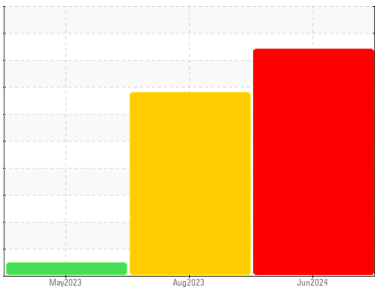
PROBLEM SUMMARY

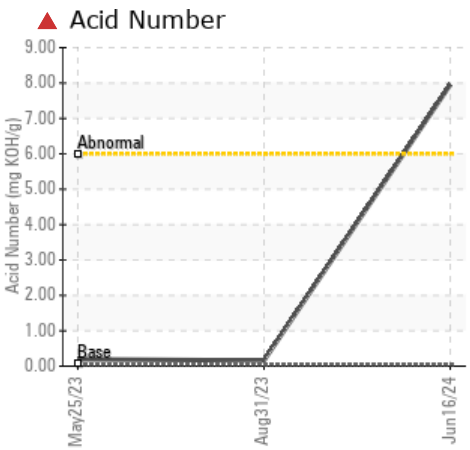
Sample Rating Trend

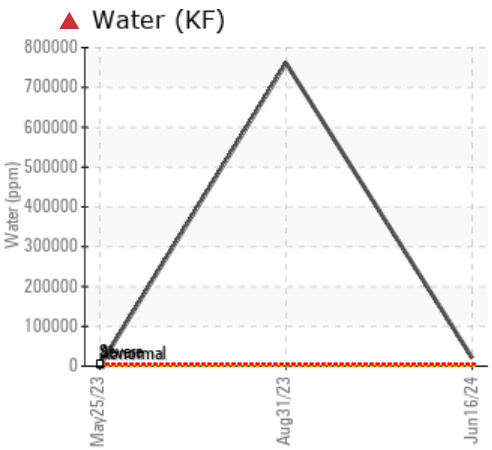


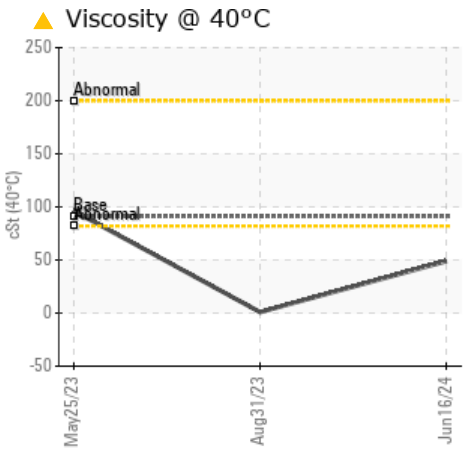
DEGRADATION

Machine Id
BUSCH 53 - P2 POLAR MASSAGER
Component
Vacuum Pump
Fluid
USPI VAC 100 (--- GAL)

COMPONENT CONDITION SUMMARY







RECOMMENDATION

Recommend drain oil if not already done and flush with cleaner before refilling with oil. We recommend an early resample to monitor this condition. We were unable to perform a particle count due to a high concentration of particles present in this sample.

PROBLEMATIC TEST RESULTS

Sample Status				**SEVERE**	SEVERE	NORMAL
Water	%	ASTM D6304	>.1	▲ **2.08**	▲ 76.1	0.052
ppm Water	ppm	ASTM D6304	>1000	▲ **20800**	▲ 761000	529.8
Acid Number (AN)	mg KOH/g	ASTM D8045	0.05	▲ **7.949**	0.16	0.194
Silt	scalar	*Visual	NONE	▲ **MODER**	NONE	NONE
Emulsified Water	scalar	*Visual	>.1	▲ **0.2%**	● 0.2%	NEG
Visc @ 40°C	cSt	ASTM D445	91	▲ **48.9**	▲ 0.9	96.2

Customer Id: CARNEB
Sample No.: USPM37750
Lab Number: 06211676
Test Package: IND 2

To manage this report scan the QR code

To discuss the diagnosis or test data:
Doug Bogart +1 (800)237-1369 x4016
dougb@wearcheckusa.com

To change component or sample information:
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Fluid	---	---	?	Recommend drain oil if not already done and flush with cleaner before refilling with oil.
Flush System	---	---	?	Recommend drain oil if not already done and flush with cleaner before refilling with oil.
Resample	---	---	?	We recommend an early resample to monitor this condition.
Alert	---	---	?	We were unable to perform a particle count due to a high concentration of particles present in this sample.

HISTORICAL DIAGNOSIS

WATER

31 Aug 2023 Diag: Doug Bogart

We advise that you follow the water drain-off procedure for this component. We advise an early resample to confirm this situation. There is too much water present in this sample to perform a particle count. Please note that there was too much water present in the oil to perform a viscosity test.All component wear rates are normal. Sodium and/or potassium levels are high. Sodium and/or potassium levels are high. Sample consists almost entirely of free water. Moderate concentration of visible dirt/debris present in the oil. The AN level is acceptable for this fluid. The oil is no longer serviceable due to the presence of contaminants.

view report

NORMAL

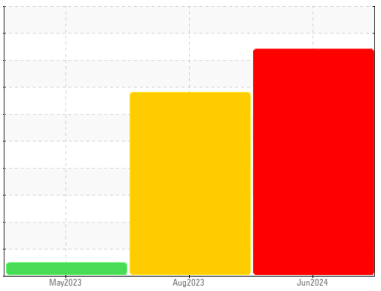
25 May 2023 Diag: Doug Bogart

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 amount and size of particulates present in the system are acceptable. 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



DEGRADATION

Machine Id
BUSCH 53 - P2 POLAR MASSAGER
Component
Vacuum Pump
Fluid
USPI VAC 100 (--- GAL)

DIAGNOSIS

▲ Recommendation
Recommend drain oil if not already done and flush with cleaner before refilling with oil. We recommend an early resample to monitor this condition. We were unable to perform a particle count due to a high concentration of particles present in this sample.

Wear
All component wear rates are normal.

▲ Contamination
Appearance is hazy. There is a high concentration of water present in the oil. There is a moderate amount of visible silt present in the sample.

▲ Fluid Condition
The oil viscosity is lower than normal. The AN level is above the recommended limit. This plus the additive levels indicates the addition of a different brand or type of oil. Confirmed.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**USPM37750**	USPM29486	USPM28362
Sample Date		Client Info		**16 Jun 2024**	31 Aug 2023	25 May 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				**SEVERE**	SEVERE	NORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>20	**<1**	2	<1
Chromium	ppm	ASTM D5185m	>20	**<1**	<1	0
Nickel	ppm	ASTM D5185m	>20	**<1**	<1	0
Titanium	ppm	ASTM D5185m		**<1**	0	0
Silver	ppm	ASTM D5185m		**0**	0	0
Aluminum	ppm	ASTM D5185m	>20	**0**	<1	1
Lead	ppm	ASTM D5185m	>20	**0**	0	0
Copper	ppm	ASTM D5185m	>20	**<1**	<1	0
Tin	ppm	ASTM D5185m	>20	**<1**	<1	<1
Vanadium	ppm	ASTM D5185m		**0**	<1	0
Cadmium	ppm	ASTM D5185m		**<1**	<1	0

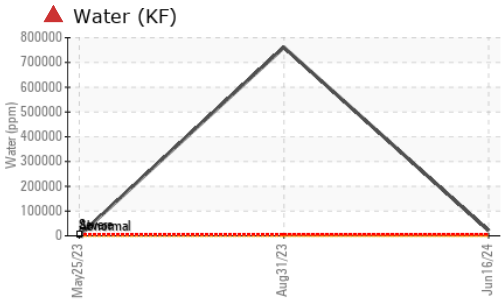
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**0**	22	0
Barium	ppm	ASTM D5185m	0	**0**	2	14
Molybdenum	ppm	ASTM D5185m	0	**<1**	0	0
Manganese	ppm	ASTM D5185m		**0**	0	<1
Magnesium	ppm	ASTM D5185m	0	**<1**	2	<1
Calcium	ppm	ASTM D5185m	0	**0**	9	<1
Phosphorus	ppm	ASTM D5185m	1800	**4**	439	340
Zinc	ppm	ASTM D5185m	0	**0**	6	0
Sulfur	ppm	ASTM D5185m	0	**0**	74	14

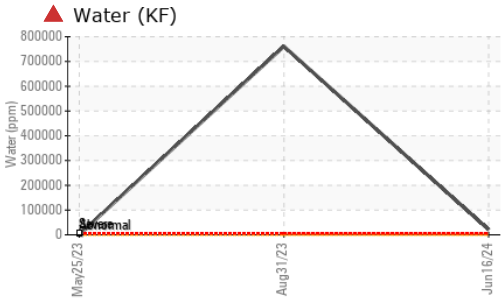
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	**<1**	2	3
Sodium	ppm	ASTM D5185m		**0**	▲ 1385	<1
Potassium	ppm	ASTM D5185m	>20	**0**	▲ 161	<1
Water	%	ASTM D6304	>.1	▲ **2.08**	▲ 76.1	0.052
ppm Water	ppm	ASTM D6304	>1000	▲ **20800**	▲ 761000	529.8

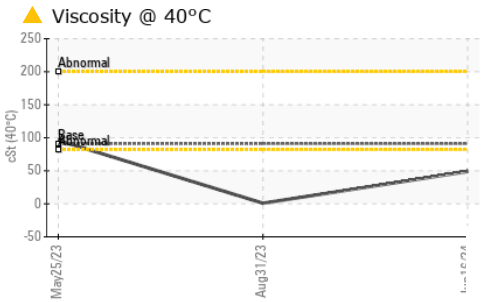
FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647		**---**	---	4736
Particles >6µm		ASTM D7647	>2500	**---**	---	565
Particles >14µm		ASTM D7647	>320	**---**	---	39
Particles >21µm		ASTM D7647	>80	**---**	---	10
Particles >38µm		ASTM D7647	>20	**---**	---	3
Particles >71µm		ASTM D7647	>4	**---**	---	1
Oil Cleanliness		ISO 4406 (c)	>--/18/15	**---**	---	19/16/12

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.05	▲ **7.949**	0.16	0.194

OIL ANALYSIS REPORT





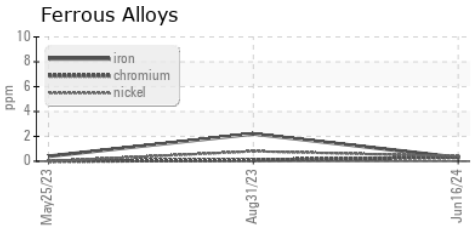


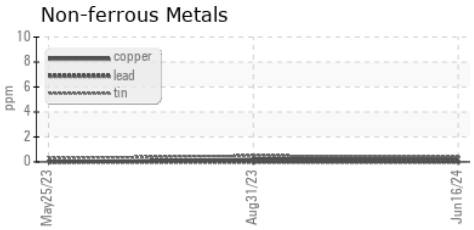
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	▲ **MODER**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	▲ MODER	NONE
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	● **HAZY**	NORML	NORML
Odor	scalar	*Visual	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	*Visual	>.1	▲ **0.2%**	● 0.2%	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

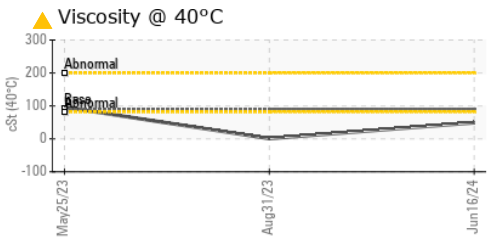
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	91	▲ **48.9**	▲ 0.9	96.2

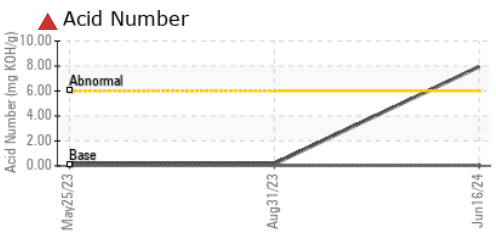
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS









Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : USPM37750
Lab Number : 06211676
Unique Number : 11084540
Test Package : IND 2

Received : 17 Jun 2024
Tested : 20 Jun 2024
Diagnosed : 20 Jun 2024 - Doug Bogart

CARGILL FOODS

NEBRASKA CITY, NE
US
Contact: SERVICE MANAGER

To discuss this sample report, contact Customer Service at 1-800-237-1369.
** - 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)

T:
F: