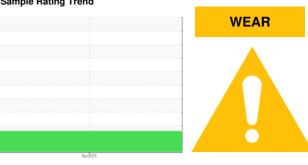


OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id 36 **Diesel Engine**

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

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. We recommend an early resample to monitor this condition. Please note that this is a corrected copy for diagnostic comment updates.

Piston and cylinder wear is indicated.

Contamination

There is no indication of any contamination in the

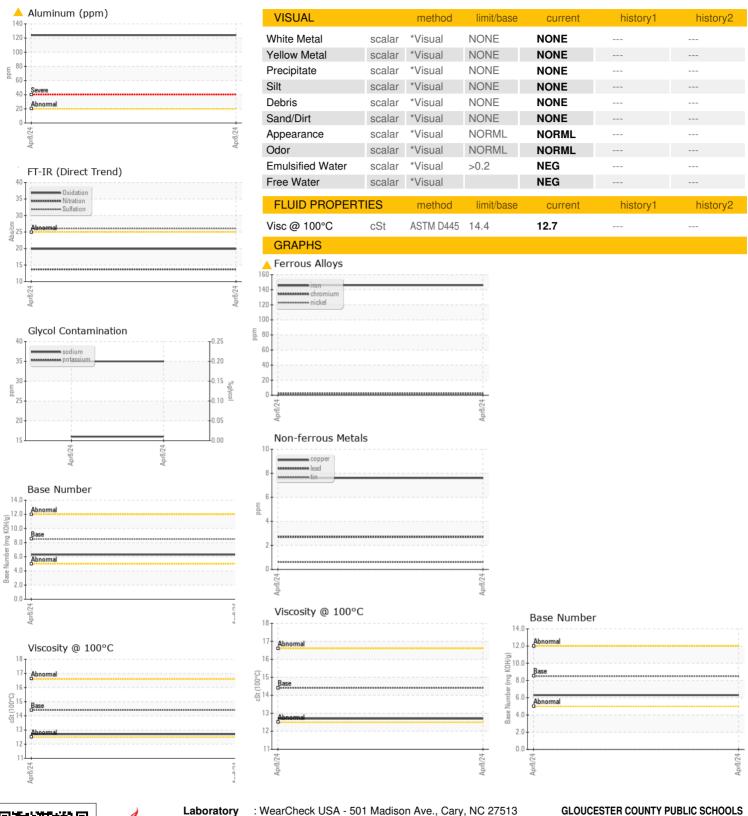
Fluid Condition

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

				Apr2024		
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0917873		
Sample Date		Client Info		08 Apr 2024		
Machine Age	mls	Client Info		230420		
Oil Age	mls	Client Info		21764		
Oil Changed		Client Info		Not Changd		
Sample Status				ABNORMAL		
CONTAMINATIO	N	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0		
Water		WC Method	>0.2	NEG		
WEAR METALS		method	limit/base	current	history1	history2
Iron	nnm	ASTM D5185m	>100	△ 146	,	
Chromium	ppm	ASTM D5185m	>100	2		
Nickel		ASTM D5185m	>4	2		
Titanium	ppm	ASTM D5185m	<i>></i> 4	0		
Silver	ppm	ASTM D5185m	>3	0		
Aluminum	ppm	ASTM D5185m	>20	<u>↓</u> 124		
Lead	ppm	ASTM D5185m	>40	3		
Copper	ppm	ASTM D5185m		8		
Tin	ppm	ASTM D5185m	>15	<1		
Vanadium	ppm	ASTM D5185m	710	0		
Cadmium	ppm	ASTM D5185m		0		
	1-1-					
ADDITIVEC		ام مالم مما	1: !+ /		la la tament	la i a ta uu . O
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	250	4	history1	history2
Boron Barium	ppm	ASTM D5185m ASTM D5185m	250 10	4 0		
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	250	4 0 12		
Boron Barium Molybdenum Manganese	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100	4 0 12 2		
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450	4 0 12 2 47		
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000	4 0 12 2 47 2425		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	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	4 0 12 2 47 2425 992		
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 ASTM D5185m	250 10 100 450 3000 1150 1350	4 0 12 2 47 2425 992 1161		
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 ASTM D5185m	250 10 100 450 3000 1150 1350 4250	4 0 12 2 47 2425 992		
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 ASTM D5185m	250 10 100 450 3000 1150 1350	4 0 12 2 47 2425 992 1161		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25	4 0 12 2 47 2425 992 1161 4234 current		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base	4 0 12 2 47 2425 992 1161 4234 current 10	 history1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm	ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25	4 0 12 2 47 2425 992 1161 4234 current 10 16 35	 history1	history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158	4 0 12 2 47 2425 992 1161 4234 current 10	 history1	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm	ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158	4 0 12 2 47 2425 992 1161 4234 current 10 16 35	history1	history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Glycol	ppm	ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158 >20	4 0 12 2 47 2425 992 1161 4234 current 10 16 35 NEG	history1	history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Glycol INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m *ASTM D5185m *ASTM D5185m *ASTM D5185m *ASTM D5185m *ASTM D5185m *ASTM D2982 method	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158 >20	4 0 12 2 47 2425 992 1161 4234 current 10 16 35 NEG	history1 history1	history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Glycol INFRA-RED Soot %	ppm	ASTM D5185m *ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158 >20	4 0 12 2 47 2425 992 1161 4234 current 10 16 35 NEG current 0.5	history1 history1	history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration	ppm	ASTM D5185m *ASTM D5185m **ASTM D7844 **ASTM D7844	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158 >20 limit/base	4 0 12 2 47 2425 992 1161 4234 current 10 16 35 NEG current 0.5 13.7	history1 history1	history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration Sulfation	ppm	ASTM D5185m *ASTM D5185m **ASTM D7844 **ASTM D7844 **ASTM D7624 **ASTM D7415 **Method	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158 >20 limit/base >3 >20 >30	4 0 12 2 47 2425 992 1161 4234 current 10 16 35 NEG current 0.5 13.7 26.1	history1 history1	history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA	ppm	ASTM D5185m *ASTM D7844 *ASTM D7624 *ASTM D7624	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158 >20 limit/base >3 >20 >30 limit/base	4 0 12 2 47 2425 992 1161 4234	history1 history1 history1 history1	history2 history2 history2



OIL ANALYSIS REPORT







Laboratory Sample No.

: WC0917873

Lab Number : 06147129 Unique Number : 10977207

Received : 12 Apr 2024 **Tested** Diagnosed

: 16 Apr 2024

: 17 Apr 2024 - Doug Bogart

5318 TC WALKER RD GLOUCESTER, VA US 23061 Contact: DANIEL BURNETT

daniel.burnett@gc.k12.va.us T: (804)693-1472

Test Package : FLEET (Additional Tests: Glycol) 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)