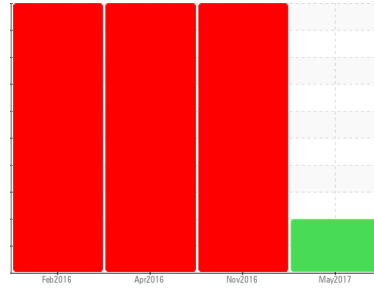




PROBLEM SUMMARY

Area
DEX [DEX-SAMPLE-22-17-74]
 Machine Id
A48E84 - D14 CRYSTALLIZER LARGE
 Component
Gearbox
 Fluid
CHEMTOOL WORM GEAR 680 (--- GAL)

Sample Rating Trend

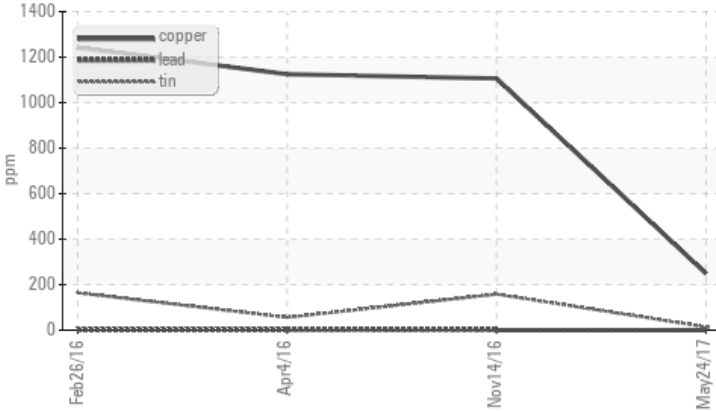


VISUAL METAL



COMPONENT CONDITION SUMMARY

▲ Non-ferrous Metals



RECOMMENDATION

We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				ABNORMAL	SEVERE	SEVERE
Copper	ppm	ASTM D5185m	>200	▲ 249	● 1106	● 1125
White Metal	scalar	*Visual	NONE	▲ HEAVY	▲ MODER	▲ HEAVY

Customer Id: INGBED
 Sample No.: WCI2312458
 Lab Number: 04232981
 Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:
 Don Baldrige +1
don.b505@comcast.net

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

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Inspect Wear Source	---	---	?	We advise that you inspect for the source(s) of wear.
Resample	---	---	?	We recommend an early resample to monitor this condition.

HISTORICAL DIAGNOSIS

14 Nov 2016 Diag: Jonathan Hester

WEAR



We recommend that you drain the oil from the component if this has not already been done. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition. High concentration of visible metal present. Bearing and/or gear wear is indicated. There is no indication of any contamination in the component. The oil viscosity is higher than normal. The AN level is above the recommended limit. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

[view report](#)



04 Apr 2016 Diag: Don Baldrige

WEAR



We recommend that you drain the oil from the component if this has not already been done. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition. High concentration of visible metal present. Bearing and/or gear wear is indicated. There is no indication of any contamination in the component. The oil viscosity is higher than normal. The AN level is acceptable for this fluid. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

[view report](#)



26 Feb 2016 Diag: Doug Bogart

WEAR



We recommend that you drain the oil from the component if this has not already been done. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition. High concentration of visible metal present. Bearing and/or gear wear is indicated. There is no indication of any contamination in the component. The oil viscosity is higher than normal. The AN level is acceptable for this fluid. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

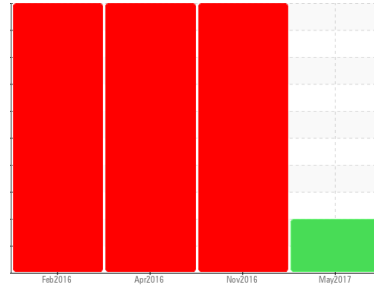
[view report](#)





OIL ANALYSIS REPORT

Sample Rating Trend



VISUAL METAL



Area
DEX [DEX-SAMPLE-22-17-74]
 Machine Id
A48E84 - D14 CRYSTALLIZER LARGE
 Component
Gearbox
 Fluid
CHEMTOOL WORM GEAR 680 (--- GAL)

DIAGNOSIS

Recommendation

We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

Wear

The copper level is abnormal. High concentration of visible metal present.

Contamination

There is no indication of any contamination in the component.

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		WCI2312458	WCI2306889	WCI2286478
Sample Date	Client Info		24 May 2017	14 Nov 2016	04 Apr 2016
Machine Age	hrs	Client Info	0	0	0
Oil Age	hrs	Client Info	0	0	0
Oil Changed	Client Info		N/A	N/A	N/A
Sample Status			ABNORMAL	SEVERE	SEVERE

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >200	25	▲ 232	▲ 194
Chromium	ppm	ASTM D5185m >15	0	2	<1
Nickel	ppm	ASTM D5185m >15	3	▲ 20	▲ 16
Titanium	ppm	ASTM D5185m	0	0	0
Silver	ppm	ASTM D5185m	0	<1	0
Aluminum	ppm	ASTM D5185m >25	0	<1	0
Lead	ppm	ASTM D5185m >100	0	0	<1
Copper	ppm	ASTM D5185m >200	▲ 249	● 1106	● 1125
Tin	ppm	ASTM D5185m >25	14	● 158	● 56
Antimony	ppm	ASTM D5185m	0	0	0
Vanadium	ppm	ASTM D5185m	0	0	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	<1	<1	<1
Barium	ppm	ASTM D5185m	0	0	0
Molybdenum	ppm	ASTM D5185m	2	10	5
Manganese	ppm	ASTM D5185m	<1	1	<1
Magnesium	ppm	ASTM D5185m	0	<1	0
Calcium	ppm	ASTM D5185m	0	4	<1
Phosphorus	ppm	ASTM D5185m	18	17	17
Zinc	ppm	ASTM D5185m	0	8	4
Sulfur	ppm	ASTM D5185m	1114	2248	1952

