

## **OIL ANALYSIS REPORT**



Machine Id 041224C-13 Component Fluid

{not provided} (--- QTS)

 $\Lambda$	GN	$\sim$	 L SI

## Recommendation

This is a baseline read-out on the submitted sample.

Sample Number   Client Info   WC06155464         Sample Date   Client Info   12 Apr 2024         Machine Age   hrs   Client Info   0         Oil Age   hrs   Client Info   0         Oil Age   hrs   Client Info   0         Oil Changed   Client Info   N/A         Sample Status   NORMAL         CONTAMINATION   method   limit/base   current   history1   history1     Water   WC Method   NEG         WEAR METALS   method   limit/base   current   history1   history1     Iron   ppm   ASTM D5185m   30         Chromium   ppm   ASTM D5185m   41         Titanium   ppm   ASTM D5185m   0         Silver   ppm   ASTM D5185m   0         Aluminum   ppm   ASTM D5185m   0         Aluminum   ppm   ASTM D5185m   0         Lead   ppm   ASTM D5185m   0         Copper   ppm   ASTM D5185m   0         Copper   ppm   ASTM D5185m   0         Cadmium   ppm   ASTM D5185m   0         ASTM D5185m   0         ADDITIVES   method   limit/base   current   history1   history1     ADDITIVES   method   limit/base   current   history1   history1     ASTM D5185m   0         ASTM D5185m   0         ADDITIVES   method   limit/base   current   history1   history1     ASTM D5185m   0         A					Apr2024		
Sample Date	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Date         Client Info         12 Apr 2024             Machine Age         hrs         Client Info         0             Oil Age         hrs         Client Info         0             Oil Changed         Client Info         NVA             Sample Status         NORMAL             CONTAMINATION         method         limit/base         current         history1         history1           Water         WC Method         NEG             WEAR METALS         method         limit/base         current         history1         history1           Iron         ppm         ASTM D5185m         30             WEAR METALS         method         limit/base         current         history1         history1           Water         WC Method         NEG              WEAR METALS         method         limit/base         current         history1         history1           Water         WC Method         NEG              WEAR	Sample Number		Client Info		WC06155464		
Machine Age         hrs         Client Info         0			Client Info		12 Apr 2024		
Oil Age         hrs         Client Info         N/A	•	hrs			-		
Oil Changed Sample Status         Client Info         N/A		hrs	Client Info				
Sample Status	-		Client Info		N/A		
Water         WC Method         NEG             WEAR METALS         method         limit/base         current         history1         history1           Iron         ppm         ASTM D5185m         30             Chromium         ppm         ASTM D5185m         0             Nickel         ppm         ASTM D5185m         0             Titanium         ppm         ASTM D5185m         0             Silver         ppm         ASTM D5185m         0             Aluminum         ppm         ASTM D5185m         0             Copper         ppm         ASTM D5185m         0             Copper         ppm         ASTM D5185m         0             Vanadium         ppm         ASTM D5185m         0             Vanadium         ppm         ASTM D5185m         0             Cadmium         ppm         ASTM D5185m         0             Barium <td></td> <td></td> <td></td> <td></td> <td>NORMAL</td> <td></td> <td></td>					NORMAL		
WEAR METALS         method         limit/base         current         history1         history1           Iron         ppm         ASTM D5185m         30             Chromium         ppm         ASTM D5185m         <1	CONTAMINATIO	Ν	method	limit/base	current	history1	history2
Iron	Water		WC Method		NEG		
Chromium         ppm         ASTM D5185m         <1             Nickel         ppm         ASTM D5185m         0             Titanium         ppm         ASTM D5185m         0             Silver         ppm         ASTM D5185m         0             Aluminum         ppm         ASTM D5185m         0             Lead         ppm         ASTM D5185m         0             Copper         ppm         ASTM D5185m         0             Tin         ppm         ASTM D5185m         0             Vanadium         ppm         ASTM D5185m         0             Cadmium         ppm         ASTM D5185m         0             ADDITIVES         method         limit/base         current         history1         history           Boron         ppm         ASTM D5185m         0             Barium         ppm         ASTM D5185m         0             <	WEAR METALS		method	limit/base	current	history1	history2
Nickel         ppm         ASTM D5185m         0             Titanium         ppm         ASTM D5185m         0             Silver         ppm         ASTM D5185m         0             Aluminum         ppm         ASTM D5185m         0             Lead         ppm         ASTM D5185m         0             Copper         ppm         ASTM D5185m         0             Tin         ppm         ASTM D5185m         0             Vanadium         ppm         ASTM D5185m         0             Cadmium         ppm         ASTM D5185m         0             ADDITIVES         method         limit/base         current         history1         history           Boron         ppm         ASTM D5185m         0             Barium         ppm         ASTM D5185m         0             Malpanese         ppm         ASTM D5185m         0             <	Iron	ppm	ASTM D5185m		30		
Titanium         ppm         ASTM D5185m         0             Silver         ppm         ASTM D5185m         0             Aluminum         ppm         ASTM D5185m         0             Lead         ppm         ASTM D5185m         0             Copper         ppm         ASTM D5185m         0             Tin         ppm         ASTM D5185m         0             Vanadium         ppm         ASTM D5185m         0             Vanadium         ppm         ASTM D5185m         0             Cadmium         ppm         ASTM D5185m         0             ADDITIVES         method         limit/base         current         history1         history1           Boron         ppm         ASTM D5185m         0             Boron         ppm         ASTM D5185m         0             Molybdenum         ppm         ASTM D5185m         0	Chromium	ppm	ASTM D5185m		<1		
Silver         ppm         ASTM D5185m         0             Aluminum         ppm         ASTM D5185m         0             Lead         ppm         ASTM D5185m         0             Copper         ppm         ASTM D5185m         0             Tin         ppm         ASTM D5185m         0             Vanadium         ppm         ASTM D5185m         0             Cadmium         ppm         ASTM D5185m         0             ADDITIVES         method         limit/base         current         history1         history1           Boron         ppm         ASTM D5185m         0             Boron         ppm         ASTM D5185m         0             Molybdenum         ppm         ASTM D5185m         0             Magnesium         ppm         ASTM D5185m         0             Magnesium         ppm         ASTM D5185m         1	Nickel	ppm	ASTM D5185m		0		
Aluminum         ppm         ASTM D5185m         0             Lead         ppm         ASTM D5185m         0             Copper         ppm         ASTM D5185m         0             Tin         ppm         ASTM D5185m         0             Vanadium         ppm         ASTM D5185m         0             Cadmium         ppm         ASTM D5185m         0             Cadmium         ppm         ASTM D5185m         0             ADDITIVES         method         limit/base         current         history1         history1           Boron         ppm         ASTM D5185m         0             Barium         ppm         ASTM D5185m         0             Molybdenum         ppm         ASTM D5185m         0             Magnesium         ppm         ASTM D5185m         0             Phosphorus         ppm         ASTM D5185m         10	Titanium	ppm	ASTM D5185m		0		
Lead         ppm         ASTM D5185m         0             Copper         ppm         ASTM D5185m         0             Tin         ppm         ASTM D5185m         0             Vanadium         ppm         ASTM D5185m         0             Cadmium         ppm         ASTM D5185m         0             Cadmium         ppm         ASTM D5185m         0             Boron         ppm         ASTM D5185m         0             Barium         ppm         ASTM D5185m         0             Molybdenum         ppm         ASTM D5185m         0             Magnesium         ppm         ASTM D5185m         0             Magnesium         ppm         ASTM D5185m         1             Phosphorus         ppm         ASTM D5185m         0             Sulfur         ppm         ASTM D5185m         0             Sulfur <td>Silver</td> <td>ppm</td> <td>ASTM D5185m</td> <td></td> <td>0</td> <td></td> <td></td>	Silver	ppm	ASTM D5185m		0		
Copper         ppm         ASTM D5185m         0             Tin         ppm         ASTM D5185m         0             Vanadium         ppm         ASTM D5185m         0             Cadmium         ppm         ASTM D5185m         0             ADDITIVES         method         limit/base         current         history1         history1           Boron         ppm         ASTM D5185m         0             Barium         ppm         ASTM D5185m         0             Molybdenum         ppm         ASTM D5185m         0             Magnesium         ppm         ASTM D5185m         0             Magnesium         ppm         ASTM D5185m         1             Phosphorus         ppm         ASTM D5185m         10             Phosphorus         ppm         ASTM D5185m         0             Sulfur         ppm         ASTM D5185m         0	Aluminum	ppm	ASTM D5185m		0		
Tin         ppm         ASTM D5185m         0             Vanadium         ppm         ASTM D5185m         0             Cadmium         ppm         ASTM D5185m         0             ADDITIVES         method         limit/base         current         history1         history1           Boron         ppm         ASTM D5185m         0             Barium         ppm         ASTM D5185m         0             Molybdenum         ppm         ASTM D5185m         0             Manganese         ppm         ASTM D5185m         0             Magnesium         ppm         ASTM D5185m         0             Calcium         ppm         ASTM D5185m         1             Phosphorus         ppm         ASTM D5185m         0             Sulfur         ppm         ASTM D5185m         0             CONTAMINANTS         method         limit/base         current         history1         history	Lead	ppm	ASTM D5185m		0		
Vanadium         ppm         ASTM D5185m         0             Cadmium         ppm         ASTM D5185m         0             ADDITIVES         method         limit/base         current         history1         history1           Boron         ppm         ASTM D5185m         0             Barium         ppm         ASTM D5185m         0             Molybdenum         ppm         ASTM D5185m         0             Magnese         ppm         ASTM D5185m         0             Magnesium         ppm         ASTM D5185m         1             Calcium         ppm         ASTM D5185m         10             Phosphorus         ppm         ASTM D5185m         0             Zinc         ppm         ASTM D5185m         0             Sulfur         ppm         ASTM D5185m         4             CONTAMINANTS         method         limit/base         current         history1         history	Copper	ppm	ASTM D5185m		0		
Cadmium         ppm         ASTM D5185m         0             ADDITIVES         method         limit/base         current         history1         history1           Boron         ppm         ASTM D5185m         0             Barium         ppm         ASTM D5185m         0             Molybdenum         ppm         ASTM D5185m         0             Manganese         ppm         ASTM D5185m         0             Magnesium         ppm         ASTM D5185m         1             Calcium         ppm         ASTM D5185m         10             Phosphorus         ppm         ASTM D5185m         0             Sulfur         ppm         ASTM D5185m         0             Sulfur         ppm         ASTM D5185m         <1	Tin	ppm	ASTM D5185m		0		
ADDITIVES         method         limit/base         current         history1         history1           Boron         ppm         ASTM D5185m         0             Barium         ppm         ASTM D5185m         0             Molybdenum         ppm         ASTM D5185m         0             Manganese         ppm         ASTM D5185m         0             Magnesium         ppm         ASTM D5185m         1             Calcium         ppm         ASTM D5185m         10             Phosphorus         ppm         ASTM D5185m         0             Zinc         ppm         ASTM D5185m         0             Sulfur         ppm         ASTM D5185m         4             CONTAMINANTS         method         limit/base         current         history1         history1           Sodium         ppm         ASTM D5185m         0             Potassium         ppm         ASTM D5185m         0	Vanadium	ppm	ASTM D5185m		0		
Boron         ppm         ASTM D5185m         0             Barium         ppm         ASTM D5185m         0             Molybdenum         ppm         ASTM D5185m         0             Manganese         ppm         ASTM D5185m         0             Magnesium         ppm         ASTM D5185m         0             Calcium         ppm         ASTM D5185m         1             Phosphorus         ppm         ASTM D5185m         0             Zinc         ppm         ASTM D5185m         0             Sulfur         ppm         ASTM D5185m         4             CONTAMINANTS         method         limit/base         current         history1         history1           Sodium         ppm         ASTM D5185m         >20         0             Potassium         ppm         ASTM D5185m         >20         0	Cadmium	ppm	ASTM D5185m		0		
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum         ppm         ASTM D5185m         0             Manganese         ppm         ASTM D5185m         0             Magnesium         ppm         ASTM D5185m         0             Calcium         ppm         ASTM D5185m         10             Phosphorus         ppm         ASTM D5185m         0             Zinc         ppm         ASTM D5185m         0             Sulfur         ppm         ASTM D5185m         4             CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         ASTM D5185m         0             Sodium         ppm         ASTM D5185m         >20         0             SAMPLE IMAGES         method         limit/base         current         history1         history1         history1	Boron	ppm	ASTM D5185m		0		
Manganese         ppm         ASTM D5185m         0             Magnesium         ppm         ASTM D5185m         0             Calcium         ppm         ASTM D5185m         1             Phosphorus         ppm         ASTM D5185m         0             Zinc         ppm         ASTM D5185m         0             Sulfur         ppm         ASTM D5185m         4             CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         ASTM D5185m         <1	Barium	ppm	ASTM D5185m		0		
Magnesium         ppm         ASTM D5185m         0             Calcium         ppm         ASTM D5185m         1             Phosphorus         ppm         ASTM D5185m         0             Zinc         ppm         ASTM D5185m         0             Sulfur         ppm         ASTM D5185m         4             CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         ASTM D5185m         0             Sodium         ppm         ASTM D5185m         0             Potassium         ppm         ASTM D5185m         >20         0             SAMPLE IMAGES         method         limit/base         current         history1         history1         history1	Molybdenum	ppm	ASTM D5185m		0		
Calcium         ppm         ASTM D5185m         1             Phosphorus         ppm         ASTM D5185m         10             Zinc         ppm         ASTM D5185m         0             Sulfur         ppm         ASTM D5185m         4             CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         ASTM D5185m         <1	Manganese	ppm	ASTM D5185m		0		
Phosphorus         ppm         ASTM D5185m         10             Zinc         ppm         ASTM D5185m         0             Sulfur         ppm         ASTM D5185m         4             CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         ASTM D5185m         <1             Sodium         ppm         ASTM D5185m         0             Potassium         ppm         ASTM D5185m         >20         0             SAMPLE IMAGES         method         limit/base         current         history1         history1         history1	Magnesium	ppm	ASTM D5185m		0		
Zinc         ppm         ASTM D5185m         0             Sulfur         ppm         ASTM D5185m         4             CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         ASTM D5185m         <1	Calcium	ppm	ASTM D5185m		1		
Sulfur         ppm         ASTM D5185m         4             CONTAMINANTS         method         limit/base         current         history1         history           Silicon         ppm         ASTM D5185m         <1	Phosphorus	ppm	ASTM D5185m		10		
CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         ASTM D5185m         <1	Zinc	ppm	ASTM D5185m		0		
Silicon         ppm         ASTM D5185m         <1             Sodium         ppm         ASTM D5185m         0             Potassium         ppm         ASTM D5185m         >20         0             SAMPLE IMAGES         method         limit/base         current         history1         history1	Sulfur	ppm	ASTM D5185m		4		
Sodium         ppm         ASTM D5185m         0             Potassium         ppm         ASTM D5185m         >20         0             SAMPLE IMAGES         method         limit/base         current         history1         history1	CONTAMINANTS	5	method	limit/base	current	history1	history2
Sodium         ppm         ASTM D5185m         0             Potassium         ppm         ASTM D5185m         >20         0             SAMPLE IMAGES         method         limit/base         current         history1         history1	Silicon	ppm	ASTM D5185m		<1		
Potassium ppm ASTM D5185m >20 <b>0</b> SAMPLE IMAGES method limit/base current history1 history	Sodium				0		
	Potassium	ppm	ASTM D5185m	>20	0		
Color no image no image no image	SAMPLE IMAGES	S	method	limit/base	current	history1	history2
no image no image no image	Color				no ir	no i	no ferrore
	COIOF				no image	no image	no image
Bottom no image no image no image	Bottom				no image	no image	no image



## **OIL ANALYSIS REPORT**



Certificate 12367

Laboratory: WearCheck USA - 501 Madison Ave., Cary, NC 27513 **Sample No.** : WC06155464 **Lab Number** : 06155464  $\textbf{Unique Number} \quad : 10990887$ 

Received : 19 Apr 2024 Tested

2825 SCHUETTE RD : 24 Apr 2024 MIDLAND, MI

Diagnosed : 24 Apr 2024 - Jonathan Hester US 48642 Test Package : TEST ( Additional Tests: ICP ) Contact: BRYAN DOLE To discuss this sample report, contact Customer Service at 1-800-237-1369. bdole@xaerusfluids.com T:

\* - 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)

Report Id: XAEMID [WUSCAR] 06155464 (Generated: 04/24/2024 14:16:53) Rev: 1

Contact/Location: BRYAN DOLE - XAEMID

F:

**XAERUS FLUIDS**