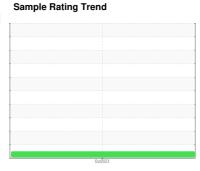


OIL ANALYSIS REPORT



Diesel Engine

NOT GIVEN (--- GAL)





DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

Wear

All component wear rates are normal.

Contamination

Fuel content negligible. There is no indication of any contamination in the oil.

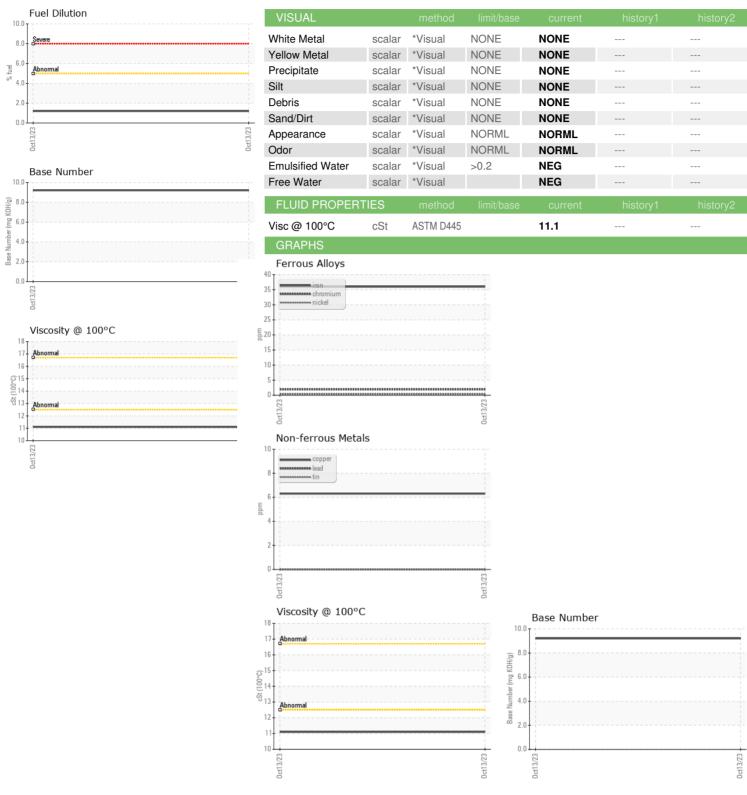
Fluid Condition

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

SAMPLE INFORMATION method limit/base current history1 history2 Sample Number Client Info WC0833856 Sample Date Client Info 13 Oct 2023 Machine Age hrs Client Info 0 Oil Age hrs Client Info 3185 Oil Changed Client Info Changed Sample Status NORMAL CONTAMINATION method limit/base current history1 history2					Oct2023		
Sample Number Client Info WC0833856	SAMPLE INFORM	IATION	method			history1	history2
Sample Date Client Info 13 Oct 2023		ATION		IIIIII/Dase			HISTOLYZ
Machine Age hrs Client Info 0							
Oil Changed							
Contamped Client Info Changed Changed Contamped Contam	-						
NORMAL	•	hrs					
CONTAMINATION	-		Client Info				
WEAR METALS	•				NORMAL		
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >80 36 Chromium ppm ASTM D5185m >5 2 Nickel ppm ASTM D5185m >2 <1	CONTAMINATION	1	method	limit/base	current	history1	history2
Chromium	Glycol		WC Method		NEG		
Chromium	WEAR METALS		method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>80	36		
Silver	Chromium	ppm	ASTM D5185m	>5	2		
Silver	Nickel	ppm	ASTM D5185m	>2	<1		
Astronometric Astronometri	Titanium	ppm	ASTM D5185m		0		
Lead	Silver	ppm	ASTM D5185m	>3	0		
Copper ppm ASTM D5185m >150 6 Tin ppm ASTM D5185m >5 0 Vanadium ppm ASTM D5185m 0 Cadmium ppm ASTM D5185m 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 Barium ppm ASTM D5185m 0 Molybdenum ppm ASTM D5185m 42 Manganese ppm ASTM D5185m 465 Magnesium ppm ASTM D5185m 1661 Calcium ppm ASTM D5185m 978 Phosphorus ppm ASTM D5185m 2672 Sulfur ppm ASTM D5185m 2672	Aluminum	ppm	ASTM D5185m	>30	10		
Tin	Lead	ppm	ASTM D5185m	>30	0		
Vanadium ppm ASTM D5185m 0 Cadmium ppm ASTM D5185m 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 41 Barium ppm ASTM D5185m 0 Molybdenum ppm ASTM D5185m 42 Manganese ppm ASTM D5185m 465 Magnesium ppm ASTM D5185m 1661 Calcium ppm ASTM D5185m 978 Zinc ppm ASTM D5185m 978 Zinc ppm ASTM D5185m 2672 Sulfur ppm ASTM D5185m >20 13 CONTAMINANTS method limit/base current hi	Copper	ppm	ASTM D5185m	>150	6		
Vanadium ppm ASTM D5185m 0 Cadmium ppm ASTM D5185m 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 41 Barium ppm ASTM D5185m 0 Molybdenum ppm ASTM D5185m 42 Manganese ppm ASTM D5185m 465 Magnesium ppm ASTM D5185m 1661 Calcium ppm ASTM D5185m 978 Phosphorus ppm ASTM D5185m 978 Zinc ppm ASTM D5185m 978 Sulfur ppm ASTM D5185m 2672 Sulfur ppm ASTM D5185m >20 13	Tin	ppm	ASTM D5185m	>5	0		
ADDITIVES	Vanadium		ASTM D5185m		0		
Boron			ASTM D5185m		0		
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 42 Manganese ppm ASTM D5185m <1	Boron	ppm	ASTM D5185m		41		
Manganese ppm ASTM D5185m <1 Magnesium ppm ASTM D5185m 465 Calcium ppm ASTM D5185m 1661 Phosphorus ppm ASTM D5185m 978 Zinc ppm ASTM D5185m 1051 Sulfur ppm ASTM D5185m 2672 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 13 Sodium ppm ASTM D5185m >20 13 Potassium ppm ASTM D5185m >20 20 Fuel % ASTM D5185m >20 20 Fuel % ASTM D5185m >3 0.4 Fuel	Barium	ppm	ASTM D5185m		0		
Magnesium ppm ASTM D5185m 465 Calcium ppm ASTM D5185m 1661 Phosphorus ppm ASTM D5185m 978 Zinc ppm ASTM D5185m 1051 Sulfur ppm ASTM D5185m 2672 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 13 Sodium ppm ASTM D5185m 8 Potassium ppm ASTM D5185m >20 20 Fuel % ASTM D3524 >5 1.2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7624 >20 9.7 Sulfation <t< td=""><td>Molybdenum</td><td>ppm</td><td>ASTM D5185m</td><td></td><td>42</td><td></td><td></td></t<>	Molybdenum	ppm	ASTM D5185m		42		
