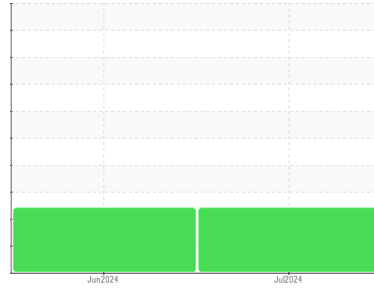




# OIL ANALYSIS REPORT

Sample Rating Trend



DIRT



Area

**MINING**

Machine Id

**ME-328 KOMATSU WA470-8 A49715**

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. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

### ● 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>WC0938498</b>	WC0938481	---
Sample Date	Client Info			<b>01 Jul 2024</b>	06 Jun 2024	---
Machine Age	hrs	Client Info		<b>8237</b>	8020	---
Oil Age	hrs	Client Info		<b>336</b>	150	---
Oil Changed	Client Info			<b>Changed</b>	Not Changd	---
Sample Status				<b>ABNORMAL</b>	ABNORMAL	---

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>51</b>	17	---
Chromium	ppm	ASTM D5185m	>20	<b>2</b>	1	---
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	0	---
Titanium	ppm	ASTM D5185m		<b>2</b>	1	---
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	---
Aluminum	ppm	ASTM D5185m	>20	<b>27</b>	13	---
Lead	ppm	ASTM D5185m	>40	<b>0</b>	0	---
Copper	ppm	ASTM D5185m	>330	<b>1</b>	<1	---
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	<1	---
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	---
Cadmium	ppm	ASTM D5185m		<b>0</b>	0	---

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	316	<b>102</b>	191	---
Barium	ppm	ASTM D5185m	0.0	<b>0</b>	0	---
Molybdenum	ppm	ASTM D5185m	1.2	<b>0</b>	0	---
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	---
Magnesium	ppm	ASTM D5185m	24	<b>23</b>	14	---
Calcium	ppm	ASTM D5185m	2292	<b>2472</b>	2220	---
Phosphorus	ppm	ASTM D5185m	1064	<b>1158</b>	1011	---
Zinc	ppm	ASTM D5185m	1160	<b>1365</b>	1178	---
Sulfur	ppm	ASTM D5185m	4996	<b>4584</b>	4014	---

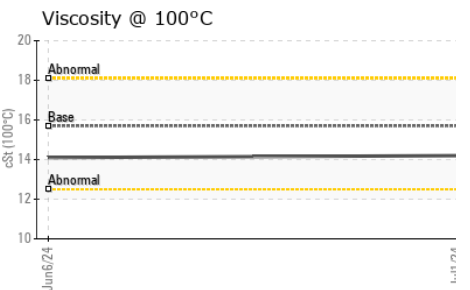
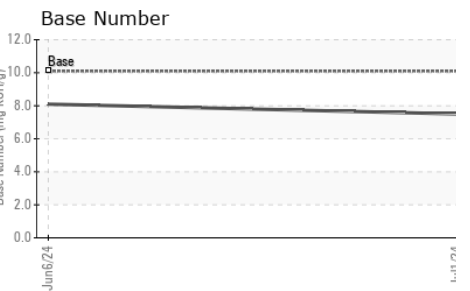
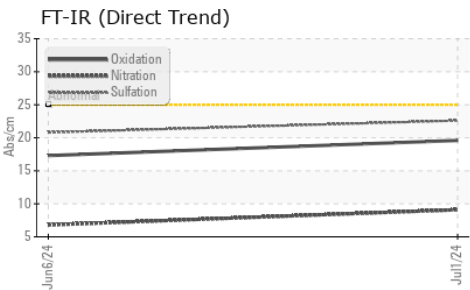
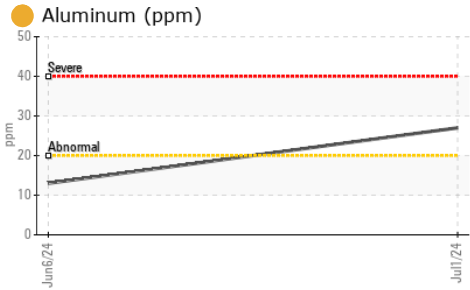
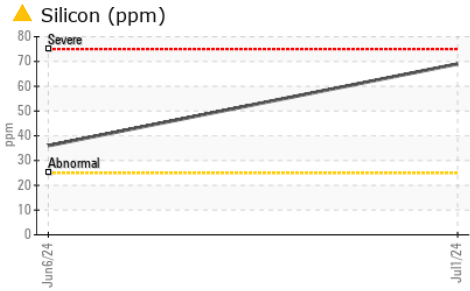
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	<b>▲ 69</b>	▲ 36	---
Sodium	ppm	ASTM D5185m		<b>1</b>	0	---
Potassium	ppm	ASTM D5185m	>20	<b>6</b>	2	---

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	<b>0.2</b>	0.1	---
Nitration	Abs/cm	*ASTM D7624	>20	<b>9.1</b>	6.8	---
Sulfation	Abs.1mm	*ASTM D7415	>30	<b>22.6</b>	20.8	---

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs.1mm	*ASTM D7414	>25	<b>19.6</b>	17.3	---
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	<b>7.5</b>	8.1	---



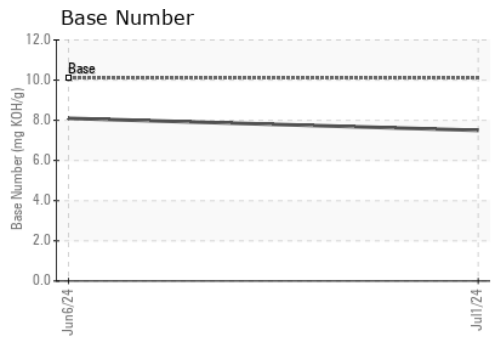
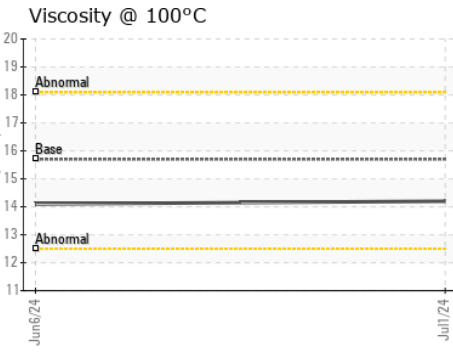
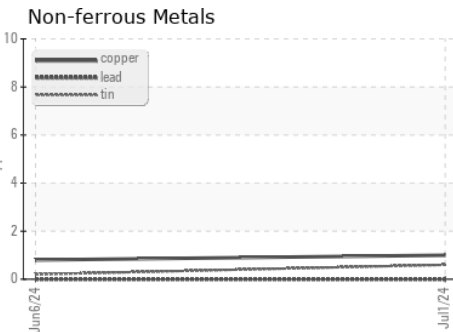
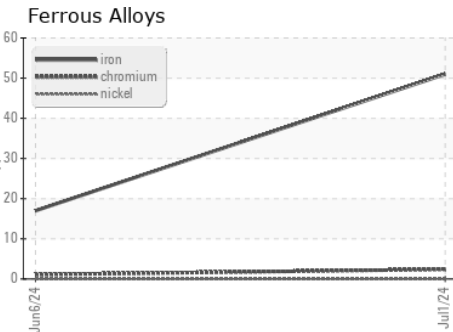
# OIL ANALYSIS REPORT



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	<b>14.2</b>	14.1	---

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0938498      **Received** : 15 Jul 2024  
**Lab Number** : **06237265**      **Tested** : 17 Jul 2024  
**Unique Number** : 11126099      **Diagnosed** : 17 Jul 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)