



OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL

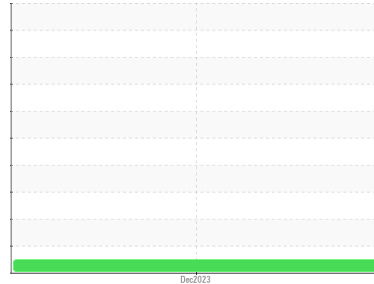


Area
BLACKJACK CREEK [700007683]

Machine Id
88432 - J-01

Component
Wind Turbine Gearbox

Fluid
FUCHS RENOLIN CLP ISO 320 (--- LTR)



DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

The amount and size of particulates present in the system are acceptable.

Fluid Condition

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

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	NX015711	---	---
Sample Date	Client Info	12 Dec 2023	---	---
Machine Age	hrs Client Info	1381566	---	---
Oil Age	hrs Client Info	0	---	---
Oil Changed	Client Info	N/A	---	---
Sample Status		NORMAL	---	---

WEAR METALS

method	limit/base	current	history1	history2
PQ	ASTM D8184 >80	11	---	---
Iron	ppm ASTM D5185m >150	30	---	---
Chromium	ppm ASTM D5185m >5	0	---	---
Nickel	ppm ASTM D5185m >10	0	---	---
Titanium	ppm ASTM D5185m >10	0	---	---
Silver	ppm ASTM D5185m	0	---	---
Aluminum	ppm ASTM D5185m >10	0	---	---
Lead	ppm ASTM D5185m >20	<1	---	---
Copper	ppm ASTM D5185m >50	<1	---	---
Tin	ppm ASTM D5185m >3	0	---	---
Vanadium	ppm ASTM D5185m	0	---	---
Cadmium	ppm ASTM D5185m	0	---	---

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m	2	---	---
Barium	ppm ASTM D5185m	0	---	---
Molybdenum	ppm ASTM D5185m	0	---	---
Manganese	ppm ASTM D5185m	<1	---	---
Magnesium	ppm ASTM D5185m	0	---	---
Calcium	ppm ASTM D5185m	8	---	---
Phosphorus	ppm ASTM D5185m	180	---	---
Zinc	ppm ASTM D5185m	0	---	---
Sulfur	ppm ASTM D5185m	4879	---	---

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >50	11	---	---
Sodium	ppm ASTM D5185m >20	2	---	---
Potassium	ppm ASTM D5185m >20	0	---	---
Water	% ASTM D6304 >0.05	0.007	---	---
ppm Water	ppm ASTM D6304 >500	78	---	---

FLUID CLEANLINESS

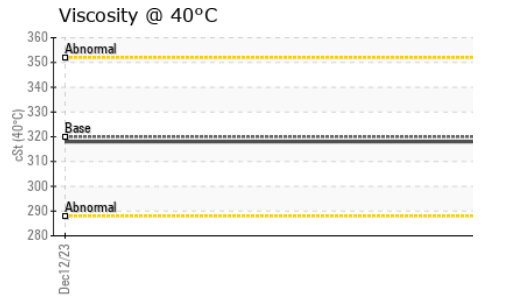
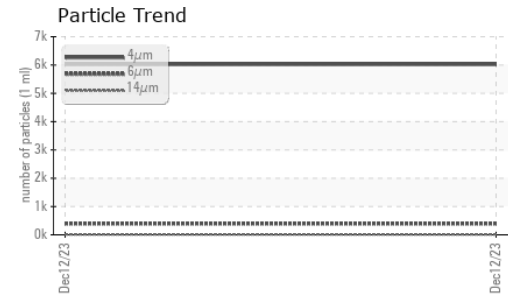
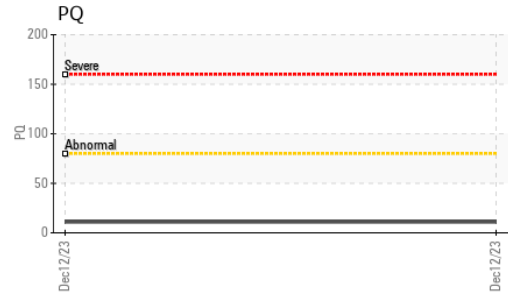
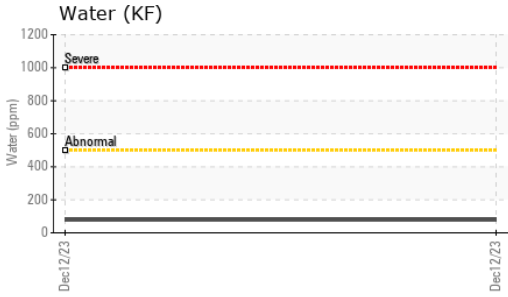
method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	6023	---	---
Particles >6µm	ASTM D7647 >2500	397	---	---
Particles >14µm	ASTM D7647 >320	14	---	---
Particles >21µm	ASTM D7647 >80	5	---	---
Particles >38µm	ASTM D7647 >20	1	---	---
Particles >71µm	ASTM D7647 >4	0	---	---
Oil Cleanliness	ISO 4406 (c) >--/18/15	20/16/11	---	---

FLUID DEGRADATION

method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g ASTM D8045	0.07	---	---



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	---
Emulsified Water	scalar	*Visual	>0.05	NEG	---
Free Water	scalar	*Visual		NEG	---

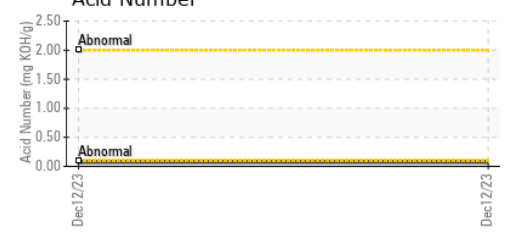
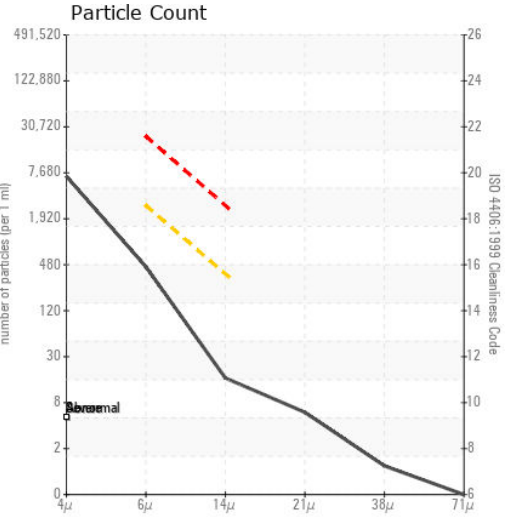
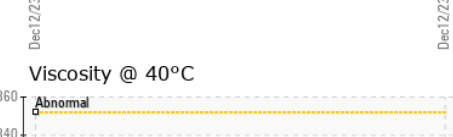
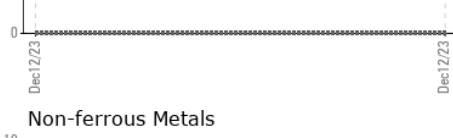
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	320	318	---

SAMPLE IMAGES	method	limit/base	current	history1	history2
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Color

	no image	no image
Bottom		no image

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : NX015711 **Recieved** : 30 Jan 2024
Lab Number : 06073854 **Diagnosed** : 31 Jan 2024
Unique Number : 10855945 **Diagnostician** : Angela Borella
Test Package : IND 2 (Additional Tests: KF, PQ, PrtCount)

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Certificate L2367
 To discuss this sample report, contact Customer Service at 1-800-237-1369.
 * - Denotes test methods that are outside of the ISO 17025 scope of accreditation.
 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)