

## **OIL ANALYSIS REPORT**

Sample Rating Trend



### Machine Id OSHKOSH 4425

Component Diesel Engine Fluid MOBIL 15W40 (--- GAL)

#### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

#### Wear

Metal levels are typical for a new component breaking in.

#### Contamination

There is no indication of any contamination in the oil.

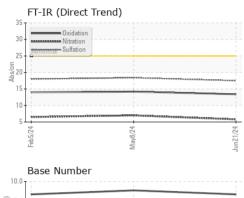
#### Fluid Condition

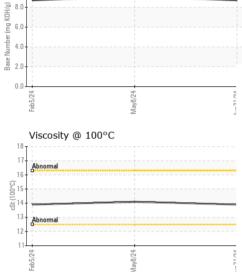
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0949347	WC0917238	WC0893819
Sample Date		Client Info		21 Jun 2024	08 May 2024	05 Feb 2024
Machine Age	mls	Client Info		17554	15526	10689
Oil Age	mls	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	٧	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	5	8	8
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	2	2	<1
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	<1	<1	<1
Tin	ppm	ASTM D5185m	>15	0	0	<1
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 6	history1 4	history2 4
	ppm ppm		limit/base			
Boron		ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	6 0 64	4 0 58	4
Boron Barium Molybdenum Manganese	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	6 0 64 0	4 0 58 0	4 0 55 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	6 0 64 0 1057	4 0 58 0 926	4 0 55 <1 922
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	6 0 64 0 1057 1212	4 0 58 0 926 1049	4 0 55 <1 922 1070
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	6 0 64 0 1057 1212 1157	4 0 58 0 926 1049 1118	4 0 55 <1 922 1070 962
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	6 0 64 0 1057 1212 1157 1406	4 0 58 0 926 1049 1118 1263	4 0 55 <1 922 1070 962 1141
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		6 0 64 0 1057 1212 1157	4 0 58 0 926 1049 1118	4 0 55 <1 922 1070 962
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	limit/base	6 0 64 0 1057 1212 1157 1406 3526 current	4 0 58 0 926 1049 1118 1263 3146 history1	4 0 55 <1 922 1070 962 1141 3444 history2
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> ASTM D5185m	limit/base	6 0 64 0 1057 1212 1157 1406 3526 current 3	4 0 58 0 926 1049 1118 1263 3146 history1 3	4 0 55 <1 922 1070 962 1141 3444 history2 2
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 ASTM D5185m	limit/base >25 >118	6 0 64 0 1057 1212 1157 1406 3526 <u>current</u> 3 2	4 0 58 0 926 1049 1118 1263 3146 history1 3 <1	4 0 55 <1 922 1070 962 1141 3444 history2 2 2 2
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	limit/base >25 >118 >20	6 0 64 0 1057 1212 1157 1406 3526 current 3	4 0 58 0 926 1049 1118 1263 3146 history1 3 < 1 2	4 0 55 <1 922 1070 962 1141 3444 history2 2 2 2 2 2 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >118 >20 limit/base	6 0 64 0 1057 1212 1157 1406 3526 current 3 2 1 1	4 0 58 0 926 1049 1118 1263 3146 history1 3 <1 2 history1	4 0 55 <1 922 1070 962 1141 3444 history2 2 2 2 <1 <i>history2</i>
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm   ppm   ppm   ppm   ppm   ppm   ppm   ppm   ppm   ppm	ASTM D5185m ASTM D5185m	limit/base >25 >118 >20 limit/base >3	6 0 64 0 1057 1212 1157 1406 3526 <u>current</u> 3 2 1 <u>current</u> 0.2	4 0 58 0 926 1049 1118 1263 3146 history1 3 <1 2 history1 0.3	4 0 55 <1 922 1070 962 1141 3444 history2 2 2 2 <1 history2 0.3
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	limit/base >25 >118 >20 limit/base >3 >20	6 0 64 0 1057 1212 1157 1406 3526 <i>current</i> 3 2 1 2 1 <i>current</i> 0.2 5.8	4 0 58 0 926 1049 1118 1263 3146 history1 3 <1 2 history1 0.3 7.0	4 0 55 <1 922 1070 962 1141 3444 history2 2 2 2 2 2 <1 history2 0.3 6.5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm   ppm   ppm   ppm   ppm   ppm   ppm   ppm   ppm   ppm	ASTM D5185m ASTM D5185m	limit/base >25 >118 >20 limit/base >3	6 0 64 0 1057 1212 1157 1406 3526 <u>current</u> 3 2 1 <u>current</u> 0.2	4 0 58 0 926 1049 1118 1263 3146 history1 3 <1 2 history1 0.3	4 0 55 <1 922 1070 962 1141 3444 history2 2 2 2 <1 history2 0.3
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	limit/base >25 >118 >20 limit/base >3 >20	6 0 64 0 1057 1212 1157 1406 3526 <i>current</i> 3 2 1 2 1 <i>current</i> 0.2 5.8	4 0 58 0 926 1049 1118 1263 3146 history1 3 <1 2 history1 0.3 7.0	4 0 55 <1 922 1070 962 1141 3444 history2 2 2 2 2 2 <1 history2 0.3 6.5
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	limit/base >25 >118 >20 limit/base >3 >20 >30	6 0 64 0 1057 1212 1157 1406 3526 <u>current</u> 3 2 1 2 1 <u>current</u> 0.2 5.8 17.5	4 0 58 0 926 1049 1118 1263 3146 history1 3 <1 2 history1 0.3 7.0 18.4	4 0 55 <1 922 1070 962 1141 3444 history2 2 2 2 <1 history2 0.3 6.5 18.0



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		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual	20.L	NEG	NEG	NEG
			Provid View on a			
FLUID PROPERTI		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445		13.9	14.1	13.9
GRAPHS						
Iron (ppm)			100-	Lead (ppm)		
Severe	1		80.	Severe	1	
			60.			
50 - Abnormal			60·	Abnormal		
			40-	- <b>U</b> ndananananananananananan   		
50-			20			
724 10	/24		- 124	/24	/24	
Feb 5/2 4	May8/24		Jun21/24	Feb5/24	May8/24	
Aluminum (ppm)				Chromium (p	pm)	
50			50.	Severe		
40 +	1		40.	- 0		
30 20 <b>Abnormal</b>			30 <sup>.</sup> 20.	Abnormal		
				- Q		
0			10-			
Feb5/24 1	May8/24 -			Feb5/24 -	May8/24 -	
Feb	May		Jun21/24	Feb	May	
Copper (ppm)			80	Silicon (ppm)		
Abnonnal			80	Severe	!	
00			60 -			
DO			튭.40·			
00			20.	Abnormal	1	
0 <sup>1</sup>	/24		124	/24	124 -	
Feb 5/2 4	May8/24		Jun21/24	Feb5/24	May8/24	
Viscosity @ 100°C				Base Number		
Abnormal			10.0- P	1		
16+7			KOH 8.0			
14-			(0H0 K 8.0) Bu backware the second se			
Abnormal			4.0-			
			82.0·			
10 +	24+			24	24 + .	
Feb5/24	May8/24		Jun21/24	Feb5/24	May8/24	
	2		-		2	



Unique Number : 11130233 Diagnosed : 20 Jul 2024 - Wes Davis Test Package : MOB 1 (Additional Tests: TBN) Certificate 12367 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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Laboratory Sample No. Lab Number

Contact/Location: BRYAN VANNIMAN - CONFAY