

OIL ANALYSIS REPORT

Machine Id **BSE 85K**Component

New (Unused) Oil

BITZER BSE 85K (--- GAL)

Sample Rating Trend



DIAGNOSIS

Recommendation

This is the baseline readout on this new (unused) oil. The fluid is suitable for service.

Contamination

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. There is no indication of any contamination in the new (unused) oil.

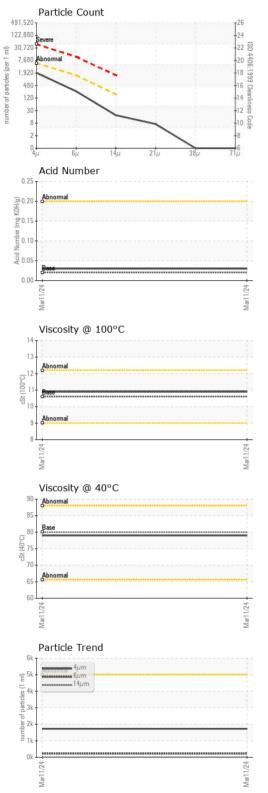
Fluid Condition

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

Client Info					Mar2024		
Client Info	SAMPLE INFORM	ATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 0	Sample Number		Client Info		WC0871105		
Dil Age	Sample Date		Client Info		11 Mar 2024		
Contamped Client Info	Machine Age	hrs	Client Info		0		
CONTAMINATION	Oil Age	hrs	Client Info		0		
CONTAMINATION method limit/base current history1 history2 Water WC Method >0.015 NEG WEAR METALS method limit/base current history1 history2 ron ppm ASTM D5185(m) 0 Chromium ppm ASTM D5185(m) 0 Okickel ppm ASTM D5185(m) 0 Silver ppm ASTM D5185(m) 0 Aluminum ppm ASTM D5185(m) 0 Lead ppm ASTM D5185(m) 0 Copper ppm ASTM D5185(m) 0 Vanadium ppm ASTM D5185(m) 0 Vanadium ppm ASTM D5185(m) 0 Vanadium ppm ASTM D5185(m) 0 <td>Oil Changed</td> <td></td> <td>Client Info</td> <td></td> <td>N/A</td> <td></td> <td></td>	Oil Changed		Client Info		N/A		
Water WC Method >0.015 NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185(m) 0 Chromium ppm ASTM D5185(m) 0 Nickel ppm ASTM D5185(m) 0 Silver ppm ASTM D5185(m) 0 Aluminum ppm ASTM D5185(m) 0 Lead ppm ASTM D5185(m) 0 Lead ppm ASTM D5185(m) 0 Copper ppm ASTM D5185(m) 0 Copper ppm ASTM D5185(m) 0 Vanadium ppm ASTM D5185(m) 0 Vanadium ppm ASTM D5185(m) 0	Sample Status				NORMAL		
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185(m) 0 Chromium ppm ASTM D5185(m) 0 Nickel ppm ASTM D5185(m) 0 Silver ppm ASTM D5185(m) 0 Aluminum ppm ASTM D5185(m) 0 Lead ppm ASTM D5185(m) 0 Copper ppm ASTM D5185(m) 0 Cadadium ppm ASTM D5185(m) 0	CONTAMINATION		method	limit/base	current	history1	history2
Chromium	Water		WC Method	>0.015	NEG		
Description	WEAR METALS		method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185(m)		0		
Description	Chromium	ppm	ASTM D5185(m)		0		
Saliver					<1		
Aluminum	Titanium	ppm	ASTM D5185(m)		0		
Lead	Silver	ppm	ASTM D5185(m)		0		
Description	Aluminum	ppm	ASTM D5185(m)		<1		
Trin	Lead	ppm	ASTM D5185(m)		0		
Antimony	Copper	ppm	ASTM D5185(m)		0		
Vanadium ppm ASTM D5185(m) 0 Beryllium ppm ASTM D5185(m) 0 Cadmium ppm ASTM D5185(m) 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185(m) 0 0 Barium ppm ASTM D5185(m) 0 0 Barium ppm ASTM D5185(m) 0 0 Molybdenum ppm ASTM D5185(m) 0 0 Magnesium ppm ASTM D5185(m) 0 0 Phosphorus ppm ASTM D5185(m) 0 0 Phosphorus ppm ASTM D5185(m) 0 <1 Sulfur ppm ASTM D5185(m) 0 <1 <t< td=""><td>Tin</td><td>ppm</td><td>ASTM D5185(m)</td><td></td><td>0</td><td></td><td></td></t<>	Tin	ppm	ASTM D5185(m)		0		
Description	Antimony	ppm	ASTM D5185(m)		0		
ADDITIVES	Vanadium	ppm	ASTM D5185(m)		0		
ADDITIVES	Beryllium	ppm	ASTM D5185(m)		0		
Boron	Cadmium	ppm	ASTM D5185(m)		0		
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185(m) 0 0 Manganese ppm ASTM D5185(m) 0 0 Magnesium ppm ASTM D5185(m) 0 <1	Boron	ppm	ASTM D5185(m)	0	0		
Manganese ppm ASTM D5185(m) 0 Magnesium ppm ASTM D5185(m) 0 <1	Barium	ppm	ASTM D5185(m)	0	0		
Magnesium ppm ASTM D5185(m) 0 <1 Calcium ppm ASTM D5185(m) 0 0 Phosphorus ppm ASTM D5185(m) 1200 1078 Zinc ppm ASTM D5185(m) 0 <1	Molybdenum	ppm	ASTM D5185(m)	0	0		
Calcium ppm ASTM D5185(m) 0 0 Phosphorus ppm ASTM D5185(m) 1200 1078 Zinc ppm ASTM D5185(m) 0 <1	Manganese	ppm	ASTM D5185(m)	0	0		
Calcium ppm ASTM D5185(m) 0 0 Phosphorus ppm ASTM D5185(m) 1200 1078 Zinc ppm ASTM D5185(m) 0 <1			ASTM D5185(m)	0	<1		
Zinc			ASTM D5185(m)	0	0		
Sulfur ppm ASTM D5185(m) 0 0 Lithium ppm ASTM D5185(m) <1 CONTAMINANTS method limit/base current history1 history2 Soliicon ppm ASTM D5185(m) 0 Sodium ppm ASTM D5185(m) <1 Potassium ppm ASTM D5185(m) >20 0 INFRA-RED method limit/base current history1 history2 Soot % % ASTM D7844* 0.1 Nitration Abs/cm ASTM D7624* 3.8	Phosphorus	ppm			1078		
Lithium ppm ASTM D5185(m) <1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) 0 Sodium ppm ASTM D5185(m) <1		ppm	ASTM D5185(m)	0	<1		
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) 0 Sodium ppm ASTM D5185(m) <1	Sulfur	ppm	ASTM D5185(m)	0	0		
Solition ppm ASTM D5185(m) 0	Lithium	ppm	ASTM D5185(m)		<1		
Sodium ppm ASTM D5185(m) <1	CONTAMINANTS		method	limit/base	current	history1	history2
Sodium ppm ASTM D5185(m) <1 Potassium ppm ASTM D5185(m) >20 0 INFRA-RED method limit/base current history1 history2 Soot % % ASTM D7844* 0.1 Nitration Abs/cm ASTM D7624* 3.8	Silicon	ppm	ASTM D5185(m)		0		
INFRA-RED method limit/base current history1 history2 Soot % % ASTM D7844* 0.1 Nitration Abs/cm ASTM D7624* 3.8			ASTM D5185(m)		<1		
Soot % % ASTM D7844* 0.1 Nitration Abs/cm ASTM D7624* 3.8	Potassium	ppm	ASTM D5185(m)	>20	0		
Nitration Abs/cm ASTM D7624* 3.8	INFRA-RED		method	limit/base	current	history1	history2
Nitration Abs/cm ASTM D7624* 3.8	Soot %	%	ASTM D7844*		0.1		
Sulfation Abs/.1mm ASTM D7415* 164.5	Nitration	Abs/cm	ASTM D7624*				
	Sulfation	Abs/.1mm	ASTM D7415*		164.5		



