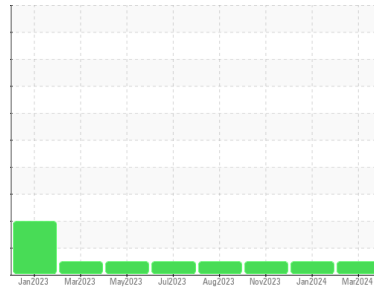


# OIL ANALYSIS REPORT

## Sample Rating Trend



**NORMAL**



Machine Id  
**115 (S/N 3HSPAAPR4PN664798)**  
 Component  
**Diesel Engine**  
 Fluid  
**SHELL ROTELLA T4 15W40 (--- GAL)**

### 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.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			<b>PCA0105525</b>	PCA0105532	PCA0105514
Sample Date	Client Info			<b>27 Mar 2024</b>	30 Jan 2024	02 Nov 2023
Machine Age	mls	Client Info		<b>157565</b>	136357	117105
Oil Age	mls	Client Info		<b>21202</b>	19252	19352
Oil Changed	Client Info			<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel	WC Method	>3.0		<b>&lt;1.0</b>	<1.0	<1.0
Water	WC Method	>0.2		<b>NEG</b>	NEG	NEG
Glycol	WC Method			<b>NEG</b>	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>90	<b>16</b>	21	12
Chromium	ppm	ASTM D5185m	>20	<b>2</b>	1	2
Nickel	ppm	ASTM D5185m	>2	<b>1</b>	<1	<1
Titanium	ppm	ASTM D5185m	>2	<b>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>6</b>	6	9
Lead	ppm	ASTM D5185m	>40	<b>2</b>	0	<1
Copper	ppm	ASTM D5185m	>330	<b>&lt;1</b>	<1	<1
Tin	ppm	ASTM D5185m	>15	<b>1</b>	0	0
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Cadmium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		<b>119</b>	117	105
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>7</b>	6	12
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Magnesium	ppm	ASTM D5185m		<b>43</b>	30	46
Calcium	ppm	ASTM D5185m		<b>2295</b>	1981	2009
Phosphorus	ppm	ASTM D5185m		<b>940</b>	889	909
Zinc	ppm	ASTM D5185m		<b>1198</b>	1071	1101
Sulfur	ppm	ASTM D5185m		<b>3596</b>	3221	3400

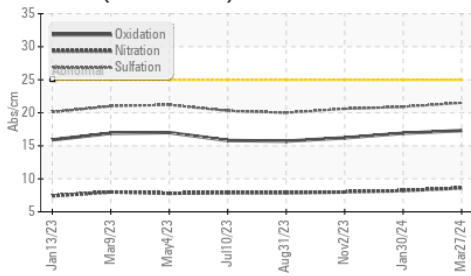
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	<b>5</b>	3	5
Sodium	ppm	ASTM D5185m		<b>3</b>	0	<1
Potassium	ppm	ASTM D5185m	>20	<b>24</b>	28	33

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>6	<b>0.3</b>	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.6</b>	8.2	8.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>21.5</b>	20.9	20.6

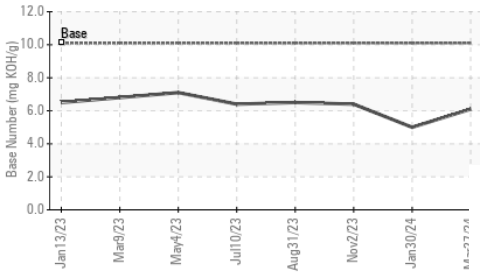
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>17.3</b>	16.9	16.2
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	<b>6.1</b>	5.0	6.4

# OIL ANALYSIS REPORT

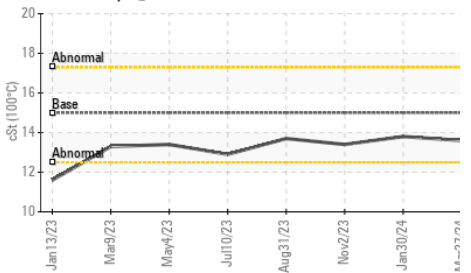
**FT-IR (Direct Trend)**



**Base Number**



**Viscosity @ 100°C**

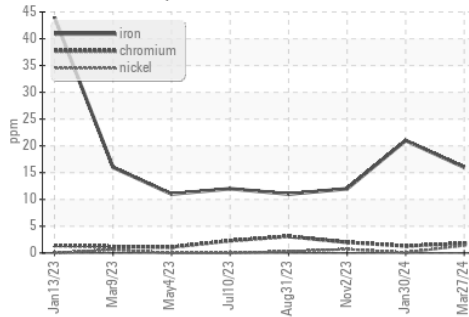


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

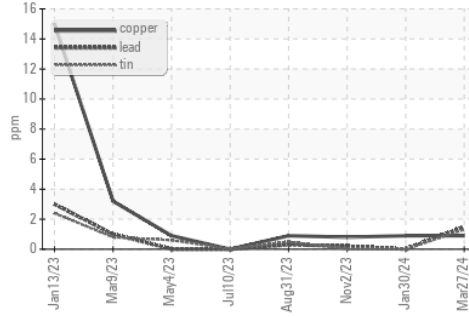
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445 15	<b>13.6</b>	13.8	13.4

## GRAPHS

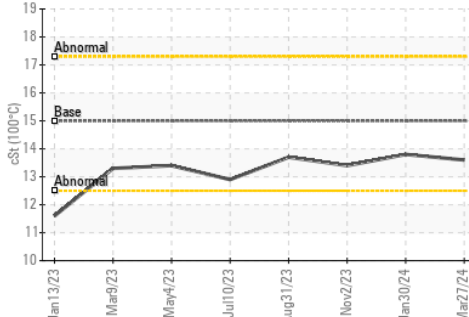
**Ferrous Alloys**



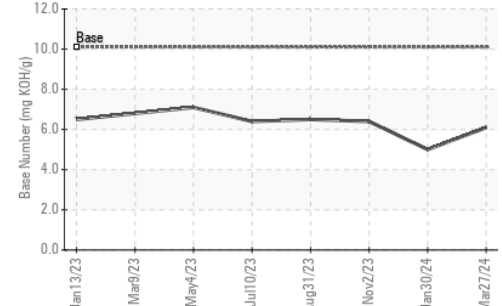
**Non-ferrous Metals**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : PCA0105525      **Received** : 10 Apr 2024  
**Lab Number** : **06144042**      **Tested** : 11 Apr 2024  
**Unique Number** : 10968850      **Diagnosed** : 11 Apr 2024 - Wes Davis  
**Test Package** : FLEET

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)

**VULCRAFT**  
 1501 W DARLINGTON ST  
 FLORENCE, SC  
 US 29501  
 Contact: DAVID VOUGHT  
 david.vought@vulcraft-sc.com  
 T: (843)409-3910  
 F: