

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id

OSHKOSH 4360

Component Diesel Engine

Fluid DIESEL ENGINE OIL SAE 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

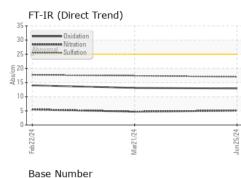
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

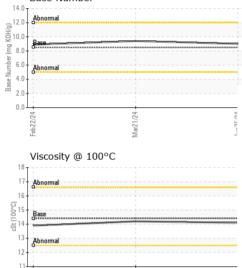
SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0949353	WC0906190	WC0906231
Sample Date		Client Info		25 Jun 2024	21 Mar 2024	22 Feb 2024
Machine Age	mls	Client Info		73115	77226	72050
Oil Age	mls	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	٨	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	3	2	2
Chromium	ppm	ASTM D5185m	>20	<1	<1	0
Nickel	ppm	ASTM D5185m	>4	0	1	0
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>3	0	<1	0
Aluminum	ppm	ASTM D5185m	>20	1	1	<1
Lead	ppm	ASTM D5185m	>40	0	1	0
Copper	ppm	ASTM D5185m	>330	0	<1	0
Tin	ppm	ASTM D5185m	>15	0	1	0
Vanadium	ppm	ASTM D5185m		0	<1	<1
Cadmium	ppm	ASTM D5185m		0	1	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 250	current 8	history1 4	history2 10
	ppm ppm					
Boron		ASTM D5185m	250	8	4	10
Boron Barium	ppm	ASTM D5185m ASTM D5185m	250 10	8 0	4	10 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	250 10	8 0 57	4 0 57	10 0 55
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100	8 0 57 0	4 0 57 1	10 0 55 0
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450	8 0 57 0 885	4 0 57 1 872	10 0 55 0 877
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000	8 0 57 0 885 1062	4 0 57 1 872 1039	10 0 55 0 877 1104
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	8 0 57 0 885 1062 945	4 0 57 1 872 1039 1036	10 0 55 0 877 1104 917
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	8 0 57 0 885 1062 945 1146	4 0 57 1 872 1039 1036 1137	10 0 55 0 877 1104 917 1090
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	250 10 100 450 3000 1150 1350 4250	8 0 57 0 885 1062 945 1146 2780	4 0 57 1 872 1039 1036 1137 3303	10 0 55 0 877 1104 917 1090 3337
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	8 0 57 0 885 1062 945 1146 2780 current	4 0 57 1 872 1039 1036 1137 3303 history1	10 0 55 0 877 1104 917 1090 3337 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 ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25	8 0 57 0 885 1062 945 1146 2780 current 3	4 0 57 1 872 1039 1036 1137 3303 history1 5	10 0 55 0 877 1104 917 1090 3337 history2 3
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	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158	8 0 57 0 885 1062 945 1146 2780 current 3 1	4 0 57 1 872 1039 1036 1137 3303 history1 5 < 1	10 0 55 0 877 1104 917 1090 3337 history2 3 3 3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158 >20	8 0 57 0 885 1062 945 1146 2780 current 3 1 1	4 0 57 1 872 1039 1036 1137 3303 history1 5 < <1 1	10 0 55 0 877 1104 917 1090 3337 history2 3 3 3 0
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	250 10 100 450 3000 1150 1350 4250 Iimit/base >25 >158 >20 Iimit/base >3	8 0 57 0 885 1062 945 1146 2780 current 3 1 1 1	4 0 57 1 872 1039 1036 1137 3303 history1 5 <1 1 1 history1	10 0 55 0 877 1104 917 1090 3337 history2 3 3 3 0 bistory2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 Iimit/base >25 >158 >20 Iimit/base >3	8 0 57 0 885 1062 945 1146 2780 <u>current</u> 3 1 1 1 <u>current</u> 0.1	4 0 57 1 872 1039 1036 1137 3303 history1 5 <1 1 1 history1 0.1	10 0 55 0 877 1104 917 1090 3337 history2 3 3 3 0 history2 0.2
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 i mit/base >25 >158 >20 i mit/base >3 >20	8 0 57 0 885 1062 945 1146 2780 <u>current</u> 3 1 1 1 <u>current</u> 0.1 5.1	4 0 57 1 872 1039 1036 1137 3303 history1 5 <1 1 5 <1 1 1 history1 0.1 4.7	10 0 55 0 877 1104 917 1090 3337 history2 3 3 3 0 history2 0.2 5.5
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	250 10 100 450 3000 1150 1350 4250 Imit/base >25 >158 >20 Imit/base >3 >20	8 0 57 0 885 1062 945 1146 2780 <u>current</u> 3 1 1 1 0.1 5.1 17.0	4 0 57 1 872 1039 1036 1137 3303 history1 5 <1 1 1 <u>history1</u> 0.1 4.7 17.4	10 0 55 0 877 1104 917 1090 3337 history2 3 3 3 0 history2 0.2 5.5 17.7
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 D7844 *ASTM D7844	250 10 100 450 3000 1150 1350 4250 imit/base >25 >158 >20 imit/base >3 >20 >30	8 0 57 0 885 1062 945 1146 2780 Current 3 1 1 1 Current 0.1 5.1 17.0 Current	4 0 57 1 872 1039 1036 1137 3303 history1 5 <1 1 5 <1 1 0.1 4.7 17.4 history1	10 0 55 0 877 1104 917 1090 3337 history2 3 3 3 0 history2 0.2 5.5 17.7 history2



Feb22/24

OIL ANALYSIS REPORT





Mar21/24

		method			history1	history2
VISUAL						
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		NEG	NEG	NEG
FLUID PROPERTI	ES	method	limit/base	current	history1	history2
∕isc @ 100°C	cSt	ASTM D445	14.4	14.1	14.2	13.9
GRAPHS						
Iron (ppm)			100	Lead (ppm)		
Severe	1		100	Severe	1	
Abnormal			60	T		
Abnormal			ed 40	Abnormal	1	
			20			
	1					
2/24	1/24 -				Mar21/24 -	
Feb22/24	Mar21/24		Jun25/24	Feb22/24	Mar2	
Aluminum (ppm)				Chromium (pj	om)	
Smarp			50	1		
Severe			40			
Abnormal			³⁰	Abnormal		
Abnormal	1		² 20	- Abnormal		
-			10			
24	24		24		24	
Feb22/24	Mar21/24		Jun25/24	Feb22/24	Mar21/24	
⊥ Copper (ppm)	2			Silicon (ppm)	2	
			80			
Severe Pabriormai			60	T 		
-			Ę.40			
			료 4U	Abnormal		
			20			
4	4					
Feb 22/24	Mar21/24		Jun25/24	Feb 22/24	Mar21/24	
™ Viscosity @ 100°C	M		ηr	Base Number	Ma	
Abnormal				T :		
O			KOH	Abnormal		
Base				Base		
Abnormal			Base Number (mg KOH/g)	Abnormal		
			ase			
74	/24 +			724	24 -	
	Mar21/24		Jun25/24	Feb 22/24	Mar21/24	
Feb 22/24						

Unique Number : Test Package : MOB 1 (Additional Tests: TBN) To discuss this sample report, contact Customer Service at 1-800-237-1369.

Laboratory

Sample No.

Lab Number

* - 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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Certificate 12367

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