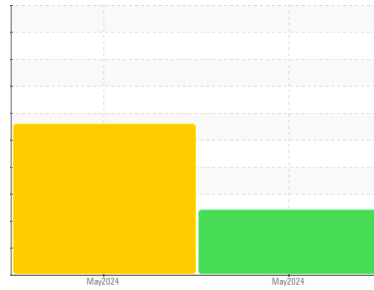




# OIL ANALYSIS REPORT

Sample Rating Trend



Area  
**MINING**  
 Machine Id  
**ME-327 KOMATSU WA470-8 A49714**  
 Component  
**Diesel Engine**  
 Fluid  
**SHELL ROTELLA T 15W40 (--- GAL)**

## DIAGNOSIS

### Recommendation

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. Note that there appears to be a discrepancy in the total time on this component, when compared to the historical data.

### Wear

All component wear rates are normal.

### Contamination

Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

### Fluid Condition

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

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>WC0938477</b>	WC0938508	---
Sample Date	Client Info		<b>29 May 2024</b>	13 May 2024	---
Machine Age	hrs	Client Info	<b>5110</b>	7896	---
Oil Age	hrs	Client Info	<b>300</b>	400	---
Oil Changed	Client Info		<b>Changed</b>	Changed	---
Sample Status			<b>ABNORMAL</b>	SEVERE	---

## CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<b>&lt;1.0</b>	<1.0	---
Water	WC Method	>0.2	<b>NEG</b>	NEG	---
Glycol	WC Method		<b>NEG</b>	NEG	---

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	<b>19</b>	48
Chromium	ppm	ASTM D5185m	>20	<b>1</b>	4
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	0
Titanium	ppm	ASTM D5185m		<b>1</b>	3
Silver	ppm	ASTM D5185m	>3	<b>0</b>	<1
Aluminum	ppm	ASTM D5185m	>20	<b>18</b>	41
Lead	ppm	ASTM D5185m	>40	<b>0</b>	<1
Copper	ppm	ASTM D5185m	>330	<b>1</b>	2
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	<1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	<1
Cadmium	ppm	ASTM D5185m		<b>0</b>	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	316	<b>153</b>	130
Barium	ppm	ASTM D5185m	0.0	<b>0</b>	0
Molybdenum	ppm	ASTM D5185m	1.2	<b>0</b>	3
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1
Magnesium	ppm	ASTM D5185m	24	<b>32</b>	42
Calcium	ppm	ASTM D5185m	2292	<b>2298</b>	2410
Phosphorus	ppm	ASTM D5185m	1064	<b>1026</b>	1165
Zinc	ppm	ASTM D5185m	1160	<b>1193</b>	1370
Sulfur	ppm	ASTM D5185m	4996	<b>4018</b>	4616

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	<b>45</b>	103
Sodium	ppm	ASTM D5185m		<b>2</b>	2
Potassium	ppm	ASTM D5185m	>20	<b>4</b>	6

## INFRA-RED

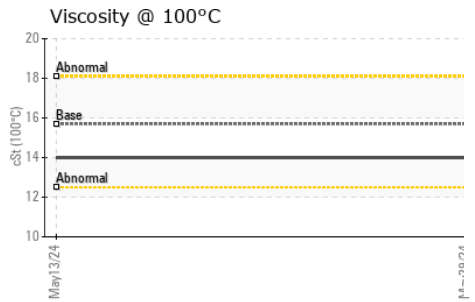
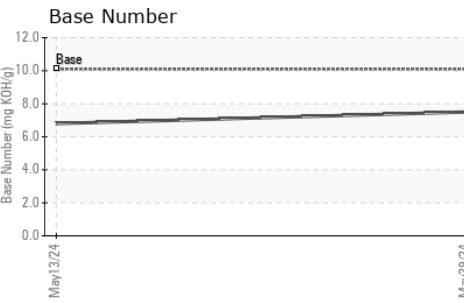
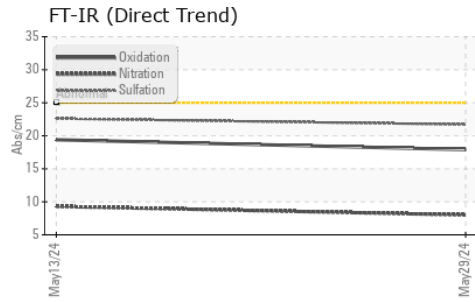
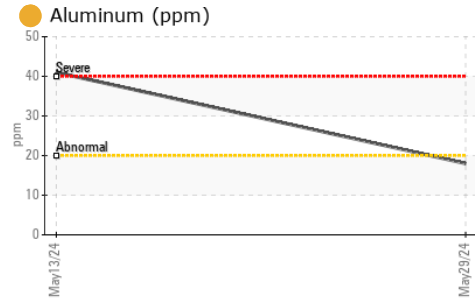
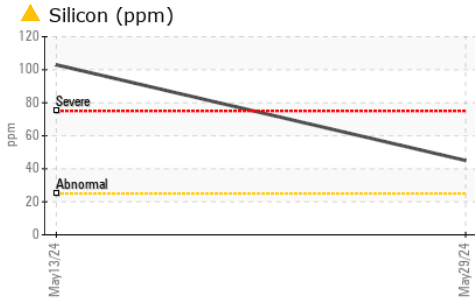
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	<b>0.2</b>	0.3
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.0</b>	9.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>21.7</b>	22.6

