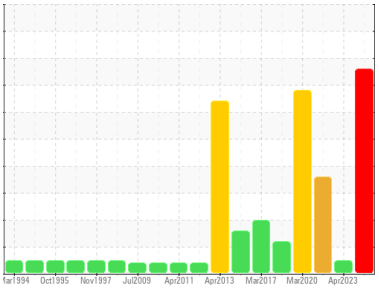
PROBLEM SUMMARY

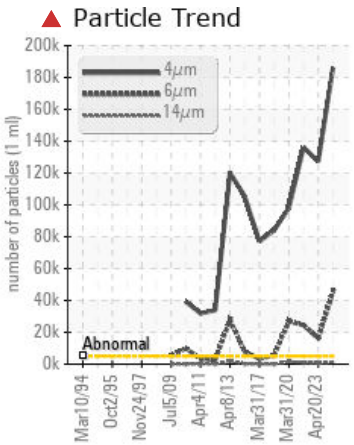
Sample Rating Trend

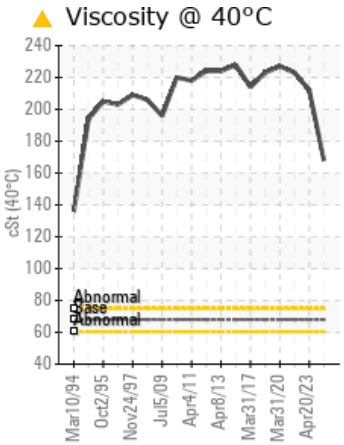


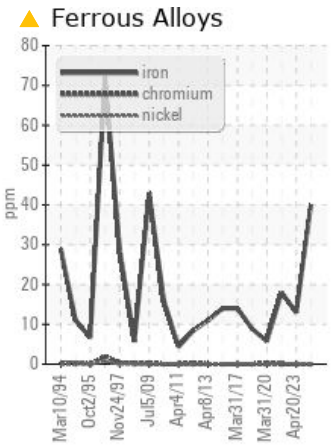
ISO

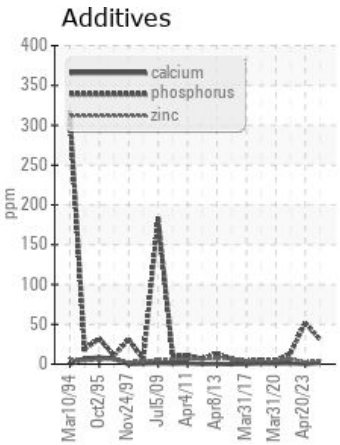
Area
[2161606]
Machine Id
PMP-4216 - #2 RO REJECT WATER PUMP - EAST (S/N RD109-165530)
Component
Pump Hydraulic System
Fluid
ESSO TERESSO ISO 68 (20 LTR)

COMPONENT CONDITION SUMMARY









RECOMMENDATION

We advise that you check all areas where contaminants can enter the system. The oil change at the time of sampling has been noted. 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. Confirm the source of the lubricant being utilized for top-up/fill. Resample in 30-45 days to monitor this situation.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	NORMAL	SEVERE
Iron	ppm	ASTM D5185(m)	>20	▲ **40**	13	18
Particles >4µm		ASTM D7647	>5000	▲ **186058**	127222	▲ 136186
Particles >6µm		ASTM D7647	>1300	▲ **45391**	16281	▲ 24558
Particles >14µm		ASTM D7647	>160	▲ **1266**	635	▲ 1049
Particles >21µm		ASTM D7647	>40	▲ **340**	148	▲ 206
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ **25/23/17**	24/21/16	▲ 24/22/17
Visc @ 40°C	cSt	ASTM D7279(m)	68	▲ **168**	212	223

Customer Id: CAN150BRA
Sample No.: WC0718750
Lab Number: 02624251
Test Package: IND 2

To manage this report scan the QR code

To discuss the diagnosis or test data:
Kevin Marson +1 (289)291-4644 x4644
Kevin.Marson@wearcheck.com

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
Resample	---	---	?	Resample in 30-45 days to monitor this situation.
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 Dirt Access	---	---	?	We advise that you check all areas where contaminants can enter the system.
Check Fluid Source	---	---	?	Confirm the source of the lubricant being utilized for top-up/fill.

HISTORICAL DIAGNOSIS

20 Apr 2023 Diag: Kevin Marson

NORMAL

Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

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08 Apr 2022 Diag: Kevin Marson

ISO

We advise that you check all areas where contaminants can enter the system. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. 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. Resample in 30-45 days to monitor this situation.All component wear rates are normal. Particles >6µm are severely high. Particles >4µm are severely high. Particles >14µm are abnormally high. Particles >21µm are abnormally high. Viscosity of sample indicates oil is within ISO 220 range, advise investigate. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

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31 Mar 2020 Diag: Kevin Marson

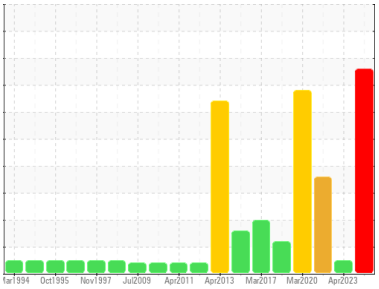
ISO

We advise that you check all areas where contaminants can enter the system. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. 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. Resample in 30-45 days to monitor this situation.All component wear rates are normal. Particles >14µm are severely high. Particles >21µm are severely high. Particles >6µm are severely high. Particles >4µm are severely high. Viscosity of sample indicates oil is within ISO 220 range, advise investigate. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



ISO

Area
[2161606]
Machine Id
PMP-4216 - #2 RO REJECT WATER PUMP - EAST (S/N RD109-165530)
Component
Pump Hydraulic System
Fluid
ESSO TERESSO ISO 68 (20 LTR)

DIAGNOSIS

Recommendation

We advise that you check all areas where contaminants can enter the system. The oil change at the time of sampling has been noted. 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. Confirm the source of the lubricant being utilized for top-up/fill. Resample in 30-45 days to monitor this situation.

Wear

Iron ppm levels are abnormal. The low ferrous density (PQ) index indicates the wear metal levels are due to corrosion.

Contamination

There is a high amount of particulates (2 to 100 microns in size) present in the oil.

Fluid Condition

Viscosity of sample indicates oil is within ISO 150 range, advise investigate. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. The AN level is acceptable for this fluid. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0718750**	WC0718741	WC0609106
Sample Date		Client Info		**22 Mar 2024**	20 Apr 2023	08 Apr 2022
Machine Age	yrs	Client Info		**0**	0	0
Oil Age	yrs	Client Info		**2**	0	0
Oil Changed		Client Info		**Changed**	N/A	N/A
Sample Status				**SEVERE**	NORMAL	SEVERE

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.05	**NEG**	NEG	NEG

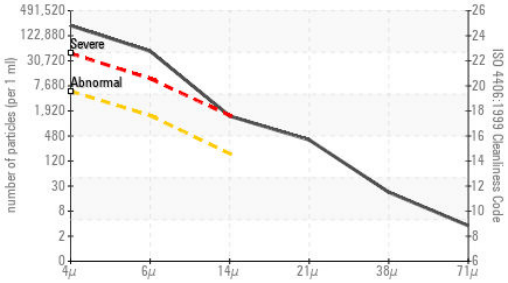
WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*		**7**	---	---
Iron	ppm	ASTM D5185(m)	>20	▲ **40**	13	18
Chromium	ppm	ASTM D5185(m)	>20	**0**	0	0
Nickel	ppm	ASTM D5185(m)	>20	**0**	0	<1
Titanium	ppm	ASTM D5185(m)		**0**	0	0
Silver	ppm	ASTM D5185(m)		**0**	0	0
Aluminum	ppm	ASTM D5185(m)	>20	**2**	1	3
Lead	ppm	ASTM D5185(m)	>20	**0**	<1	0
Copper	ppm	ASTM D5185(m)	>20	**<1**	<1	<1
Tin	ppm	ASTM D5185(m)	>20	**1**	<1	1
Antimony	ppm	ASTM D5185(m)		**0**	<1	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)	4.5	**<1**	<1	<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**	<1	<1
Magnesium	ppm	ASTM D5185(m)	0	**<1**	0	0
Calcium	ppm	ASTM D5185(m)	0	**2**	0	1
Phosphorus	ppm	ASTM D5185(m)	0.7	**31**	52	14
Zinc	ppm	ASTM D5185(m)	0	**4**	3	7
Sulfur	ppm	ASTM D5185(m)	1315	**4153**	5364	3657
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

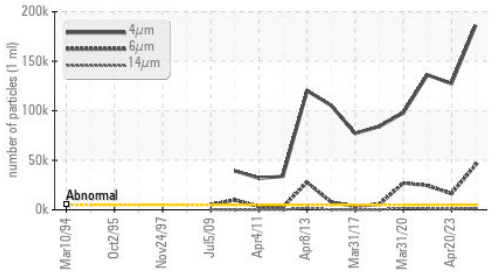
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>15	**<1**	4	2
Sodium	ppm	ASTM D5185(m)		**9**	3	6
Potassium	ppm	ASTM D5185(m)	>20	**<1**	<1	<1

OIL ANALYSIS REPORT

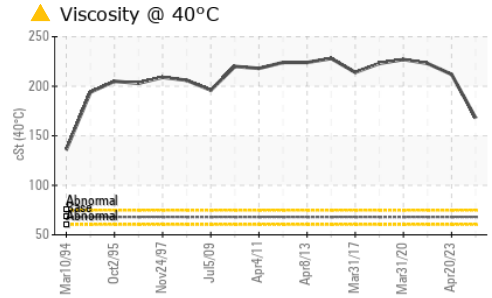
Particle Count



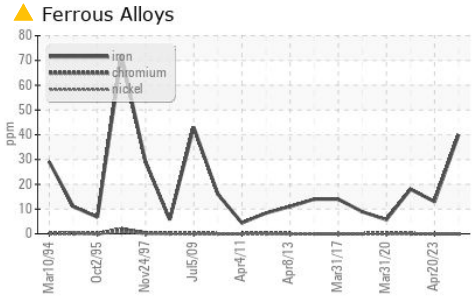
Particle Trend



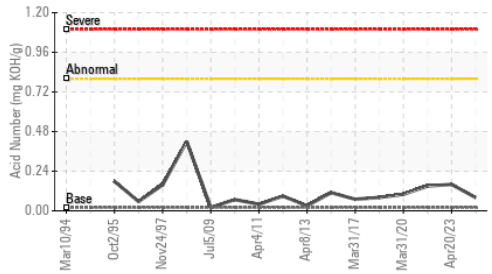
Viscosity @ 40°C



Ferrous Alloys



Acid Number

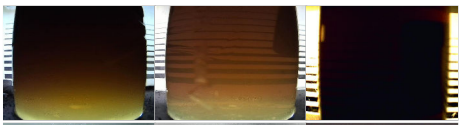


FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	▲ **186058**	127222	▲ 136186
Particles >6µm		ASTM D7647	>1300	▲ **45391**	16281	▲ 24558
Particles >14µm		ASTM D7647	>160	▲ **1266**	635	▲ 1049
Particles >21µm		ASTM D7647	>40	▲ **340**	148	▲ 206
Particles >38µm		ASTM D7647	>10	● **19**	4	9
Particles >71µm		ASTM D7647	>3	**3**	0	1
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ **25/23/17**	24/21/16	▲ 24/22/17

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.02	**0.08**	0.16	0.15

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	**NONE**	NONE	NONE
Debris	scalar	Visual*	NONE	**NONE**	NONE	LIGHT
Sand/Dirt	scalar	Visual*	NONE	**NONE**	NONE	NONE
Appearance	scalar	Visual*	NORML	**NORML**	NORML	NORML
Odor	scalar	Visual*	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	Visual*	>0.05	**NEG**	NEG	NEG
Free Water	scalar	Visual*		**NEG**	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	68	▲ **168**	212	223

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
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ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0718750
Lab Number : 02624251
Unique Number : 5749370
Test Package : IND 2 (Additional Tests: PQ)

Received : 25 Mar 2024
Tested : 26 Mar 2024
Diagnosed : 26 Mar 2024 - Kevin Marson

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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