



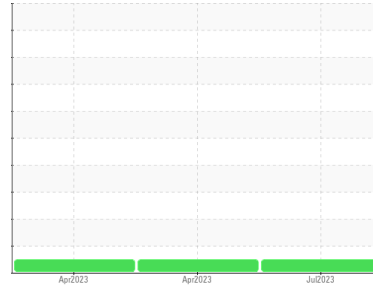
# OIL ANALYSIS REPORT

Sample Rating Trend

**NORMAL**



Machine Id  
**CATERPILLAR RH BEYMER**  
 Component  
**Port Main Engine**  
 Fluid  
**KENDALL SUPER-D XA 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>WC05902914</b>	WC05829136	WC05816248
Sample Date	Client Info		<b>18 Jul 2023</b>	24 Apr 2023	09 Apr 2023
Machine Age	hrs	Client Info	<b>30355</b>	28417	28417
Oil Age	hrs	Client Info	<b>0</b>	0	0
Oil Changed	Client Info		<b>N/A</b>	Changed	N/A
Sample Status			<b>NORMAL</b>	NORMAL	NORMAL

## CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>4.0	<b>&lt;1.0</b>	<1.0	<1.0
Glycol	WC Method		<b>NEG</b>	NEG	NEG

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >120	<b>10</b>	6	6
Chromium	ppm	ASTM D5185m >10	<b>&lt;1</b>	0	<1
Nickel	ppm	ASTM D5185m >5	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m	<b>17</b>	19	27
Silver	ppm	ASTM D5185m >5	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >20	<b>2</b>	2	2
Lead	ppm	ASTM D5185m >40	<b>1</b>	0	0
Copper	ppm	ASTM D5185m >300	<b>5</b>	2	2
Tin	ppm	ASTM D5185m >10	<b>&lt;1</b>	0	0
Vanadium	ppm	ASTM D5185m	<b>&lt;1</b>	0	<1
Cadmium	ppm	ASTM D5185m	<b>0</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 50	<b>53</b>	77	75
Barium	ppm	ASTM D5185m	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	<b>82</b>	68	64
Manganese	ppm	ASTM D5185m	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m 270	<b>102</b>	127	163
Calcium	ppm	ASTM D5185m 1900	<b>2523</b>	2035	2252
Phosphorus	ppm	ASTM D5185m 1000	<b>1167</b>	977	1092
Zinc	ppm	ASTM D5185m 1260	<b>1384</b>	1203	1324
Sulfur	ppm	ASTM D5185m 3400	<b>4999</b>	4132	4869

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>3</b>	3	3
Sodium	ppm	ASTM D5185m	<b>3</b>	2	2
Potassium	ppm	ASTM D5185m >20	<b>2</b>	0	<1

## INFRA-RED

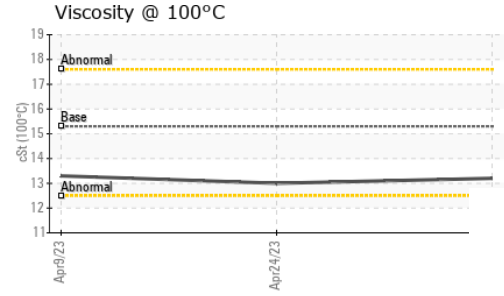
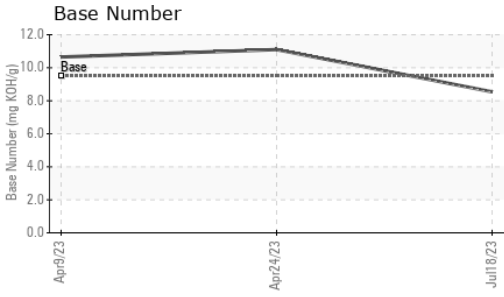
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	<b>0.3</b>	0.2	0.2
Nitration	Abs/cm	*ASTM D7624 >20	<b>10.0</b>	9.2	8.8
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>19.6</b>	18.7	19.1

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>14.9</b>	14.8	14.4
Base Number (BN)	mg KOH/g	ASTM D2896 9.5	<b>8.54</b>	11.10	10.65



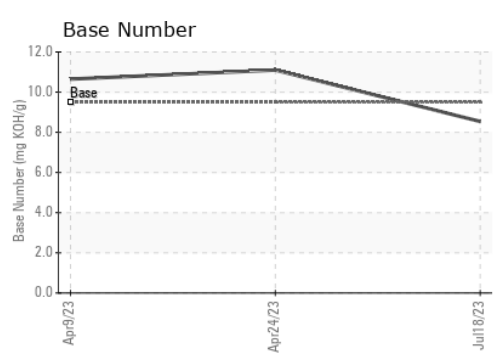
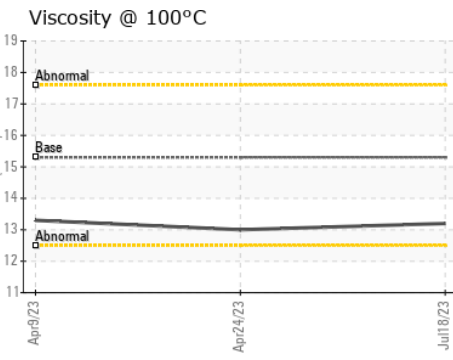
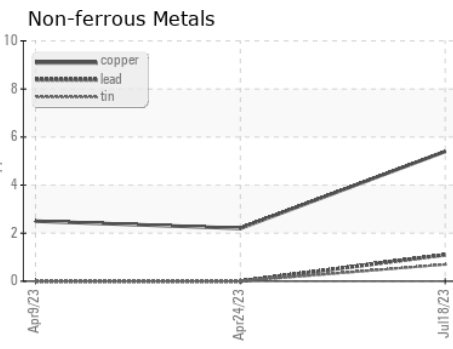
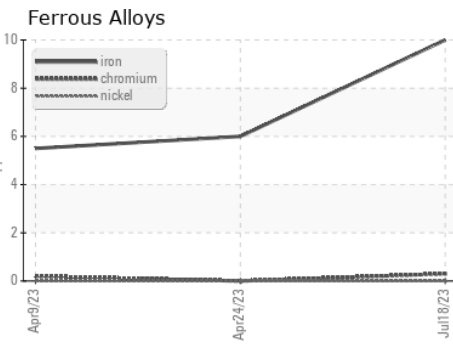
# OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2	
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Precipitate	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	<b>NEG</b>	NEG	NEG
Free Water	scalar	*Visual		<b>NEG</b>	NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	15.3	<b>13.2</b>	13.0	13.3

### GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC05902914     **Received** : 19 Jul 2023  
**Lab Number** : **05902914**     **Diagnosed** : 21 Jul 2023  
**Unique Number** : 10564270     **Diagnostician** : Sean Felton  
**Test Package** : MAR 2

**SUPERIOR MARINE WAYS**  
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 SOUTH POINT, OH  
 US 45680  
 Contact: DARRELL KEARNS  
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Certificate L2367  
 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)