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >50	2	9	8
Sodium	ppm	ASTM D5185m	2	10	8
Potassium	ppm	ASTM D5185m >20	<1	10	12

FLUID DEGRADATION

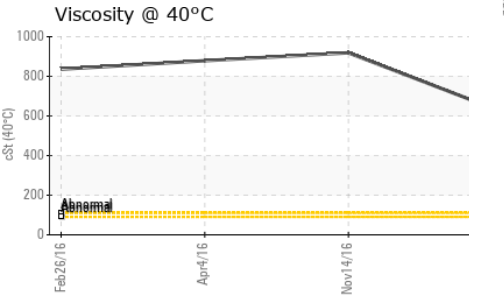
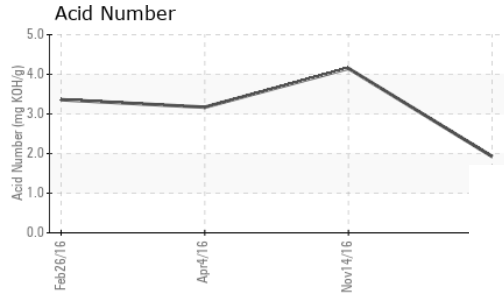
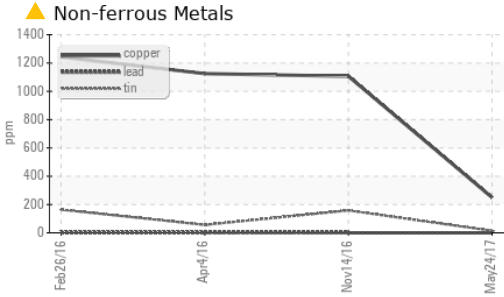
	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	1.927	▲ 4.15	3.17

VISUAL

	method	limit/base	current	history1	history2
White Metal	scalar	*Visual NONE	▲ HEAVY	▲ MODER	▲ HEAVY
Yellow Metal	scalar	*Visual NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual NONE	NONE	NONE	NONE
Silt	scalar	*Visual NONE	NONE	NONE	NONE
Debris	scalar	*Visual NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual NONE	NONE	NONE	NONE
Appearance	scalar	*Visual NORML	NORML	NORML	NORML
Odor	scalar	*Visual NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual >0.2	NEG	NEG	NEG
Free Water	scalar	*Visual	NEG	NEG	NEG

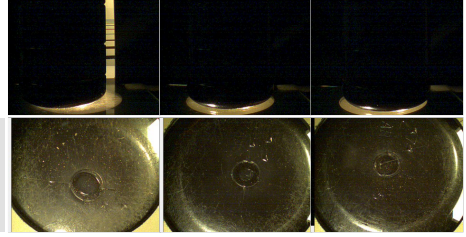


OIL ANALYSIS REPORT

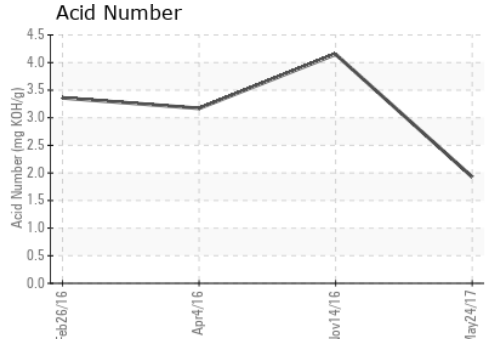
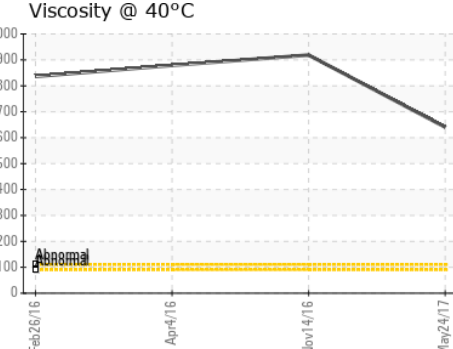
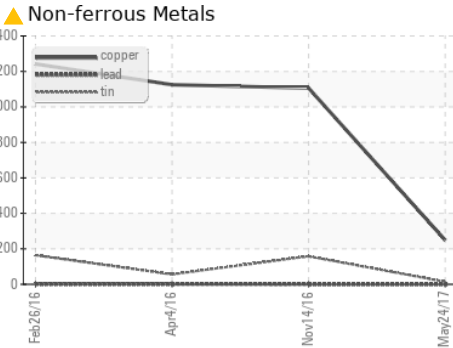
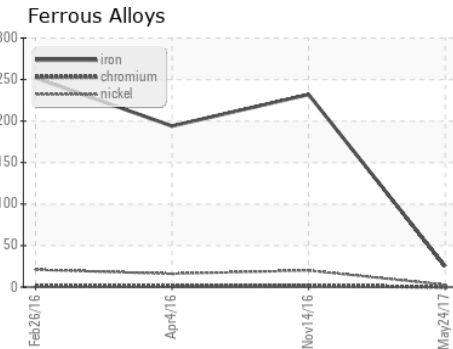


FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	640.4	▲ 918.7	▲ 878.8

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					



GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC12312458 **Received** : 31 May 2017
Lab Number : **04232981** **Diagnosed** : 04 Jun 2017
Unique Number : 7811414 **Diagnostician** : Don Baldrige
Test Package : IND 2

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 BEDFORD PARK, IL
 US 60501
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 Ricardo.Gutierrez@ingredion.com
 T: (219)805-1307
 F:

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)