

PROBLEM SUMMARY

Sample Rating Trend

VISCOSITY

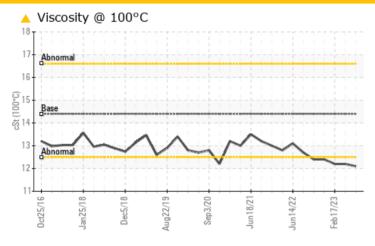
VISCOSITY

LP 496
Component

Diesel Engine

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

COMPONENT CONDITION SUMMARY



RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS							
Sample Status				ATTENTION	ATTENTION	ATTENTION	
Visc @ 100°C	cSt	ASTM D445	14.4	12.1	<u>▲</u> 12.2	<u>▲</u> 12.2	

Customer Id: TRANEW Sample No.: WC0862923 Lab Number: 05994204 Test Package: CONST

To manage this report scan the QR code

To discuss the diagnosis or test data: Sean Felton +1 919-379-4092 sfelton@wearcheckusa.com

To change component or sample information: Customer Service +1 1-800-237-1369 customerservice@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Fluid			?	Oil and filter change at the time of sampling has been noted.
Change Filter			?	Oil and filter change at the time of sampling has been noted.

HISTORICAL DIAGNOSIS

16 May 2023 Diag: Sean Felton

VISCOSITY



Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.



17 Feb 2023 Diag: Sean Felton

VISCOSITY



Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

view report

13 Dec 2022 Diag: Don Baldridge

VISCOSITY



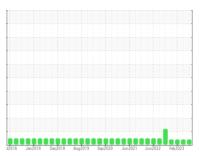
Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.





OIL ANALYSIS REPORT

Sample Rating Trend



VISCOSITY



LP 496

Component

Diesel Engine

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

DIAGNOSIS

Recommendation

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

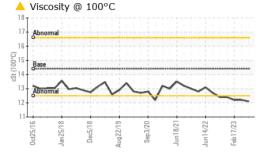
Fluid Condition

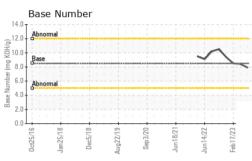
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

