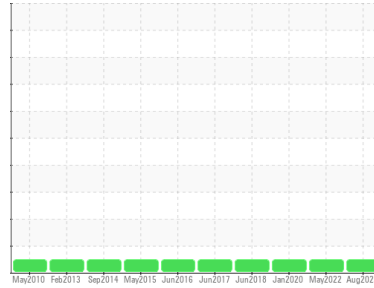




# OIL ANALYSIS REPORT

Sample Rating Trend

**NORMAL**



## Machine Id **BROWN BOVERI 5MW COMPRESSOR LUBE OIL**

Component  
**Centrifugal Compressor**  
Fluid  
**SHELL TELLUS 32 (2900 LTR)**

### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor. ( Customer Sample Comment: Annual oil sampling test )

#### Wear

All component wear rates are normal.

#### Contamination

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The water content is negligible. The system and fluid cleanliness is acceptable.

#### 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		<b>WC0701213</b>	WC0701225	WC0361090
Sample Date	Client Info		<b>23 Aug 2023</b>	11 May 2022	23 Jan 2020
Machine Age	yrs	Client Info	<b>0</b>	0	0
Oil Age	yrs	Client Info	<b>0</b>	0	0
Oil Changed	Client Info		<b>N/A</b>	N/A	N/A
Sample Status			<b>NORMAL</b>	NORMAL	NORMAL

### WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>50	<b>&lt;1</b>	0	0
Chromium	ppm	ASTM D5185(m)	>10	<b>0</b>	0	0
Nickel	ppm	ASTM D5185(m)		<b>0</b>	0	<1
Titanium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Silver	ppm	ASTM D5185(m)		<b>0</b>	0	0
Aluminum	ppm	ASTM D5185(m)	>25	<b>0</b>	0	0
Lead	ppm	ASTM D5185(m)	>25	<b>2</b>	2	2
Copper	ppm	ASTM D5185(m)	>50	<b>3</b>	2	2
Tin	ppm	ASTM D5185(m)	>15	<b>0</b>	<1	0
Antimony	ppm	ASTM D5185(m)		<b>0</b>	0	<1
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Beryllium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Cadmium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	<1

### ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185(m)		<b>&lt;1</b>	0	<1
Barium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	<1
Molybdenum	ppm	ASTM D5185(m)		<b>0</b>	0	0
Manganese	ppm	ASTM D5185(m)		<b>0</b>	0	0
Magnesium	ppm	ASTM D5185(m)	11	<b>1</b>	1	2
Calcium	ppm	ASTM D5185(m)	35	<b>25</b>	25	24
Phosphorus	ppm	ASTM D5185(m)	259	<b>365</b>	361	349
Zinc	ppm	ASTM D5185(m)	277	<b>285</b>	296	291
Sulfur	ppm	ASTM D5185(m)	1865	<b>2594</b>	2636	2757
Lithium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	<1

### CONTAMINANTS

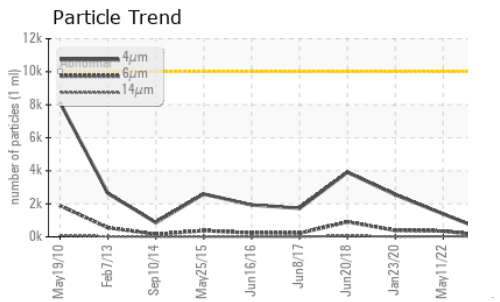
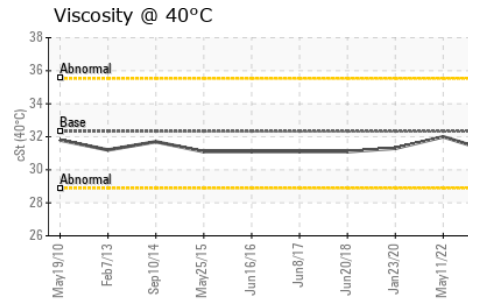
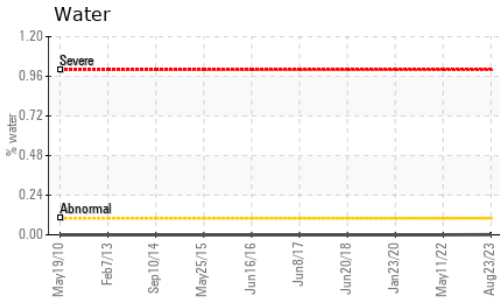
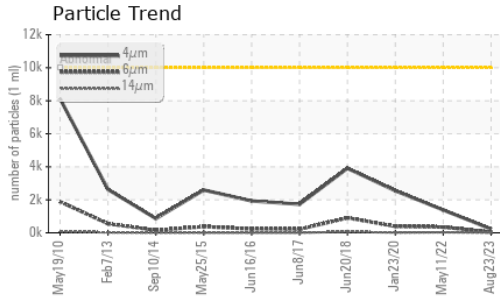
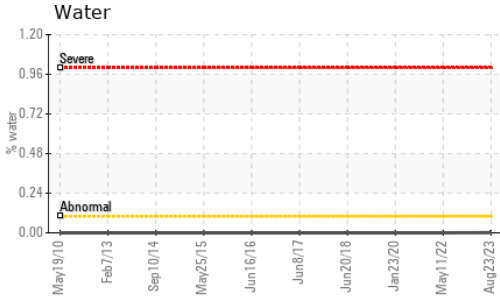
	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>25	<b>1</b>	1	1
Sodium	ppm	ASTM D5185(m)		<b>&lt;1</b>	0	0
Potassium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	1	<1
Water	%	ASTM D6304*	>0.1	<b>0.001</b>	0.00	---
ppm Water	ppm	ASTM D6304*	>1000	<b>1.3</b>	0.00	---

### FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>10000	<b>230</b>	1385	2548
Particles >6µm	ASTM D7647	>2500	<b>42</b>	348	391
Particles >14µm	ASTM D7647	>320	<b>3</b>	30	12
Particles >21µm	ASTM D7647	>80	<b>2</b>	9	4
Particles >38µm	ASTM D7647	>20	<b>1</b>	0	0
Particles >71µm	ASTM D7647	>4	<b>1</b>	0	0
Oil Cleanliness	ISO 4406 (c)	>20/18/15	<b>15/13/9</b>	18/16/12	19/16/11



# OIL ANALYSIS REPORT



FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.32	<b>0.36</b>	0.29	0.325

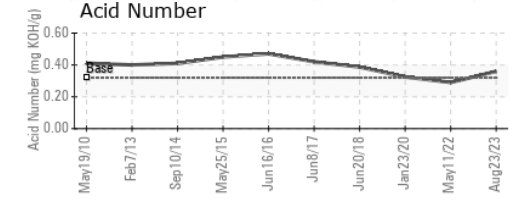
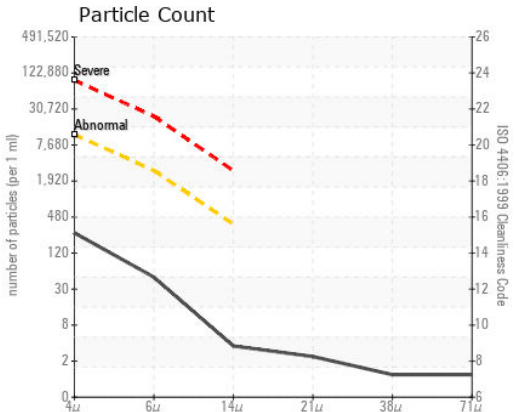
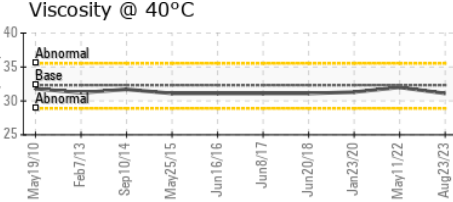
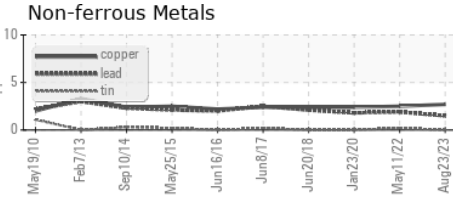
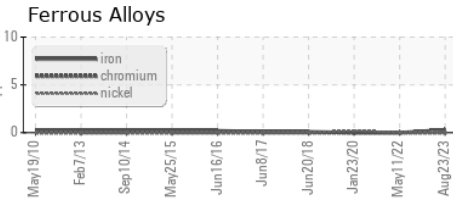
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Precipitate	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Silt	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	Visual*	NONE	<b>VLITE</b>	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	Visual*	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	Visual*	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	Visual*	>0.1	<b>NEG</b>	NEG	NEG
Free Water	scalar	Visual*		<b>NEG</b>	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	32.32	<b>31.1</b>	32.0	31.3

SAMPLE IMAGES		method	limit/base	current	history1	history2
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## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0701213  
**Lab Number** : 02578496  
**Unique Number** : 5631556  
**Test Package** : IND 2 ( Additional Tests: KF )  
 Received : 25 Aug 2023  
 Diagnosed : 29 Aug 2023  
 Diagnostician : Kevin Marson  
 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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