



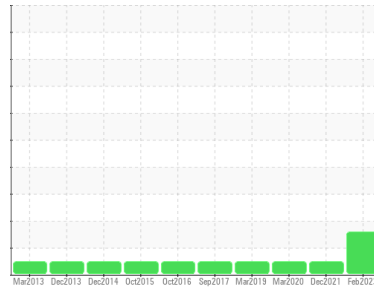
OIL ANALYSIS REPORT

Sample Rating Trend

WATER



Area
Morbern Inc. 1, A1
 Machine Id
CARRIER 2299F24624(A1)
 Component
Chiller
 Fluid
COMP OIL (ESTER) ISO 220 (--- GAL)



DIAGNOSIS

▲ Recommendation

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

Wear

All component wear rates are normal.

▲ 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 INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		GTT0001437	GTT8563	GTT8564
Sample Date	Client Info		15 Feb 2023	30 Dec 2021	09 Mar 2020
Machine Age	hrs	Client Info	0	---	---
Oil Age	hrs	Client Info	0	---	---
Oil Changed	Client Info		N/A	N/A	N/A
Sample Status			ATTENTION	NORMAL	NORMAL

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m) >8	1	1	<1
Chromium	ppm	ASTM D5185(m) >2	0	<1	<1
Nickel	ppm	ASTM D5185(m)	0	---	---
Titanium	ppm	ASTM D5185(m)	0	---	---
Silver	ppm	ASTM D5185(m) >2	0	---	---
Aluminum	ppm	ASTM D5185(m) >3	1	<1	<1
Lead	ppm	ASTM D5185(m) >2	2	<1	<1
Copper	ppm	ASTM D5185(m) >8	<1	<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	---	---
Cadmium	ppm	ASTM D5185(m)	0	---	---

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m) 5	<1	---	---
Barium	ppm	ASTM D5185(m) 5	0	---	---
Molybdenum	ppm	ASTM D5185(m) 5	0	---	---
Manganese	ppm	ASTM D5185(m)	0	---	---
Magnesium	ppm	ASTM D5185(m) 5	<1	---	---
Calcium	ppm	ASTM D5185(m) 5	0	---	---
Phosphorus	ppm	ASTM D5185(m) 400	7	---	---
Zinc	ppm	ASTM D5185(m) 5	19	3	<1
Sulfur	ppm	ASTM D5185(m) 100	0	---	---
Lithium	ppm	ASTM D5185(m)	<1	---	---

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >15	6	---	---
Sodium	ppm	ASTM D5185(m)	<1	---	---
Potassium	ppm	ASTM D5185(m) >20	2	---	---
ppm Water	ppm	ASTM D6304* >100	▲ 285	100	86

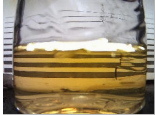
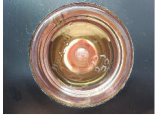
FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974* 0.40	0.05	0.022	0.021

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)	220	204	---

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color				no image	no image
Bottom				no image	no image

GRAPHS



Sample No. : GTT0001437 **Recieved** : 03 Jan 2024
Lab Number : **02606366** **Diagnosed** : 09 Jan 2024
Unique Number : 5707452 **Diagnostician** : Bill Quesnel
Test Package : IND 2 (Additional Tests: KV40)

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.

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