OIL ANALYSIS REPORT



Particles >4µm Particles >6µm Particles >14µm Particles >21µm Particles >38µm Particles >71µm	ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	>160	1726 224		
Particles >14µm Particles >21µm Particles >38µm	ASTM D7647	>160			
Particles >21μm Particles >38μm					
Particles >38µm	ASTM D7647		16		
· ·		>40	6		
Particles >71µm	ASTM D7647	>10	0		
	ASTM D7647	>3	0		
Oil Cleanliness	ISO 4406 (c)	>19/17/14	18/15/11		
FLUID DEGRADATIO	N method	limit/base	current	history1	history2
Oxidation Abs/.	.1mm ASTM D7414*		213.9		
Acid Number (AN) mg K	OH/g ASTM D974*	0.02	0.03		
VISUAL	method	limit/base	current	history1	history2
White Metal sca	alar Visual*	NONE	NONE		
Yellow Metal sca	alar Visual*	NONE	NONE		
Precipitate sca	alar Visual*	NONE	NONE		
Silt sca	alar Visual*	NONE	NONE		
Debris sca	alar Visual*	NONE	NONE		
Sand/Dirt sca	alar Visual*	NONE	NONE		
Appearance sca	alar Visual*	NORML	NORML		
Odor sca	alar Visual*	NORML	NORML		
Emulsified Water sca	alar Visual*	>0.015	NEG		
Free Water sca	alar Visual*		NEG		
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C cSt	ASTM D7279(m)	80	79.0		
Visc @ 100°C cSt	ASTM D7279(m)	10.6	10.9		
Viscosity Index (VI) Sca	ale ASTM D2270*	118	125		
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color			1160	no image	no image
Bottom				no image	no image



CALA ISO 17025:2017 Accredited Laboratory

Laboratory Sample No. Lab Number : 02622156 Unique Number : 5747275

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 : WC0871105

Received **Tested** Diagnosed

: 14 Mar 2024 : 15 Mar 2024

: 15 Mar 2024 - Kevin Marson

CONESTOGA COLD STORAGE 2660 MEADOWPINE BLVD,, DOOR 57, CALL EXT. 2317

MISSISSAUGA, ON CA L5N 7E6

Test Package : IND 2 (Additional Tests: FT-IR, ICP-NewOil, KV100, PrtCount, TAN Man, VI) Contact: Jeremy Koziol To discuss this sample report, contact Customer Service at 1-800-268-2131.

jkoziol@coldstorage.com T: (519)748-4086

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.

F: (905)567-1844