

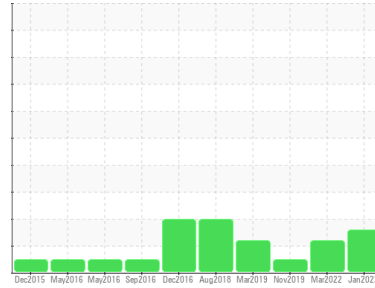
# OIL ANALYSIS REPORT

## Sample Rating Trend

ISO



Machine Id  
**KOMATSU PC400 280 (S/N A83289)**  
 Component  
**Hydraulic System**  
 Fluid  
**AW HYDRAULIC OIL ISO 46 (130 GAL)**



## DIAGNOSIS

### Recommendation

We recommend you service the filters on this component. Resample at the next service interval to monitor. ( Customer Sample Comment: 18214.3 hours )

### Wear

All component wear rates are normal.

### Contamination

There is a high amount of particulates present in the oil.

### Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>PTK0003773</b>	PTK0003323	PTKM2326255
Sample Date	Client Info		<b>09 Jan 2023</b>	09 Mar 2022	18 Nov 2019
Machine Age	hrs	Client Info	<b>18214</b>	17935	5762
Oil Age	hrs	Client Info	<b>18214</b>	17935	350
Oil Changed	Client Info		<b>N/A</b>	N/A	N/A
Sample Status			<b>ABNORMAL</b>	ABNORMAL	NORMAL

## CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.1	<b>NEG</b>	NEG	NEG

## WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m	>20	<b>18</b>	35	31
Chromium	ppm	ASTM D5185m	>10	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>10	<b>0</b>	0	<1
Titanium	ppm	ASTM D5185m		<b>0</b>	0	0
Silver	ppm	ASTM D5185m		<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>10	<b>&lt;1</b>	<1	0
Lead	ppm	ASTM D5185m	>10	<b>1</b>	2	2
Copper	ppm	ASTM D5185m	>75	<b>18</b>	13	12
Tin	ppm	ASTM D5185m	>10	<b>0</b>	1	0
Antimony	ppm	ASTM D5185m		<b>---</b>	---	0
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
Cadmium	ppm	ASTM D5185m		<b>0</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m	5	<b>3</b>	5	2
Barium	ppm	ASTM D5185m	5	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	5	<b>2</b>	2	0
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	2
Magnesium	ppm	ASTM D5185m	25	<b>21</b>	15	8
Calcium	ppm	ASTM D5185m	200	<b>1455</b>	288	259
Phosphorus	ppm	ASTM D5185m	300	<b>559</b>	349	300
Zinc	ppm	ASTM D5185m	370	<b>640</b>	343	333
Sulfur	ppm	ASTM D5185m	2500	<b>4125</b>	1888	597

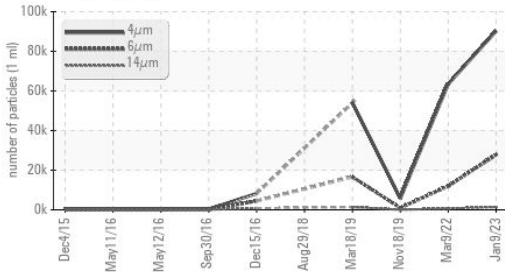
## CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>20	<b>6</b>	5	2
Sodium	ppm	ASTM D5185m		<b>2</b>	0	0
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	0	0

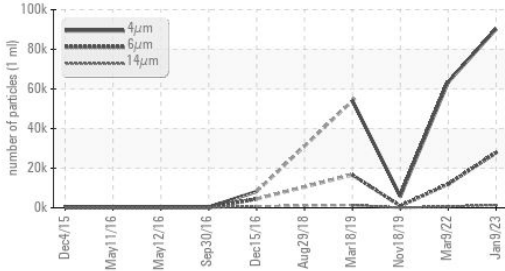
## FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		<b>90208</b>	63472	5752
Particles >6µm	ASTM D7647	>2500	<b>▲ 27811</b>	▲ 11979	950
Particles >14µm	ASTM D7647	>320	<b>▲ 1385</b>	▲ 587	39
Particles >21µm	ASTM D7647	>80	<b>▲ 223</b>	▲ 141	13
Particles >38µm	ASTM D7647	>20	<b>3</b>	3	5
Particles >71µm	ASTM D7647	>4	<b>0</b>	0	4
Oil Cleanliness	ISO 4406 (c)	>18/15	<b>▲ 22/18</b>	▲ 23/21/16	20/17/12

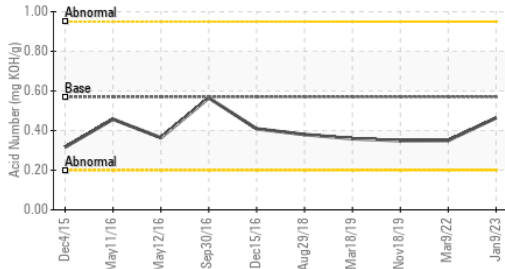
### Particle Trend



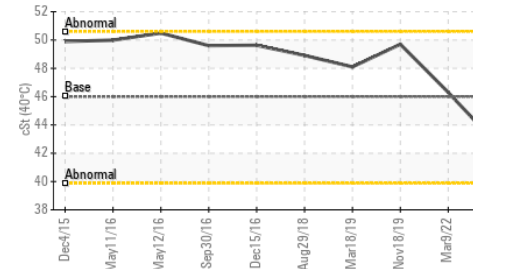
### Particle Trend



### Acid Number



### Viscosity @ 40°C



FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.57	<b>0.464</b>	0.35	0.349

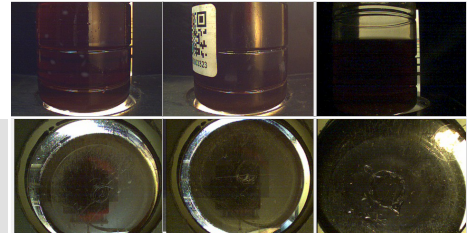
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	<b>LIGHT</b>	VLITE	VLITE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Precipitate	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>LIGHT</b>	VLITE	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 @ 40°C	cSt	ASTM D445	46	<b>42.7</b>	46.3	49.7

SAMPLE IMAGES		method	limit/base	current	history1	history2
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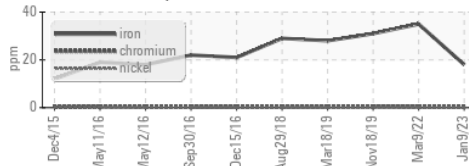
Color

Bottom

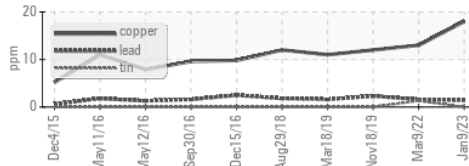


### GRAPHS

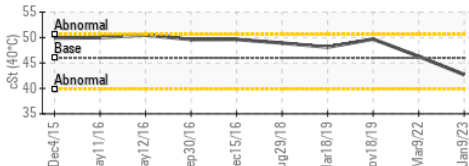
#### Ferrous Alloys



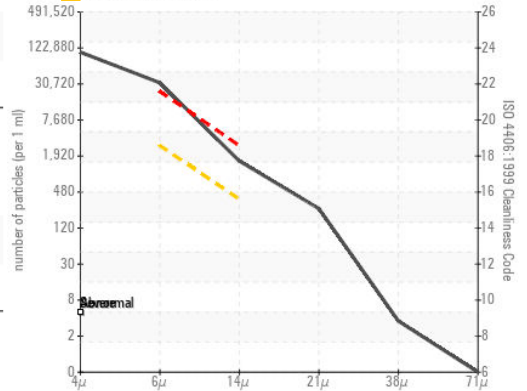
#### Non-ferrous Metals



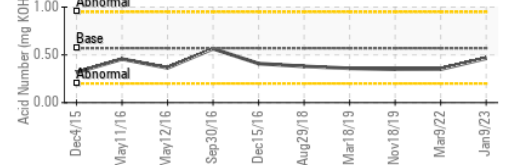
#### Viscosity @ 40°C



#### Particle Count



#### Acid Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : PTK0003773 **Received** : 06 Feb 2023  
**Lab Number** : 05759436 **Diagnosed** : 07 Feb 2023  
**Unique Number** : 10324043 **Diagnostician** : Jonathan Hester  
**Test Package** : MOB 2

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)

#### DRILLING SERVICE

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 bdmurphy@drillingserviceco.com

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