z2016 Jan2016 Dar2018 Aug2019 Sap2020 Jan2021 Jan2022 Feb2023						
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0862923	WC0790969	WC0775981
Sample Date		Client Info		28 Oct 2023	16 May 2023	17 Feb 2023
Machine Age	hrs	Client Info		21619	20478	19552
Oil Age	hrs	Client Info		1141	926	637
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				ATTENTION	ATTENTION	ATTENTION
CONTAMINATION	V	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	5	9	9
Chromium	ppm	ASTM D5185m	>20	<1	1	1
Nickel	ppm	ASTM D5185m	>4	<1	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	2	2	<1
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	2	<1	<1
Tin	ppm	ASTM D5185m	>15	0	<1	0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	250	5	8	10
Barium	ppm	ASTM D5185m	10	0	0	0
Maladada a	ppiii	ASTIVI DSTOSIII			· ·	0
Molybdenum	ppm	ASTM D5185m	100	54	64	56
Manganese			100	54 <1		
•	ppm	ASTM D5185m	100 450		64	56
Manganese	ppm	ASTM D5185m ASTM D5185m		<1	64 <1	56 0
Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	450	<1 898	64 <1 915	56 0 832
Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	450 3000	<1 898 978	64 <1 915 1090	56 0 832 1112
Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	450 3000 1150	<1 898 978 981	64 <1 915 1090 1010	56 0 832 1112 957
Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	450 3000 1150 1350	<1 898 978 981 1212	64 <1 915 1090 1010 1241	56 0 832 1112 957 1142
Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	450 3000 1150 1350 4250	<1 898 978 981 1212 2952	64 <1 915 1090 1010 1241 3785	56 0 832 1112 957 1142 2888
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	450 3000 1150 1350 4250 limit/base	<1 898 978 981 1212 2952 current	64 <1 915 1090 1010 1241 3785 history1	56 0 832 1112 957 1142 2888 history2
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	450 3000 1150 1350 4250 limit/base >25	<1 898 978 981 1212 2952 current 3	64 <1 915 1090 1010 1241 3785 history1	56 0 832 1112 957 1142 2888 history2
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	450 3000 1150 1350 4250 Iimit/base >25 >158	<1 898 978 981 1212 2952 current 3	64 <1 915 1090 1010 1241 3785 history1 3	56 0 832 1112 957 1142 2888 history2 3
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	450 3000 1150 1350 4250 limit/base >25 >158 >20	<1 898 978 981 1212 2952 current 3 2 <1	64 <1 915 1090 1010 1241 3785 history1 3 0 1	56 0 832 1112 957 1142 2888 history2 3 0
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	450 3000 1150 1350 4250 Iimit/base >25 >158 >20 Iimit/base	<1 898 978 981 1212 2952 current 3 2 <1	64 <1 915 1090 1010 1241 3785 history1 3 0 1 history1	56 0 832 1112 957 1142 2888 history2 3 0 1
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m Method ASTM D5185m	450 3000 1150 1350 4250 limit/base >25 >158 >20 limit/base >3	<1 898 978 981 1212 2952 current 3 2 <1 current 0.1	64 <1 915 1090 1010 1241 3785 history1 3 0 1 history1 0.1	56 0 832 1112 957 1142 2888 history2 3 0 1 history2 0.2
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 Method ASTM D5185m	450 3000 1150 1350 4250 Iimit/base >25 >158 >20 Iimit/base >3 >20	<1 898 978 981 1212 2952 current 3 2 <1 current 0.1 5.9	64 <1 915 1090 1010 1241 3785 history1 3 0 1 history1 0.1 6.1	56 0 832 1112 957 1142 2888 history2 3 0 1 history2 0.2 5.6
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 method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method *ASTM D7844 *ASTM D7624 *ASTM D7415	450 3000 1150 1350 4250 limit/base >25 >158 >20 limit/base >3 >20 >3	<1 898 978 981 1212 2952 current 3 2 <1 current 0.1 5.9 17.1	64 <1 915 1090 1010 1241 3785 history1 3 0 1 history1 0.1 6.1 18.4	56 0 832 1112 957 1142 2888 history2 3 0 1 history2 0.2 5.6 17.9
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m Method ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method	450 3000 1150 1350 4250 Limit/base >25 >158 >20 Limit/base >3 >20 >30 Limit/base >25	<1 898 978 981 1212 2952 current 3 2 <1 current 0.1 5.9 17.1 current	64 <1 915 1090 1010 1241 3785 history1 3 0 1 history1 0.1 6.1 18.4 history1	56 0 832 1112 957 1142 2888 history2 3 0 1 history2 0.2 5.6 17.9 history2



OIL ANALYSIS REPORT

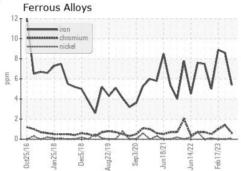


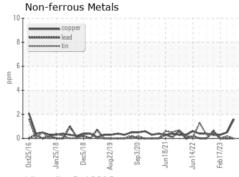


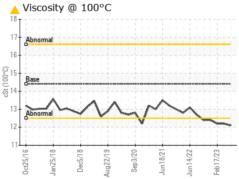
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG

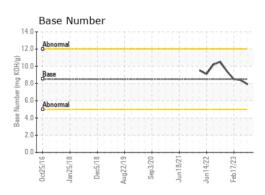
I LOID I HOI LI	TILO	method	IIIIII Dasc	Current	Thistory i	riistoryz
Visc @ 100°C	cSt	ASTM D445	14.4	<u> </u>	12.2	12.2

GRAPHS













Report Id: TRANEW [WUSCAR] 05994204 (Generated: 11/01/2023 13:16:05) Rev: 1

Laboratory Sample No. Lab Number Unique Number : 10722564

: WC0862923 : 05994204

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received

Diagnosed

: 31 Oct 2023 : 01 Nov 2023 Diagnostician : Sean Felton

Test Package : CONST (Additional Tests: 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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