

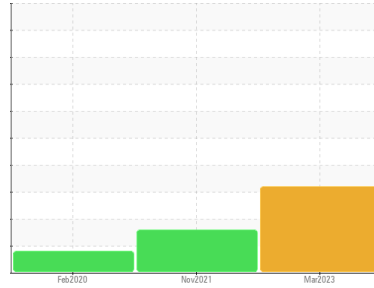
# PROBLEM SUMMARY

Sample Rating Trend

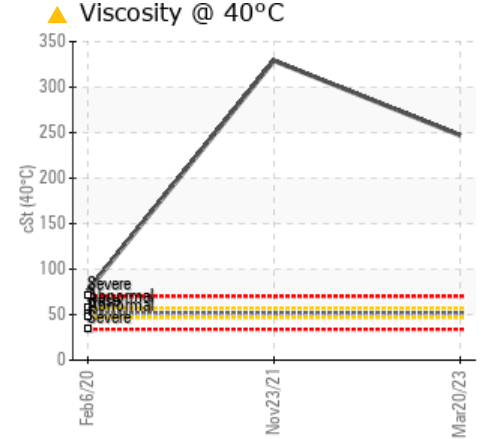
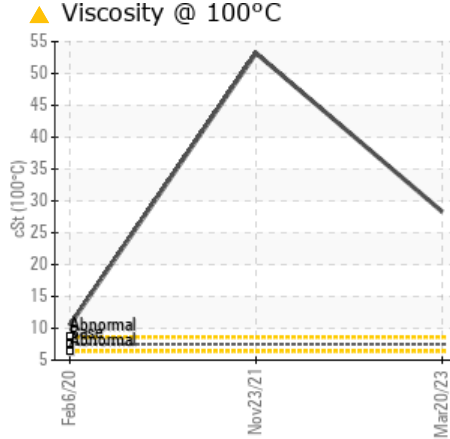
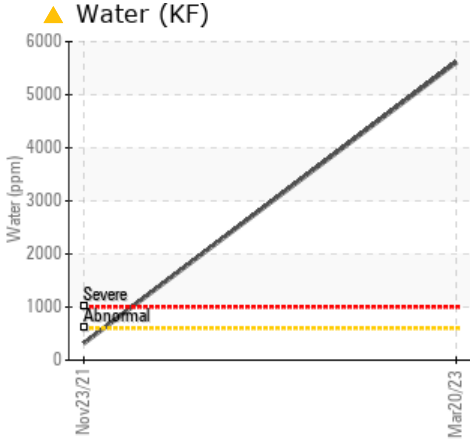
**WATER**



Machine Id  
**WEBSTER ALPHA RAIL HOT OIL HEATER (S/N 118734A-01)**  
Component  
**Heat Transfer Fluid**  
Fluid  
**TULCO LUBSOIL HEAT TRANSFER 250 (--- GAL)**



## COMPONENT CONDITION SUMMARY



## RECOMMENDATION

We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. Resample at the next service interval to monitor. We were unable to perform a particle count due to a high concentration of particles present in this sample.

## PROBLEMATIC TEST RESULTS

Sample Status				<b>ABNORMAL</b>	ABNORMAL	ATTENTION
Water	%	ASTM D6304	>0.0601	<b>▲ 0.561</b>	0.031	---
ppm Water	ppm	ASTM D6304	>601	<b>▲ 5610</b>	318.9	---
Silt	scalar	*Visual	NONE	<b>▲ HEAVY</b>	▲ HEAVY	NONE
Visc @ 40°C	cSt	ASTM D445	52	<b>▲ 247</b>	▲ 329	▲ 76.3
Visc @ 100°C	cSt	ASTM D445	7.5	<b>▲ 28.3</b>	▲ 53.2	▲ 10.5

Customer Id: BLUMUSOK  
Sample No.: TO10001843  
Lab Number: 05837746  
Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:  
Doug Bogart +1 (800)237-1369 x4016  
[dougb@wearcheckusa.com](mailto:dougb@wearcheckusa.com)

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

## RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Filter	---	---	?	We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid.
Alert	---	---	?	We were unable to perform a particle count due to a high concentration of particles present in this sample.
Filter Fluid	---	---	?	We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid.

## HISTORICAL DIAGNOSIS

**06 Feb 2020 Diag: Doug Bogart**

### VISCOSITY



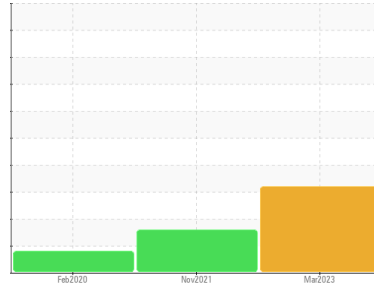
Resample at the next service interval to monitor. Please note that this is a corrected copy for data entry updates. All component wear rates are normal. There is no indication of any contamination in the oil. The oil viscosity is higher than normal. The AN level is acceptable for this fluid.

view report



# OIL ANALYSIS REPORT

Sample Rating Trend



**WATER**



Machine Id  
**WEBSTER ALPHA RAIL HOT OIL HEATER (S/N 118734A-01)**  
Component  
**Heat Transfer Fluid**  
Fluid  
**TULCO LUBSOIL HEAT TRANSFER 250 (--- GAL)**

**DIAGNOSIS**

**▲ Recommendation**

We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. Resample at the next service interval to monitor. We were unable to perform a particle count due to a high concentration of particles present in this sample.

**Wear**

All component wear rates are normal.

**▲ Contamination**

There is a high amount of visible silt present in the sample. There is a moderate concentration of water present in the fluid.

**▲ Fluid Condition**

An increase in the AN level is noted. The AN level is acceptable for this fluid.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			<b>TO10001843</b>	TO10000668	TO1002082
Sample Date	Client Info			<b>20 Mar 2023</b>	23 Nov 2021	06 Feb 2020
Machine Age	hrs	Client Info		<b>0</b>	0	0
Oil Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed	Client Info			<b>N/A</b>	N/A	N/A
Sample Status				<b>ABNORMAL</b>	ABNORMAL	ATTENTION

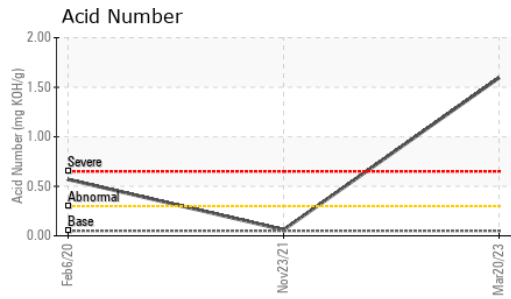
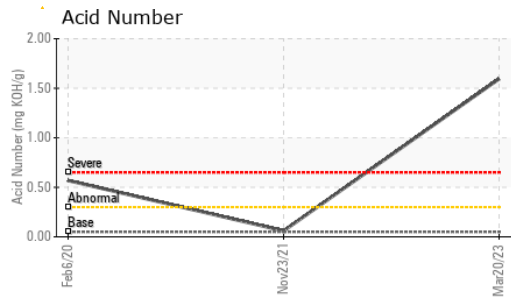
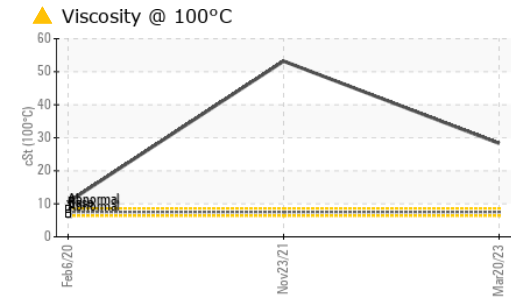
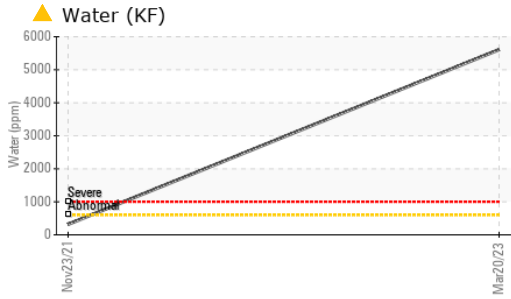
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>200	<b>160</b>	167	60
Chromium	ppm	ASTM D5185m	>21	<b>0</b>	<1	0
Nickel	ppm	ASTM D5185m	>21	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m	>21	<b>0</b>	0	0
Silver	ppm	ASTM D5185m	>21	<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185m	>21	<b>&lt;1</b>	<1	1
Lead	ppm	ASTM D5185m	>21	<b>0</b>	0	<1
Copper	ppm	ASTM D5185m	>21	<b>0</b>	0	0
Tin	ppm	ASTM D5185m	>21	<b>1</b>	<1	<1
Antimony	ppm	ASTM D5185m	>21	<b>---</b>	0	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>0</b>	0	0
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>0</b>	0	0
Manganese	ppm	ASTM D5185m		<b>2</b>	1	<1
Magnesium	ppm	ASTM D5185m		<b>4</b>	0	<1
Calcium	ppm	ASTM D5185m		<b>2</b>	3	7
Phosphorus	ppm	ASTM D5185m		<b>4</b>	44	5
Zinc	ppm	ASTM D5185m		<b>0</b>	0	4
Sulfur	ppm	ASTM D5185m	1400	<b>455</b>	652	997

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	<b>1</b>	2	3
Sodium	ppm	ASTM D5185m	>21	<b>2</b>	1	3
Potassium	ppm	ASTM D5185m	>20	<b>1</b>	0	<1
Water	%	ASTM D6304	>0.0601	<b>▲ 0.561</b>	0.031	---
ppm Water	ppm	ASTM D6304	>601	<b>▲ 5610</b>	318.9	---

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.05	<b>1.595</b>	0.06	0.569

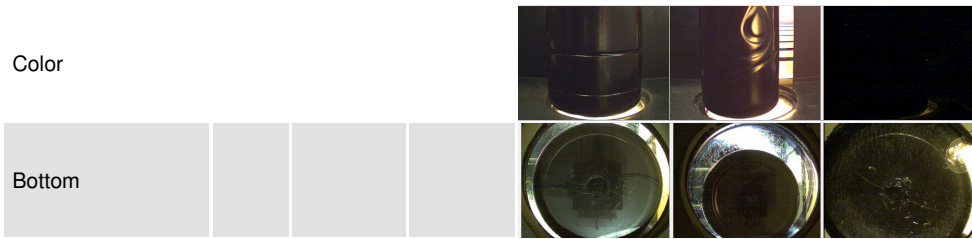
# OIL ANALYSIS REPORT



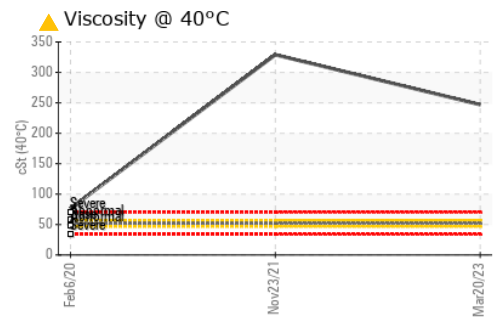
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	▲ HEAVY	▲ HEAVY
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.0601	0.2%	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	52	▲ 247	▲ 329
Visc @ 100°C	cSt	ASTM D445	7.5	▲ 28.3	▲ 53.2
Viscosity Index (VI)	Scale	ASTM D2270	106	150	228

**SAMPLE IMAGES**



**GRAPHS**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TO10001843  
**Lab Number** : 05837746  
**Unique Number** : 10456549  
**Test Package** : IND 2 ( Additional Tests: KF, KV100, PrtCount, VI )

**ERGON - CALLERY - ALPHA - BETA - DELTA**  
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 MUSKOGEE, OK  
 US 74403  
 Contact: COLE HOWELL  
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 T:  
 F: (918)683-6061

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)