

OIL ANALYSIS REPORT



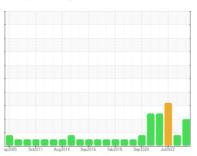
DEGRADATION



3500 Steeles ME2 [1-10F1M0AZ] **YORK SBNM228120**

Component Chiller

YORK TYPE C (--- GAL)





DIAGNOSIS

Recommendation

If not recently done change any filter driers to reduce moisture level. We recommend an early resample to monitor this condition.

Copper ppm levels are abnormal.

Contamination

The water content is negligible. There is no indication of any contamination in the oil.

Fluid Condition

The AN level is above the recommended limit. NOTE: The color of the oil is darker then previous samples.

Sample Number Client Info GTT0001300 GTT61644 GTT61645 Sample Date Client Info 12 Dec 2023 04 Apr 2023 11 Jul 2022 Machine Age hrs Client Info 0	-,		вр2005 Ос	t2011 Aug2014 Sep2	016 Feb2018 Sep2020	ul2022	
Sample Date Client Info 12 Dec 2023 04 Apr 2023 11 Jul 2022	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 0 Oil Age hrs Client Info 0 Oil Changed Client Info N/A N/A N/A N/A Sample Status BMORMAL ABNORMAL ABNORMAL ABNORMAL ABNORMAL WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185(m) >2 0 <1	Sample Number		Client Info		GTT0001300	GTT61644	GTT61645
Oil Age hrs Client Info N/A A ABNORMAL ABNORMAL	Sample Date		Client Info		12 Dec 2023	04 Apr 2023	11 Jul 2022
Oil Age hrs Client Info N/A A ABNORMAL ABNORMAL	Machine Age	hrs	Client Info		0		
MEAR METALS method limit/base current history1 history2	Oil Age	hrs	Client Info		0		
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185(m) >8 3 2 4 Chromium ppm ASTM D5185(m) >2 0 <1	Oil Changed		Client Info		N/A	N/A	N/A
Iron	Sample Status				ABNORMAL	ABNORMAL	ABNORMAL
Chromium ppm ASTM D5185(m) >2 0 <1 <1 Nickel ppm ASTM D5185(m) <1 Titanium ppm ASTM D5185(m) >2 0 Silver ppm ASTM D5185(m) >2 0 Aluminum ppm ASTM D5185(m) >3 1 <1 <1 <3 Lead ppm ASTM D5185(m) >2 <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 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <td>WEAR METALS</td> <td></td> <td>method</td> <td>limit/base</td> <th>current</th> <td>history1</td> <td>history2</td>	WEAR METALS		method	limit/base	current	history1	history2
Nickel ppm ASTM D5185(m)	Iron	ppm	ASTM D5185(m)	>8	3	2	4
Titanium ppm ASTM D5185(m) >2 0 AIuminum ppm ASTM D5185(m) >2 0 AIuminum ppm ASTM D5185(m) >3 1 <1	Chromium	ppm	ASTM D5185(m)	>2	0	<1	<1
Silver	Nickel	ppm	ASTM D5185(m)		<1		
Aluminum ppm ASTM D518S(m) >3 1 <1	Titanium	ppm	ASTM D5185(m)		0		
Aluminum ppm ASTM D5185(m) >3 1 <1 △ 3 Lead ppm ASTM D5185(m) >2 <1	Silver		. ,	>2	0		
Lead ppm ASTM D5185(m) >2 <1	Aluminum			>3	1	<1	<u></u> 3
Copper ppm ASTM D5185(m) >8 43 12 26 Tin ppm ASTM D5185(m) >4 0 <1	Lead			>2	<1	<1	<1
Tin ppm ASTM D5185(m) >4 0 <1 <1 <1 Antimony ppm ASTM D5185(m) 0	Copper			>8	43	<u> 12</u>	<u>^</u> 26
Antimony ppm ASTM D5185(m) 0 Vanadium ppm ASTM D5185(m) 0 Beryllium ppm ASTM D5185(m) 0 Cadmium ppm ASTM D5185(m) 0 Cadmium ppm ASTM D5185(m) 0 <1	Tin		, ,		0	<1	<1
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 <1 Barium ppm ASTM D5185(m) 0 0 Barium ppm ASTM D5185(m) 0 0 Molybdenum ppm ASTM D5185(m) 0 0 Manganese ppm ASTM D5185(m) 0 0 Magnesium ppm ASTM D5185(m) 0 0 Phosphorus ppm ASTM D5185(m) 0 0 Zinc ppm ASTM D5185(m) 200 259 <	Antimony		. ,				
Beryllium	•		. ,		0		
Cadmium ppm ASTM D5185(m) 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185(m) 0 <1			. ,				
Boron ppm ASTM D5185(m) 0 <1 Barium ppm ASTM D5185(m) 0 0 Molybdenum ppm ASTM D5185(m) 0 0 Manganese ppm ASTM D5185(m) 0 0 Magnesium ppm ASTM D5185(m) 0 0 Calcium ppm ASTM D5185(m) 0 0 Phosphorus ppm ASTM D5185(m) 0 0 Zinc ppm ASTM D5185(m) 0 1 <1 <1 <1 Sulfur ppm ASTM D5185(m) 200 259 Lithium ppm ASTM D5185(m) 1 CONTAMINANTS method limit/base current history1 history2 Sodium ppm ASTM D5185(m) >	Cadmium		(/		-		
Barium ppm ASTM D5185(m) 0 0 Molybdenum ppm ASTM D5185(m) 0 0 Manganese ppm ASTM D5185(m) 0 0 Magnesium ppm ASTM D5185(m) 0 0 Calcium ppm ASTM D5185(m) 0 0 Phosphorus ppm ASTM D5185(m) 0 0 Zinc ppm ASTM D5185(m) 0 1 <1 <1 Sulfur ppm ASTM D5185(m) 200 259 Lithium ppm ASTM D5185(m) 1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >20 <1 Sodium ppm ASTM D5185(m) >20	ADDITIVES		method	limit/base	current	history1	history2
Barium ppm ASTM D5185(m) 0 0 Molybdenum ppm ASTM D5185(m) 0 0 Manganese ppm ASTM D5185(m) 0 0 Magnesium ppm ASTM D5185(m) 0 0 Calcium ppm ASTM D5185(m) 0 0 Phosphorus ppm ASTM D5185(m) 0 0 Zinc ppm ASTM D5185(m) 0 1 <1	Boron	ppm	ASTM D5185(m)	0	<1		
Molybdenum ppm ASTM D5185(m) 0 0 Manganese ppm ASTM D5185(m) 0 0 Magnesium ppm ASTM D5185(m) 0 0 Calcium ppm ASTM D5185(m) 0 0 Phosphorus ppm ASTM D5185(m) 0 0 Zinc ppm ASTM D5185(m) 0 1 <1 <1 Sulfur ppm ASTM D5185(m) 200 259 Lithium ppm ASTM D5185(m) 1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >15 1 Sodium ppm ASTM D5185(m) >20 <1 Potassium ppm ASTM D6304* >50	Barium		ASTM D5185(m)	0	0		
Manganese ppm ASTM D5185(m) 0 0 Magnesium ppm ASTM D5185(m) 0 0 Calcium ppm ASTM D5185(m) 0 0 Phosphorus ppm ASTM D5185(m) 0 0 Zinc ppm ASTM D5185(m) 0 1 <1 <1 Sulfur ppm ASTM D5185(m) 200 259 Lithium ppm ASTM D5185(m) 1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >15 1 Sodium ppm ASTM D5185(m) >20 <1 Potassium ppm ASTM D6304* >50 38 35 56 FLUID DEGRADATION method limit/base	Molybdenum			0	0		
Magnesium ppm ASTM D5185(m) 0 0 Calcium ppm ASTM D5185(m) 0 0 Phosphorus ppm ASTM D5185(m) 0 0 Zinc ppm ASTM D5185(m) 0 1 <1 <1 Sulfur ppm ASTM D5185(m) 200 259 Lithium ppm ASTM D5185(m) 1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >15 1 Sodium ppm ASTM D5185(m) >20 <1 Potassium ppm ASTM D5185(m) >20 <1 ppm Water ppm ASTM D6304* >50 38 35 56	Manganese			0	0		
Calcium ppm ASTM D5185(m) 0 0 Phosphorus ppm ASTM D5185(m) 0 0 Zinc ppm ASTM D5185(m) 0 1 <1	Magnesium	ppm		0	0		
Phosphorus ppm ASTM D5185(m) 0 0 Zinc ppm ASTM D5185(m) 0 1 <1 <1 Sulfur ppm ASTM D5185(m) 200 259 Lithium ppm ASTM D5185(m) 1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >15 1 Sodium ppm ASTM D5185(m) >20 <1 Potassium ppm ASTM D5185(m) >20 <1 ppm Water ppm ASTM D6304* >50 38 35 56 FLUID DEGRADATION method limit/base current history1 history2	Calcium		. ,	0	0		
Zinc ppm ASTM D5185(m) 0 1 <1 <1 Sulfur ppm ASTM D5185(m) 200 259 Lithium ppm ASTM D5185(m) 1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >15 1 Sodium ppm ASTM D5185(m) 0 Potassium ppm ASTM D5185(m) >20 <1 ppm Water ppm ASTM D6304* >50 38 35 56 FLUID DEGRADATION method limit/base current history1 history2			, ,		0		
Sulfur ppm ASTM D5185(m) 200 259 Lithium ppm ASTM D5185(m) 1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >15 1 Sodium ppm ASTM D5185(m) 0 Potassium ppm ASTM D5185(m) >20 <1	Zinc		` ′	0	1	<1	<1
Lithium ppm ASTM D5185(m) 1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >15 1 Sodium ppm ASTM D5185(m) 0 Potassium ppm ASTM D5185(m) >20 <1	Sulfur		, ,	200	259		
Silicon ppm ASTM D5185(m) >15 1 Sodium ppm ASTM D5185(m) 0 Potassium ppm ASTM D5185(m) >20 <1 ppm Water ppm ASTM D6304* >50 38 35 ▲ 56 FLUID DEGRADATION method limit/base current history1 history2	Lithium		` ′		1		
Sodium ppm ASTM D5185(m) 0 Potassium ppm ASTM D5185(m) >20 <1 ppm Water ppm ASTM D6304* >50 38 35 ▲ 56 FLUID DEGRADATION method limit/base current history1 history2	CONTAMINANTS	3	method	limit/base	current	history1	history2
Sodium ppm ASTM D5185(m) 0 Potassium ppm ASTM D5185(m) >20 <1	Silicon	ppm	ASTM D5185(m)	>15	1		
Potassium ppm ASTM D5185(m) >20 <1 ppm Water ppm ASTM D6304* >50 38 35 ▲ 56 FLUID DEGRADATION method limit/base current history1 history2	Sodium		. ,		0		
ppm Water ppm ASTM D6304* >50 38 35 ▲ 56 FLUID DEGRADATION method limit/base current history1 history2	Potassium		(/	>20	<1		
	ppm Water					35	▲ 56
Acid Number (AN) mg KOH/g ASTM D974 ⁺ 0.11 ▲ 0.10 0.031 0.035	FLUID DEGRADA	ATION	method	limit/base	current	history1	history2
	Acid Number (AN)	mg KOH/g	ASTM D974*	0.11	△ 0.10	0.031	0.035



OIL ANALYSIS REPORT

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE		
Yellow Metal	scalar	Visual*	NONE	NONE		
Precipitate	scalar	Visual*	NONE	NONE		
Silt	scalar	Visual*	NONE	NONE		
Debris	scalar	Visual*	NONE	NONE		
Sand/Dirt	scalar	Visual*	NONE	VLITE		
Appearance	scalar	Visual*	NORML	NORML		
Odor	scalar	Visual*	NORML	NORML		
FLUID PROPERT	IES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	63.8	33.6		
SAMPLE IMAGES	5	method	limit/base	current	history1	history2
Color					no image	no image
Bottom					no image	no image
GRAPHS						



 Sample No.
 : GTT0001300
 Recieved
 : 28 Dec 2023

 Lab Number
 : 02605693
 Diagnosed
 : 09 Jan 2024

 Unique Number
 : 5698778
 Diagnostician
 : Bill Quesnel

 Test Package
 : IND 2 (Additional Tests: KV40)

Johnson Controls - Markham Accounts Payable A-33, P.O. Box 2012 Milwaukee, WI

US 532012012 Contact: Service Manager

To discuss this sample report, contact Customer Service at 1-905-847-9300 Ext 26.

Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.

Damages: Seller shall in no event be liable for special, incidental, or consequential damages, of a commercial nature, resulting from any cause.

Contact/Location: Service Manager - GTT0000206

T:

F: