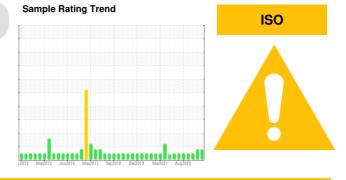


PROBLEM SUMMARY

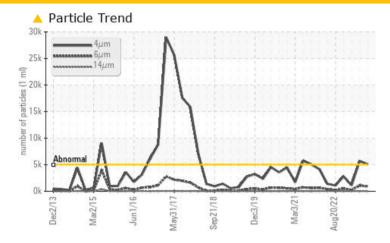
CURING/PRESS EFGH 101817 Main

Component **Hydraulic System**

ESSO TERESSO ISO 68 (5000 LTR)



COMPONENT CONDITION SUMMARY



RECOMMENDATION

We recommend you service the filters on this component. Resample at the next service interval to monitor.

PROBLEMATIC TES	ST RESULTS				
Sample Status			ATTENTION	ATTENTION	NORMAL
Particles >4µm	ASTM D7647	>5000	5066	<u></u> 5700	1102
Oil Cleanliness	ISO 4406 (c)	>19/17/14	<u> </u>	▲ 20/17/12	17/15/12

Customer Id: MITWAT **Sample No.:** WC0855072 Lab Number: 02601834 Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data: Wes Davis +1 905-569-8600 x223 wesd@wearcheck.ca

To change component or sample information: Gloria Gonzalez +1 (289)291-4643 x4643 gloria.gonzalez@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Filter			?	We recommend you service the filters on this component.

HISTORICAL DIAGNOSIS

15 Aug 2023 Diag: Wes Davis





We recommend you service the filters on this component. Resample at the next service interval to monitor. All component wear rates are normal. There is a light amount of silt (particulates < 14 microns in size) present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.



28 Feb 2023 Diag: Kevin Marson

NORMAL



Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor. All component wear rates are normal. The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable. Additive levels indicate the addition of a different brand, or type of oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

06 Dec 2022 Diag: Wes Davis

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.





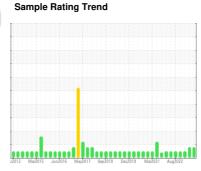
OIL ANALYSIS REPORT

CURING/PRESS EFGH 101817 Main

Component

Hydraulic System

ESSO TERESSO ISO 68 (5000 LTR)





DIAGNOSIS

Recommendation

We recommend you service the filters on this component. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is a light amount of silt (particulates < 14 microns in size) present in the oil.

Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sample Number			c2013 Mar20	15 Jun2016 May2017	Sep2018 Dec2019 Mar2021 .	Aug2022	
Sample Date	SAMPLE INFORMA	NOITA	method	limit/base	current	history1	history2
Machine Age hrs Client Info 0 0 0 Oil Age hrs Client Info 0 0 0 Oil Changed Client Info N/A N/A N/A Sample Status Description NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM DS185(m) >20 0 <1	Sample Number		Client Info		WC0855072	WC0799517	WC0763682
Oil Age hrs Client Info N/A	Sample Date		Client Info		05 Dec 2023	15 Aug 2023	28 Feb 2023
Oil Changed Satus Client Info N/A N/A N/A N/A CONTAMINATION method limit/base current history1 history2 Water WC Method >0.05 NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185[m] >20 0 <1	Machine Age	hrs	Client Info		0	0	0
Sample Status	Oil Age	hrs	Client Info		0	0	0
CONTAMINATION method limit/base current history1 history2 Water WC Method >0.05 NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM DS185(m) >20 0 <1	Oil Changed		Client Info		N/A	N/A	N/A
Water WC Method >0.05 NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185(m) >20 0 <1	Sample Status				ATTENTION	ATTENTION	NORMAL
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185(m) >20 0 <1 <1 Chromium ppm ASTM D5185(m) >20 0 0 0 Nickel ppm ASTM D5185(m) >20 <1 0 0 Silver ppm ASTM D5185(m) >20 <1 0 0 Aluminum ppm ASTM D5185(m) >20 0 0 0 Lead ppm ASTM D5185(m) >20 <1 <1 <1 Copper ppm ASTM D5185(m) >20 <1 <1 <1 Tin ppm ASTM D5185(m) >20 0 0 0 Vanadium ppm ASTM D5185(m) 0 0 0 0 Beryllium ppm ASTM D5185(m) 0 0 0 0 Cadmium ppm ASTM D5185(m) 0 0	CONTAMINATION		method	limit/base	current	history1	history2
Iron	Water		WC Method	>0.05	NEG	NEG	NEG
Chromium ppm ASTM D5185(m) >20 0 0 0 Nickel ppm ASTM D5185(m) >20 <1 0 0 Titanium ppm ASTM D5185(m) <0 0 0 Silver ppm ASTM D5185(m) <20 0 0 0 Aluminum ppm ASTM D5185(m) >20 <1 <1 <1 <1 Aluminum ppm ASTM D5185(m) >20 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1	WEAR METALS		method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185(m)	>20	0	<1	<1
Nickel ppm ASTM D5185(m) >20 <1 0 0 Titanium ppm ASTM D5185(m) - 0 0 0 Silver ppm ASTM D5185(m) >20 0 0 0 Aluminum ppm ASTM D5185(m) >20 <1			ASTM D5185(m)	>20	0	0	0
Silver ppm ASTM D5185(m) < 1 0 0 Aluminum ppm ASTM D5185(m) >20 0 0 0 Lead ppm ASTM D5185(m) >20 <1			ASTM D5185(m)	>20	<1	0	0
Silver ppm ASTM D5185(m) < 1			ASTM D5185(m)		0	0	0
Aluminum ppm ASTM D5185(m) >20 0 0 0 Lead ppm ASTM D5185(m) >20 <1 <1 <1 Copper ppm ASTM D5185(m) >20 <1 <1 <1 Tin ppm ASTM D5185(m) >20 0 0 0 Antimony ppm ASTM D5185(m) 0 0 0 Vanadium ppm ASTM D5185(m) 0 0 0 Vanadium ppm ASTM D5185(m) 0 0 0 Beryllium ppm ASTM D5185(m) 0 0 0 Cadmium ppm ASTM D5185(m) 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185(m) 0.4 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm			1		<1	0	0
Lead ppm ASTM D5185(m) >20 <1			ASTM D5185(m)	>20	0	0	0
Copper ppm ASTM D518S(m) >20 <1 <1 <1 Tin ppm ASTM D518S(m) >20 0 0 0 Antimony ppm ASTM D518S(m) 0 0 0 Vanadium ppm ASTM D518S(m) 0 0 0 Beryllium ppm ASTM D518S(m) 0 0 0 Cadmium ppm ASTM D518S(m) 4.5 <1			()		-		
Tin ppm ASTM D5185(m) >20 0 0 0 Antimony ppm ASTM D5185(m) 0 0 0 Vanadium ppm ASTM D5185(m) 0 0 0 Beryllium ppm ASTM D5185(m) 0 0 0 Cadmium ppm ASTM D5185(m) 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185(m) 0.4 0 0 0 Barium ppm ASTM D5185(m) 0.4 0 0 0 Molybdenum ppm ASTM D5185(m) 0.4 0 0 0 Magnesium ppm ASTM D5185(m) 0 0 0 0 Calcium ppm ASTM D5185(m) 0.7 <1			ASTM D5185(m)	>20	<1		<1
Antimony ppm ASTM D5185(m) 0 0 0 Vanadium ppm ASTM D5185(m) 0 0 0 Beryllium ppm ASTM D5185(m) 0 0 0 Cadmium ppm ASTM D5185(m) 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185(m) 0.4 0 0 0 Barium ppm ASTM D5185(m) 0.4 0 0 0 Molybdenum ppm ASTM D5185(m) 0.4 0 0 0 Manganese ppm ASTM D5185(m) 0 0 0 0 Magnesium ppm ASTM D5185(m) 0 0 0 0 Calcium ppm ASTM D5185(m) 0.7 <1							
Vanadium ppm ASTM D5185(m) 0 0 0 Beryllium ppm ASTM D5185(m) 0 0 0 Cadmium ppm ASTM D5185(m) 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185(m) 4.5 <1 0 <1 Barium ppm ASTM D5185(m) 0.4 0 0 0 Molybdenum ppm ASTM D5185(m) 0 0 0 0 Manganese ppm ASTM D5185(m) 0 0 0 0 Magnesium ppm ASTM D5185(m) 0 0 0 0 Calcium ppm ASTM D5185(m) 0.7 <1 2 29 Zinc ppm ASTM D5185(m) 0.7 <1 2 29 Zinc ppm ASTM D5185(m) 1315 6154 6466 6805 <							
Beryllium ppm ASTM D5185(m) 0 0 0 Cadmium ppm ASTM D5185(m) 4.5 <1 0 <1 Boron ppm ASTM D5185(m) 4.5 <1 0 <1 Barium ppm ASTM D5185(m) 0.4 0 0 0 Molybdenum ppm ASTM D5185(m) 0 0 0 0 Manganese ppm ASTM D5185(m) 0 0 0 0 Magnesium ppm ASTM D5185(m) 0 0 0 0 Magnesium ppm ASTM D5185(m) 0 <1 <1 2 Phosphorus ppm ASTM D5185(m) 0.7 <1 2 29 Zinc ppm ASTM D5185(m) 0.7 <1 2 29 Zinc ppm ASTM D5185(m) 1315 6154 6466 6805 Lithium ppm ASTM D5185(m) >15 0			(/				
Cadmium ppm ASTM D5185(m) 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185(m) 4.5 <1			, ,				
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185(m) 4.5 <1 0 <1 Barium ppm ASTM D5185(m) 0.4 0 0 0 Molybdenum ppm ASTM D5185(m) 0 0 0 0 Magnesium ppm ASTM D5185(m) 0 0 0 0 Calcium ppm ASTM D5185(m) 0 0 0 0 Calcium ppm ASTM D5185(m) 0.7 <1 2 29 Zinc ppm ASTM D5185(m) 0.7 <1 2 29 Zinc ppm ASTM D5185(m) 0 1 3 31 Sulfur ppm ASTM D5185(m) 1315 6154 6466 6805 Lithium ppm ASTM D5185(m) >15 0 0 0 Sodium ppm ASTM D5185(m) >15 0 <th></th> <th></th> <th>()</th> <th></th> <th></th> <th></th> <th></th>			()				
Boron ppm ASTM D5185(m) 4.5 <1		PP	. ,				
Barium ppm ASTM D5185(m) 0.4 0 0 0 Molybdenum ppm ASTM D5185(m) 0 0 0 0 Manganese ppm ASTM D5185(m) 0 0 0 0 Magnesium ppm ASTM D5185(m) 0 0 0 0 Calcium ppm ASTM D5185(m) 0.7 <1 2 29 Zinc ppm ASTM D5185(m) 0.1 3 3.1 3.1 Sulfur ppm ASTM D5185(m) 1315 6154 6466 6805 Lithium ppm ASTM D5185(m) >15 0 0 0 Sodium ppm ASTM D5185(m) >15 0	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185(m) 0 0 0 0 Manganese ppm ASTM D5185(m) 0 0 0 0 Magnesium ppm ASTM D5185(m) 0 0 0 0 Calcium ppm ASTM D5185(m) 0 <1	Boron	ppm	ASTM D5185(m)	4.5	<1	0	<1
Manganese ppm ASTM D5185(m) 0 0 0 Magnesium ppm ASTM D5185(m) 0 0 0 Calcium ppm ASTM D5185(m) 0.7 <1	Barium	ppm	ASTM D5185(m)	0.4	0	0	0
Magnesium ppm ASTM D5185(m) 0 0 0 Calcium ppm ASTM D5185(m) 0 <1 <1 2 Phosphorus ppm ASTM D5185(m) 0.7 <1 2 29 Zinc ppm ASTM D5185(m) 0 1 3 31 Sulfur ppm ASTM D5185(m) 1315 6154 6466 6805 Lithium ppm ASTM D5185(m) <1 <1 <1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >15 0 0 0 Sodium ppm ASTM D5185(m) >20 0 <1 0 Potassium ppm ASTM D5185(m) >20 0 <1 0 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >5000 5066	Molybdenum	ppm	ASTM D5185(m)	0	0	0	0
Calcium ppm ASTM D5185(m) 0 <1	Manganese	ppm	ASTM D5185(m)		0	0	0
Phosphorus ppm ASTM D5185(m) 0.7 <1	Magnesium	ppm	ASTM D5185(m)	0	0	0	0
Zinc ppm ASTM D5185(m) 0 1 3 31 Sulfur ppm ASTM D5185(m) 1315 6154 6466 6805 Lithium ppm ASTM D5185(m) <1	Calcium	ppm	ASTM D5185(m)	0	<1	<1	2
Sulfur ppm ASTM D5185(m) 1315 6154 6466 6805 Lithium ppm ASTM D5185(m) <1	Phosphorus	ppm	ASTM D5185(m)	0.7	<1	2	29
Lithium ppm ASTM D5185(m) <1	Zinc	ppm	ASTM D5185(m)	0	1	3	31
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >15 0 0 0 Sodium ppm ASTM D5185(m) <1 <1 0 Potassium ppm ASTM D5185(m) >20 0 <1 0 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >5000 5066 5700 1102 Particles >6μm ASTM D7647 >1300 916 1055 256 Particles >14μm ASTM D7647 >160 20 34 30 Particles >21μm ASTM D7647 >40 3 10 9 Particles >38μm ASTM D7647 >10 1 1 1	Sulfur	ppm	ASTM D5185(m)	1315	6154	6466	6805
Silicon ppm ASTM D5185(m) >15 0 0 0 Sodium ppm ASTM D5185(m) <1	Lithium	ppm	ASTM D5185(m)		<1	<1	<1
Sodium ppm ASTM D5185(m) <1	CONTAMINANTS		method	limit/base	current	history1	history2
Sodium ppm ASTM D5185(m) <1	Silicon	ppm	ASTM D5185(m)	>15	0	0	0
Potassium ppm ASTM D5185(m) >20 0 <1			ASTM D5185(m)		<1	<1	0
Particles >4μm ASTM D7647 >5000 ▲ 5066 ▲ 5700 1102 Particles >6μm ASTM D7647 >1300 916 1055 256 Particles >14μm ASTM D7647 >160 20 34 30 Particles >21μm ASTM D7647 >40 3 10 9 Particles >38μm ASTM D7647 >10 1 1 1				>20			0
Particles >6μm ASTM D7647 >1300 916 1055 256 Particles >14μm ASTM D7647 >160 20 34 30 Particles >21μm ASTM D7647 >40 3 10 9 Particles >38μm ASTM D7647 >10 1 1 1	FLUID CLEANLINE	SS	method	limit/base	current	history1	history2
Particles >14μm ASTM D7647 >160 20 34 30 Particles >21μm ASTM D7647 >40 3 10 9 Particles >38μm ASTM D7647 >10 1 1 1	Particles >4µm		ASTM D7647	>5000	5066	▲ 5700	1102
Particles >14μm ASTM D7647 >160 20 34 30 Particles >21μm ASTM D7647 >40 3 10 9 Particles >38μm ASTM D7647 >10 1 1 1	Particles >6µm		ASTM D7647	>1300	916	1055	256
Particles >21μm ASTM D7647 >40 3 10 9 Particles >38μm ASTM D7647 >10 1 1 1	·			>160			
Particles >38μm ASTM D7647 >10 1 1	Particles >21µm		ASTM D7647	>40	3	10	
•							
	Particles >38µm		ASTM D7647	>10	1	1	1

ISO 4406 (c) >19/17/14 **20/17/11**

Oil Cleanliness

20/17/12

17/15/12



OIL ANALYSIS REPORT





CALA ISO 17025:2017 Accredited Laboratory

Laboratory Sample No. Lab Number **Unique Number**

: 02601834

: WC0855072

: 5694919

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 Received : 08 Dec 2023 Diagnosed : 09 Dec 2023 Diagnostician : Wes Davis

Test Package : IND 2 (Additional Tests: TAN Man)

To discuss this sample report, contact Customer Service at 1-800-268-2131. Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab. Validity of results and interpretation are based on the sample and information as supplied.

MICHELIN TIRE 866 RANDOLPH RD WATERVILLE, NS **CA BOP 1V0** Contact: Alan Davies

alan.davies@michelin.com T: (902)534-3590

F: x: