

# **OIL ANALYSIS REPORT**



Machine Id **1371** Component **Diesel Engine** Fluid **DIESEL ENGINE OIL SAE 15W40 (--- GAL)** 

#### DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

## Wear

All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil.

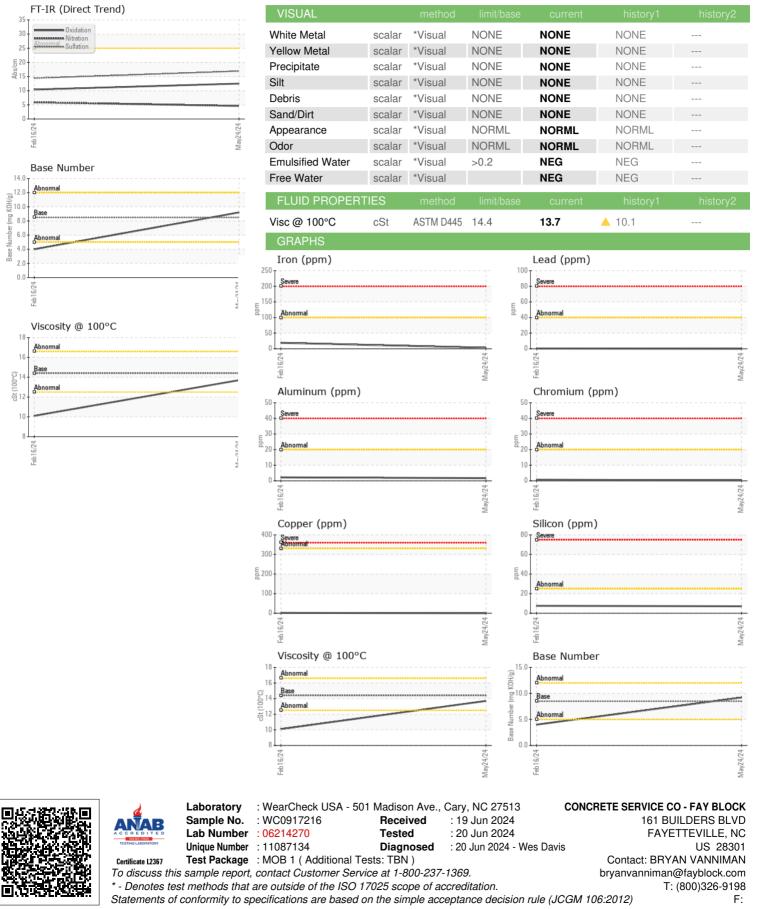
#### Fluid Condition

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	ATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0917216	WC0906270	
Sample Date		Client Info		24 May 2024	16 Feb 2024	
Machine Age	hrs	Client Info		2091	2049	
Oil Age	hrs	Client Info		0	0	
Oil Changed		Client Info		Changed	Changed	
Sample Status				NORMAL	ABNORMAL	
CONTAMINATIO	N	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	2.9	
Water		WC Method		NEG	NEG	
Glycol		WC Method		NEG	NEG	
WEAR METALS		method	limit/base	current	history1	history2
					19	
Iron	ppm	ASTM D5185m	>100	3 <1		
Chromium	ppm	ASTM D5185m	>20		<1	
Nickel	ppm	ASTM D5185m ASTM D5185m	>4	0	0	
Titanium Silver	ppm	ASTM D5185m ASTM D5185m	>3	0	0	
Aluminum	ppm	ASTM D5185m		2	2	
Lead	ppm		>20	0	<1	
	ppm	ASTM D5185m		u <1	2	
Copper Tin	ppm	ASTM D5185m ASTM D5185m	>330	<1	<1	
Vanadium	ppm	ASTM D5185m	>10	0	<1	
Cadmium	ppm	ASTM D5185m		0	0	
Gaumium	ppm	ASTIVI DOTODIII		U	0	
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 250	7	37	history2
Boron Barium	ppm ppm		250 10			
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	250	7 0 57	37 0 49	
Boron Barium Molybdenum Manganese	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100	7 0 57 0	37 0 49 0	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450	7 0 57 0 835	37 0 49 0 97	
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000	7 0 57 0 835 1036	37 0 49 0 97 1364	
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	7 0 57 0 835 1036 1050	37 0 49 0 97 1364 727	
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	7 0 57 0 835 1036 1050 1185	37 0 49 0 97 1364 727 833	
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	250 10 100 450 3000 1150	7 0 57 0 835 1036 1050	37 0 49 0 97 1364 727	   
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	7 0 57 0 835 1036 1050 1185	37 0 49 0 97 1364 727 833	
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	7 0 57 0 835 1036 1050 1185 3070	37 0 49 0 97 1364 727 833 3416	
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 ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base	7 0 57 0 835 1036 1050 1185 3070 current	37 0 49 0 97 1364 727 833 3416 history1	     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>	250 10 100 450 3000 1150 1350 4250 limit/base >25	7 0 57 0 835 1036 1050 1185 3070 current 7	37 0 49 0 97 1364 727 833 3416 history1 8	     history2
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 ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>limit/base</b> >25 >158	7 0 57 0 835 1036 1050 1185 3070 current 7 <1	37 0 49 0 97 1364 727 833 3416 history1 8 4	      history2
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	250 10 100 450 3000 1150 1350 4250 <b>limit/base</b> >25 >158 >20	7 0 57 0 835 1036 1050 1185 3070 current 7 <1 1	37 0 49 0 97 1364 727 833 3416 history1 8 4 0	     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 <b>limit/base</b> >25 >158 >158 >20 <b>limit/base</b>	7 0 57 0 835 1036 1050 1185 3070 current 7 <1 1 1	37 0 49 0 97 1364 727 833 3416 history1 8 4 0 0 history1	     history2    history2
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	250 10 100 450 3000 1150 1350 4250 <b>limit/base</b> >25 >158 >158 >20 <b>limit/base</b>	7 0 57 0 835 1036 1050 1185 3070 current 7 <1 1 1 current 0.1	37 0 49 0 97 1364 727 833 3416 history1 8 4 0 bistory1 0.1	     history2  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 <b>limit/base</b> >25 >158 >20 <b>limit/base</b> >3 >20	7 0 57 0 835 1036 1050 1185 3070 <i>current</i> 7 <1 1 1 <i>current</i> 0.1 4.6	37 0 49 0 97 1364 727 833 3416 history1 8 4 0 history1 0.1 5.9	     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 <b>imit/base</b> >25 >158 >20 <b>imit/base</b> >3 >20	7 0 57 0 835 1036 1050 1185 3070 current 7 <1 1 1 current 0.1 4.6 16.9	37 0 49 0 97 1364 727 833 3416 history1 8 4 0 <u>history1</u> 0.1 5.9 14.4	     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 <b>iimit/base</b> >25 >158 >20 <b>iimit/base</b> >3 >20 >30	7 0 57 0 835 1036 1050 1185 3070 current 7 <1 1 current 0.1 4.6 16.9 current	37 0 49 0 97 1364 727 833 3416 <b>history1</b> 8 4 0 <b>history1</b> 0.1 5.9 14.4 <b>history1</b>	     history2  history2  history2  history2



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