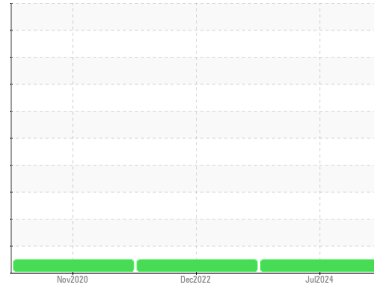




# OIL ANALYSIS REPORT

## Sample Rating Trend



**NORMAL**



Machine Id  
**TORO 4500-D ROUGH 1 (S/N 403404578)**  
 Component  
**Hydraulic System**  
 Fluid  
**TRC UTF RED (8 GAL)**

### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

#### Wear

All component wear rates are normal.

#### Contamination

The amount and size of particulates present in the system are acceptable. There is no indication of any contamination 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>TR06234895</b>	TR05718853	TR05119932
Sample Date	Client Info			<b>10 Jul 2024</b>	14 Dec 2022	18 Nov 2020
Machine Age	hrs	Client Info		<b>2643</b>	1773	775
Oil Age	hrs	Client Info		<b>1721</b>	1773	775
Oil Changed	Client Info			<b>Not Chngd</b>	Not Chngd	Not Chngd
Sample Status				<b>NORMAL</b>	NORMAL	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>6</b>	8	4
Chromium	ppm	ASTM D5185m	>10	<b>0</b>	<1	<1
Nickel	ppm	ASTM D5185m	>10	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m		<b>0</b>	0	0
Silver	ppm	ASTM D5185m		<b>&lt;1</b>	1	<1
Aluminum	ppm	ASTM D5185m	>10	<b>2</b>	3	2
Lead	ppm	ASTM D5185m	>10	<b>6</b>	8	9
Copper	ppm	ASTM D5185m	>75	<b>10</b>	9	10
Tin	ppm	ASTM D5185m	>10	<b>0</b>	<1	<1
Antimony	ppm	ASTM D5185m		<b>---</b>	---	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
Cadmium	ppm	ASTM D5185m		<b>0</b>	0	0

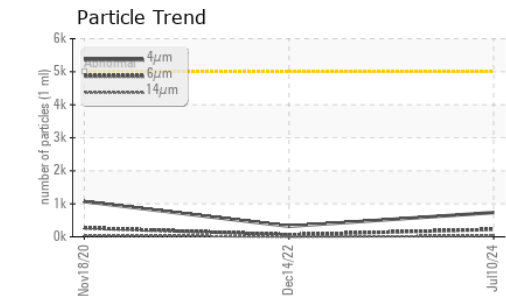
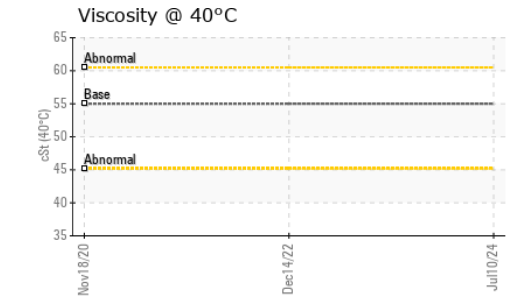
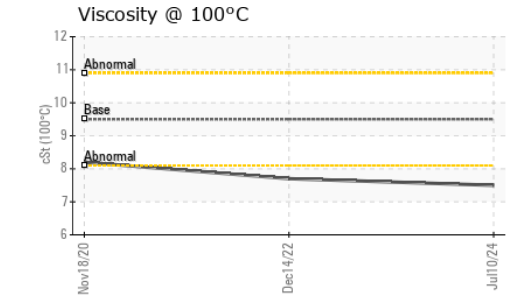
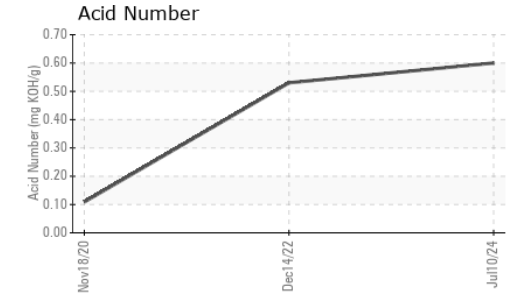
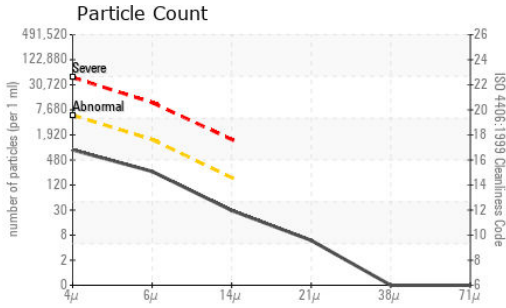
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		<b>37</b>	48	6
Barium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Molybdenum	ppm	ASTM D5185m		<b>0</b>	<1	<1
Manganese	ppm	ASTM D5185m		<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>2</b>	8	7
Calcium	ppm	ASTM D5185m	4200	<b>1557</b>	1530	313
Phosphorus	ppm	ASTM D5185m	1100	<b>802</b>	806	510
Zinc	ppm	ASTM D5185m	2000	<b>555</b>	609	120
Sulfur	ppm	ASTM D5185m		<b>3638</b>	3869	1682

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>20	<b>4</b>	4	1
Sodium	ppm	ASTM D5185m		<b>5</b>	3	2
Potassium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	0	<1

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	<b>736</b>	319	1069
Particles >6µm		ASTM D7647	>1300	<b>224</b>	62	269
Particles >14µm		ASTM D7647	>160	<b>26</b>	4	40
Particles >21µm		ASTM D7647	>40	<b>5</b>	2	15
Particles >38µm		ASTM D7647	>10	<b>0</b>	0	0
Particles >71µm		ASTM D7647	>3	<b>0</b>	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	<b>17/15/12</b>	15/13/9	17/15/12



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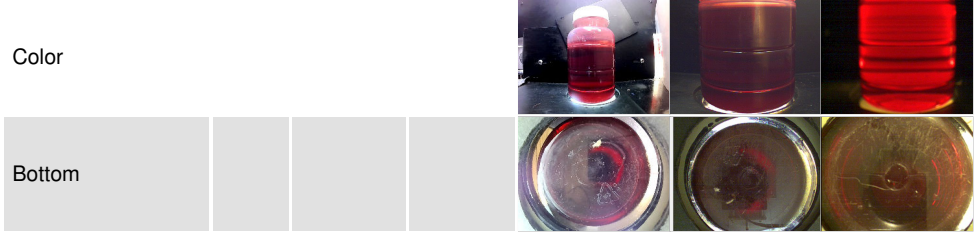


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		<b>0.60</b>	0.53	0.109

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
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>NONE</b>	NONE	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	55	<b>40.5</b>	---	---
Visc @ 100°C	cSt	ASTM D445	9.5	<b>7.5</b>	7.7	8.2
Viscosity Index (VI)	Scale	ASTM D2270	157	<b>154</b>	---	---

SAMPLE IMAGES		method	limit/base	current	history1	history2
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**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TR06234895      **Received** : 12 Jul 2024  
**Lab Number** : **06234895**      **Tested** : 15 Jul 2024  
**Unique Number** : 11123729      **Diagnosed** : 15 Jul 2024 - Don Baldrige  
**Test Package** : MOB 2 ( Additional Tests: KV100, VI )

**CITY PARK GOLF COURSE**  
 3201 E 23RD AVE  
 DENVER, CO  
 US 80205  
 Contact: COLIN MURPHY  
 Colin.murphy@denvergov.org

To discuss this sample report, contact Customer Service at 1-800-827-0711.  
 \* - 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)