

PROBLEM SUMMARY

Sample Rating Trend

12017 May2018 De2019 Inc 2020 May2021 May2022 May2022 Se

VISCOSITY



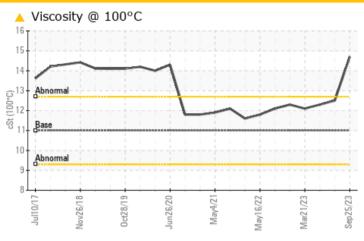
PETERBILT 21723

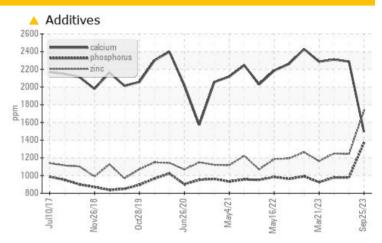
Component

Diesel Engine

SHELL ROTELLA T 10W30 (52 QTS)

COMPONENT CONDITION SUMMARY





RECOMMENDATION

Resample at the next service interval to monitor.

PROBLEMATIC T	EST RE	SULTS				
Sample Status				ATTENTION	NORMAL	NORMAL
Magnesium	ppm	ASTM D5185m	20	1374	96	39
Phosphorus	ppm	ASTM D5185m	948	1368	978	978
Zinc	ppm	ASTM D5185m	893	<u> </u>	1242	1249
Sulfur	ppm	ASTM D5185m		3752	3620	4047
Visc @ 100°C	cSt	ASTM D445	11.0	14.7	12.5	12.3

Customer Id: GUYGRE Sample No.: WC0832035 Lab Number: 05964036 Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data:

Don Baldridge +1 don.b505@comcast.net

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

RECOMMENDED ACTIONS

There are no recommended actions for this sample.

HISTORICAL DIAGNOSIS

24 Jul 2023 Diag: Don Baldridge

NORMAL



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



15 May 2023 Diag: Angela Borella

NORMAL



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



21 Mar 2023 Diag: Wes Davis

NORMAL



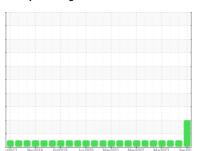
Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.





OIL ANALYSIS REPORT

Sample Rating Trend



VISCOSITY



PETERBILT 21723

Component

Diesel Engine

SHELL ROTELLA T 10W30 (52 QTS)

DIAGNOSIS

Recommendation

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.

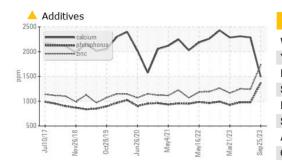
Fluid Condition

The oil viscosity is higher than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Additive levels indicate the addition of a different brand, or type of oil. Confirm oil type.

				0 May2021 May2022 Mar20		
SAMPLE INFORM	ATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0832035	WC0831992	WC0801684
Sample Date		Client Info		25 Sep 2023	24 Jul 2023	15 May 2023
Machine Age	mls	Client Info		265009	255746	243957
Oil Age	mls	Client Info		4263	11789	11908
Oil Changed		Client Info		N/A	Changed	Changed
Sample Status				ATTENTION	NORMAL	NORMAL
CONTAMINATION	l	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	>110	23	11	12
Chromium	ppm	ASTM D5185m	>4	2	<1	<1
Nickel	ppm	ASTM D5185m	>2	<1	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	6	2	<1
Lead	ppm	ASTM D5185m	>45	<1	1	<1
Copper	ppm	ASTM D5185m	>85	3	<1	<1
Tin	ppm	ASTM D5185m	>4	<1	<1	<1
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	269	6	71	94
Boron Barium	ppm ppm	ASTM D5185m ASTM D5185m	269	6	71 0	94
Barium	ppm	ASTM D5185m		0	0	0
Barium Molybdenum	ppm	ASTM D5185m ASTM D5185m		0 84	0 18	0
Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0	0 84 1	0 18 <1	0 6 <1
Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 20	0 84 1 ^ 1374	0 18 <1 96	0 6 <1 39
Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 20 1521 948	0 84 1 ▲ 1374 1494	0 18 <1 96 2287	0 6 <1 39 2311
Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 20 1521 948	0 84 1 1374 1494	0 18 <1 96 2287 978	0 6 <1 39 2311 978
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	0 20 1521 948	0 84 1 1374 1494 1368	0 18 <1 96 2287 978 1242	0 6 <1 39 2311 978 1249
Barium Molybdenum 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 ASTM D5185m ASTM D5185m	0 20 1521 948 893	0 84 1 ▲ 1374 1494 ▲ 1368 ▲ 1731 ▲ 3752	0 18 <1 96 2287 978 1242 3620	0 6 <1 39 2311 978 1249 4047
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	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	0 20 1521 948 893	0 84 1 ▲ 1374 1494 ▲ 1368 ▲ 1731 ▲ 3752	0 18 <1 96 2287 978 1242 3620 history1	0 6 <1 39 2311 978 1249 4047 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	0 20 1521 948 893	0 84 1 ▲ 1374 1494 ▲ 1368 ▲ 1731 ▲ 3752 current	0 18 <1 96 2287 978 1242 3620 history1	0 6 <1 39 2311 978 1249 4047 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 20 1521 948 893 limit/base >30	0 84 1 ▲ 1374 1494 ▲ 1368 ▲ 1731 ▲ 3752 current 7 5	0 18 <1 96 2287 978 1242 3620 history1 4	0 6 <1 39 2311 978 1249 4047 history2 5
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 20 1521 948 893 limit/base >30 >20	0 84 1 1374 1494 ▲ 1368 ▲ 1731 ▲ 3752 current 7 5	0 18 <1 96 2287 978 1242 3620 history1 4 0 10	0 6 <1 39 2311 978 1249 4047 history2 5 2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	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	0 20 1521 948 893 limit/base >30 >20	0 84 1 1 1374 1494 △ 1368 △ 1731 △ 3752 current 7 5 5	0 18 <1 96 2287 978 1242 3620 history1 4 0 10	0 6 <1 39 2311 978 1249 4047 history2 5 2 9
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m method ASTM D5185m	0 20 1521 948 893 limit/base >30 >20 limit/base >3	0 84 1 1374 1494 ▲ 1368 ▲ 1731 ▲ 3752 current 7 5 5	0 18 <1 96 2287 978 1242 3620 history1 4 0 10 history1 0.3	0 6 <1 39 2311 978 1249 4047 history2 5 2 9 history2 0.3
Barium Molybdenum 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	0 20 1521 948 893 limit/base >30 >20 limit/base >3 >20	0 84 1 1374 1494 ▲ 1368 ▲ 1731 ▲ 3752	0 18 <1 96 2287 978 1242 3620 history1 4 0 10 history1 0.3 9.8	0 6 <1 39 2311 978 1249 4047 history2 5 2 9 history2 0.3 9.7
Barium Molybdenum 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 *ASTM D5185m *ASTM D7844 *ASTM D7624 *ASTM D76145	0 20 1521 948 893 limit/base >30 >20 limit/base >3 >20 s 3 >20 >3	0 84 1 1374 1494 △ 1368 △ 1731 △ 3752 current 7 5 5 current 0.2 9.0 21.9	0 18 <1 96 2287 978 1242 3620 history1 4 0 10 history1 0.3 9.8 23.2	0 6 <1 39 2311 978 1249 4047 history2 5 2 9 history2 0.3 9.7 24.2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA	ppm	ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method *ASTM D7844 *ASTM D7624 *ASTM D7415 Method	0 20 1521 948 893 limit/base >30 >20 limit/base >3 >20 limit/base >3 >20 >30 limit/base	0 84 1 1374 1494 ▲ 1368 ▲ 1731 ▲ 3752 current 7 5 5 current 0.2 9.0 21.9	0 18 <1 96 2287 978 1242 3620 history1 4 0 10 history1 0.3 9.8 23.2 history1	0 6 <1 39 2311 978 1249 4047 history2 5 2 9 history2 0.3 9.7 24.2 history2



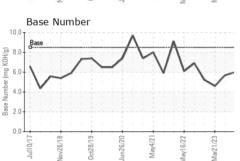
OIL ANALYSIS REPORT



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

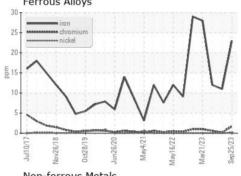
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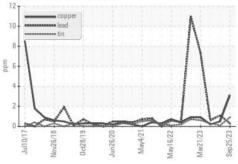


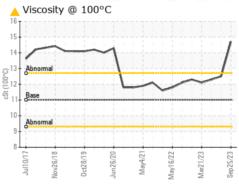
Ferrous Alloys

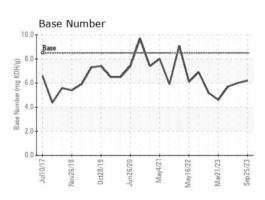
GRAPHS



Non-ferrous Metals











Certificate L2367

Laboratory Sample No. Lab Number Unique Number

: 05964036 : 10670587 Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : WC0832035 Received Diagnosed

: 28 Sep 2023 : 01 Oct 2023 Diagnostician : Don Baldridge **GUY M TURNER & TURNER TRANSFER** 4505 SOUTH HOLDEN ROAD

GREENSBORO, NC US 27406

Contact: ROGER HIXSON rhixson@guymturner.com

T: (336)294-4660 F: (336)294-6644

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)