

OIL ANALYSIS REPORT

Sample Rating Trend

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NORMAL

BUSCH CONVERSION P-12 CV-10 VACUUM

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

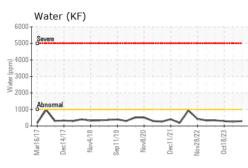
Fluid Condition

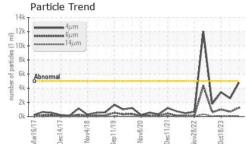
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

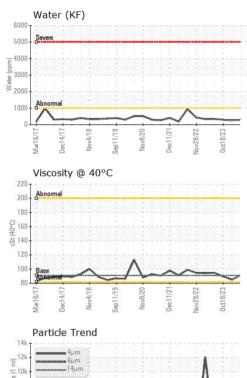
Oil Age I Oil Changed Sample Status WEAR METALS Iron Chromium P Chromium Silver F Aluminum Lead Copper Tin Vanadium Cadmium Boron Barium Manganese Magnesium Phosphorus Zinc	hrs hrs hrs ppm ppm ppm ppm ppm ppm ppm ppm ppm pp	Client Info Client Info Client Info Client Info Client Info Client Info Astm D5185m ASTM D5185m	>5 >3 >7 >12 >30 >9 limit/base 0	USPM36780 22 Apr 2024 0 N/A NORMAL 15 (15 (15) (15) (15) (15) (15) (15) (1	USPM30660 17 Jan 2024 0 N/A NORMAL 11 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	USPM31068 18 Oct 2023 0 N/A NORMAL 7 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Machine Age H Oil Age H Oil Changed Sample Status WEAR METALS Iron F Chromium F Nickel F Titanium Silver F Aluminum F Lead F Copper F Tin F Vanadium F Cadmium F Cadmium F Boron F Barium F Molybdenum F Manganese F Magnesium F Calcium F Phosphorus F Sulfur F	hrs ppm ppm ppm ppm ppm ppm ppm ppm ppm pp	Client Info Client Info Client Info Client Info Astm D5185m ASTM D5185m	>90 >5 >5 >3 >7 >12 >30 >9 imit/base 0 0	0 0 N/A NORMAL 15 <15 (1) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 N/A NORMAL history1 11 0 0 0 0 0 0 0 0 1 -1 -1 -1 -1 -1 0 0 0 history1 0 0 0 0 -1 -1 -1 -1 0 0 0 0 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1	0 0 N/A NORMAL 7 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Oil Age H Oil Changed Sample Status WEAR METALS Iron Chromium Nickel Titanium Silver Aluminum Lead Copper Tin Vanadium Cadmium Boron Barium Malganese Magnesium Calcium Phosphorus Zinc Sulfur	hrs ppm ppm ppm ppm ppm ppm ppm ppm ppm pp	Client Info Client Info Client Info Client Info ASTM D5185m ASTM D5185m	>90 >5 >5 >3 >7 >12 >30 >9 imit/base 0 0	0 N/A NORMAL 15 <1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 N/A NORMAL 11 0 0 0 0 0 0 0 0 0 0 0 1 1 <1 <1 <1 <1 0 0 0 0	0 N/A NORMAL 7 0 0 0 0 0 0 0 0 0 0 0 0 3 0 0 0 1 0 0 0 0
Oil Changed Sample Status WEAR METALS Iron Chromium Nickel Titanium Silver Aluminum Lead Copper Tin Vanadium Cadmium Boron Barium Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	Client Info method ASTM D5185m ASTM D5185m	>90 >5 >5 >3 >7 >12 >30 >9 imit/base 0 0	N/A NORMAL current 15 <10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	N/A NORMAL history1 11 0 0 0 0 0 0 0 0 0 1 4 1 4 1 4 1 0 0 0 0	N/A NORMAL 7 0 0 0 0 0 0 0 0 0 0 0 0 1 0 1 1 1 1 0 0 0 1 1 1 1 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Sample Status WEAR METALS Iron Chromium Chromium Nickel Titanium Silver Aluminum Lead Copper Tin Vanadium Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m	>90 >5 >5 >3 >7 >12 >30 >9 imit/base 0 0	NORMAL current 15 <1 0 0 0 0 0 0 0 0 0 0 0 0 0	NORMAL history1 11 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NORMAL history2 7 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
WEAR METALS Iron F Chromium F Nickel F Titanium F Silver F Aluminum F Lead F Copper F Tin F Vanadium F Cadmium F Boron F Barium F Manganese F Magnesium F Calcium F Phosphorus F Sulfur F	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	>90 >5 >5 >3 >7 >12 >30 >9 imit/base 0 0	current 15 <1	history1 11 0 0 0 0 0 <1	history2 7 0 0 0 0 0 0 0 <1
Iron p Chromium p Nickel p Titanium p Silver p Aluminum p Lead p Copper p Tin p Vanadium p Cadmium p ADDITIVES Boron p Barium p Molybdenum p Maganese p Magnesium p Calcium p Phosphorus p Zinc p	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	>90 >5 >5 >3 >7 >12 >30 >9 imit/base 0 0	15 <1 0 0 0 0 0 0 0 <1 0 0 0 0 0 current 0 0	11 0 0 0 0 0 -1 <1 <1 <1 <1 0 0 0 history1 0 0	7 0 0 0 0 0 0 0 <1 <1 <1 <1 0 0 0 history2 0 0
Chromium F Nickel F Titanium F Silver F Aluminum F Lead F Copper F Tin F Vanadium F Cadmium F ADDITIVES Boron F Barium F Molybdenum F Manganese F Magnesium F Calcium F Phosphorus F Zinc F	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	>5 >5 >3 >3 >7 >12 >30 >9 imit/base 0 0	<1 0 0 0 0 0 0 0 <1 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 <1 <1 <1 <1 <1 0 0 0 history1 0 0	0 0 0 0 0 0 0 <1 <1 <1 <1 0 0 0 history2 0 0
Nickel p Titanium p Silver p Aluminum p Lead p Copper p Tin p Cadmium p ADDITIVES Boron p Barium p Molybdenum p Manganese p Magnesium p Calcium p Phosphorus p Zinc p	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	>5 >3 >7 >12 >30 >9 limit/base 0 0	0 0 0 0 0 0 0 <1 0 0 0 0 0 0 0 0 0	0 0 0 <1 <1 <1 <1 0 0 0 history1 0 0	0 0 0 0 0 0 <1 <1 <1 0 0 0 history2 0 0
Titanium F Silver f Aluminum f Lead f Copper f Tin f Vanadium f Cadmium f ADDITIVES Boron f Barium f Molybdenum f Manganese f Magnesium f Calcium f Phosphorus f Zinc f	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	>3 >3 >7 >12 >30 >9 limit/base 0 0	0 0 0 0 0 0 <1 0 0 0 0 0 0	0 0 <1 <1 <1 <1 <1 0 0 0 history1 0 0	0 0 0 0 <1 <1 <1 0 0 0 <i>history2</i> 0 0
Silver f Aluminum f Lead f Copper f Tin f Vanadium f Cadmium f ADDITIVES Boron f Barium f Molybdenum f Manganese f Magnesium f Calcium f Phosphorus f Sulfur f	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>3 >7 >12 >30 >9 limit/base 0 0	0 0 0 0 <1 0 0 0 0 0 0	0 0 <1 <1 <1 <1 0 0 0 <i>history1</i> 0 0	0 0 0 <1 <1 <1 0 0 0 history2 0 0
Aluminum p Lead p Copper p Tin p Vanadium p Cadmium p ADDITIVES Boron p Barium p Molybdenum p Manganese p Magnesium p Calcium p Phosphorus p Zinc p	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>7 >12 >30 >9 limit/base 0 0	0 0 () () () () () () () () () () () () ()	0 <1 <1 <1 0 0 0 history1 0 0	0 0 <1 <1 <1 0 0 0 history2 0 0
Lead p Copper p Tin p Vanadium p Cadmium p ADDITIVES Boron p Barium p Molybdenum p Manganese p Magnesium p Calcium p Phosphorus p Zinc p	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>12 >30 >9 limit/base 0 0	0 0 <1 0 0 <u>current</u> 0 0	<1 <1 <1 0 0 history1 0 0	0 <1 <1 0 0 0 history2 0 0
Lead p Copper p Tin p Vanadium p Cadmium p ADDITIVES Boron p Barium p Molybdenum p Manganese p Magnesium p Calcium p Phosphorus p Zinc p	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>30 >9 limit/base 0 0	0 <1 0 0 <u>current</u> 0 0	<1 <1 0 0 history1 0 0	<1 <1 <1 0 0 history2 0 0 0
Copper prime	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m	>9 limit/base 0 0	<1 0 0 current 0 0	<1 0 0 history1 0 0	<1 0 0 history2 0 0
Tin p Vanadium p Cadmium p ADDITIVES Boron p Barium p Molybdenum p Manganese p Magnesium p Calcium p Phosphorus p Zinc p	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m	>9 limit/base 0 0	<1 0 0 current 0 0	<1 0 0 history1 0 0	<1 0 0 history2 0 0
Vanadium p Cadmium p ADDITIVES Boron p Barium p Molybdenum p Manganese p Magnesium p Calcium p Phosphorus p Zinc p	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0	0 0 current 0 0	0 0 history1 0 0	0 0 history2 0 0
Cadmium p ADDITIVES Boron p Barium p Molybdenum p Magnese p Magnesium p Calcium p Phosphorus p Zinc p	ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m	0	0 current 0 0	0 history1 0 0	0 history2 0 0
ADDITIVES Boron p Barium p Molybdenum p Manganese p Magnesium p Calcium p Phosphorus p Zinc p	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0	0 0	0	0
Boron p Barium p Molybdenum p Manganese p Magnesium p Calcium p Phosphorus p Zinc p Sulfur p	ppm ppm ppm	ASTM D5185m ASTM D5185m	0	0	0	0
Barium p Molybdenum p Manganese p Magnesium p Calcium p Phosphorus p Zinc p Sulfur p	ppm ppm ppm	ASTM D5185m		-		
Molybdenum p Manganese p Magnesium p Calcium p Phosphorus p Zinc p Sulfur p	ppm ppm	ASTM D5185m		-		
Manganese p Magnesium p Calcium p Phosphorus p Zinc p Sulfur p	ppm					
Magnesium p Calcium p Phosphorus p Zinc p Sulfur p				0	0	0
Calcium p Phosphorus p Zinc p Sulfur p	ppm	ASTM D5185m	0	1	0	0
Phosphorus p Zinc p Sulfur p	ppm	ASTM D5185m		1	0	0
Zinc p Sulfur p	ppm	ASTM D5185m	1800	991	1163	1159
Sulfur		ASTM D5185m		0	0	0
	ppm ppm	ASTM D5185m		122	130	158
	ppm	method	limit/base	current	history1	history2
	ppm	ASTM D5185m		22	24	20
1	ppm	ASTM D5185m	200	1	<1	0
	ppm	ASTM D5185m	>20	- <1	2	<1
	%	ASTM D6304		0.029	0.026	0.028
	ppm	ASTM D6304	>1000	294	262	288.7
FLUID CLEANLINE		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647		4804	2569	3428
Particles >6µm		ASTM D7647		1241	671	1016
Particles >14µm		ASTM D7647		96	59	74
Particles >21µm		ASTM D7647		15	17	17
Particles >38µm		ASTM D7647		0	1	1
Particles >71µm		ASTM D7647 ASTM D7647		0	0	0
Oil Cleanliness		ISO 4406 (c)	>3 >19/17/14	u 19/17/14	19/17/13	19/17/13
FLUID DEGRADAT		method				history2
Acid Number (AN)	NON	method				

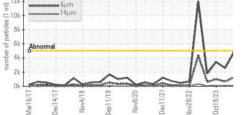


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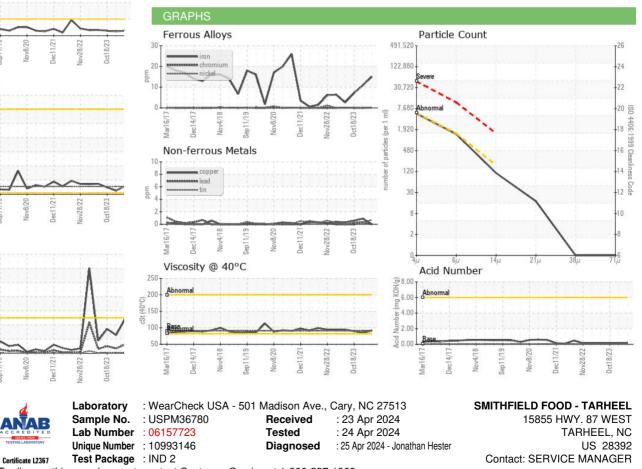




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VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	LIGHT
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	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	>.1	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERT	IES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	91	91.6	85.0	89.6
SAMPLE IMAGES	3	method	limit/base	current	history1	history2
Color				•		

Bottom



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)

F:

T:

Contact/Location: SERVICE MANAGER - SMITAR