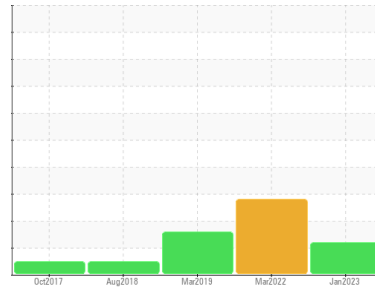


# OIL ANALYSIS REPORT

## Sample Rating Trend



ISO



Machine Id  
**360**  
Component  
**Hydraulic System**  
Fluid  
**NOT GIVEN (--- GAL)**

## DIAGNOSIS

### Recommendation

We recommend you service the filters on this component. Resample at the next service interval to monitor. ( Customer Sample Comment: 7774.8 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>PTK0003770</b>	PTK0003326	PTKM2325388
Sample Date	Client Info		<b>09 Jan 2023</b>	09 Mar 2022	18 Mar 2019
Machine Age	hrs	Client Info	<b>7774</b>	7756	5737
Oil Age	hrs	Client Info	<b>7774</b>	7756	0
Oil Changed	Client Info		<b>N/A</b>	N/A	N/A
Sample Status			<b>ABNORMAL</b>	ABNORMAL	ABNORMAL

## 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>6</b>	6	6
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>&lt;1</b>	<1	0
Silver	ppm	ASTM D5185m	<b>0</b>	<1	0
Aluminum	ppm	ASTM D5185m >10	<b>1</b>	2	2
Lead	ppm	ASTM D5185m >10	<b>2</b>	2	1
Copper	ppm	ASTM D5185m >75	<b>20</b>	19	15
Tin	ppm	ASTM D5185m >10	<b>0</b>	2	<1
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	<b>4</b>	6	6
Barium	ppm	ASTM D5185m	<b>0</b>	0	<1
Molybdenum	ppm	ASTM D5185m	<b>1</b>	2	1
Manganese	ppm	ASTM D5185m	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	<b>24</b>	26	28
Calcium	ppm	ASTM D5185m	<b>2289</b>	2339	1847
Phosphorus	ppm	ASTM D5185m	<b>687</b>	754	636
Zinc	ppm	ASTM D5185m	<b>843</b>	859	766
Sulfur	ppm	ASTM D5185m	<b>5278</b>	3884	5986

## CONTAMINANTS

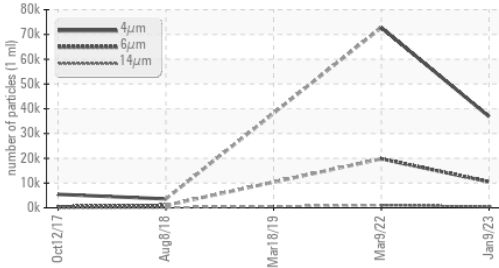
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >20	<b>8</b>	8	10
Sodium	ppm	ASTM D5185m	<b>2</b>	0	2
Potassium	ppm	ASTM D5185m >20	<b>0</b>	0	1

## FLUID CLEANLINESS

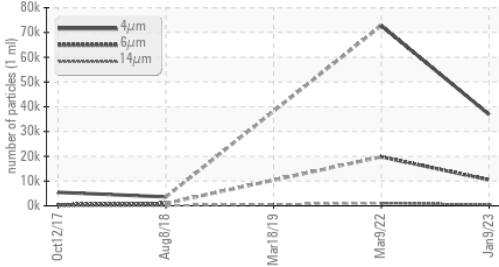
	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		<b>36828</b>	72777	---
Particles >6µm	ASTM D7647	>2500	<b>▲ 10461</b>	▲ 19778	---
Particles >14µm	ASTM D7647	>320	<b>▲ 460</b>	▲ 1042	---
Particles >21µm	ASTM D7647	>80	<b>78</b>	▲ 271	---
Particles >38µm	ASTM D7647	>20	<b>1</b>	7	---
Particles >71µm	ASTM D7647	>4	<b>0</b>	0	---
Oil Cleanliness	ISO 4406 (c)	>18/15	<b>▲ 21/16</b>	▲ 23/21/17	---

# OIL ANALYSIS REPORT

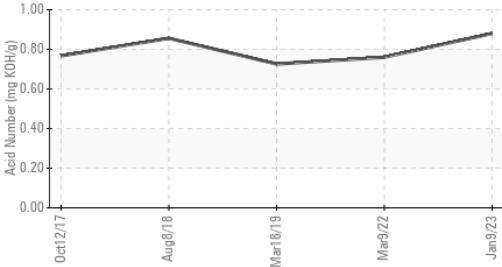
### Particle Trend



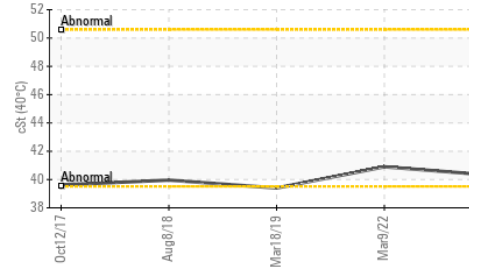
### Particle Trend



### Acid Number



### Viscosity @ 40°C

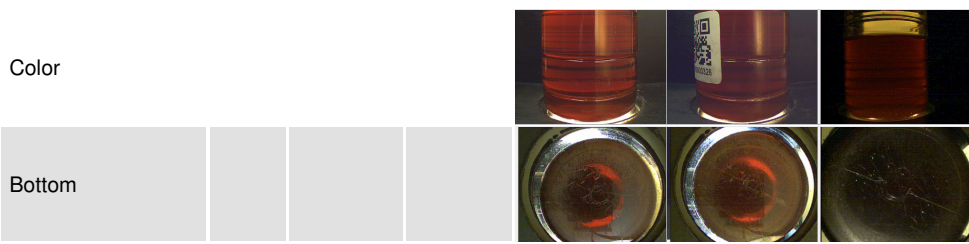


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		<b>0.88</b>	0.76	0.726

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	<b>VLITE</b>	▲ LIGHT	▲ MODER
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>VLITE</b>	▲ LIGHT	▲ LIGHT
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

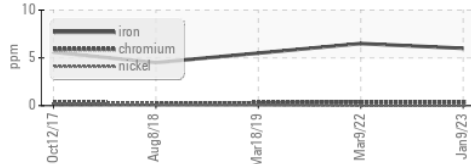
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445		<b>40.3</b>	40.9	39.4

### SAMPLE IMAGES

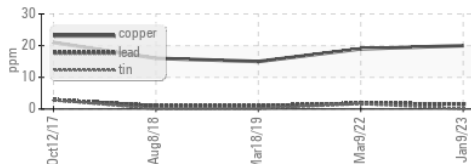


### GRAPHS

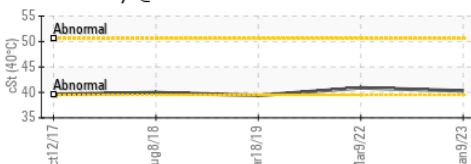
#### Ferrous Alloys



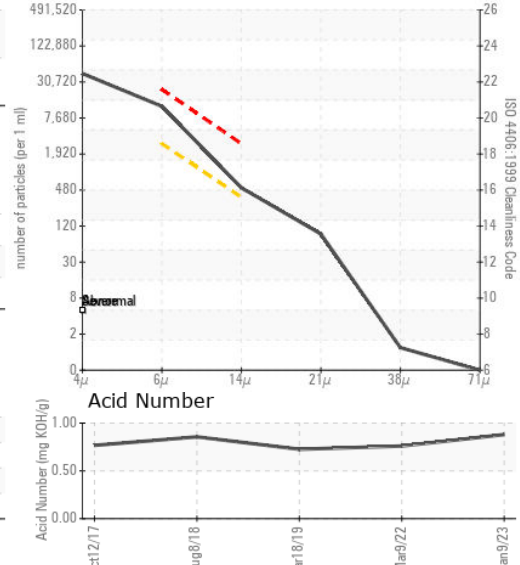
#### Non-ferrous Metals



#### Viscosity @ 40°C



#### Particle Count



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : PTK0003770 **Received** : 06 Feb 2023  
**Lab Number** : **05759425** **Diagnosed** : 07 Feb 2023  
**Unique Number** : 10324032 **Diagnostician** : Jonathan Hester  
**Test Package** : MOB 2

**DRILLING SERVICE**  
 13230 FERGUSON LN  
 BRIDGETON, MO  
 US 63044  
 Contact: BRUCE MURPHY  
 bdmurphy@drillingserviceco.com  
 T: (314)291-1111  
 F: (314)291-1115

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)