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>17.9</b>	19.4
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	<b>7.5</b>	6.8



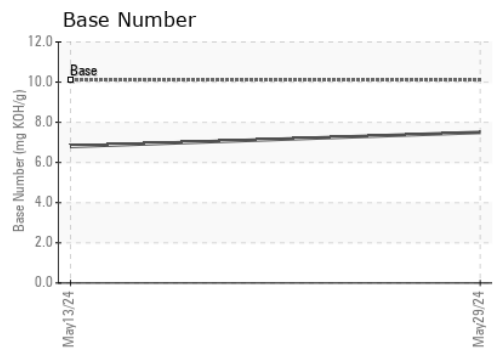
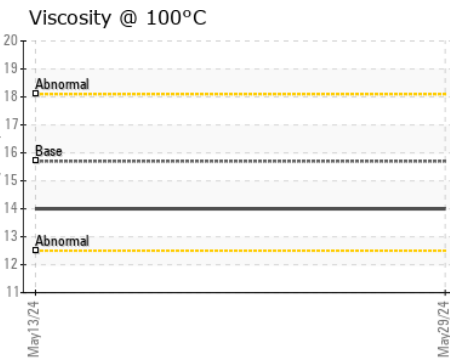
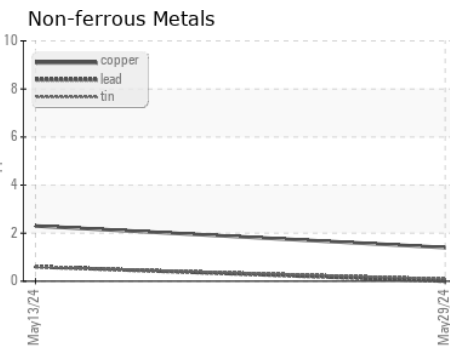
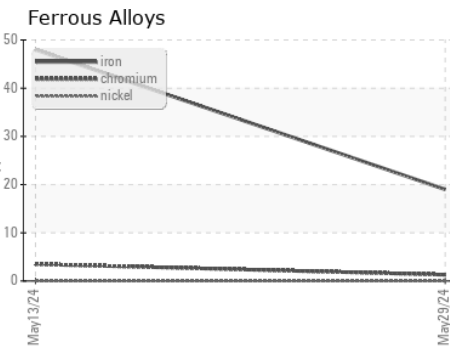
# OIL ANALYSIS REPORT



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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.7	14.0	---

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0938477 **Received** : 04 Jun 2024  
**Lab Number** : 06198862 **Tested** : 05 Jun 2024  
**Unique Number** : 11060985 **Diagnosed** : 06 Jun 2024 - Don Baldrige  
**Test Package** : CONST ( Additional Tests: TBN )

**COVIA - TROUP - 084**  
 23769 STATE HWY 110 NORTH  
 TROUP, TX  
 US 75789  
 Contact: Forrest Howell  
 forrest.howell@coviacorp.com  
 T: (903)574-0693  
 F:

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)