

## **OIL ANALYSIS REPORT**

Sample Rating Trend

WATER

### Machine Id BUSCH VP-2C (S/N 5595722)

Component Vacuum Pump Fluid

USPI VAC 100 (--- GAL)

#### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

#### Wear

All component wear rates are normal.

#### Contamination

There is a moderate amount of silt (particulates < 6 microns in size) present in the oil. There is a trace of moisture present in the oil.

#### Fluid Condition

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

Sample Date         Client Info         01 Jul 2024         31 Mar 2024         07 Ja           Machine Age         hrs         Client Info         0         0         0         0           Oil Age         hrs         Client Info         0         0         0         0           Oil Changed         Client Info         N/A         N/A         N/A         N/A           Sample Status         Image         Image         ATTENTION         MARGINAL         ABNO           WEAR METALS         method         Imit/base         current         history1         h           Iron         ppm         ASTM D5185m         >20         -11         0         0           Nickel         ppm         ASTM D5185m         >20         0         -11         -1           Nickel         ppm         ASTM D5185m         >20         0         0         -1           Silver         ppm         ASTM D5185m         >20         0         0         -1           Silver         ppm         ASTM D5185m         >20         0         0         -1           Copper         ppm         ASTM D5185m         >20         0         0         0	130546 n 2024 DRMAL istory2
Machine Age         hrs         Client Info         0         0         0         0           Oil Age         hrs         Client Info         N/A         N/A         N/A         N/A           Sample Status         Image         ATTENTION         MARGINAL         ABNC           WEAR METALS         method         Imit/base         current         history1         h           Iron         ppm         ASTM D5185m         >20         <1         0         0           Chromium         ppm         ASTM D5185m         >20         0         <1         <1           Nickel         ppm         ASTM D5185m         >20         0         0         <1         <1           Nickel         ppm         ASTM D5185m         >20         0         0         <1         <1           Nickel         ppm         ASTM D5185m         >20         0         0         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         1         <1         <1	RMAL
Oil Age         hrs         Client Info         0         0         0           Oil Changed         Client Info         N/A         N/A         N/A         N/A           Sample Status         method         limit/base         current         history1         ATTENTION           WEAR METALS         method         limit/base         current         history1         ABNC           Iron         ppm         ASTM D5185m         >20         <1         0         0           Chromium         ppm         ASTM D5185m         >20         0         <1         <1           Nickel         ppm         ASTM D5185m         20         0         0         <1           Silver         ppm         ASTM D5185m         >20         0         0         <1           Copper         ppm         ASTM D5185m         >20         0         0         <1           Copper         ppm         ASTM D5185m         >20         0         0         <1           Manadium         ppm         ASTM D5185m         >20         0         0         <1           Manadium         ppm         ASTM D5185m         0         0         0         <1 <t< th=""><th></th></t<>	
Oil Age         hrs         Client Info         0         0         0           Oil Changed         Client Info         N/A         N/A         N/A         N/A           Sample Status         method         limit/base         current         history1         ATTENTION           WEAR METALS         method         limit/base         current         history1         ABNC           Iron         ppm         ASTM D5185m         >20         <1         0         0           Chromium         ppm         ASTM D5185m         >20         0         <1         <1           Nickel         ppm         ASTM D5185m         20         0         0         <1           Silver         ppm         ASTM D5185m         >20         0         0         <1           Copper         ppm         ASTM D5185m         >20         0         0         <1           Copper         ppm         ASTM D5185m         >20         0         0         <1           Manadium         ppm         ASTM D5185m         >20         0         0         <1           Manadium         ppm         ASTM D5185m         0         0         0         <1 <t< th=""><th></th></t<>	
Oil Changed         Client Info         N/A         N/A         N/A         N/A           Sample Status         nethod         imit/base         current         history1         A           Iron         ppm         ASTM D5185m         >20         <1         0         0           Chromium         ppm         ASTM D5185m         >20         0         <1         <1           Nickel         ppm         ASTM D5185m         >20         0         0         <1         <1           Silver         ppm         ASTM D5185m         >20         0         0         0         <1         <1           Silver         ppm         ASTM D5185m         >20         0         0         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         1         <1         <1	
Sample Status         Image: Control of the status         ATTENTION         MARGINAL         ABNO           WEAR METALS         method         limit/base         current         history1         h           Iron         ppm         ASTM D5185m         >20         <1         0         0           Chromium         ppm         ASTM D5185m         >20         0         <1         <1           Nickel         ppm         ASTM D5185m         >20         0         0         <1         <1           Nickel         ppm         ASTM D5185m         >20         0         0         <1         <1           Nickel         ppm         ASTM D5185m         >20         0         0         <1         <1           Silver         ppm         ASTM D5185m         >20         0         0         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         1	
WEAR METALS         method         limil/base         current         history1         r           Iron         ppm         ASTM D5185m         >20         <1         0         0           Chromium         ppm         ASTM D5185m         >20         0         <1         <1           Nickel         ppm         ASTM D5185m         >20         0         0         <1         <1           Titanium         ppm         ASTM D5185m         0         0         0         <1         <1           Silver         ppm         ASTM D5185m         >20         0         0         <1         <1           Copper         ppm         ASTM D5185m         >20         0         0         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         <1         1         1	
Iron         ppm         ASTM D5185m         >20         <1	istory2
Chromium         ppm         ASTM D5185m         >20         0         <1	
Nickel         ppm         ASTM D5185m         >20         0         0         <1	
Titanium         ppm         ASTM D5185m         0         0         <1	
Silver         ppm         ASTM D5185m         0         0         0         0           Aluminum         ppm         ASTM D5185m<>20         0         0         21           Lead         ppm         ASTM D5185m<>20         0         0         21           Copper         ppm         ASTM D5185m         >20         0         0         21           Tin         ppm         ASTM D5185m         >20         21         <1	
Aluminum         ppm         ASTM D5185m         >20         0         0         22           Lead         ppm         ASTM D5185m         >20         0         0         <1           Copper         ppm         ASTM D5185m         >20         0         0         <1           Tin         ppm         ASTM D5185m         >20         <1         <1         <1           Vanadium         ppm         ASTM D5185m         >20         <1         <1         <1           Vanadium         ppm         ASTM D5185m         >20         <1         <1         <1           Vanadium         ppm         ASTM D5185m         0         0         0         <1           ADDITIVES         method         limit/base         current         history1         h           Boron         ppm         ASTM D5185m         0         0         0         0           Magnaese         ppm         ASTM D5185m         0         0         <1         <1           Magnesium         ppm         ASTM D5185m         0         0         <1         0           Phosphorus         ppm         ASTM D5185m         0         0         0	
Lead         ppm         ASTM D5185m         >20         0         0         <1	
Copper         ppm         ASTM D5185m         >20         0         0         <1	
Tin         ppm         ASTM D5185m         >20         <1	
Vanadium         ppm         ASTM D5185m         0	
Cadmium         ppm         ASTM D5185m         0         0         <1	
ADDITIVES         method         limit/base         current         history1         h           Boron         ppm         ASTM D5185m         0         0         0         0         0           Barium         ppm         ASTM D5185m         0         0         0         0         0           Molybdenum         ppm         ASTM D5185m         0         0         0         0         0         0           Manganese         ppm         ASTM D5185m         0	
Boron         ppm         ASTM D5185m         0         1 <th1< th=""> <th1< th=""> <th1< th=""></th1<></th1<></th1<>	
Barium         ppm         ASTM D5185m         0         0         0         0         0           Molybdenum         ppm         ASTM D5185m         0         0         0         <1         <1           Manganese         ppm         ASTM D5185m         0         0         <1         <1         <1           Magnesium         ppm         ASTM D5185m         0         0         <1         <1         <1           Magnesium         ppm         ASTM D5185m         0         0         <1         <1         <1           Magnesium         ppm         ASTM D5185m         0         0         <1         <1         0           Phosphorus         ppm         ASTM D5185m         0         0         0         0         0           Sulfur         ppm         ASTM D5185m         0         0         0         0         0           Solicon         ppm         ASTM D5185m         0         0         0         18         0           CONTAMINANTS         method         limit/base         current         history1         h           Silicon         ppm         ASTM D5185m         >15         3         3	istory2
Molybdenum         ppm         ASTM D5185m         0         0         0         <1	
Manganese       ppm       ASTM D5185m       0           Magnesium       ppm       ASTM D5185m       0       0       0       0         Calcium       ppm       ASTM D5185m       0       0       <1       0         Phosphorus       ppm       ASTM D5185m       1800       857       848       81         Zinc       ppm       ASTM D5185m       0       0       0       0         Sulfur       ppm       ASTM D5185m       0       0       0       0         Sulfur       ppm       ASTM D5185m       0       0       18       0         CONTAMINANTS       method       limit/base       current       history1       h         Silicon       ppm       ASTM D5185m       >15       3       3       3         Sodium       ppm       ASTM D5185m       >20       <1       0       <1         Potassium       ppm       ASTM D6304       >.1       0.134       0.1111       0.0         ppm Water       ppm       ASTM D6304       >1000       1345       1112       62         FLUID CLEANLINESS       method       limit/base       current       history1 <th></th>	
Manganese         ppm         ASTM D5185m         0         0         <1	
Magnesium         ppm         ASTM D5185m         0	
Calcium         ppm         ASTM D5185m         0         0         <1	
Phosphorus         ppm         ASTM D5185m         1800         857         848         81           Zinc         ppm         ASTM D5185m         0 </th <th></th>	
Zinc         ppm         ASTM D5185m         0	3
Sulfur         ppm         ASTM D5185m         0         0         18         0           CONTAMINANTS         method         limit/base         current         history1         h           Silicon         ppm         ASTM D5185m         >15         3         3         3           Sodium         ppm         ASTM D5185m         >15         3         3         3           Potassium         ppm         ASTM D5185m         >20         <1         0         <1           Water         %         ASTM D6304         >.1 $\triangle$ 0.134 $\triangle$ 0.111         0.0           ppm Water         ppm         ASTM D6304         >.1000 $\triangle$ 1345         1112         62           FLUID CLEANLINESS         method         limit/base         current         history1         h	
Silicon         ppm         ASTM D5185m         >15         3         3         3           Sodium         ppm         ASTM D5185m         <1	
Sodium         ppm         ASTM D5185m         <1	istory2
Potassium         ppm         ASTM D5185m         >20         <1	
Water         %         ASTM D6304         >.1         A 0.134         0.111         0.0           ppm Water         ppm         ASTM D6304         >1000         1345         1112         62           FLUID CLEANLINESS         method         limit/base         current         history1         h	
ppm Water ppm ASTM D6304 >1000 A 1345 A 1112 62 FLUID CLEANLINESS method limit/base current history1 h	
FLUID CLEANLINESS method limit/base current history1 h	
	62
Particles >4µm ASTM D7647 >5000 - 5761 2028 🔺 10	
Particles >6μm         ASTM D7647         >1300         1290         510         68	istory2
Particles >14μm         ASTM D7647         >160         37         27         30	1 istory2 594
Particles >21μm         ASTM D7647         >40         4         6         10	1 istory2 594
Particles >38μm         ASTM D7647         >10         0         2	1 istory2 594
Particles >71µm ASTM D7647 >3 0 0 0	1 istory2 594
	1 istory2 594
FLUID DEGRADATION method limit/base current history1 h	1 istory2 594
Acid Number (AN) mg KOH/g ASTM D8045 0.05 0.16 0.071 0.0	1 istory2 594 6

Contact/Location: SERVICE MANAGER ? - TYSAMAPRO



particles (1

Water

Acid Nu 2.00

1.00

220

200

180

120

100

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# **OIL ANALYSIS REPORT**

NONE

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NORML

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101

NONE

NONE

NONE

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NONE

NONE

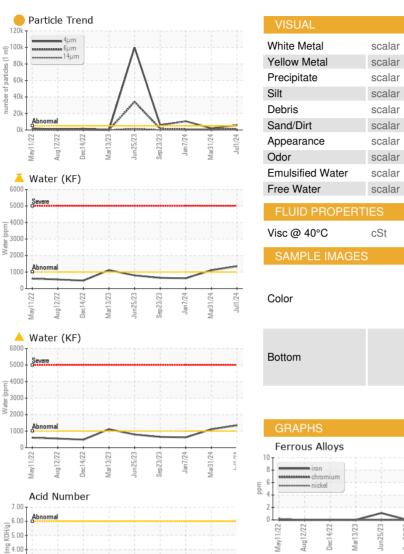
NORML

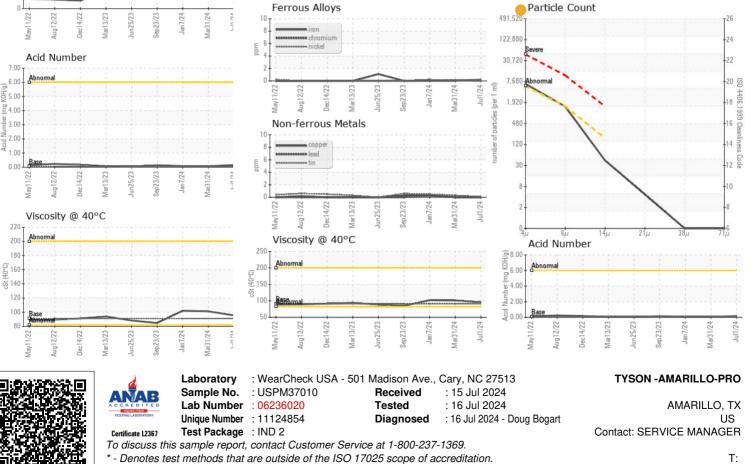
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102





Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Report Id: TYSAMAPRO [WUSCAR] 06236020 (Generated: 07/16/2024 12:56:40) Rev: 1

Contact/Location: SERVICE MANAGER ? - TYSAMAPRO

F: