

## **OIL ANALYSIS REPORT**

SAMP

## Sample Rating Trend

## NORMAL



# 114 (S/N 3HSPAAPR1PN664807)

Diesel Engine

SHELL ROTELLA T4 15W40 (--- GAL)

## Fluid

## 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**

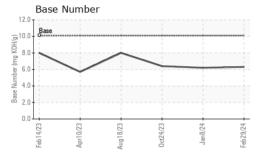
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

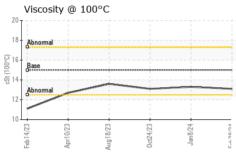
Number	Client Inf	0		PCA	A01055	<b>26</b> P	CA01
LE INFORMATION	method	lin	nit/bas	е	currer	nt	his
	Feb 20	23 Apr202	23 Augž	023 Oct2	023 Jani	2024 Feb 20	124
<i>(</i> )							
<b>7</b> \							

Sample Number		Client Info		PCA0105526	PCA0105517	PCA0105513
Sample Date		Client Info		29 Feb 2024	08 Jan 2024	24 Oct 2023
Machine Age	mls	Client Info		136475	118300	98206
Oil Age	mls	Client Info		18175	20094	20481
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>90	8	12	11
Chromium	ppm	ASTM D5185m	>20	<1	<1	1
Nickel	ppm	ASTM D5185m	>2	0	<1	<1
Titanium	ppm	ASTM D5185m	>2	0	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m	>20	3	5	6
Lead	ppm	ASTM D5185m	>40	<1	<1	0
Copper	ppm	ASTM D5185m	>330	<1	<1	1
Tin	ppm	ASTM D5185m	>15	0	1	<1
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	biotom/1	history2
ADDITIVEO		memou	IIIIII/Dase	current	history1	HISTOLYZ
Boron	ppm	ASTM D5185m	IIIIII/Dase	94	103	88
	ppm ppm		IIIIII/Dase			
Boron		ASTM D5185m	IIIIII/Dase	94	103	88
Boron Barium	ppm	ASTM D5185m ASTM D5185m	IIIIII/Dase	94 0	103	88
Boron Barium Molybdenum	ppm	ASTM D5185m ASTM D5185m ASTM D5185m	IIIIII/Dase	94 0 4	103 0 7	88 0 15
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	IIIIII/Dase	94 0 4 0	103 0 7 <1	88 0 15
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	IIIIIIVUASE	94 0 4 0 26	103 0 7 <1 40	88 0 15 0 84
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	IIIIIIIIIIII	94 0 4 0 26 2087	103 0 7 <1 40 2198	88 0 15 0 84 1984
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	IIIIIIVUASE	94 0 4 0 26 2087 823	103 0 7 <1 40 2198 1030	88 0 15 0 84 1984 942
Boron 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 ASTM D5185m	limit/base	94 0 4 0 26 2087 823 977	103 0 7 <1 40 2198 1030 1257	88 0 15 0 84 1984 942 1117
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	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	limit/base	94 0 4 0 26 2087 823 977 3433	103 0 7 <1 40 2198 1030 1257 3701	88 0 15 0 84 1984 942 1117 3293
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base	94 0 4 0 26 2087 823 977 3433 current	103 0 7 <1 40 2198 1030 1257 3701 history1	88 0 15 0 84 1984 942 1117 3293 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base	94 0 4 0 26 2087 823 977 3433 current	103 0 7 <1 40 2198 1030 1257 3701 history1	88 0 15 0 84 1984 942 1117 3293 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base	94 0 4 0 26 2087 823 977 3433 current 3	103 0 7 <1 40 2198 1030 1257 3701 history1 5 2	88 0 15 0 84 1984 942 1117 3293 history2 6 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base >25 >20	94 0 4 0 26 2087 823 977 3433 current 3 2 12	103 0 7 <1 40 2198 1030 1257 3701 history1 5 2 18	88 0 15 0 84 1984 942 1117 3293 history2 6 <1 26
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base >25 >20 limit/base	94 0 4 0 26 2087 823 977 3433 current 3 2 12	103 0 7 <1 40 2198 1030 1257 3701 history1 5 2 18 history1	88 0 15 0 84 1984 942 1117 3293 history2 6 <1 26
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m  method  *ASTM D5185m  ASTM D5185m  ASTM D5185m  ASTM D5185m  ASTM D5185m  ASTM D5185m  ASTM D5185m	limit/base >25 >20 limit/base >6	94 0 4 0 26 2087 823 977 3433 current 3 2 12 current 0.2	103 0 7 <1 40 2198 1030 1257 3701 history1 5 2 18 history1 0.3	88 0 15 0 84 1984 942 1117 3293 history2 6 <1 26 history2 0.2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm	ASTM D5185m  Method  ASTM D5185m  Method  *ASTM D7844  *ASTM D7624  *ASTM D76145	limit/base >25 >20 limit/base >6 >20	94 0 4 0 26 2087 823 977 3433 current 3 2 12 current 0.2 8.2	103 0 7 <1 40 2198 1030 1257 3701 history1 5 2 18 history1 0.3 8.4	88 0 15 0 84 1984 942 1117 3293 history2 6 <1 26 history2 0.2 8.7
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm	ASTM D5185m  Method  ASTM D5185m  Method  *ASTM D7844  *ASTM D7624  *ASTM D76145	limit/base >25 >20 limit/base >6 >20 >30	94 0 4 0 26 2087 823 977 3433 current 3 2 12 current 0.2 8.2 20.8	103 0 7 <1 40 2198 1030 1257 3701 history1 5 2 18 history1 0.3 8.4 21.4	88 0 15 0 84 1984 942 1117 3293 history2 6 <1 26 history2 0.2 8.7 21.2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE	ppm	ASTM D5185m  method  *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m  method  *ASTM D7844  *ASTM D7624  *ASTM D7415  method	limit/base >25 >20 limit/base >6 >20 >30 limit/base	94 0 4 0 26 2087 823 977 3433 current 3 2 12 current 0.2 8.2 20.8 current	103 0 7 <1 40 2198 1030 1257 3701 history1 5 2 18 history1 0.3 8.4 21.4 history1	88 0 15 0 84 1984 942 1117 3293 history2 6 <1 26 history2 0.2 8.7 21.2 history2



## **OIL ANALYSIS REPORT**

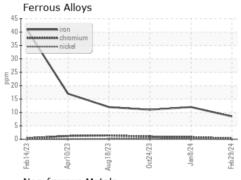


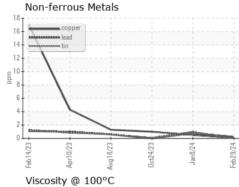


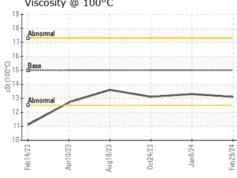
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

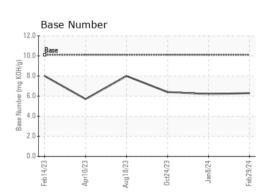
FLUID PROPE	ERTIES	method				history2
Visc @ 100°C	cSt	ASTM D445	15	13.1	13.3	13.1

## **GRAPHS**













Laboratory Sample No.

Lab Number : 06114850 Unique Number: 10923683 Test Package : FLEET

: PCA0105526

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

**Tested** Diagnosed

: 11 Mar 2024 : 12 Mar 2024 : 12 Mar 2024 - Wes Davis 1501 W DARLINGTON ST FLORENCE, SC

US 29501 Contact: DAVID VOUGHT david.vought@vulcraft-sc.com

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)

Report Id: VULFLO [WUSCAR] 06114850 (Generated: 03/12/2024 15:43:14) Rev: 1

Contact/Location: DAVID VOUGHT - VULFLO

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