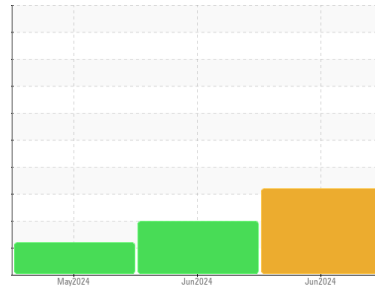




OIL ANALYSIS REPORT

Sample Rating Trend



DEGRADATION



Machine Id

SYSTEM OIL

Component

Circulating Reciprocating Compressor

Fluid

BITZER BSE 85K (--- LTR)

DIAGNOSIS

Recommendation

The component was not specified so we have determined that this is a reciprocating compressor based on the fluid type in use. Please specify the correct component type on your next sample. We recommend that you drain the oil from the component if this has not already been done. Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

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 above the recommended limit. The oil is no longer serviceable.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0871110	WC0871112	WC0871114
Sample Date	Client Info		27 Jun 2024	10 Jun 2024	09 May 2024
Machine Age	hrs	Client Info	0	0	0
Oil Age	hrs	Client Info	0	0	0
Oil Changed	Client Info		Not Chngd	N/A	N/A
Sample Status			ABNORMAL	ABNORMAL	ABNORMAL

WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184*		0	0	---
Iron	ppm	ASTM D5185(m) >50	1	<1	0
Chromium	ppm	ASTM D5185(m) >10	0	0	0
Nickel	ppm	ASTM D5185(m)	<1	0	0
Titanium	ppm	ASTM D5185(m)	0	0	0
Silver	ppm	ASTM D5185(m)	0	0	0
Aluminum	ppm	ASTM D5185(m) >25	<1	0	0
Lead	ppm	ASTM D5185(m) >25	0	0	0
Copper	ppm	ASTM D5185(m) >50	<1	<1	<1
Tin	ppm	ASTM D5185(m) >15	0	0	0
Antimony	ppm	ASTM D5185(m)	0	0	0
Vanadium	ppm	ASTM D5185(m)	0	0	0
Beryllium	ppm	ASTM D5185(m)	0	0	0
Cadmium	ppm	ASTM D5185(m)	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m) 0	<1	<1	<1
Barium	ppm	ASTM D5185(m) 0	0	0	0
Molybdenum	ppm	ASTM D5185(m) 0	0	0	0
Manganese	ppm	ASTM D5185(m) 0	0	0	0
Magnesium	ppm	ASTM D5185(m) 0	0	0	<1
Calcium	ppm	ASTM D5185(m) 0	0	0	1
Phosphorus	ppm	ASTM D5185(m) 1200	997	1022	1042
Zinc	ppm	ASTM D5185(m) 0	<1	1	2
Sulfur	ppm	ASTM D5185(m) 0	4	15	25
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >25	0	0	<1
Sodium	ppm	ASTM D5185(m)	0	<1	<1
Potassium	ppm	ASTM D5185(m) >20	<1	<1	<1
Water	%	ASTM D6304* >0.015	0.026	0.032	0.028
ppm Water	ppm	ASTM D6304* >150	269	330	281

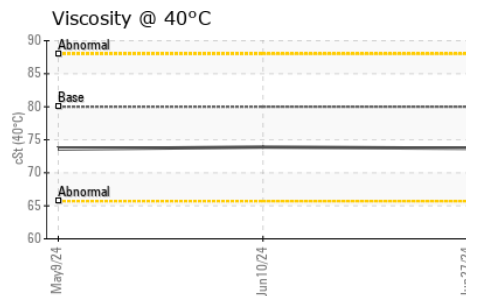
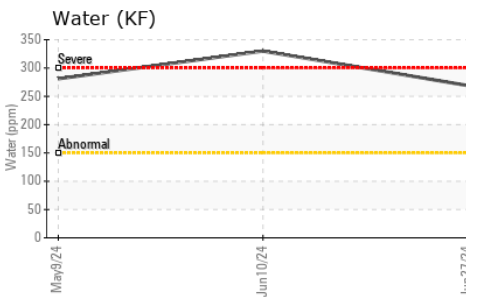
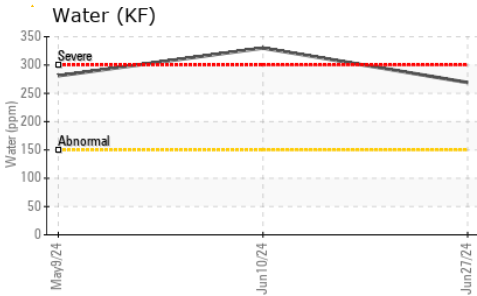
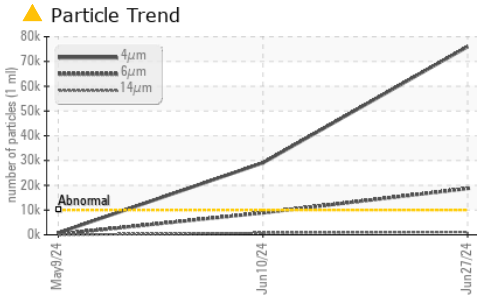
FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>10000	▲ 76004	▲ 29082	787
Particles >6µm	ASTM D7647	>2500	▲ 18699	▲ 8888	254
Particles >14µm	ASTM D7647	>320	▲ 1121	▲ 739	26
Particles >21µm	ASTM D7647	>80	▲ 277	▲ 203	8
Particles >38µm	ASTM D7647	>20	22	9	2
Particles >71µm	ASTM D7647	>4	2	1	1

Oil Cleanliness	ISO 4406 (c)	>20/18/15	▲ 23/21/17	▲ 22/20/17	17/15/12
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OIL ANALYSIS REPORT

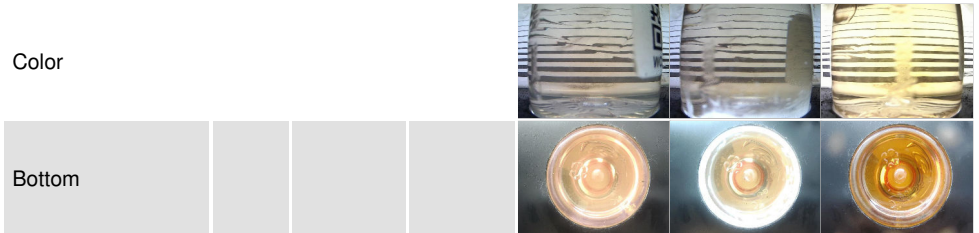


FLUID DEGRADATION	method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g	ASTM D974*	0.02	▲ 0.60	0.19	▲ 0.54

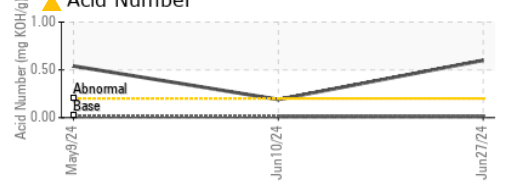
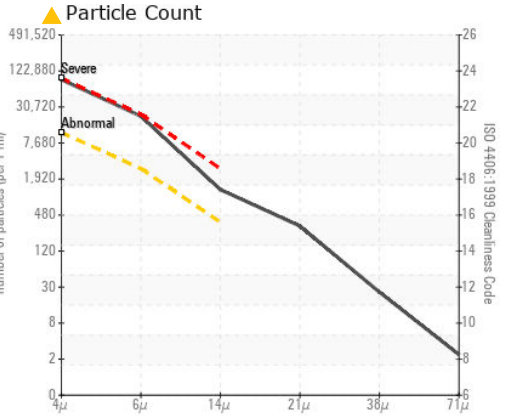
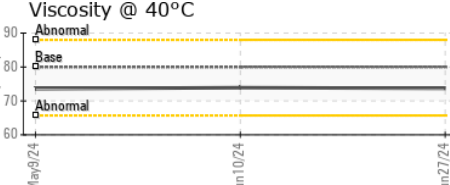
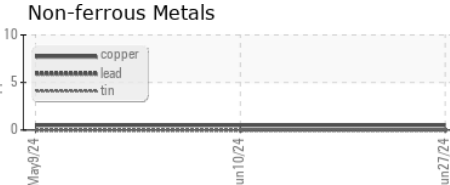
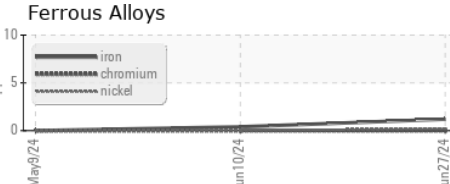
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	FREON	NORML
Emulsified Water	scalar	Visual*	>0.015	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 40°C	cSt	ASTM D7279(m)	80	73.7	73.9	73.6

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. : WC0871110
Lab Number : 02645265
Unique Number : 5802804
Test Package : IND 2 (Additional Tests: KF, PQ, PRTCOUNT, TAN MAN)
Received : 03 Jul 2024
Tested : 05 Jul 2024
Diagnosed : 05 Jul 2024 - Kevin Marson

CONESTOGA COLD STORAGE
 2660 MEADOWPINE BLVD., DOOR 57, CALL EXT. 2317
 MISSISSAUGA, ON
 CA L5N 7E6
 Contact: Jeremy Koziol
 jkoziol@coldstorage.com
 T: (519)748-4086
 F: (905)567-1844

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.