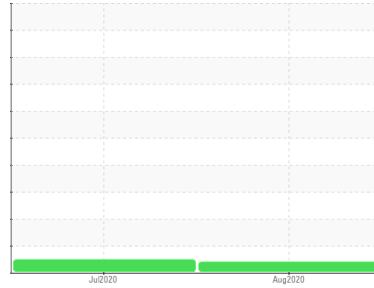




PROBLEM SUMMARY

Sample Rating Trend



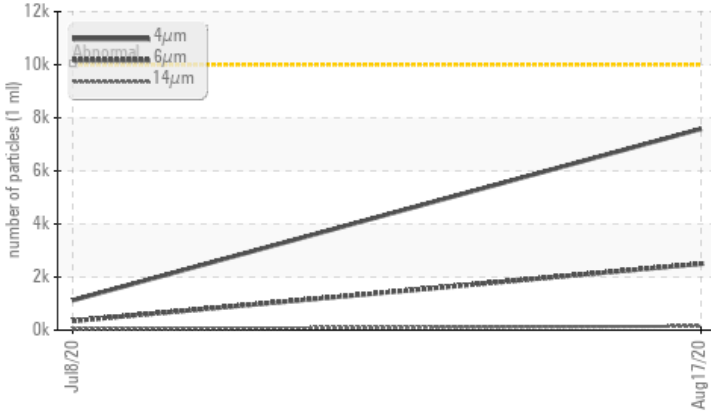
ISO



Machine Id
LIEBHERR LTM-1350-6.1 CRANE LTM-1350-6.1 (S/N 000314-071)
 Component
Hydraulic System
 Fluid
LIEBHERR 46 (--- LTR)

COMPONENT CONDITION SUMMARY

▲ Particle Trend



RECOMMENDATION

The filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS

Sample Status			ATTENTION	NORMAL	---
Particles >6µm	ASTM D7647	>2500	▲ 2502	347	---
Oil Cleanliness	ISO 4406 (c)	>20/18/15	▲ 20/19/14	17/16/13	---

Customer Id: ENEFRA
 Sample No.: WC0474130
 Lab Number: 05075721
 Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:
 Doug Bogart +1 (800)237-1369 x4016
dougb@wearcheckusa.com

To change component or sample information:
 Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

There are no recommended actions for this sample.

HISTORICAL DIAGNOSIS

08 Jul 2020 Diag: Doug Bogart

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The water content is negligible. The system and fluid cleanliness is acceptable. The condition of the oil is suitable for further service.

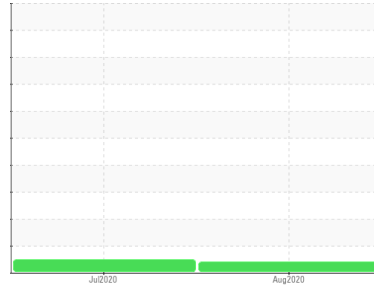
view report





OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Machine Id
LIEBHERR LTM-1350-6.1 CRANE LTM-1350-6.1 (S/N 000314-071)
 Component
Hydraulic System
 Fluid
LIEBHERR 46 (--- LTR)

DIAGNOSIS

▲ Recommendation

The filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

▲ Contamination

There is a moderate amount of silt (particulates < 14 microns in size) present in the oil.

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		WC0474130	WC0474129	---
Sample Date	Client Info		17 Aug 2020	08 Jul 2020	---
Machine Age	mths	Client Info	96	96	---
Oil Age	mths	Client Info	96	96	---
Oil Changed	Client Info		Not Changed	Not Changed	---
Sample Status			ATTENTION	NORMAL	---

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >30	<1	3	---
Chromium	ppm	ASTM D5185m	<1	<1	---
Nickel	ppm	ASTM D5185m	0	0	---
Titanium	ppm	ASTM D5185m	0	0	---
Silver	ppm	ASTM D5185m	1	5	---
Aluminum	ppm	ASTM D5185m >4	0	0	---
Lead	ppm	ASTM D5185m >22	2	3	---
Copper	ppm	ASTM D5185m >35	4	4	---
Tin	ppm	ASTM D5185m >4	<1	<1	---
Antimony	ppm	ASTM D5185m	0	0	---
Vanadium	ppm	ASTM D5185m	0	0	---
Cadmium	ppm	ASTM D5185m	<1	1	---

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	18	<1	---
Barium	ppm	ASTM D5185m	<1	0	---
Molybdenum	ppm	ASTM D5185m	0	0	---
Manganese	ppm	ASTM D5185m	0	<1	---
Magnesium	ppm	ASTM D5185m	9	5	---
Calcium	ppm	ASTM D5185m	92	31	---
Phosphorus	ppm	ASTM D5185m	239	230	---
Zinc	ppm	ASTM D5185m	247	250	---
Sulfur	ppm	ASTM D5185m	2180	2038	---

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >15	<1	2	---
Sodium	ppm	ASTM D5185m	0	0	---
Potassium	ppm	ASTM D5185m >20	0	0	---
Water	%	ASTM D6304 >0.1	0.017	0.010	---
ppm Water	ppm	ASTM D6304 >1000	173.1	101.4	---

FLUID CLEANLINESS

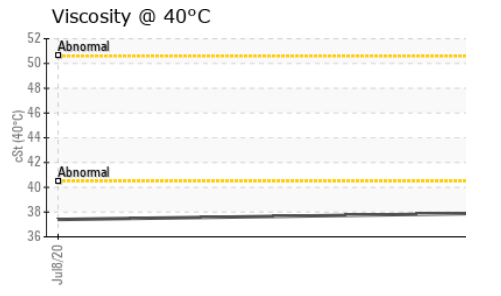
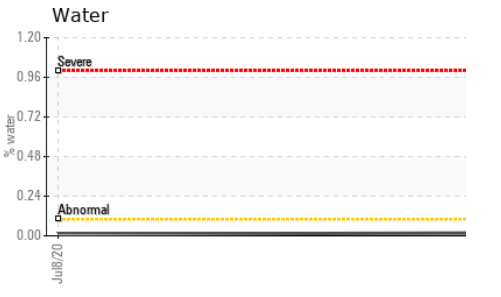
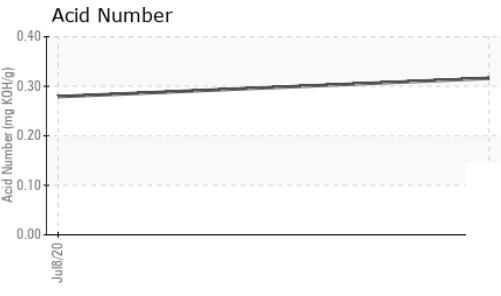
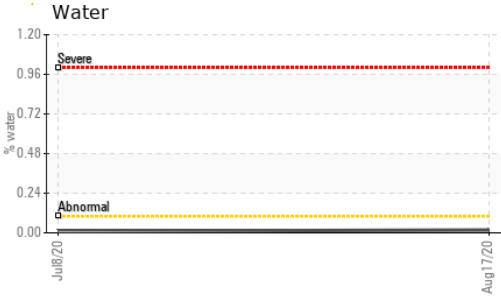
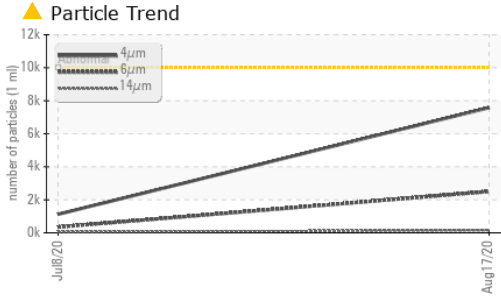
	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>10000	7584	1124	---
Particles >6µm	ASTM D7647	>2500	▲ 2502	347	---
Particles >14µm	ASTM D7647	>320	148	48	---
Particles >21µm	ASTM D7647	>80	27	17	---
Particles >38µm	ASTM D7647	>20	0	2	---
Particles >71µm	ASTM D7647	>4	0	0	---
Oil Cleanliness	ISO 4406 (c)	>20/18/15	▲ 20/19/14	17/16/13	---

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.316	0.279	---



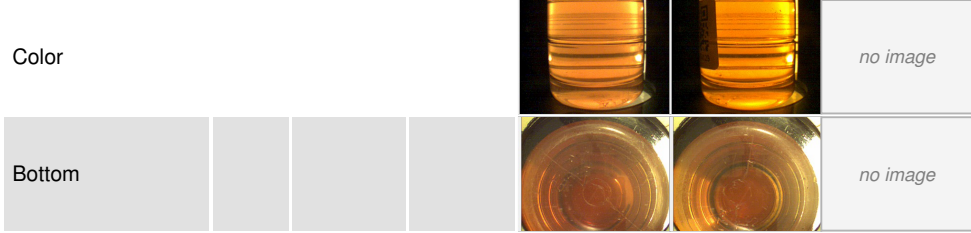
OIL ANALYSIS REPORT



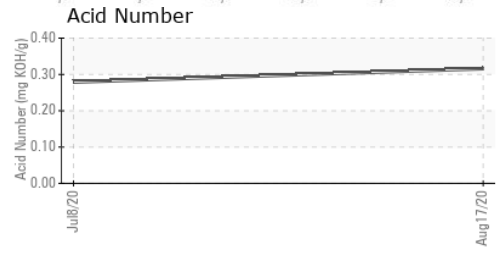
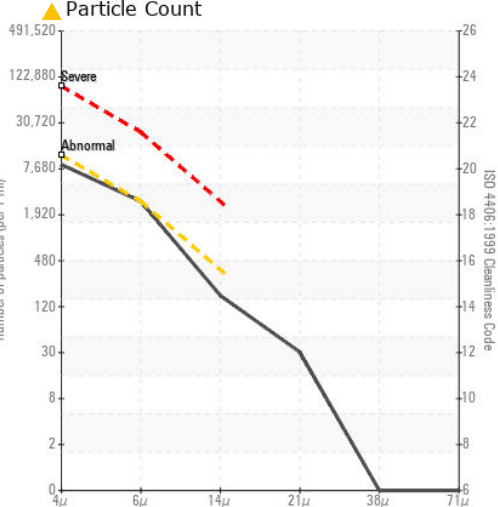
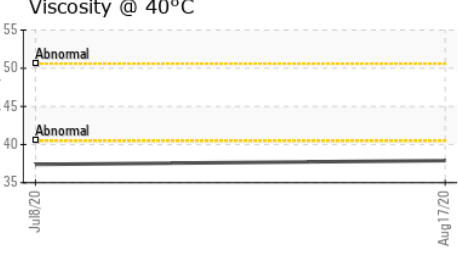
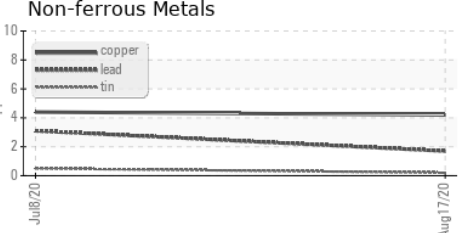
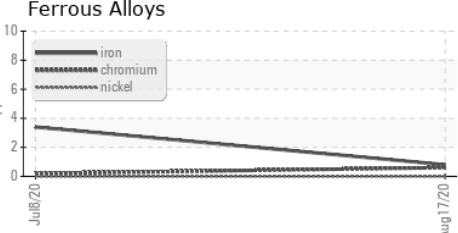
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.1	NEG	---
Free Water	scalar	*Visual		NEG	---

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	37.9	37.4	---

SAMPLE IMAGES



GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0474130 **Received** : 28 Sep 2020
Lab Number : 05075721 **Diagnosed** : 30 Sep 2020
Unique Number : 9190952 **Diagnostician** : Doug Bogart
Test Package : IND 2 (Additional Tests: KF)

ENERGIA EOLICA
 STA ANA KM25 CARRETERA AL SUR, A 1KM DEL CRUCE
 FRANCISCO MORAZAN, ZZ
 HN
 Contact: SANTOS DEL CID
 sdelcid@dennci.com

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)

T: x:
 F: x: