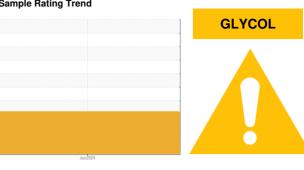


OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id 195

Component
Diesel Engine

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

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

Cylinder, crank, or cam shaft wear is indicated.

Contamination

Sodium and/or potassium levels are high. Test for glycol is negative.

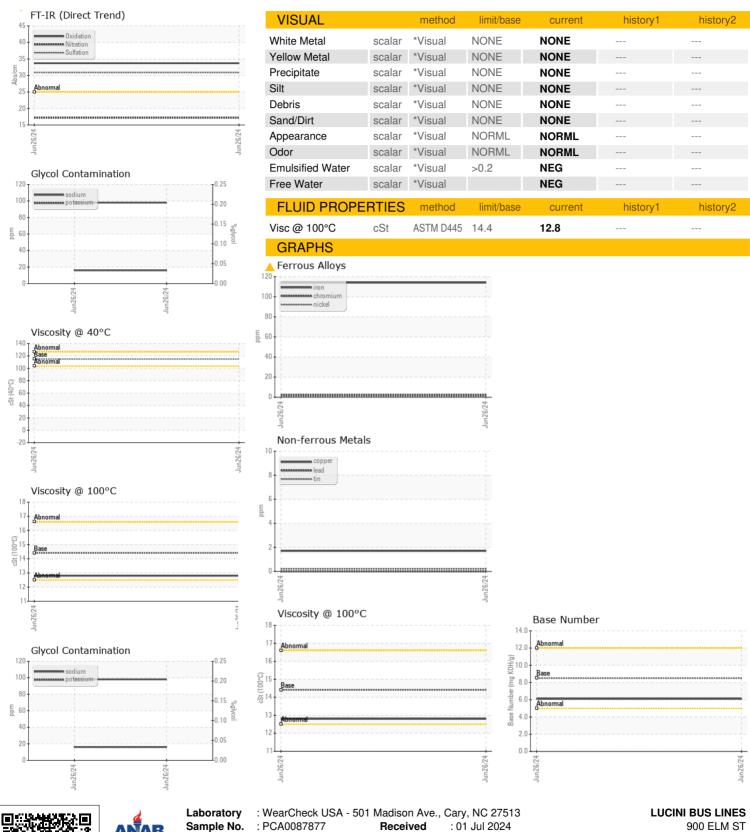
Fluid Condition

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

				Jun 2024		
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0087877		
Sample Date		Client Info		26 Jun 2024		
Machine Age	mls	Client Info		208233		
Oil Age	mls	Client Info		0		
Oil Changed		Client Info		N/A		
Sample Status				ABNORMAL		
CONTAMINAT	ION	method	limit/base	current	history1	history2
-uel		WC Method	>5	<1.0		
Water		WC Method		NEG		
	0				111	1: 1 0
WEAR METAL	.5	method	limit/base	current	history1	history2
ron	ppm	ASTM D5185m	>100	<u> </u>		
Chromium	ppm	ASTM D5185m	>20	3		
Nickel	ppm	ASTM D5185m	>4	<1		
Titanium	ppm	ASTM D5185m		0		
Silver	ppm	ASTM D5185m	>3	0		
Aluminum	ppm	ASTM D5185m	>20	18		
_ead	ppm	ASTM D5185m	>40	0		
Copper	ppm	ASTM D5185m	>330	2		
Γin	ppm	ASTM D5185m	>15	<1		
/anadium	ppm	ASTM D5185m		0		
Cadmium	ppm	ASTM D5185m		0		
ADDITIVES		method	limit/base	current	history1	history2
Dawa			050	A		
Boron	ppm	ASTM D5185m	250	4		
	ppm	ASTM D5185m ASTM D5185m	10	0		
Barium				-		
Barium Molybdenum	ppm	ASTM D5185m	10	0		
Barium Molybdenum Manganese	ppm	ASTM D5185m ASTM D5185m	10	0 57		
Barium Molybdenum Manganese Magnesium	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	100	0 57 <1		
Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	10 100 450	0 57 <1 910		
Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	10 100 450 3000	0 57 <1 910 965		
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	10 100 450 3000 1150 1350	0 57 <1 910 965 929		
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	10 100 450 3000 1150 1350	0 57 <1 910 965 929 1166		
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	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	10 100 450 3000 1150 1350 4250	0 57 <1 910 965 929 1166 2870		
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm 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	10 100 450 3000 1150 1350 4250 limit/base >25	0 57 <1 910 965 929 1166 2870	 history1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm	ASTM D5185m	10 100 450 3000 1150 1350 4250 limit/base >25 >158	0 57 <1 910 965 929 1166 2870 current	 history1	 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm	ASTM D5185m	10 100 450 3000 1150 1350 4250 limit/base >25 >158	0 57 <1 910 965 929 1166 2870 current 13	 history1	 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm	ASTM D5185m	10 100 450 3000 1150 1350 4250 limit/base >25 >158	0 57 <1 910 965 929 1166 2870 current 13 98	 history1	 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED	ppm	ASTM D5185m *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D5185m *ASTM D5185m	10 100 450 3000 1150 1350 4250 limit/base >25 >158 >20	0 57 <1 910 965 929 1166 2870 current 13 98 16 NEG	history1	history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot %	ppm	ASTM D5185m **ASTM D5185m ASTM D5185m **ASTM D5185m ASTM D5185m **ASTM D5185m **ASTM D2982 **ASTM D7844	10 100 450 3000 1150 1350 4250 limit/base >25 >158 >20 limit/base	0 57 <1 910 965 929 1166 2870 current 13 98 16 NEG current	history1 history1	history2 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration	ppm	ASTM D5185m *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D5185m *ASTM D5185m	10 100 450 3000 1150 1350 4250 limit/base >25 >158 >20 limit/base	0 57 <1 910 965 929 1166 2870 current 13 98 16 NEG current 1.6	history1 history1	history2 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration Sulfation	ppm	ASTM D5185m *ASTM D7844 *ASTM D7844 *ASTM D7624 *ASTM D76145	10 100 450 3000 1150 1350 4250 limit/base >25 >158 >20 limit/base >3 >20 >30	0 57 <1 910 965 929 1166 2870 current 13 98 16 NEG current 1.6 17.2 30.9	history1 history1	history2 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Gulfur CONTAMINAN Gilicon Godium Potassium Glycol INFRA-RED Goot % Nitration Gulfation FLUID DEGRA	ppm	ASTM D5185m *ASTM D7844 *ASTM D7844 *ASTM D7624 *ASTM D76124 *ASTM D76125 *Method	10 100 450 3000 1150 1350 4250 limit/base >25 >158 >20 limit/base >3 >20 >30 limit/base	0 57 <1 910 965 929 1166 2870 current 13 98 16 NEG current 1.6 17.2 30.9 current	history1 history1 history1 history1	history2 history2 history2 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration Sulfation	ppm	ASTM D5185m *ASTM D7844 *ASTM D7844 *ASTM D7624 *ASTM D76145	10 100 450 3000 1150 1350 4250 limit/base >25 >158 >20 limit/base >3 >20 >30 limit/base >25	0 57 <1 910 965 929 1166 2870 current 13 98 16 NEG current 1.6 17.2 30.9	history1 history1	history2 history2



OIL ANALYSIS REPORT







Certificate 12367

Sample No.

Lab Number : 06225610

: PCA0087877 Unique Number : 11103807

Received **Tested** Diagnosed

: 03 Jul 2024 : 03 Jul 2024 - Jonathan Hester BRIDGEWATER, MA

US 02324 Contact: Service Manager

Test Package: FLEET (Additional Tests: Glycol, KV40) 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)

T:

F: