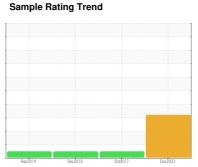




100 Antibes Dr. Circ B [4500057327] **CARRIER 1704Q03784(B)**

Chiller

REFRIGERATION OIL (POE) (--- GAL)





Recommendation

We recommend an early resample to monitor this condition. Please specify the brand, type, and viscosity of the oil on your next sample.

Lead and iron ppm levels are marginal. All other component wear rates are normal. The high metal levels indicate corrosion in the system.

Contamination

The elevated moisture content is associated with POE oils which are hygroscopic, and can absorb moisture from sampling and processing.

Fluid Condition

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

Sample Number Client Info GTT0001188 GTT6798 GTT6799 Sample Date Client Info 13 Dec 2023 19 Oct 2017 02 Dec 201 Machine Age hrs Client Info 0 Oil Age hrs Client Info 0 Oil Age hrs Client Info N/A N/A N/A N/A Oil Age hrs Client Info N/A N/A N/A N/A Sample Status ATTENTION NORMAL NORMAL NORMAL WEAR METALS method Imitivbase current history1 history2 Iron ppm ASTM D5185(m) >2 0 <1	(POE) (GAL)		Sep201	4 Dec2016	Oct2017 D	ec2023	
Sample Date Client Info 13 Dec 2023 19 Oct 2017 02 Dec 201	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 0 Oil Changed Client Info 0 Oil Changed Client Info N/A N/A N/A N/A Sample Status ATTENTION NORMAL NORMAL NORMAL NORMAL WEAR METALS method limit/base current history1 history2 Iron ASTM D5185(m) >8 4 <1	Sample Number		Client Info		GTT0001188	GTT6798	GTT6799
Oil Age hrs Client Info 0 Oil Changed Client Info N/A N/A N/A N/A Sample Status ATTENTION NORMAL NORMAL NORMAL WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185(m) >8 4 <1 <1 Chromium ppm ASTM D5185(m) >2 0 <1 <1 Nickel ppm ASTM D5185(m) >2 0 <1 <1 Titanium ppm ASTM D5185(m) >2 <1 Aluminum ppm ASTM D5185(m) >2 <1 Aluminum ppm ASTM D5185(m) >2 <2 <1 <1 Lead ppm ASTM D5185(m) >2 <2 <1 <1 Copper ppm ASTM D5185(m) 0 <1 <1	Sample Date		Client Info		13 Dec 2023	19 Oct 2017	02 Dec 2016
Cilient Info	Machine Age	hrs	Client Info		0		
Magnaesium Math Distition Magnaesium Math Distition Magnaesium Magnaes	Oil Age	hrs	Client Info		0		
WEAR METALS	Oil Changed		Client Info		N/A	N/A	N/A
Iron	Sample Status				ATTENTION	NORMAL	NORMAL
Chromium ppm ASTM D5185(m) >2 0 <1 <1 Nickel ppm ASTM D5185(m) <1 Titanium ppm ASTM D5185(m) >2 <1 Silver ppm ASTM D5185(m) >2 <1 Aluminum ppm ASTM D5185(m) >2 <1 Aluminum ppm ASTM D5185(m) >2 <2 <1 <1 Lead ppm ASTM D5185(m) >2 <2 <1 <1 Copper ppm ASTM D5185(m) >4 0 <1 <1 Tin ppm ASTM D5185(m) >4 0 <1 <1 Antimony ppm ASTM D5185(m) 0 Vanadium ppm ASTM D5185(m) 0 Beryllium ppm ASTM D5185(m) 0 <	WEAR METALS		method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185(m)	>8	<u>4</u>	<1	<1
Titanium ppm ASTM D5185(m) 0 Silver ppm ASTM D5185(m) >2 <1 Aluminum ppm ASTM D5185(m) >3 0 1 <1 Lead ppm ASTM D5185(m) >2 2 2 <1 <1 Copper ppm ASTM D5185(m) >4 0 <1 <1 <1 Antimony ppm ASTM D5185(m) 0 Vanadium ppm ASTM D5185(m) 0 Beryllium ppm ASTM D5185(m) 0 Cadmium ppm ASTM D5185(m) 0 Beron ppm ASTM D5185(m) 0 <1 Barium ppm ASTM D5185(m) 0 0 Molybdenum ppm ASTM D5185(m	Chromium	ppm	ASTM D5185(m)	>2	0	<1	<1
Silver	Nickel	ppm	ASTM D5185(m)		<1		
Aluminum ppm ASTM D518S(m) >3 0 1 <1 Lead ppm ASTM D518S(m) >2 ≥2 <1	Titanium	ppm	ASTM D5185(m)		0		
Lead ppm ASTM D5185(m) >2 ▲ 2 <1 <1 Copper ppm ASTM D5185(m) >8 2 <1	Silver	ppm	ASTM D5185(m)	>2	<1		
Copper ppm ASTM D5185(m) >8 2 <1 <1 Tin ppm ASTM D5185(m) >4 0 <1	Aluminum	ppm	ASTM D5185(m)	>3	0	1	<1
Tin ppm ASTM D5185(m) >4 0 <1 <1 Antimony ppm ASTM D5185(m) 0 Nandium 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 Molybdenum ppm ASTM D5185(m) 0 0 0 Manganese ppm ASTM D5185(m) 0 0 0 Manganesium ppm ASTM D5185(m) 0 0 0 Calcium ppm ASTM D5185(m) 0 9 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1	Lead	ppm	ASTM D5185(m)	>2	<u>^</u> 2	<1	<1
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	Copper	ppm	ASTM D5185(m)	>8	2	<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 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) 250 22 Phosphorus ppm ASTM D5185(m) 0 9 <1 <1 <1 Sulfur ppm ASTM D5185(m) <0 9 <	Tin	ppm	ASTM D5185(m)	>4	0	<1	<1
Beryllium	Antimony	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	Vanadium	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 Molybdenum ppm ASTM D5185(m) 0 0 0 Manganese ppm ASTM D5185(m) 0 0 0 Magnesium ppm ASTM D5185(m) 0 0 0 Calcium ppm ASTM D5185(m) 10 0 0 Phosphorus ppm ASTM D5185(m) 250 22 Zinc ppm ASTM D5185(m) 0 9 <1 <1 Sulfur ppm ASTM D5185(m) 400 37 Lithium ppm ASTM D5185(m) <10 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >15 13 Sodium ppm ASTM D5185(m) >20 2 Potassium ppm ASTM D5185(m) >20 2 ppm Water ppm ASTM D6304* >200 ▲ 296 75 66 FLUID DEGRADATION method limit/base current history1 history2	Beryllium	ppm	ASTM D5185(m)		0		
Boron ppm ASTM D5185(m) 0 <1	Cadmium	ppm	ASTM D5185(m)		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 Calcium ppm ASTM D5185(m) 10 0 Phosphorus ppm ASTM D5185(m) 250 22 Zinc ppm ASTM D5185(m) 0 9 <1 <1 Sulfur ppm ASTM D5185(m) 400 37 Lithium ppm ASTM D5185(m) <1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >2 Potassium ppm ASTM D5185(m) >20 2	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 0 Calcium ppm ASTM D5185(m) 10 0 Phosphorus ppm ASTM D5185(m) 250 22 Zinc ppm ASTM D5185(m) 0 9 <1 <1 Sulfur ppm ASTM D5185(m) 400 37 Lithium ppm ASTM D5185(m) <1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >15 13 Sodium ppm ASTM D5185(m) >20 2 Potassium ppm ASTM D5185(m) >20	Boron	ppm	ASTM D5185(m)	0	<1		
Manganese ppm ASTM D5185(m) 0 0 Magnesium ppm ASTM D5185(m) 0 0 Calcium ppm ASTM D5185(m) 10 0 Phosphorus ppm ASTM D5185(m) 250 22 Zinc ppm ASTM D5185(m) 0 9 <1	Barium	ppm	ASTM D5185(m)	0	0		
Magnesium ppm ASTM D5185(m) 0 0 Calcium ppm ASTM D5185(m) 10 0 Phosphorus ppm ASTM D5185(m) 250 22 Zinc ppm ASTM D5185(m) 0 9 <1 <1 Sulfur ppm ASTM D5185(m) 400 37 Lithium ppm ASTM D5185(m) <1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >15 13 Sodium ppm ASTM D5185(m) >20 2 Potassium ppm ASTM D5185(m) >20 2 ppm Water ppm ASTM D6304* >200 2 296 75 66	Molybdenum	ppm	ASTM D5185(m)	0	0		
Calcium ppm ASTM D5185(m) 10 0 Phosphorus ppm ASTM D5185(m) 250 22 Zinc ppm ASTM D5185(m) 0 9 <1	Manganese	ppm	ASTM D5185(m)	0	0		
Phosphorus ppm ASTM D5185(m) 250 22 Zinc ppm ASTM D5185(m) 0 9 <1 <1 Sulfur ppm ASTM D5185(m) 400 37 Lithium ppm ASTM D5185(m) <1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >15 13 Sodium ppm ASTM D5185(m) 2 Potassium ppm ASTM D5185(m) >20 2 ppm Water ppm ASTM D6304* >200 2 296 75 66	Magnesium	ppm	ASTM D5185(m)	0	0		
Zinc ppm ASTM D5185(m) 0 9 <1 <1 Sulfur ppm ASTM D5185(m) 400 37 Lithium ppm ASTM D5185(m) <1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >15 13 Sodium ppm ASTM D5185(m) 2 Potassium ppm ASTM D5185(m) >20 2 ppm Water ppm ASTM D6304* >200 2 296 75 66 FLUID DEGRADATION method limit/base current history1 history2	Calcium	ppm	ASTM D5185(m)	10	0		
Sulfur ppm ASTM D5185(m) 400 37 Lithium ppm ASTM D5185(m) <1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >15 13 Sodium ppm ASTM D5185(m) 2 Potassium ppm ASTM D5185(m) >20 2 ppm Water ppm ASTM D6304* >200 296 75 66 FLUID DEGRADATION method limit/base current history1 history2	Phosphorus	ppm	ASTM D5185(m)	250	22		
Lithium ppm ASTM D5185(m) <1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >15 13 Sodium ppm ASTM D5185(m) 2 Potassium ppm ASTM D5185(m) >20 2 ppm Water ppm ASTM D6304* >200 ▲ 296 75 66 FLUID DEGRADATION method limit/base current history1 history2	Zinc	ppm	ASTM D5185(m)	0	9	<1	<1
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >15 13 Sodium ppm ASTM D5185(m) 2 Potassium ppm ASTM D5185(m) >20 2 ppm Water ppm ASTM D6304* >200 296 75 66 FLUID DEGRADATION method limit/base current history1 history2	Sulfur	ppm	ASTM D5185(m)	400	37		
Silicon ppm ASTM D5185(m) >15 13 Sodium ppm ASTM D5185(m) 2 Potassium ppm ASTM D5185(m) >20 2 ppm Water ppm ASTM D6304* >200 296 75 66 FLUID DEGRADATION method limit/base current history1 history2	Lithium	ppm	ASTM D5185(m)		<1		
Sodium ppm ASTM D5185(m) 2 Potassium ppm ASTM D5185(m) >20 2 ppm Water ppm ASTM D6304* >200 ▲ 296 75 66 FLUID DEGRADATION method limit/base current history1 history2	CONTAMINANTS	5	method	limit/base	current	history1	history2
Sodium ppm ASTM D5185(m) 2 Potassium ppm ASTM D5185(m) >20 2 ppm Water ppm ASTM D6304* >200 ▲ 296 75 66 FLUID DEGRADATION method limit/base current history1 history2	Silicon	ppm	ASTM D5185(m)	>15	13		
Potassium ppm ASTM D5185(m) >20 2 ppm Water ppm ASTM D6304* >200 ▲ 296 75 66 FLUID DEGRADATION method limit/base current history1 history2	Sodium		ASTM D5185(m)		2		
ppm Water ppm ASTM D6304* >200 ▲ 296 75 66 FLUID DEGRADATION method limit/base current history1 history2	Potassium		()	>20	2		
	ppm Water			>200	▲ 296	75	66
Acid Number (AN) mg KOH/g ASTM D974* 0.07 0.07 0.031 0.045	FLUID DEGRAD	ATION	method	limit/base	current	history1	history2
	Acid Number (AN)	mg KOH/g	ASTM D974*	0.07	0.07	0.031	0.045



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	NONE		
Appearance	scalar	Visual*	NORML	NORML		
Odor	scalar	Visual*	NORML	NORML		
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)		103		
SAMPLE IMAGES		method	limit/base	current	history1	history2
Color					no image	no image
					no image	no image
Bottom					no image	no image



 Sample No.
 : GTT0001188
 Recieved
 : 13 Dec 2023

 Lab Number
 : 02602988
 Diagnosed
 : 18 Dec 2023

 Unique Number
 : 5696073
 Diagnostician
 : Bill Quesnel

Unique Number: 5696073Diagnostician: Bill QuesnelCA L4W 4X3Test Package: IND 2 (Additional Tests: KV40)Contact: Brian RaymundoTo discuss this sample report, contact Customer Service at 1-905-847-9300 Ext 26.Brian.Raymundo@carrier.com

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.

al nature, resulting from any cause.

Report Id: GTT0000224 [WCAMIS] 02602988 (Generated: 01/05/2024 13:59:45) Rev: 1

T:

Carrier Commerical Service

Mississauga, ON

C/O Conduent Div of Carrier Canada, 1-2740 Matheson Blvd