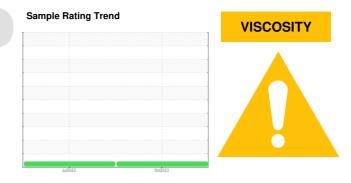


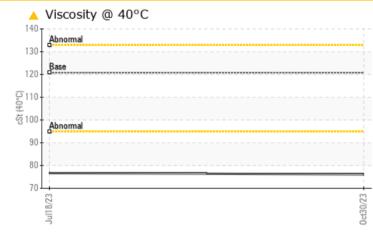
# **PROBLEM SUMMARY**



# BUSCH 15302 - USM121040044 Component

Vacuum Pump Flui BUSCH R-590 PUMP OIL (--- GAL)

## COMPONENT CONDITION SUMMARY



RECOMMENDATION	PROBLEMATIC TEST RESULTS						
Resample at the next service interval to monitor.	Sample Status				ATTENTION	ATTENTION	
	Visc @ 40°C	cSt	ASTM D445	120.8	A 76.1	A 76 67	

Customer Id: CARWYA Sample No.: USP0002957 Lab Number: 05994422 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

There are no recommended actions for this sample.

### HISTORICAL DIAGNOSIS

## 18 Jul 2023 Diag: Doug Bogart

VISCOSITY



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 oil viscosity is lower than normal. Confirmed. The AN level is acceptable for this fluid.





# **OIL ANALYSIS REPORT**

Sample Rating Trend



# Machine Id BUSCH 15302 - USM121040044

Vacuum Pump

BUSCH R-590 PUMP OIL (--- GAL)

## DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

#### Wear

All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

### Fluid Condition

The oil viscosity is lower than normal. Confirmed. The AN level is acceptable for this fluid.

SAMPLE INFORM	ATION	method	limit/base	current	history1	history2
Sample Number		Client Info		USP0002957	USPM28458	
Sample Date		Client Info		30 Oct 2023	18 Jul 2023	
Machine Age	hrs	Client Info		0	0	
Oil Age	hrs	Client Info		0	0	
Oil Changed		Client Info		N/A	N/A	
Sample Status				ATTENTION	ATTENTION	
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>20	3	4	
Chromium	ppm	ASTM D5185m	>20	<1	0	
Nickel	ppm	ASTM D5185m	>20	0	0	
Titanium	ppm	ASTM D5185m		<1	0	
Silver	ppm	ASTM D5185m		0	0	
Aluminum	ppm	ASTM D5185m	>20	1	3	
Lead	ppm	ASTM D5185m	>20	0	0	
Copper	ppm	ASTM D5185m	>20	5	5	
Tin	ppm	ASTM D5185m	>20	- <1	<1	
Vanadium	ppm	ASTM D5185m		<1	0	
Cadmium	ppm	ASTM D5185m		<1	0	
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		0	0	
Barium	ppm	ASTM D5185m		0	0	
Molybdenum	ppm	ASTM D5185m		0	0	
Manganese	ppm	ASTM D5185m		<1	0	
Magnesium	ppm	ASTM D5185m		0	<1	
Calcium	ppm	ASTM D5185m		0	0	
Phosphorus	ppm	ASTM D5185m		310	304	
Zinc	ppm	ASTM D5185m		23	19	
Sulfur	ppm	ASTM D5185m		1008	1189	
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	4	3	
Sodium	ppm	ASTM D5185m		2	0	
Potassium	ppm	ASTM D5185m	>20	1	<1	
Water	%	ASTM D6304	>.1	0.001	0.002	
ppm Water	ppm	ASTM D6304	>1000	13.7	16.5	
FLUID CLEANLIN	IESS	method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	161	760	
Particles >6µm		ASTM D7647	>1300	39	116	
Particles >14µm		ASTM D7647	>160	5	6	
Particles >21µm		ASTM D7647	>40	1	2	
Particles >38µm		ASTM D7647	>10	0	0	
Particles >71µm		ASTM D7647	>3	0	0	
Oil Cleanliness		ISO 4406 (c)	>19/17/14	15/12/10	17/14/10	
FLUID DEGRADA	TION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		0.25	0.29	



