**WEAR CONTAMINATION FLUID CONDITION** 

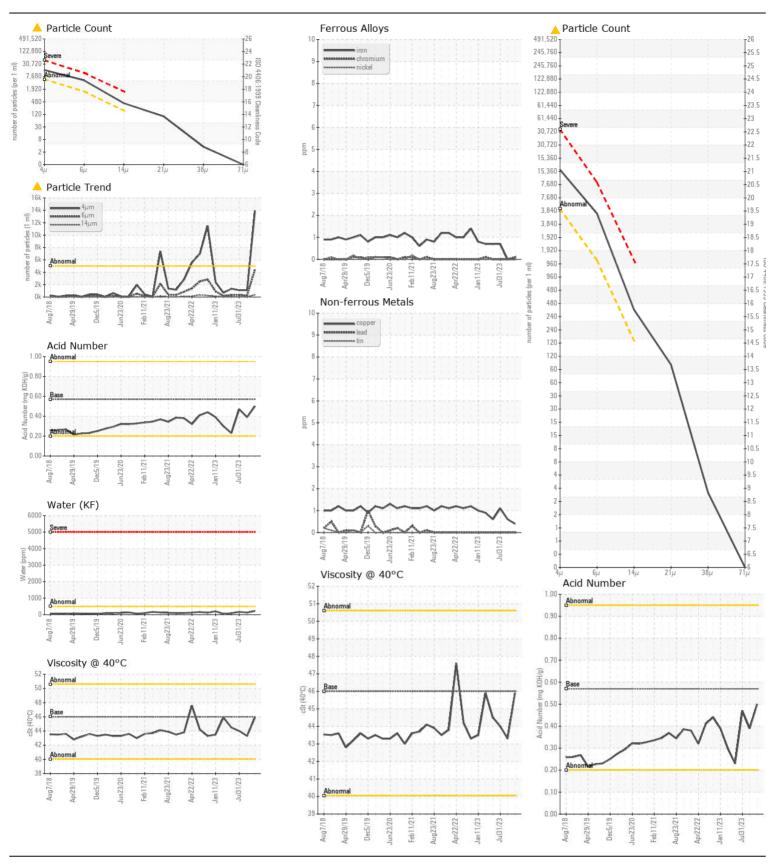
**NORMAL ABNORMAL NORMAL** 

CTL64.1 - HYDRAULIC

CTL 64 EMERGENCY HYD UNIT (S/N 16-5300-0405)

Component Hydraulic System

Little or no information is provided as to the component and lubricant being tested. Recommendations are therefore generic in nature and may not apply to the current application. Please flowmar information as to equipment type, reservoir capacity, lubricant type and any pertinent information to allow for a confident flower of the current application. Please davise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. We recommend an early resample to monitor this condition. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. Please specify the brand, type, and viscosity of the oil on your next sample.    WEAR	AW HYDRAULIC OIL ISO 46 ( QTS)					.,		
Little or no information is provided as to the component and lubricant being steaded. Recommendations are therefore generic in nature and may not apply to the current application. Please florward information as to equipment type, reservoir capacity, lubricant type and uniform 30 to 10 to 10 control and an early resample to monitor this condition. NOTE: Please provide information to allow for a more accurate assessment. We divise that you perform at filter service, and use any resumption of the provided provided in the provided provided in the provided provided that the contamination of the provided provided that the contamination of the provided that the contamination of the provided that the contaminant(s) can be reduced to acceptable levels.    Sample Date	RECOMMENDATION		UOM		Limit/Abn			History2
Statistic December   Commendations are therefore generic in nature and may not apply to the current application. Please froward information as to allow for a more accurate assessment. We advise that you perform a filter service, and use of line lititation to improve the clearliness of the system fluid. We recommend an endry resamptic to monitor this condition. NOTE: Please period in monitor manufacture. Note: Please period in the load on your rest sample.    WEAR	Little or no information is provided as to the component and lubricant being							
VEAR   All component wear rates are normal.   Oi   Age   hrs   Client Info   Oi   Oi   Oi   Oi   Oi   Oi   Oi   O	tested. Recommendations are therefore generic in nature and may not apply to the current application. Please forward information as to equipment type, reservoir capacity, lubricant type and any pertinent information to allow for a more accurate assessment. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. We recommend an early resample to monitor this condition. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.		laua					
Filter Age		•					1	
off-line filtration to improve the cleanliness of the system fluid. We recommend an early resample to monitor this condition. NOTE: Please specify information regarding reservoir capacity, filter type and micror rating with next sample.         Oil Changed Filter Changed Sample Status         Client Info         N/A         N/								
Filter Changed   Client Info   N/A		•	IIIS				1	
Please specify the brand, type, and viscosity of the oil on your next sample.   Sample Status								
All component wear rates are normal.    Chromium   ppm   ASTM D5185m   >20				Ciletit IIIIO				NORMAL
All component wear rates are normal.	WEAR	Iron	ppm	ASTM D5185m	>20	0	0	<1
Titanium   ppm   ASTM D5185m   0	All component wear rates are normal.		ppm				1	
Silver   ppm   ASTM D5185m   20		Nickel	ppm		>20			
Aluminum   ppm   ASTM DS185m   >20   1   0   <1			ppm				1	
Lead   ppm   ASTM D5185m   >20   0   0   0   0   0   0   0   0   0			ppm					
Copper   ppm   ASTM D5185m   >20   <1   <1   1   1   1   1   1   1   1			ppm					
Tin								
Vanadium   ppm   ASTM D5185m   NONE							1	
White Metal Yellow Metal   Scalar   *Visual   NONE NONE   NONE NONE   NONE NONE   NONE NONE					>20			
Yellow Metal   scalar   *Visual   NONE						-		
CONTAMINATION								NONE
Potassium   ppm   ASTM D5185m   > 20   <1   0   <1		Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Potassium   ppm   ASTM D5185m   > 20   <1   0   <1	There is a moderate amount of particulates (2 to 100 microns in size)	Silicon	maa	ASTM D5185m	>15	0	<1	<1
Water   9%   ASTM D6304   > 0.05   0.022   0.011   0.017								
pm Water ppm Water ppm ASTM D6304 >500 226 118.2 173.4 110 1107		Water					0.011	0.017
Particles >6 μm		ppm Water	ppm			226	118.2	173.4
Particles > 14µm		Particles >4µm		ASTM D7647	>5000	<b>13924</b>	1110	1107
Particles > 21 μm		Particles >6µm		ASTM D7647	>1300	<b>4434</b>	218	335
Particles >38μm   ASTM D7647 >10   3   0   0     Particles >71μm   ASTM D7647 >3   0   0   0     Particles >71μm   ASTM D7647 >3   0   0   0     Oil Cleanliness   ISO 4406 (c)   >19/17/14   ≥1/19/16   17/15/10   17/16     Silt   scalar   *Visual   NONE   NO		Particles >14µm		ASTM D7647	>160	<b>4</b> 358	7	24
Particles >71µm		Particles >21µm		ASTM D7647	>40	<b>4</b> 85	1	6
Oil Cleanliness   ISO 4406 (c)   >19/17/14   ▲ 21/19/16   17/15/10   17/16		Particles >38µm		ASTM D7647	>10	3	0	0
Silt scalar *Visual NONE NONE NONE NONE NONE NONE NONE NON		Particles >71µm		ASTM D7647	>3	0	0	0
Debris scalar *Visual NONE NONE NONE NONE Sand/Dirt scalar *Visual NONE Sand/Dirt scalar *Visual NONE NONE NONE NONE NONE NONE NONE NON		Oil Cleanliness		ISO 4406 (c)	>19/17/14	<u> </u>	17/15/10	17/16/12
Sand/Dirt scalar *Visual NONE NONE NONE NONE Appearance scalar *Visual NORML N		Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance scalar *Visual NORML NORM		Debris	scalar	*Visual	NONE	NONE	NONE	NONE
The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.  Odor scalar *Visual NORML NORML NORML *Visual >0.05 NEG		Sand/Dirt	scalar	*Visual			NONE	NONE
Emulsified Water scalar *Visual >0.05 NEG NEG NEG  FLUID CONDITION  Sodium ppm ASTM D5185m 0 5 4  Boron ppm ASTM D5185m 5 0 0 0  Barium ppm ASTM D5185m 5 2 0 0  Molybdenum ppm ASTM D5185m 5 0 0 0								NORML
FLUID CONDITION  Sodium ppm ASTM D5185m 0 5 4  Boron ppm ASTM D5185m 5 0 0 0  Provided that the contaminant(s) can be reduced to acceptable levels.  Sodium ppm ASTM D5185m 5 0 0 0  Barium ppm ASTM D5185m 5 2 0 0  Molybdenum ppm ASTM D5185m 5 0 <1 0							1	NORML
The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.  Boron ppm ASTM D5185m 5 0 0 0 0  Barium ppm ASTM D5185m 5 2 0 0 0  Molybdenum ppm ASTM D5185m 5 0 0 0		Emulsified Water	scalar	*Visual	>0.05	NEG	NEG	NEG
The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.  Boron ppm ASTM D5185m 5 0 0 0 0  Barium ppm ASTM D5185m 5 2 0 0 0  Molybdenum ppm ASTM D5185m 5 0 0 0	FI LIID CONDITION	Sodium	maa	ASTM D5185m		0	5	4
The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.  Barium ppm ASTM D5185m 5 2 0 0 0  Molybdenum ppm ASTM D5185m 5 5 0 <1 0	TEGID CONDITION				5			
provided that the contaminant(s) can be reduced to acceptable levels.  Molybdenum   ppm   ASTM D5185m   5   0   <1   0							1	
		-					1	
Magnesium ppm ASTM D5185m 25 2 0 3					25			
Calcium         ppm         ASTM D5185m         200         28         40         54		•				28	40	54
Phosphorus ppm ASTM D5185m 300 173 308 348		Phosphorus		ASTM D5185m	300		308	348
<b>Zinc</b> ppm ASTM D5185m 370 <b>206</b> 367 401			ppm			206	367	401
Acid Number (AN)         mg KOH/g         ASTM D8045         0.57         0.50         0.39         0.47		Acid Number (AN)	mg KOH/g	ASTM D8045	0.57	0.50	0.39	0.47
Visc @ 40°C cSt ASTM D445 46 45.9 43.3 44.0		Visc @ 40°C	cSt	ASTM D445	46	45.9	43.3	44.0





Certificate L2367

Laboratory Sample No. Lab Number

: RP0039085 : 06089546 Unique Number: 10876991 Test Package : IND 2

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : 14 Feb 2024 Received **Tested** : 15 Feb 2024

: 15 Feb 2024 - Wes Davis Diagnosed

CALVERT, AL US 36513 Contact: MARIO JOHNSON

**OUTOKUMPU STAINLESS USA** 

Mario.johnson@outokumpu.com T: (251)321-4105

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)

F: x:

**HWY 43 N**