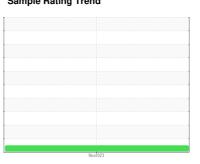


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



BEAR LAKE TOWER

Component

Diesel Engine

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

Recommendation

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

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

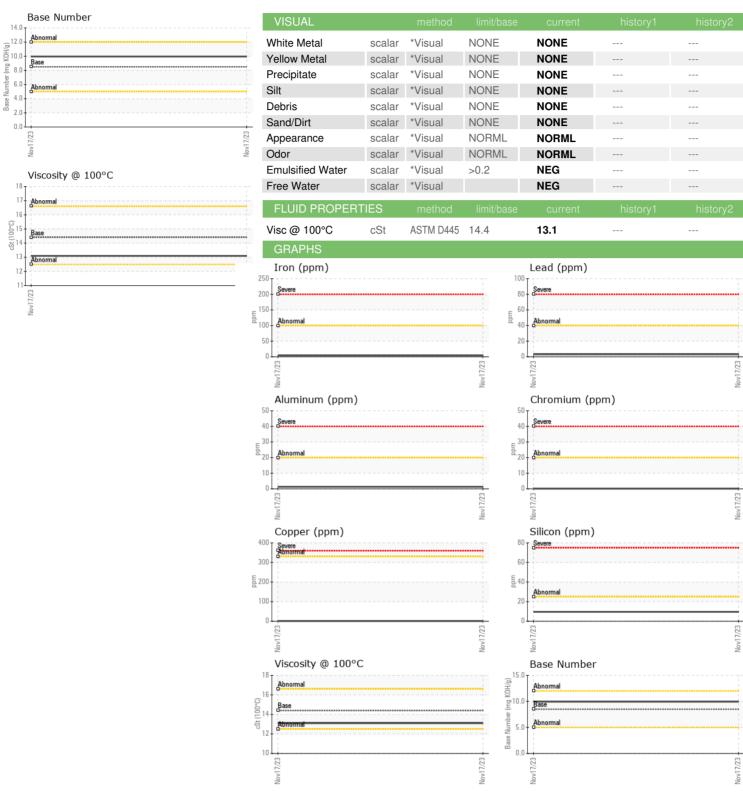
Fluid Condition

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

Cample Date Client Info 17 Nov 2023							
Sample Number Client Info RW0004660					Nov2023		
Cample Date Client Info 17 Nov 2023	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age	Sample Number		Client Info		RW0004660		
Dil Age	Sample Date		Client Info		17 Nov 2023		
Contamped Client Info Changed Client Info NORMAL Contamped Conta	Machine Age	hrs	Client Info		1174		
CONTAMINATION method limit/base current history1 history2	Oil Age	hrs	Client Info		0		
Titanium	Oil Changed		Client Info		Changed		
Water WC Method So.2 NEG NEG So.2 NEG	Sample Status				NORMAL		
Water Glycol WC Method WC Method >0.2 NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 4 Chromium ppm ASTM D5185m >20 <1 Nickel ppm ASTM D5185m >4 <1 Silver ppm ASTM D5185m >4 <1 Silver ppm ASTM D5185m >4 <1 Aluminum ppm ASTM D5185m >20 1 Lead ppm ASTM D5185m >40 3 Copper ppm ASTM D5185m >15 1 Vanadium ppm ASTM D5185m 0 Vanadium ppm ASTM D5185m 10	CONTAMINATION	V	method	limit/base	current	history1	history2
WEAR METALS	Fuel		WC Method	>5	<1.0		
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 4 Chromium ppm ASTM D5185m >20 <1	Water		WC Method	>0.2	NEG		
Chromium	Glycol		WC Method		NEG		
ASTM D5185m >20	WEAR METALS		method	limit/base	current	history1	history2
ASTM D5185m ASTM D5185m ASTM D5185m Doctor ASTM D5185m Doctor ASTM D5185m Doctor ASTM D5185m Doctor AST	ron	ppm	ASTM D5185m	>100	4		
Description	Chromium	ppm	ASTM D5185m	>20	<1		
Saliver	Nickel	ppm	ASTM D5185m	>4	<1		
Astronomega	Titanium	ppm	ASTM D5185m		0		
December December	Silver	ppm	ASTM D5185m	>3	0		
Copper	Aluminum	ppm	ASTM D5185m	>20	1		
Tin	_ead	ppm	ASTM D5185m	>40	3		
Anadium ppm ASTM D5185m 0 Cadmium ppm ASTM D5185m 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 250 4 Barium ppm ASTM D5185m 10 0 Molybdenum ppm ASTM D5185m 100 57 Magnesium ppm ASTM D5185m 450 871 Magnesium ppm ASTM D5185m 450 871 Magnesium ppm ASTM D5185m 3000 986 Phosphorus ppm ASTM D5185m 3000 986 Picinc ppm ASTM D5185m 1350 1200 CONTAMINANTS method limit/base current h	Copper	ppm	ASTM D5185m	>330	1		
ADDITIVES	Γin	ppm	ASTM D5185m	>15	1		
ADDITIVES	/anadium	ppm	ASTM D5185m		0		
Soron ppm ASTM D5185m 250 4	Cadmium	ppm	ASTM D5185m		0		
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 100 57 Manganese ppm ASTM D5185m 450 871 Magnesium ppm ASTM D5185m 450 871 Calcium ppm ASTM D5185m 3000 986 Phosphorus ppm ASTM D5185m 1150 1087 Zinc ppm ASTM D5185m 1350 1200 Sulfur ppm ASTM D5185m 4250 3128 CONTAMINANTS method limit/base current history1 history2 Solicon ppm ASTM D5185m >25 10 Potassium ppm ASTM D5185m >20 1 Potassium ppm ASTM D5185m >20 1 Potassium ppm ASTM D	Boron	ppm	ASTM D5185m	250	4		
Manganese ppm ASTM D5185m <1 Magnesium ppm ASTM D5185m 450 871 Calcium ppm ASTM D5185m 3000 986 Phosphorus ppm ASTM D5185m 1150 1087 Zinc ppm ASTM D5185m 1350 1200 Sulfur ppm ASTM D5185m 4250 3128 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 10 Sodium ppm ASTM D5185m >158 2 Potassium ppm ASTM D5185m >20 1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3	Barium	ppm	ASTM D5185m	10	0		
Magnesium ppm ASTM D5185m 450 871 Calcium ppm ASTM D5185m 3000 986 Phosphorus ppm ASTM D5185m 1150 1087 Zinc ppm ASTM D5185m 1350 1200 Sulfur ppm ASTM D5185m 4250 3128 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 10 Sodium ppm ASTM D5185m >158 2 Potassium ppm ASTM D5185m >20 1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7624 >20 6.3 Sulfation Abs/.1mm *ASTM D7414 </td <td>Molybdenum</td> <td>ppm</td> <td>ASTM D5185m</td> <td>100</td> <td>57</td> <td></td> <td></td>	Molybdenum	ppm	ASTM D5185m	100	57		
Description	Manganese	ppm	ASTM D5185m		<1		
Phosphorus ppm ASTM D5185m 1150 1087 Zinc ppm ASTM D5185m 1350 1200 Sulfur ppm ASTM D5185m 4250 3128 CONTAMINANTS method limit/base current history1 history2 Solicon ppm ASTM D5185m >25 10 Sodium ppm ASTM D5185m >158 2 Potassium ppm ASTM D5185m >20 1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.1 Nitration Abs/.1mm *ASTM D7415 >30 17.8 FLUID DEGRADATION method limit/base current history1 history2 Dxidation Abs/.1mm *AST	Magnesium	ppm	ASTM D5185m	450	871		
Time	Calcium	ppm	ASTM D5185m	3000	986		
Sulfur ppm ASTM D5185m 4250 3128 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 10 Sodium ppm ASTM D5185m >158 2 Potassium ppm ASTM D5185m >20 1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.1 Nitration Abs/cm *ASTM D7624 >20 6.3 Sulfation Abs/.1mm *ASTM D7415 >30 17.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.9	Phosphorus	ppm	ASTM D5185m	1150	1087		
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 10 Sodium ppm ASTM D5185m >158 2 Potassium ppm ASTM D5185m >20 1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.1 Sulfration Abs/.mm *ASTM D7624 >20 6.3 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.9	Zinc	ppm	ASTM D5185m	1350	1200		
Solition ppm ASTM D5185m >25 10	Sulfur	ppm	ASTM D5185m	4250	3128		
Sodium	CONTAMINANTS	;	method	limit/base	current	history1	history2
Sodium ppm ASTM D5185m >158 2 Potassium ppm ASTM D5185m >20 1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.1 Nitration Abs/cm *ASTM D7624 >20 6.3 Sulfation Abs/.1mm *ASTM D7415 >30 17.8 FLUID DEGRADATION method limit/base current history1 history2 Dxidation Abs/.1mm *ASTM D7414 >25 13.9	Silicon	ppm	ASTM D5185m	>25	10		
INFRA-RED	Sodium	ppm	ASTM D5185m	>158	2		
Soot %	Potassium	ppm	ASTM D5185m	>20	1		
Nitration Abs/cm *ASTM D7624 >20 6.3 Sulfation Abs/.1mm *ASTM D7415 >30 17.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.9	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 17.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.9	Soot %	%	*ASTM D7844	>3	0.1		
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.9	Nitration	Abs/cm	*ASTM D7624	>20	6.3		
Oxidation	Sulfation	Abs/.1mm	*ASTM D7415	>30			
	FLUID DEGRADA	TION	method	limit/base	current	history1	history2
	Oxidation	Abs/.1mm	*ASTM D7414	>25	13.9		
	Base Number (BN)	mg KOH/g	ASTM D2896		9.95		



OIL ANALYSIS REPORT







Certificate L2367

Laboratory Sample No. Lab Number

Unique Number

: RW0004660 : 06016658 : 10755802 Test Package : MOB 2

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 24 Nov 2023 Diagnosed : 28 Nov 2023

: Wes Davis Diagnostician

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) **NEWKIRK ELECTRIC**

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