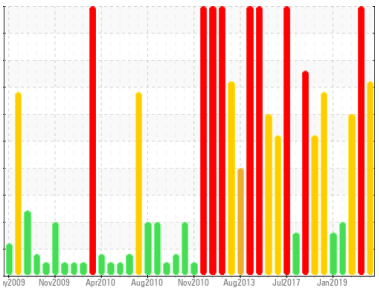
PROBLEM SUMMARY

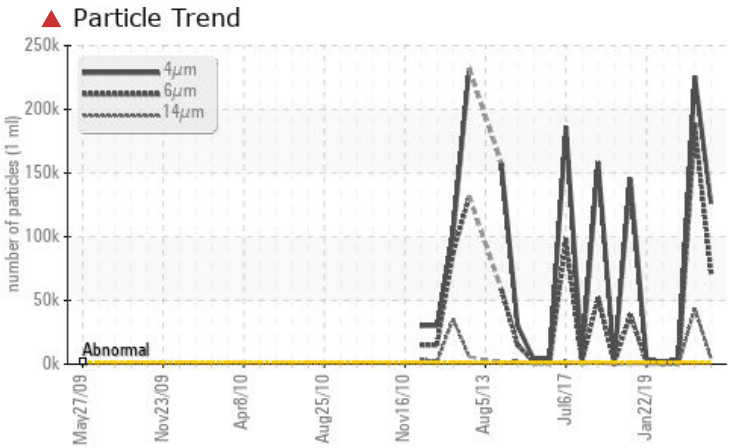
Sample Rating Trend



ISO

Machine Id
WHPU LP Pump B (S/N SAMPLE TAG: PB-58640 (B))
Component
Oil
Fluid
CASTROL ALPHASYN PG 150 (--- GAL)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

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. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	SEVERE	SEVERE
Particles >4µm		ASTM D7647	>1300	▲ **126502**	▲ 225714	▲ 3750
Particles >6µm		ASTM D7647	>320	▲ **73288**	▲ 187242	▲ 970
Particles >14µm		ASTM D7647	>40	▲ **4581**	▲ 43715	● 60
Particles >21µm		ASTM D7647	>10	▲ **1137**	▲ 10609	7
Particles >38µm		ASTM D7647	>3	▲ **15**	▲ 107	0
Oil Cleanliness		ISO 4406 (c)	>17/15/12	▲ **24/23/19**	▲ 25/25/23	▲ 19/17/13

Customer Id: TERHAM
Sample No.: PC71132090
Lab Number: 02351130
Test Package: MAR 2

To manage this report scan the QR code

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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
Change Filter	---	---	?	We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid.
Resample	---	---	?	Resample in 30-45 days to monitor this situation.
Information Required	---	---	?	NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.
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.
Filter Fluid	---	---	?	We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid.

HISTORICAL DIAGNOSIS

WATER

09 Feb 2020 Diag: Bill Quesnel

Check seals and/or filters for points of contaminant entry. We advise that you check all areas where contaminants can enter the system. We advise that you follow the water drain-off procedure for this component, 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. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.All component wear rates are normal. Water contamination levels are severely high. Water contamination levels are severely high.. ppm Water contamination levels are severely high. Particles >14µm are severely high. Particles >21µm are severely high. Particles >38µm are severely high. Particles >6µm are severely high. Particles >4µm are severely high. Particles >71µm are abnormally high. There is a high concentration of water present in the oil. The system cleanliness code is much higher than the acceptable limit for the target ISO 4406 cleanliness code. 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

08 Oct 2019 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 recommend you service the filters on this component. We recommend an early resample to monitor this condition. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.All component wear rates are normal. Water contamination levels are severely high. ppm Water contamination levels are severely high. ppm Water contamination levels are severely high.. Particles >4µm are abnormally high. Particles >6µm are abnormally high. Particles >14µm are notably high. There is a high concentration of water present in the oil. The system cleanliness is above the acceptable limit for the target ISO 4406 cleanliness code. The AN level is above the recommended limit. Viscosity of sample indicates oil is within SAE 10W50 range, advise investigate. The oil is no longer serviceable.

view report

ADDITIVES

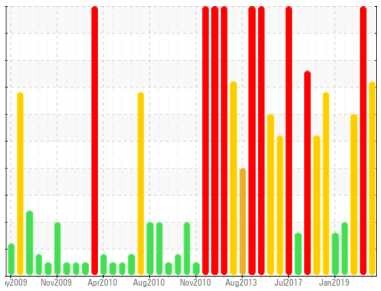
17 Apr 2019 Diag: Bill Quesnel

We recommend you service the filters on this component. Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. NOTE: The current sample results do not match this units historical trend, indicating the sample may not be from this component/unit.All component wear rates are normal. Particles >6µm are abnormally high. Particles >14µm are notably high. Particles >4µm are notably high. The system cleanliness is above the acceptable limit for the target ISO 4406 cleanliness code. 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.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



ISO

Machine Id
WHPU LP Pump B (S/N SAMPLE TAG: PB-58640 (B))
Component
Oil
Fluid
CASTROL ALPHASYN PG 150 (--- GAL)

DIAGNOSIS

Recommendation
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. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

Wear
All component wear rates are normal.

Contamination
Particles >14µm are severely high. Particles >21µm are severely high. Particles >6µm are severely high. Particles >4µm are severely high. Particles >38µm are abnormally high. The system cleanliness code is much higher than the acceptable limit for the target ISO 4406 cleanliness code.

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

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PC71132090**	PC	PC
Sample Date		Client Info		**07 Apr 2020**	09 Feb 2020	08 Oct 2019
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				**SEVERE**	SEVERE	SEVERE

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

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)		**0**	<1	0
Chromium	ppm	ASTM D5185(m)		**0**	0	0
Nickel	ppm	ASTM D5185(m)		**0**	<1	0
Titanium	ppm	ASTM D5185(m)		**0**	0	0
Silver	ppm	ASTM D5185(m)		**0**	<1	<1
Aluminum	ppm	ASTM D5185(m)		**0**	0	<1
Lead	ppm	ASTM D5185(m)		**0**	0	0
Copper	ppm	ASTM D5185(m)		**<1**	3	<1
Tin	ppm	ASTM D5185(m)		**0**	0	0
Antimony	ppm	ASTM D5185(m)		**<1**	<1	<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

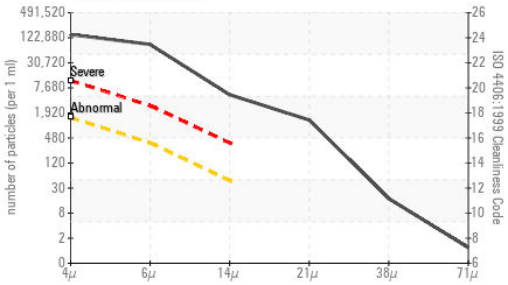
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		**2**	3	6
Barium	ppm	ASTM D5185(m)		**0**	0	0
Molybdenum	ppm	ASTM D5185(m)		**0**	0	<1
Manganese	ppm	ASTM D5185(m)		**0**	0	0
Magnesium	ppm	ASTM D5185(m)		**<1**	0	<1
Calcium	ppm	ASTM D5185(m)		**<1**	<1	2
Phosphorus	ppm	ASTM D5185(m)		**1121**	1644	2287
Zinc	ppm	ASTM D5185(m)		**<1**	<1	1
Sulfur	ppm	ASTM D5185(m)		**2198**	2848	3645
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)		**0**	8	<1
Sodium	ppm	ASTM D5185(m)		**0**	0	0
Potassium	ppm	ASTM D5185(m)	>20	**<1**	<1	<1

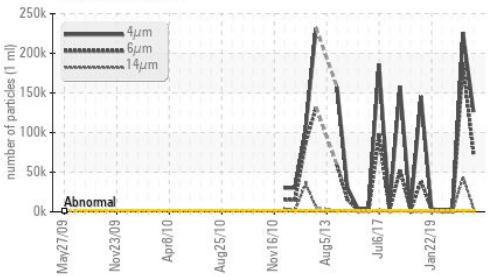
FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>1300	▲ **126502**	▲ 225714	▲ 3750
Particles >6µm		ASTM D7647	>320	▲ **73288**	▲ 187242	▲ 970
Particles >14µm		ASTM D7647	>40	▲ **4581**	▲ 43715	● 60
Particles >21µm		ASTM D7647	>10	▲ **1137**	▲ 10609	7
Particles >38µm		ASTM D7647	>3	▲ **15**	▲ 107	0
Particles >71µm		ASTM D7647	>3	**1**	▲ 9	0
Oil Cleanliness		ISO 4406 (c)	>17/15/12	▲ **24/23/19**	▲ 25/25/23	▲ 19/17/13

OIL ANALYSIS REPORT

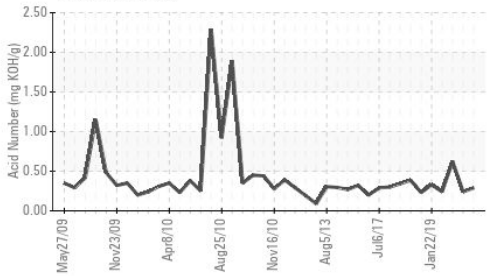
Particle Count



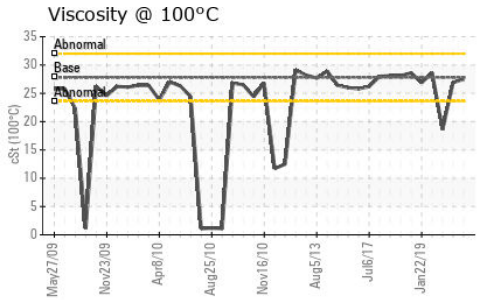
Particle Trend



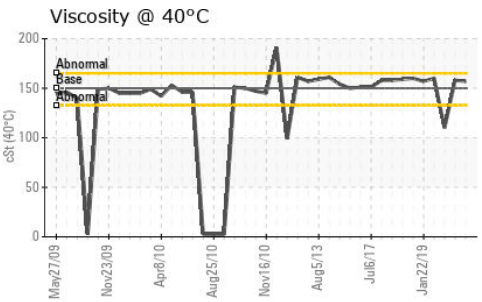
Acid Number



Viscosity @ 100°C



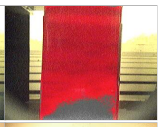
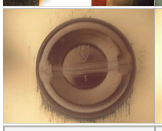
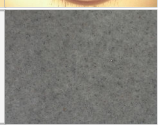
Viscosity @ 40°C



FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*		**0.29**	0.240	▲ 0.623

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**	VLITE	NONE
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*		**NEG**	▲ .2%	▲ .2%
Free Water	scalar	Visual*		**NEG**	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	150	**157**	158	▲ 110
Visc @ 100°C	cSt	ASTM D7279(m)	27.8	**27.5**	26.9	18.6
Viscosity Index (VI)	Scale	ASTM D2270*	225	**214**	208	189

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					
PrtFilter			*no image*	*no image*	

ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC71132090 **Received** : 28 Apr 2020
Lab Number : 02351130 **Tested** : 29 Apr 2020
Unique Number : 5042562 **Diagnosed** : 29 Apr 2020 - Kevin Marson
Test Package : MAR 2 (Additional Tests: KV100, PrtCount, TAN Man, VI)

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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