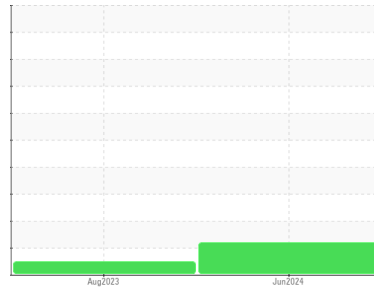




# OIL ANALYSIS REPORT

## Sample Rating Trend



ISO



Area  
**Bronx Zoo**

Machine Id  
**CONGO**

Component  
**Hydraulic System**

Fluid  
**PHILLIPS 66 Powerflow NZ AW46 (40 GAL)**

### DIAGNOSIS

#### Recommendation

No corrective action is recommended at this time. The filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

#### Wear

All component wear rates are normal.

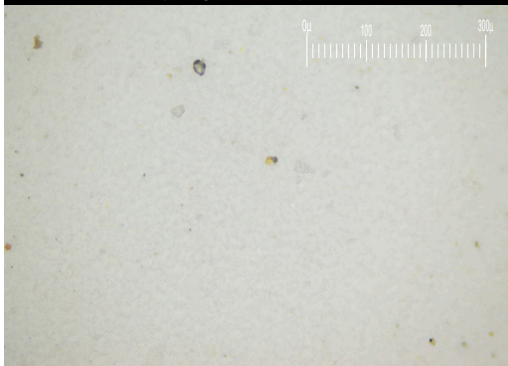
#### Contamination

There is a moderate amount of silt (particulates < 14 microns in size) present in the oil.

#### Fluid Condition

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

Particle Filter (Magn: 200 x)



### SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>PH0003487</b>	PH0000354	---
Sample Date	Client Info		<b>06 Jun 2024</b>	23 Aug 2023	---
Machine Age	mths	Client Info	<b>0</b>	0	---
Oil Age	mths	Client Info	<b>18</b>	0	---
Oil Changed	Client Info		<b>Filtered</b>	N/A	---
Sample Status			<b>ATTENTION</b>	NORMAL	---

### CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.05	<b>NEG</b>	NEG	---

### WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m	>20	<b>0</b>	<1	---
Chromium	ppm	ASTM D5185m	>20	<b>0</b>	0	---
Nickel	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	---
Titanium	ppm	ASTM D5185m		<b>0</b>	0	---
Silver	ppm	ASTM D5185m		<b>0</b>	1	---
Aluminum	ppm	ASTM D5185m	>20	<b>0</b>	0	---
Lead	ppm	ASTM D5185m	>20	<b>0</b>	<1	---
Copper	ppm	ASTM D5185m	>20	<b>0</b>	<1	---
Tin	ppm	ASTM D5185m	>20	<b>&lt;1</b>	0	---
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	---
Cadmium	ppm	ASTM D5185m		<b>0</b>	0	---

### ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m		<b>0</b>	0	---
Barium	ppm	ASTM D5185m		<b>&lt;1</b>	0	---
Molybdenum	ppm	ASTM D5185m		<b>0</b>	0	---
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	0	---
Magnesium	ppm	ASTM D5185m		<b>3</b>	3	---
Calcium	ppm	ASTM D5185m		<b>25</b>	21	---
Phosphorus	ppm	ASTM D5185m		<b>88</b>	93	---
Zinc	ppm	ASTM D5185m		<b>77</b>	74	---
Sulfur	ppm	ASTM D5185m		<b>354</b>	51	---

### CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>15	<b>2</b>	2	---
Sodium	ppm	ASTM D5185m		<b>2</b>	0	---
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	1	---

### FLUID CLEANLINESS

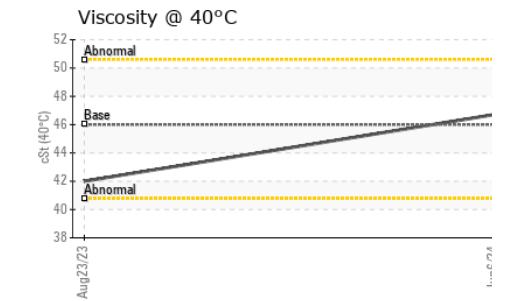
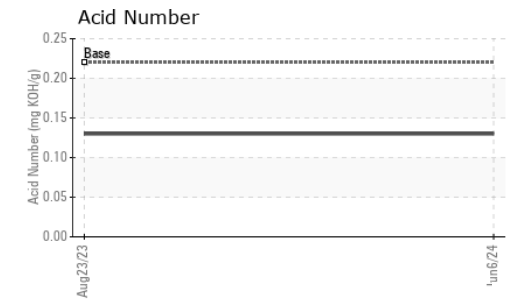
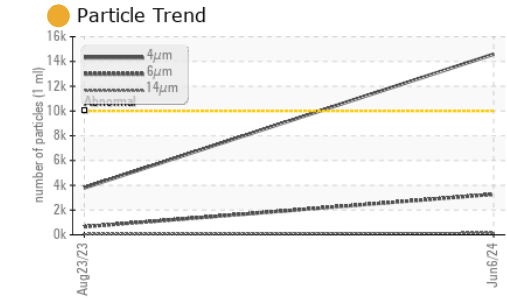
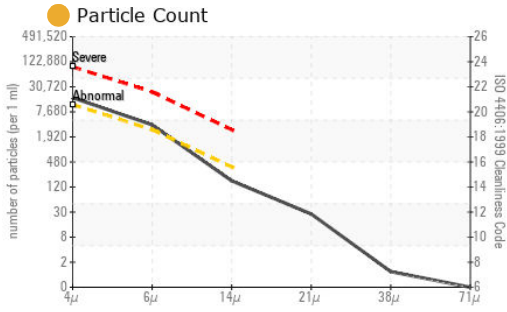
	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>10000	<b>14588</b>	3793	---
Particles >6µm	ASTM D7647	>2500	<b>3272</b>	647	---
Particles >14µm	ASTM D7647	>320	<b>149</b>	46	---
Particles >21µm	ASTM D7647	>80	<b>24</b>	11	---
Particles >38µm	ASTM D7647	>20	<b>1</b>	1	---
Particles >71µm	ASTM D7647	>4	<b>0</b>	0	---
Oil Cleanliness	ISO 4406 (c)	>20/18/15	<b>21/19/14</b>	19/17/13	---

### FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g	ASTM D8045	0.22	<b>0.13</b>	0.13	---



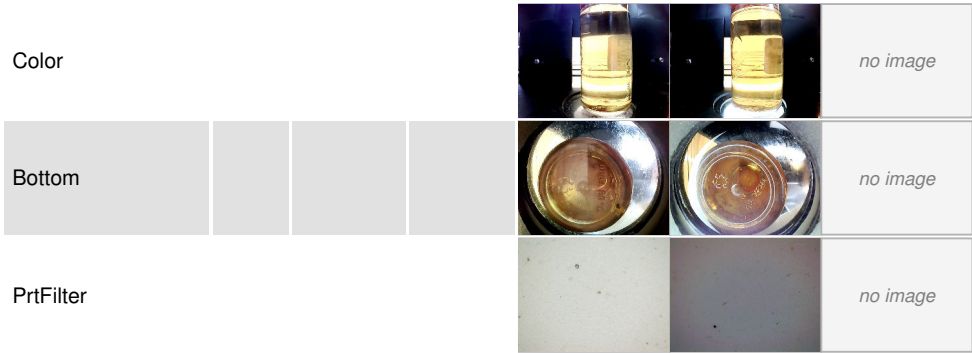
# OIL ANALYSIS REPORT



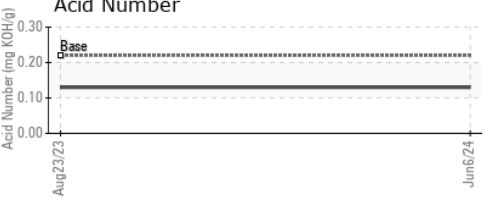
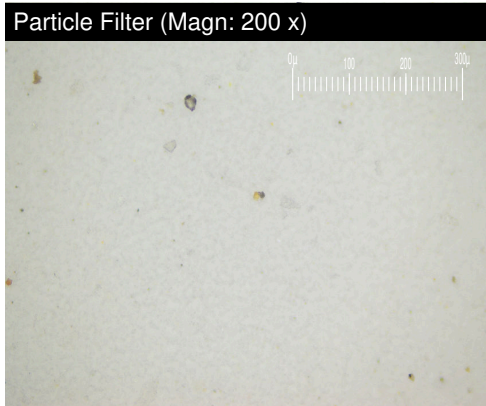
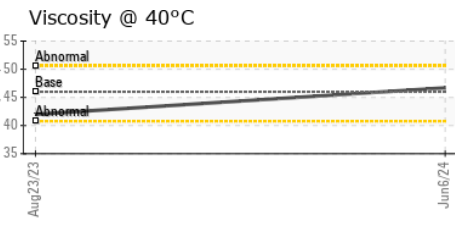
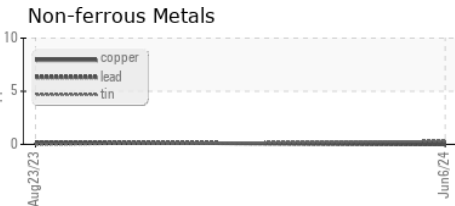
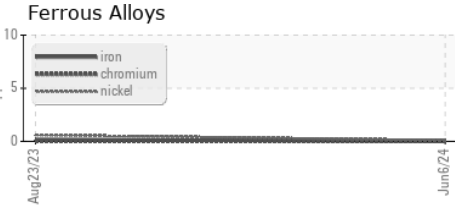
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.05	NEG	---
Free Water	scalar	*Visual		NEG	---

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445 46	<b>46.7</b>	42.0	---

SAMPLE IMAGES	method	limit/base	current	history1	history2
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## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : PH0003487      **Received** : 10 Jun 2024  
**Lab Number** : **06204566**      **Tested** : 13 Jun 2024  
**Unique Number** : 11072027      **Diagnosed** : 13 Jun 2024 - Jonathan Hester  
**Test Package** : PLANT ( Additional Tests: PrtFilter )

**PHI PROGRESSIVE HYDRAULICS INC**  
 22 AUDREY PLACE  
 FAIRFIELD, NJ  
 US 07004  
 Contact: CUSTOMER SERVICE  
 CUSTOMERSERVICE@PHIONLINE.COM

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)