

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id

OSHKOSH 4418

Diesel Engine

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

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 component.

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		WC0906195	WC0878794	
Sample Date		Client Info		15 Mar 2024	28 Dec 2023	
Machine Age	hrs	Client Info		0	3573	
Oil Age	hrs	Client Info		0	0	
Oil Changed		Client Info		N/A	Changed	
Sample Status				NORMAL	NORMAL	
CONTAMINATION	٧	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	
Water		WC Method	>0.2	NEG	NEG	
Glycol		WC Method		NEG	NEG	
WEAR METALS		method	limit/base	current	history1	history2
		ASTM D5185m	>100	10	4	
Iron Chromium	ppm			1		
Nickel	ppm	ASTM D5185m	>20	1	<1 0	
	ppm	ASTM D5185m ASTM D5185m	>4	1 <1	<1	
Titanium Silver	ppm	ASTM D5185m ASTM D5185m	>3	<1 <1	<1	
Aluminum	ppm	ASTM D5185m		2	<1	
Lead	ppm	ASTM D5185m	>20	1	0	
	ppm	ASTM D5185m		1	<1	
Copper Tin	ppm		>15	1	<1	
Vanadium	ppm	ASTM D5185m	>15	، <1	<1	
Cadmium	ppm	ASTM D5185m		1	<1	
Gaumum	ppm	ASTIVI DOTODITI		1	< 1	
			11 11 11		11 J. J. J. J.	
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	250	4	3	
Boron Barium	ppm	ASTM D5185m ASTM D5185m	250 10	4 <1	3 0	
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	250	4 <1 81	3 0 53	
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100	4 <1 81 1	3 0 53 <1	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450	4 <1 81 1 1327	3 0 53 <1 971	
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	4 <1 81 1 1327 1435	3 0 53 <1 971 1024	
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	4 <1 81 1 1327 1435 1555	3 0 53 <1 971 1024 1003	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	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	4 <1 81 1 1327 1435 1555 1702	3 0 53 <1 971 1024 1003 1187	
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	4 <1 81 1 1327 1435 1555 1702 4951	3 0 53 <1 971 1024 1003 1187 3020	
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	4 <1 81 1 1327 1435 1555 1702	3 0 53 <1 971 1024 1003 1187	
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	4 <1 81 1 1327 1435 1555 1702 4951	3 0 53 <1 971 1024 1003 1187 3020	
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	4 <1 81 1 1327 1435 1555 1702 4951 current	3 0 53 <1 971 1024 1003 1187 3020 history1	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	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 imit/base >25	4 <1 81 1 1327 1435 1555 1702 4951 current 5	3 0 53 <1 971 1024 1003 1187 3020 history1	 history2
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 imit/base >25 >158	4 <1 81 1 1327 1435 1555 1702 4951 current 5 3	3 0 53 <1 971 1024 1003 1187 3020 history1 3 1	 history2
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 imit/base >25 >158 >20	4 <1 81 1 1327 1435 1555 1702 4951 current 5 3 1	3 0 53 <1 971 1024 1003 1187 3020 history1 3 1 <1	 history2
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	4 <1 81 1 1327 1435 1555 1702 4951 current 5 3 1 current	3 0 53 <1 971 1024 1003 1187 3020 history1 3 1 <1 <1 history1	 history2 history2
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 limit/base >25 >158 >20 limit/base >3	4 <1 81 1 1327 1435 1555 1702 4951 current 5 3 1 current 0.2	3 0 53 <1 971 1024 1003 1187 3020 history1 3 1 <1 <1 history1 0.2	 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 imit/base >25 >158 >20 imit/base >3 >20	4 <1 81 1 1327 1435 1555 1702 4951 <i>current</i> 5 3 1 <i>current</i> 0.2 6.6	3 0 53 <1 971 1024 1003 1187 3020 history1 3 1 3 1 <1 <1 history1 0.2 6.0	 history2 history2
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 >3	4 <1 81 1 1327 1435 1555 1702 4951 <u>current</u> 5 3 1 <u>current</u> 0.2 6.6 18.1	3 0 53 <1 971 1024 1003 1187 3020 history1 3 1 <1 <1 0.2 6.0 18.0	 history2 history2 history2
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 *ASTM D7844	250 10 100 450 3000 1150 1350 4250 imit/base >25 >158 >20 imit/base >3 >20 >30	4 <1 81 1 1327 1435 1555 1702 4951 Current 5 3 1 Current 0.2 6.6 18.1 Current	3 0 53 <1 971 1024 1003 1187 3020 history1 3 1 <1 <1 history1 0.2 6.0 18.0 history1	 history2 history2 history2 history2



3

31

2!

Abs/cm

10

14

0.212.0 0.0 KOH/g) 0.8 Base Number (mg KOH/g) 0.9 CON KOH/g)

2.0

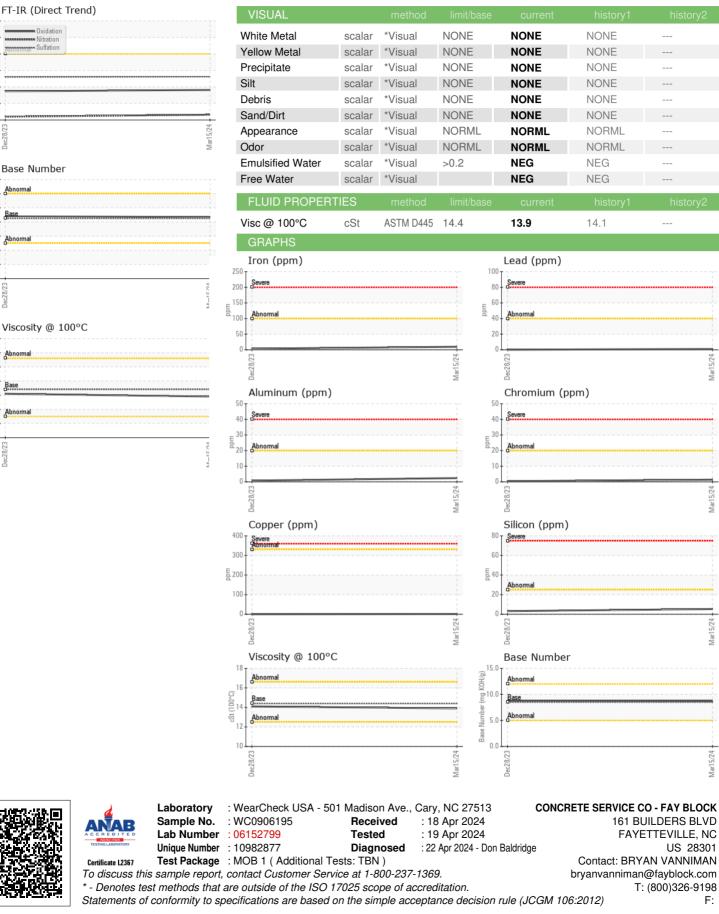
0.0

18

16 cSt (100°C) Bas

Dec28/23

OIL ANALYSIS REPORT



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