

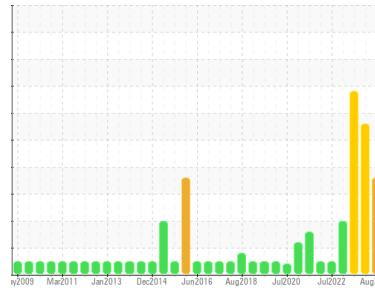


PROBLEM SUMMARY

Area
OZR/BD10
 Machine Id
101916 Central

Component
Hydraulic System
 Fluid
ESSO NUTO H ISO 68 (250 LTR)

Sample Rating Trend

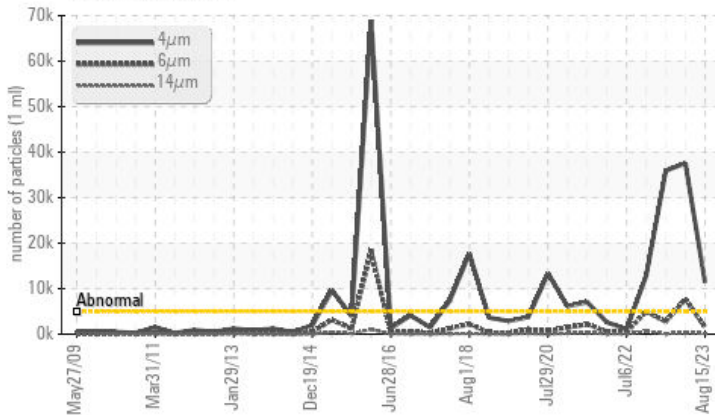


WATER

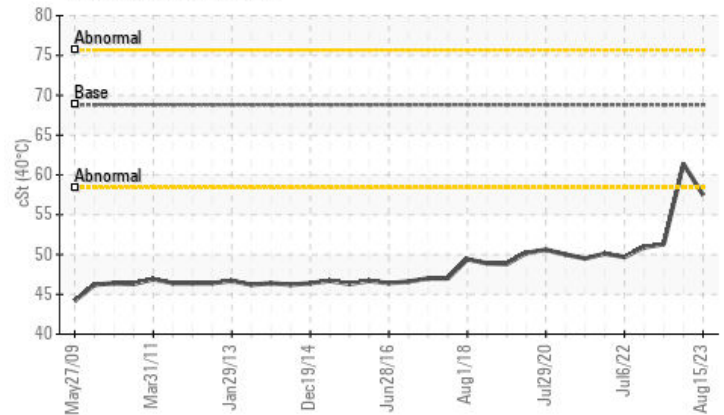


COMPONENT CONDITION SUMMARY

▲ Particle Trend



Viscosity @ 40°C



RECOMMENDATION

We advise that you check for the source of water entry. Check seals and/or filters for points of contaminant entry. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. We advise that you follow the water drain-off procedure for this component. We advise that you use off-line filtration with water adsorbent filters to attempt to remove the water from this oil. We recommend you service the filters on this component. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status			ABNORMAL	ABNORMAL	SEVERE
Particles >4µm	ASTM D7647	>5000	▲ 11429	▲ 37595	▲ 35918
Particles >6µm	ASTM D7647	>1300	▲ 1568	▲ 7697	▲ 2744
Oil Cleanliness	ISO 4406 (c)	>19/17/14	▲ 21/18/14	▲ 22/20/16	▲ 22/19/14
Appearance	scalar	Visual*	▲ WGOIL	▲ WGOIL	▲ WGOIL
Free Water	scalar	Visual*	▲ 1%	▲ 5%	▲ 5%

Customer Id: MITWAT
 Sample No.: WC0799515
 Lab Number: 02576739
 Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:
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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.
Water Drain-off	---	---	?	We advise that you follow the water drain-off procedure for this component.
Resample	---	---	?	We recommend an early resample to monitor this condition.
Check Breathers	---	---	?	The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather.
Check Water Access	---	---	?	We advise that you check for the source of water entry.
Check Seals	---	---	?	Check seals and/or filters for points of contaminant entry.
Filter Fluid	---	---	?	We advise that you use off-line filtration with water adsorbent filters to attempt to remove the water from this oil.

HISTORICAL DIAGNOSIS

WATER



04 Jul 2023 Diag: Kevin Marson

We advise that you check for the source of water entry. Check seals and/or filters for points of contaminant entry. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. We advise that you use off-line filtration with water adsorbent filters to attempt to remove the water from this oil. We advise that you follow the water drain-off procedure for this component. We recommend you service the filters on this component. We recommend an early resample to monitor this condition. All component wear rates are normal. There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. There is a moderate concentration of water present in the oil. Free water present. The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

view report



WATER



27 Jun 2023 Diag: Kevin Marson

We advise that you check for the source of water entry. Check seals and/or filters for points of contaminant entry. We advise that you follow the water drain-off procedure for this component. We advise that you use off-line filtration with water adsorbent filters to attempt to remove the water from this oil. We recommend you service the filters on this component. We recommend an early resample to monitor this condition. All component wear rates are normal. There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. There is a high concentration of water present in the oil. Free water present. The oil viscosity is higher than typical. The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

view report



ISO



24 Jan 2023 Diag: Kevin Marson

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. All component wear rates are normal. Oil Cleanliness are abnormally high. Particles >14µm are abnormally high. Particles >21µm are abnormally high. Particles >4µm are abnormally high. Particles >6µm are abnormally high. The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

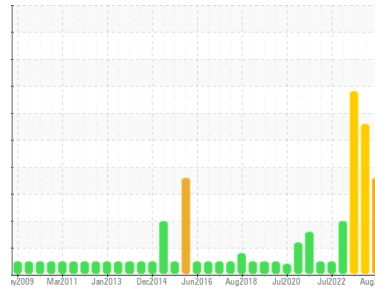
view report





OIL ANALYSIS REPORT

Sample Rating Trend



WATER



Area
OZR/BD10
Machine Id
101916 Central
Component
Hydraulic System
Fluid
ESSO NUTO H ISO 68 (250 LTR)

DIAGNOSIS

Recommendation

We advise that you check for the source of water entry. Check seals and/or filters for points of contaminant entry. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. We advise that you follow the water drain-off procedure for this component. We advise that you use off-line filtration with water adsorbent filters to attempt to remove the water from this oil. We recommend you service the filters on this component. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

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

Fluid Condition

The oil viscosity is lower than typical, possibly indicating the addition of lighter grade oil. The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0799515	WC0799510	WC0799511
Sample Date	Client Info		15 Aug 2023	04 Jul 2023	27 Jun 2023
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			ABNORMAL	ABNORMAL	SEVERE

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>20	1	1	2
Chromium	ppm	ASTM D5185(m)	>20	0	0	<1
Nickel	ppm	ASTM D5185(m)	>20	0	0	<1
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)		0	0	<1
Aluminum	ppm	ASTM D5185(m)	>20	0	0	<1
Lead	ppm	ASTM D5185(m)	>20	4	3	2
Copper	ppm	ASTM D5185(m)	>20	1	2	3
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	<1	<1	<1
Barium	ppm	ASTM D5185(m)	0	0	0	<1
Molybdenum	ppm	ASTM D5185(m)	0	0	0	0
Manganese	ppm	ASTM D5185(m)		0	0	0
Magnesium	ppm	ASTM D5185(m)	5	0	<1	<1
Calcium	ppm	ASTM D5185(m)	50	37	38	17
Phosphorus	ppm	ASTM D5185(m)	330	348	360	364
Zinc	ppm	ASTM D5185(m)	420	416	417	419
Sulfur	ppm	ASTM D5185(m)	3100	4038	3810	4371
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS

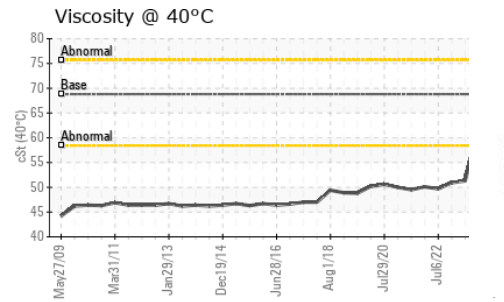
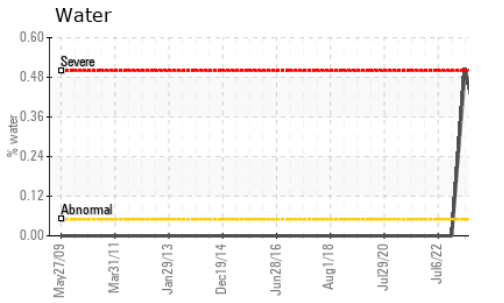
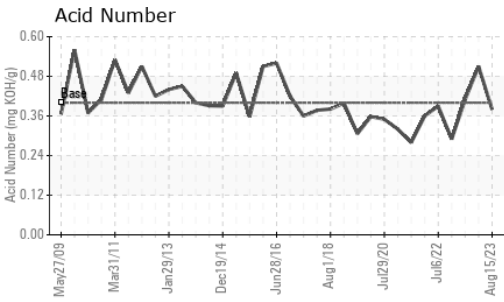
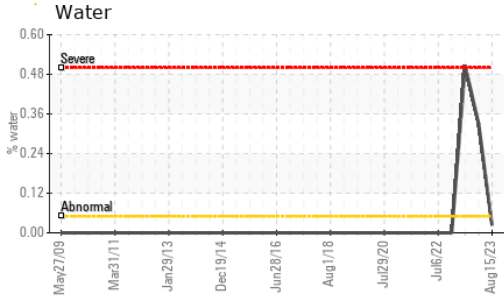
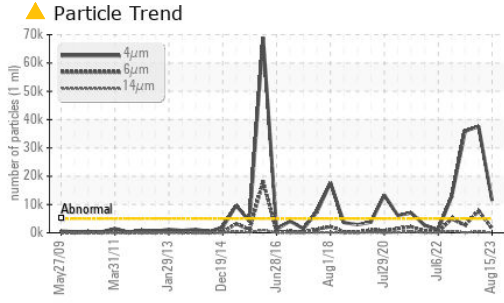
	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>15	<1	1	<1
Sodium	ppm	ASTM D5185(m)		<1	<1	<1
Potassium	ppm	ASTM D5185(m)	>20	<1	<1	<1
Water	%	ASTM D6304*	>0.05	0.023	▲ 0.330	● 0.506
ppm Water	ppm	ASTM D6304*	>500	239.4	▲ 3307.3	● 5068.1

FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>5000	▲ 11429	▲ 37595	▲ 35918
Particles >6µm	ASTM D7647	>1300	▲ 1568	▲ 7697	▲ 2744
Particles >14µm	ASTM D7647	>160	127	▲ 322	106
Particles >21µm	ASTM D7647	>40	45	56	35
Particles >38µm	ASTM D7647	>10	3	1	2
Particles >71µm	ASTM D7647	>3	0	0	0
Oil Cleanliness	ISO 4406 (c)	>19/17/14	▲ 21/18/14	▲ 22/20/16	▲ 22/19/14



OIL ANALYSIS REPORT



FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	.40	0.38	0.51	0.41

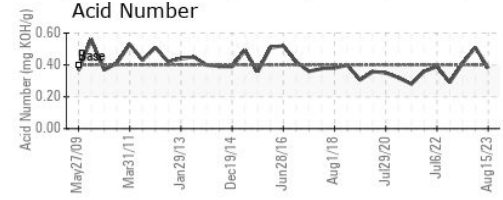
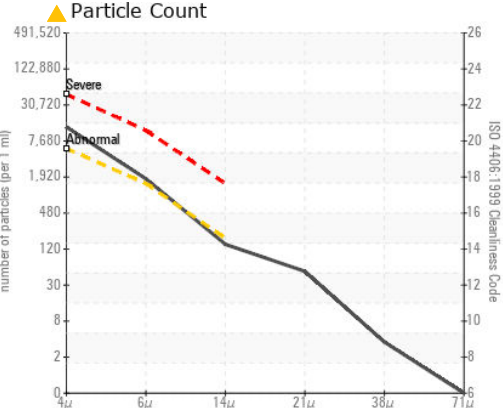
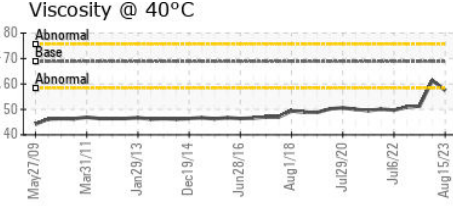
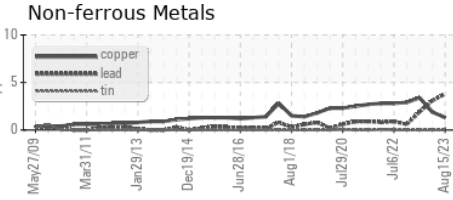
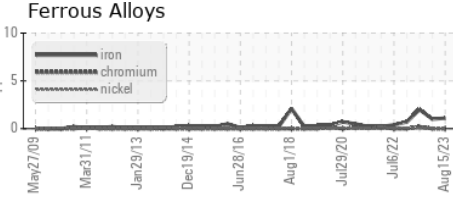
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	VLITE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	WGOIL	WGOIL	WGOIL
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.05	.2%	.2%	.5%
Free Water	scalar	Visual*		1%	5%	5%

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	68.8	57.5	61.4	51.3

SAMPLE IMAGES



GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0799515 **Received** : 18 Aug 2023
Lab Number : **02576739** **Diagnosed** : 23 Aug 2023
Unique Number : 5629799 **Diagnostician** : Kevin Marson
Test Package : IND 2 (Additional Tests: KF, 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.

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