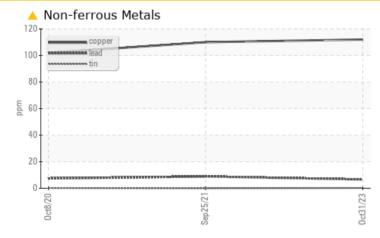


## **PROBLEM SUMMARY**

# SUTPHEN TOWER 83

Hydraulic System Fluid NOT GIVEN (--- GAL)

## COMPONENT CONDITION SUMMARY



## RECOMMENDATION

No corrective action is recommended at this time. We recommend an early resample to monitor this condition. Please specify the brand, type, and viscosity of the oil on your next sample.

PROBLEMATIC TEST RESULTS							
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL	
Copper	ppm	ASTM D5185m	>75	<u> </u>	<b>1</b> 10	<u> </u>	

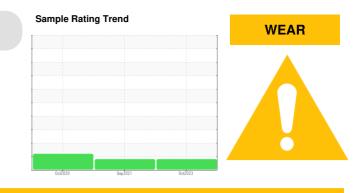
### Customer Id: BRIBRIIN Sample No.: WC0863883 Lab Number: 06017636 Test Package: FLEET



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 <u>customerservice@wearcheck.com</u>



RECOMMENDED ACTIONS						
Action	Status	Date	Done By	Description		
Resample			?	We recommend an early resample to monitor this condition.		
Information Required			?	Please specify the brand, type, and viscosity of the oil on your next sample.		

## HISTORICAL DIAGNOSIS



## 25 Sep 2021 Diag: Jonathan Hester

No corrective action is recommended at this time. We recommend an early resample to monitor this condition. The copper level is abnormal. All other component wear rates are normal. There is no indication of any contamination in the oil. The condition of the oil is acceptable for the time in service.



#### 08 Oct 2020 Diag: Don Baldridge



We recommend you service the filters on this component. Resample at the next service interval to monitor. The copper level is abnormal. All other component wear rates are normal. Moderate concentration of visible dirt/debris present in the oil. The condition of the oil is acceptable for the time in service.





## **OIL ANALYSIS REPORT**

Sample Rating Trend

WEAR

# SUTPHEN TOWER 83

Hydraulic System Fluid NOT GIVEN (--- GAL)

## DIAGNOSIS

## Recommendation

No corrective action is recommended at this time. We recommend an early resample to monitor this condition. Please specify the brand, type, and viscosity of the oil on your next sample.

## 🔺 Wear

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

### Contamination

There is no indication of any contamination in the oil.

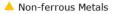
## Fluid Condition

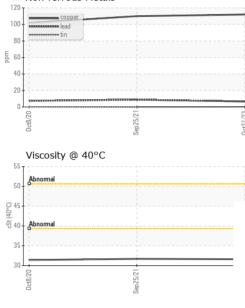
The condition of the oil is acceptable for the time in service.

		-				
		Oct	2020	Sep2021 Oct20	023	
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0863883	WC0609684	WC0499480
Sample Date		Client Info		31 Oct 2023	25 Sep 2021	08 Oct 2020
Machine Age	hrs	Client Info		1233	1098	0
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	N/A	Not Changd
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL
CONTAMINATIO	N	method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
ron	ppm	ASTM D5185m	>20	3	6	6
Chromium	ppm	ASTM D5185m	>10	0	0	<1
Nickel	ppm	ASTM D5185m	>10	<1	0	0
Titanium	ppm	ASTM D5185m		0	<1	<1
Silver	ppm	ASTM D5185m		0	0	<1
Aluminum	ppm	ASTM D5185m	>10	<1	<1	<1
ead	ppm	ASTM D5185m	>10	7	9	7
Copper	ppm	ASTM D5185m	>75	<u> </u>	<b>1</b> 10	<b>1</b> 02
īin	ppm	ASTM D5185m	>10	<1	0	<1
Antimony	ppm	ASTM D5185m			0	0
/anadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		7	7	7
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		55	58	65
501011	ppm					
	ppm	ASTM D5185m		79	85	75
Barium				79 0	85 0	75 <1
Barium Molybdenum	ppm	ASTM D5185m		-	0 <1	<1 <1
Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m		0	0	<1 <1 10
Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 <1 11 453	0 <1 10 543	<1 <1 10 472
Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 <1 11 453 327	0 <1 10 543 332	<1 <1 10 472 315
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 <1 11 453 327 224	0 <1 10 543 332 237	<1 <1 10 472 315 240
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 <1 11 453 327	0 <1 10 543 332	<1 <1 10 472 315
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 <1 11 453 327 224	0 <1 10 543 332 237	<1 <1 10 472 315 240
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base >20	0 <1 11 453 327 224 1550	0 <1 10 543 332 237 2225	<1 <1 10 472 315 240 1355
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 <1 11 453 327 224 1550 current	0 <1 10 543 332 237 2225 history1	<1 <1 10 472 315 240 1355 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 <1 11 453 327 224 1550 current 3	0 <1 10 543 332 237 2225 history1 4	<1 <1 10 472 315 240 1355 history2 3
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Soulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m ASTM D5185m	>20	0 <1 11 453 327 224 1550 current 3 4	0 <1 10 543 332 237 2225 history1 4 3	<1 <1 10 472 315 240 1355 history2 3 3 3
Barium Aolybdenum Aanganese Aagnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	>20 >20	0 <1 11 453 327 224 1550 current 3 4 2	0 <1 10 543 332 237 2225 history1 4 3 3	<1 <1 10 472 315 240 1355 history2 3 3 3 0
Barium Aolybdenum Aanganese Aagnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	>20 >20 limit/base	0 <1 11 453 327 224 1550 current 3 4 2 2 current	0 <1 10 543 332 237 2225 history1 4 3 3 3 history1	<1 <1 10 472 315 240 1355 history2 3 3 3 0 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal (ellow Metal Precipitate	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m Yisual	>20 >20 limit/base NONE	0 <1 11 453 327 224 1550 current 3 4 2 2 current NONE NONE NONE	0 <1 10 543 332 237 2225 history1 4 3 3 3 history1 NONE	<1 <1 <1 10 472 315 240 1355 history2 3 3 3 0 history2 NONE NONE NONE NONE
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal (ellow Metal Precipitate	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m Yisual	>20 >20 limit/base NONE NONE	0 <1 11 453 327 224 1550 current 3 4 2 2 current NONE NONE	0 <1 10 543 332 237 2225 history1 4 3 3 3 history1 NONE NONE NONE NONE NONE	<1 <1 10 472 315 240 1355 history2 3 3 0 history2 NONE NONE NONE
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Soulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal Vellow Metal Precipitate Sili Debris	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m *Visual *Visual *Visual *Visual *Visual	>20 >20 limit/base NONE NONE NONE NONE NONE	0 <1 11 453 327 224 1550 current 3 4 2 2 current NONE NONE NONE NONE NONE NONE	0 <1 10 543 332 237 2225 history1 4 3 3 history1 NONE NONE NONE NONE NONE NONE	<1 <ul> <li>&lt;1</li> <li>&lt;1</li> <li>10</li> <li>472</li> <li>315</li> <li>240</li> <li>1355</li> <li>history2</li> <li>3</li> <li>3</li> <li>0</li> <li>history2</li> <li>NONE</li> <li>MODER</li> </ul>
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Soulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m Yisual *Visual *Visual *Visual *Visual *Visual	>20 >20 limit/base NONE NONE NONE NONE NONE	0 <1 11 453 327 224 1550 current 3 4 2 2 current NONE NONE NONE NONE NONE NONE NONE NON	0 <1 10 543 332 237 2225 history1 4 3 3 history1 NONE NONE NONE NONE NONE NONE NONE	<1 <li>&lt;1 </li> <li>&lt;1 </li> <li>472 </li> <li>315 </li> <li>240 </li> <li>1355 </li> <li>history2 </li> <li>3 </li> <li>3 </li> <li>0 </li> <li>history2 </li> <li>NONE </li>
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual	>20 >20 limit/base NONE NONE NONE NONE NONE NONE NONE NONE	0 <1 11 453 327 224 1550 current 3 4 2 2 current NONE NONE NONE NONE NONE NONE NONE NON	0 <1 10 543 332 237 2225 history1 4 3 3 history1 NONE NONE NONE NONE LIGHT NONE LIGHT NONE NONE	<1 <1 10 472 315 240 1355 history2 3 3 3 0 history2 NONE NONE NONE NONE NONE NONE NONE NON
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal Precipitate Silt Debris Sand/Dirt Appearance Odor	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual	>20 >20 limit/base NONE NONE NONE NONE NONE NONE NONE NONE NONE	0 <1 11 453 327 224 1550 current 3 4 2 2 current NONE NONE NONE NONE NONE NONE NONE NON	0 <1 10 543 332 237 2225 history1 4 3 3 history1 NONE NONE NONE NONE LIGHT NONE LIGHT NONE NONE NONE	<1 <1 10 472 315 240 1355 history2 3 3 0 history2 NONE NONE NONE NONE NONE NONE NONE NON
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual	>20 >20 limit/base NONE NONE NONE NONE NONE NONE NONE NONE	0 <1 11 453 327 224 1550 current 3 4 2 2 current NONE NONE NONE NONE NONE NONE NONE NON	0 <1 10 543 332 237 2225 history1 4 3 3 history1 NONE NONE NONE NONE LIGHT NONE LIGHT NONE NONE	<1 <1 10 472 315 240 1355 bistory2 3 3 0 bistory2 NONE NONE NONE NONE NONE NONE NONE NON



## **OIL ANALYSIS REPORT**





bpm

1

bpm

cSt (40°C)

Laboratory Sample No.

FLUID PROPERTIES	s metho	d limit/base	current	history1	history2
Visc @ 40°C cS	St ASTM D	445	31.6	31.7	31.4
SAMPLE IMAGES	metho	d limit/base	current	history1	history2
Color			no image	no image	no image
Bottom			no image	no image	no image
GRAPHS					
Ferrous Alloys					
9 - iron					
8 minimum nickel					
6-	<u> </u>				
5-					
4					
2-					
0ct8/20	17/07	0ct31/23			
00	och o	0ct3			
▲ Non-ferrous Metals					
copper					
00 - Dessessesses lead					
80 -					
60 -					
40 +					
20					
0	**************************************				
0ct8/20	7/07d	0ct31/23			
Viscosity @ 40°C	0	00			
VISCOSILY @ 40°C					
50					
48					
44 -					
42					
10 - Abnormal 38 -					
36 -					
34 -					
32					
0ct8/20	. 17/07	0ct31/23			
00	dao	Oct			
: WearCheck USA - 501	Madicon Ave	Carly NC 0751	3	PDICT	OL FIRE DEPT
: WC0863883 <b>Rec</b>		, Cary, NC 2751 24 Nov 2023	J		E ELKHART ST
		29 Nov 2023			BRISTOL, IN



Lab Number Unique Number : 10756780 Diagnostician : Jonathan Hester Test Package : FLEET Contact: N JAKANTZ NJAKANTZ@GMAIL.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. T: (574)848-4155 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Report Id: BRIBRIIN [WUSCAR] 06017636 (Generated: 11/29/2023 22:20:58) Rev: 1

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Contact/Location: N JAKANTZ - BRIBRIIN

US 46507

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