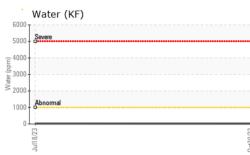
# **OIL ANALYSIS REPORT**

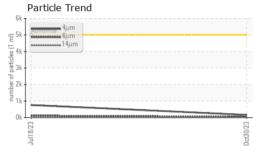
method

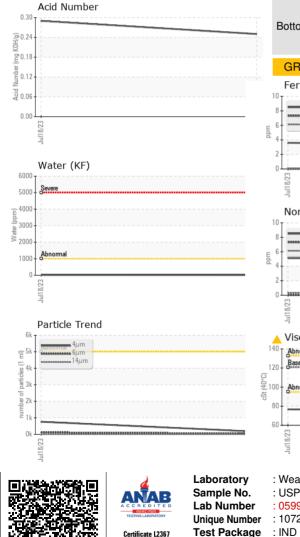
limit/base

current

VISUAL







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history2

history1

	White Metal	scalar	*Visual	NONE	NONE	NONE	
	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
	Precipitate	scalar	*Visual	NONE	NONE	NONE	
	Silt	scalar	*Visual	NONE	NONE	NONE	
	Debris	scalar	*Visual	NONE	NONE	NONE	
	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	
)/23	Appearance	scalar	*Visual	NORML	NORML	NORML	
0ct30/23	Odor	scalar	*Visual	NORML	NORML	NORML	
	Emulsified Water	scalar	*Visual	>.1	NEG	NEG	
	Free Water	scalar	*Visual		NEG	NEG	
	FLUID PROPERT		method	limit/base		history1	history2
	Visc @ 40°C	cSt	ASTM D445	120.8	A 76.1	▲ 76.67	
	SAMPLE IMAGES	S	method	limit/base	current	history1	history2
0ct30/23	Color				- 0		no image
	Bottom						no image
	GRAPHS		•				
	Ferrous Alloys				Particle Cou	nt	
	10 iron			491,52	20		T <sup>26</sup>
	6			122,88	80-		-24
					Severe		
	2			30,72	20		-22
	2			7,68	80 Abnormal		-20
	3/23				· · · ·		-20 -18 -16 -14
	Jul18/23			0ct30/23 10 0ct30/23 11 0ct30/23	20	· ·	-18
	Non-ferrous Metal	5		saloite 48	80-		-16
	<sup>10</sup> T			of bar		1	in the second second
	8 - copper			ja 12	20-		-14
	6 - tin				30-		-12
	4.						
	2				8-		-10
				53	2-		18
	Jul18/23			0ct30/23	-		ľ
	-			õ	0 4µ 6µ	14µ 21µ	38µ 71µ
	Viscosity @ 40°C				Acid Numbe		1 T.
	Base			5.0 5.0 (Mumber 1.0 Add Mumber 0.0 Add Mumber 0.0 Add Mumber 0.0 Add Mumber	30		
Û		********		ġ 0.2	24		
t (40°	100 - Abnormal			<u>분</u> 0.1 뉼	18		
3	80			# 0.1	12		
	60			Acid 1	00		
							20
	Jul18/23			0ct30/23	Jul18/23		0.430.03
Laboratory Sample No. Lab Number	: 05994422	501 Madia Received Diagnose Diagnost	d : 31 ed : 01	ary, NC 2751 Oct 2023 Nov 2023 ug Bogart	3 <b>CA</b>	RGILL - TAYLOR W <sup>Y</sup>	PACKING CO YALUSING, PA US 18853
Unique Number Test Package	: IND 2 contact Customer Servi	U U				Contact: SERVI	CE MANAGEF