrous Alloys				Particle Count
	Particle Trend	10 iron			491,520	
k -		E 5-			122,880	
k۰	4μm 				30,720	
k۰		23 23			42 (E 7,680	
k -		Dec15/22			Feb23/24 s (per 1 ml 026'1	
lk •		Non-ferrous Metal	s		Feb23/24 particles (per 1 m)) 086'/ 089'/	
lk•		30 copper			120 una 120	
IK -	5/23	20 - Internet lead			- Han 30	
	Dec15/23	10			8	<b>Abreve</b> mal
	Base Number	0				1
0.	Base	Dec15/23			Feb23/24	
0.		Viscosity @ 100°C	2		4	ہ ہوں Acid Number
.0		Abnormal			(D) 3.0 HOX Bu HOX Bu HOX HOX HOX HOX HOX HOX HOX HOX HOX HOX	
.0. n.		G 12 S 10 Base Abnormal Base Base			ຍິ 2.0	
.0		g 10 - Base		****	aq 1.0	-
0.		8				
.U -	Dec15/23 -	Dec15/22			Feb 23/24	Dec15/23
	Deci				LE	
1	Laboratory	: WearCheck USA - 50				CI
Ē	Sample No.	: KLM2327535 : 06101115	Recei Teste		Feb 2024 Mar 2024	16
	TESTING LABORATORY Unique Number		Diagn		Mar 2024 - Jonath	nan Hester
	Certificate L2367 Test Package	: MOB 2 ( Additional Te				
f	To discuss this sample report,					KEVIN@C

\* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

**CLEARWATER HYDRAULICS** 16030 HASTORAI BYPASS RD LEWISTON, ID US 83501 Contact: KEVIN KEVIN@CLEARWATERHYDRAULICS.COM Т: Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F:

38µ

21µ

14.6

1.69

NONE NONE

NONE

NONE

NONE NONE

NORML

NORML

NEG

NEG

9.5

14µ

----

24

20 8 4406: 18 :1999 Clea

14

12 G

Feb23/24

1 **249)**