Calcium ppm ASTM D5185m 1661 Phosphorus ppm ASTM D5185m 978 Zinc ppm ASTM D5185m 1051 Sulfur ppm ASTM D5185m 2672 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 13 Sodium ppm ASTM D5185m 8 Potassium ppm ASTM D5185m >20 20 Fuel % ASTM D5185m >20 20 Fuel % ASTM D5185m >20 20 Fuel % ASTM D7844 >3 0.4 Soot % % *ASTM D7844 >3 0.4 Sulfation	Manganese	ppm	ASTM D5185m		<1		
Phosphorus ppm ASTM D5185m 978 Zinc ppm ASTM D5185m 1051 Sulfur ppm ASTM D5185m 2672 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 13 Sodium ppm ASTM D5185m >20 20 Potassium ppm ASTM D5185m >20 20 Fuel % ASTM D5185m >20 20 Fuel % ASTM D3524 >5 1.2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7624 >20 9.7 Sulfation Abs/.1mm *ASTM D7415 >30 23.7	Magnesium	ppm	ASTM D5185m		465		
Table Content Conten	Calcium	ppm	ASTM D5185m		1661		
Table Content Conten	Phosphorus	ppm	ASTM D5185m		978		
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 13 Sodium ppm ASTM D5185m 8 Potassium ppm ASTM D5185m >20 20 Fuel % ASTM D3524 >5 1.2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.4 Nitration Abs/cm *ASTM D7624 >20 9.7 Sulfation Abs/.1mm *ASTM D7415 >30 23.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 23.8		ppm	ASTM D5185m		1051		
Silicon ppm ASTM D5185m >20 13	Sulfur		ASTM D5185m		2672		
Sodium ppm ASTM D5185m 8 Potassium ppm ASTM D5185m >20 20 Fuel % ASTM D3524 >5 1.2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.4 Nitration Abs/cm *ASTM D7624 >20 9.7 Sulfation Abs/.1mm *ASTM D7415 >30 23.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 23.8	CONTAMINANTS		method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 20 Fuel % ASTM D3524 >5 1.2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.4 Nitration Abs/cm *ASTM D7624 >20 9.7 Sulfation Abs/.1mm *ASTM D7415 >30 23.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 23.8	Silicon	ppm	ASTM D5185m	>20	13		
Fuel % ASTM D3524 >5 1.2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.4 Nitration Abs/cm *ASTM D7624 >20 9.7 Sulfation Abs/.1mm *ASTM D7415 >30 23.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 23.8	Sodium	ppm	ASTM D5185m		8		
INFRA-RED	Potassium	ppm	ASTM D5185m	>20	20		
Soot % *ASTM D7844 >3 0.4 Nitration Abs/cm *ASTM D7624 >20 9.7 Sulfation Abs/.1mm *ASTM D7415 >30 23.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 23.8	Fuel	%	ASTM D3524	>5	1.2		
Nitration Abs/cm *ASTM D7624 >20 9.7 Sulfation Abs/.1mm *ASTM D7415 >30 23.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 23.8	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 23.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 23.8	Soot %	%	*ASTM D7844	>3	0.4		
Sulfation Abs/.1mm *ASTM D7415 >30 23.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 23.8	Nitration	Abs/cm	*ASTM D7624	>20	9.7		
Oxidation				>30	23.7		
	FLUID DEGRADA	TION	method	limit/base	current	history1	history2
	Oxidation	Abs/.1mm	*ASTM D7414	>25	23.8		



OIL ANALYSIS REPORT







Laboratory Sample No. Lab Number **Unique Number**

: 05994058 : 10722418

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : WC0833856 Received : 31 Oct 2023 Diagnosed

: 03 Nov 2023 Diagnostician : Jonathan Hester

Test Package : CONST (Additional Tests: FuelDilution, PercentFuel, TBN) 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)

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F: x: