

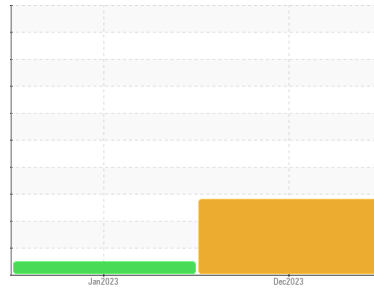
PROBLEM SUMMARY

Machine Id
5000T (OLD)

Component
Hydraulic System

Fluid
CHEVRON RANDO HDZ ISO 100 (700 GAL)

Sample Rating Trend

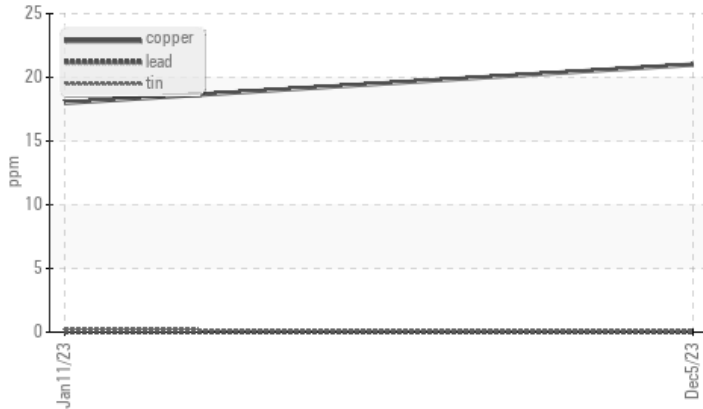


WEAR

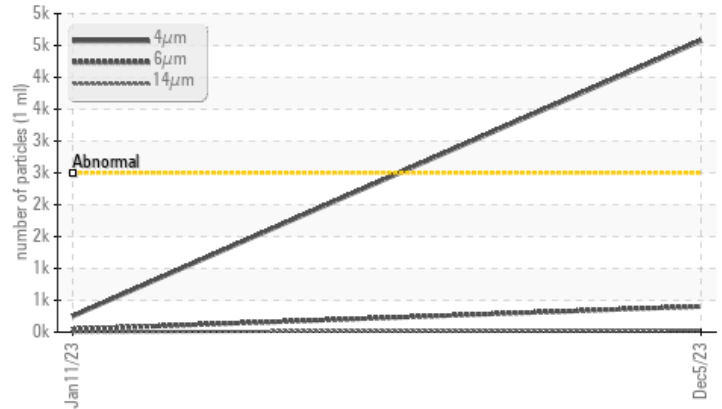


COMPONENT CONDITION SUMMARY

▲ Non-ferrous Metals



▲ Particle Trend



RECOMMENDATION

No corrective action is recommended at this time.
Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS

Sample Status				ABNORMAL	NORMAL	---
Copper	ppm	ASTM D5185m	>20	▲ 21	18	---
Particles >4µm		ASTM D7647	>2500	▲ 4575	250	---
Particles >6µm		ASTM D7647	>640	▲ 404	47	---
Particles >14µm		ASTM D7647	>20	▲ 29	4	---
Particles >21µm		ASTM D7647	>4	▲ 8	2	---
Oil Cleanliness		ISO 4406 (c)	>18/16/11	▲ 19/16/12	15/13/9	---
PrtFilter						no image

Customer Id: ELENORRI
Sample No.: OG0000016
Lab Number: 06026375
Test Package: PLANT



To manage this report scan the QR code

To discuss the diagnosis or test data:
Jonathan Hester +1 919-379-4092 x4092
jhester@wearcheckusa.com

To change component or sample information:
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

There are no recommended actions for this sample.

HISTORICAL DIAGNOSIS

11 Jan 2023 Diag: Jonathan Hester

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

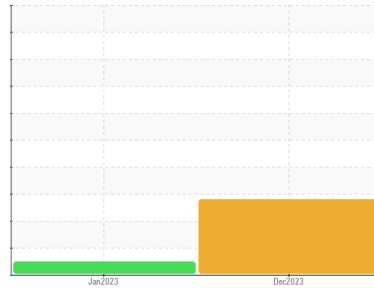
view report



Machine Id
5000T (OLD)

Component
Hydraulic System

Fluid
CHEVRON RANDO HDZ ISO 100 (700 GAL)



DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

The copper level is abnormal. All other component wear rates are normal.

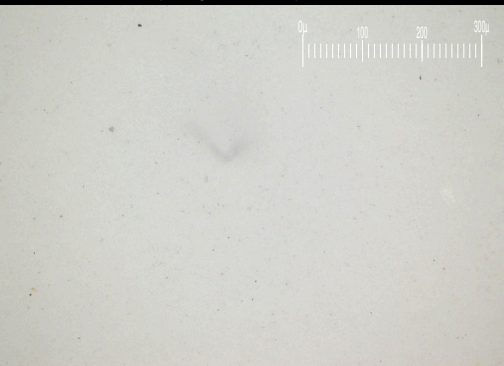
Contamination

There is a moderate 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.

Particle Filter (Magn: 200 x)



SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		OG0000016	OG0000002	---
Sample Date	Client Info		05 Dec 2023	11 Jan 2023	---
Machine Age	hrs	Client Info	0	0	---
Oil Age	hrs	Client Info	0	0	---
Oil Changed	Client Info		N/A	N/A	---
Sample Status			ABNORMAL	NORMAL	---

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m	>20	0	2	---
Chromium	ppm	ASTM D5185m	>20	0	0	---
Nickel	ppm	ASTM D5185m	>20	0	0	---
Titanium	ppm	ASTM D5185m		0	0	---
Silver	ppm	ASTM D5185m		0	0	---
Aluminum	ppm	ASTM D5185m	>20	0	<1	---
Lead	ppm	ASTM D5185m	>20	0	0	---
Copper	ppm	ASTM D5185m	>20	▲ 21	18	---
Tin	ppm	ASTM D5185m	>20	<1	<1	---
Vanadium	ppm	ASTM D5185m		0	0	---
Cadmium	ppm	ASTM D5185m		0	0	---

ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m		<1	0	---
Barium	ppm	ASTM D5185m		0	0	---
Molybdenum	ppm	ASTM D5185m		0	<1	---
Manganese	ppm	ASTM D5185m		<1	0	---
Magnesium	ppm	ASTM D5185m		12	15	---
Calcium	ppm	ASTM D5185m		54	54	---
Phosphorus	ppm	ASTM D5185m		329	359	---
Zinc	ppm	ASTM D5185m		413	438	---
Sulfur	ppm	ASTM D5185m		1454	1544	---

CONTAMINANTS

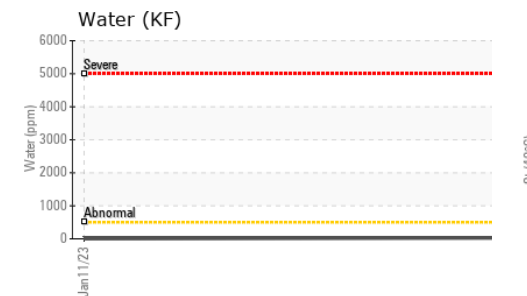
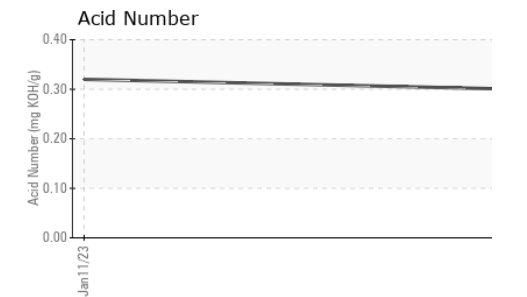
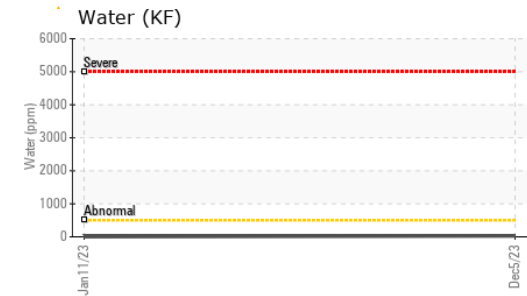
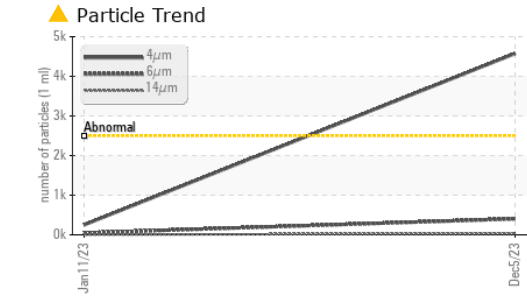
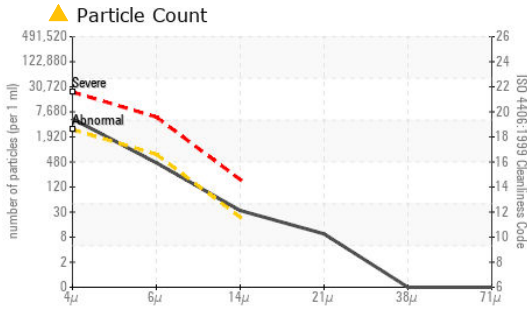
	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>15	<1	<1	---
Sodium	ppm	ASTM D5185m		2	2	---
Potassium	ppm	ASTM D5185m	>20	0	0	---
Water	%	ASTM D6304	>0.05	0.002	0.001	---
ppm Water	ppm	ASTM D6304	>500	25	2.6	---

FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>2500	▲ 4575	250	---
Particles >6µm	ASTM D7647	>640	▲ 404	47	---
Particles >14µm	ASTM D7647	>20	▲ 29	4	---
Particles >21µm	ASTM D7647	>4	▲ 8	2	---
Particles >38µm	ASTM D7647	>3	0	0	---
Particles >71µm	ASTM D7647	>3	0	0	---
Oil Cleanliness	ISO 4406 (c)	>18/16/11	▲ 19/16/12	15/13/9	---

FLUID DEGRADATION

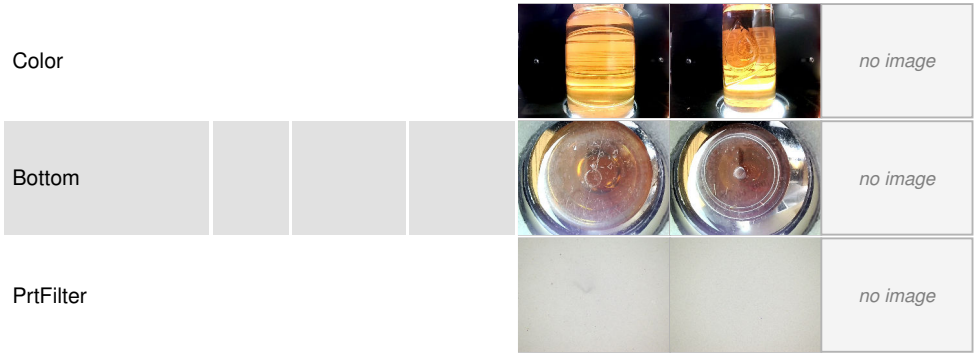
	method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g	ASTM D8045		0.30	0.32	---



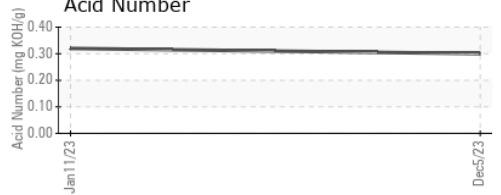
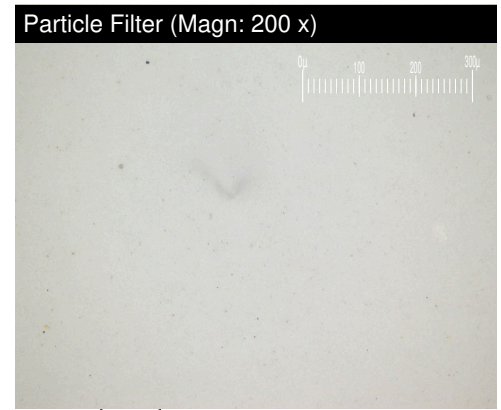
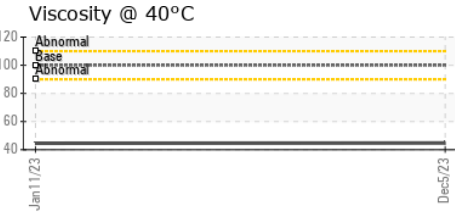
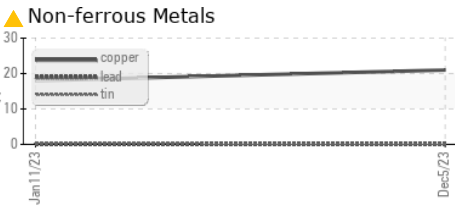
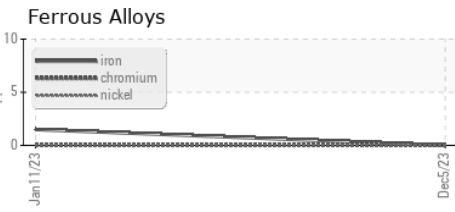
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar	*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	100	44.8	44.6

SAMPLE IMAGES	method	limit/base	current	history1	history2
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GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : OG0000016 **Received** : 06 Dec 2023
Lab Number : 06026375 **Diagnosed** : 07 Dec 2023
Unique Number : 10776166 **Diagnostician** : Jonathan Hester
Test Package : PLANT (Additional Tests: PrtFilter)

ELECTRIC BOAT
 165 DILLABUR AVE
 NORTH KINGSTOWN, RI
 US 02852
 Contact: Service Manager

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)

T:
F: