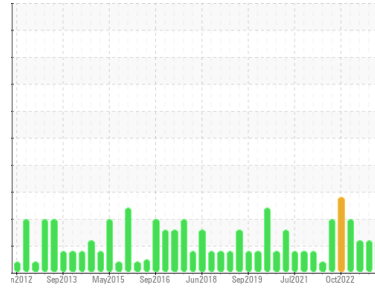




PROBLEM SUMMARY

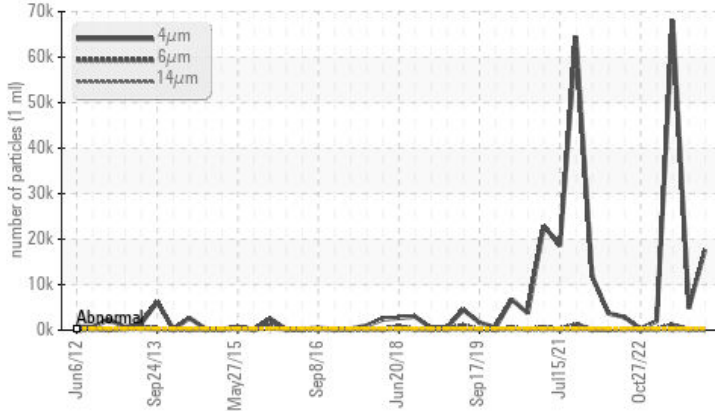
Sample Rating Trend



Area
Ryan
 Machine Id
RYN03 Governor Oil
 Component
Reservoir Governor System
 Fluid
CONOCO HYDRAULIC AW ISO 46 (35 GAL)

COMPONENT CONDITION SUMMARY

▲ Particle Trend



RECOMMENDATION

No corrective action is recommended at this time.
 Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS

Sample Status			ABNORMAL	ABNORMAL	ABNORMAL
Particles >4µm	ASTM D7647	>320	▲ 17646	▲ 4807	▲ 68028
Particles >6µm	ASTM D7647	>80	▲ 152	▲ 184	▲ 1104
Oil Cleanliness	ISO 4406 (c)	>15/13/11	▲ 21/14/10	▲ 19/15/11	▲ 23/17/9

Customer Id: PPLBUT
 Sample No.: WC0757839
 Lab Number: 05994330
 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

There are no recommended actions for this sample.

HISTORICAL DIAGNOSIS

15 Jul 2023 Diag: Angela Borella

ISO



No corrective action is recommended at this time. Resample at the next service interval to monitor. All component wear rates are normal. There is a high amount of silt (particulates < 14 microns in size) present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



01 May 2023 Diag: Don Baldrige

ISO



No corrective action is recommended at this time. Resample at the next service interval to monitor. All component wear rates are normal. There is a high amount of silt (particulates < 14 microns in size) present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



18 Jan 2023 Diag: Don Baldrige

ISO



We recommend you service the filters on this component. Resample at the next service interval to monitor. All component wear rates are normal. There is a high amount of particulates present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

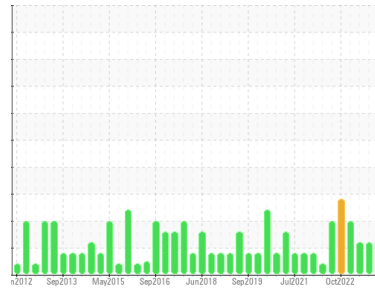
view report





OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area

Ryan

Machine Id

RYN03 Governor Oil

Component

Reservoir Governor System

Fluid

CONOCO HYDRAULIC AW ISO 46 (35 GAL)

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is a high 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		WC0757839	WC0757800	WC0757814
Sample Date	Client Info		17 Oct 2023	15 Jul 2023	01 May 2023
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	ABNORMAL	ABNORMAL

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >50	9	8	11
Chromium	ppm	ASTM D5185m >10	<1	0	0
Nickel	ppm	ASTM D5185m >10	<1	<1	<1
Titanium	ppm	ASTM D5185m	0	0	0
Silver	ppm	ASTM D5185m	0	0	0
Aluminum	ppm	ASTM D5185m >3	<1	0	0
Lead	ppm	ASTM D5185m >75	0	0	0
Copper	ppm	ASTM D5185m >15	<1	0	0
Tin	ppm	ASTM D5185m >55	<1	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	0	0	0
Barium	ppm	ASTM D5185m	20	2	0
Molybdenum	ppm	ASTM D5185m	0	0	0
Manganese	ppm	ASTM D5185m	<1	0	0
Magnesium	ppm	ASTM D5185m	0	0	<1
Calcium	ppm	ASTM D5185m	44	50	50
Phosphorus	ppm	ASTM D5185m	350	332	327
Zinc	ppm	ASTM D5185m 3100	400	434	440
Sulfur	ppm	ASTM D5185m	948	871	899

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >8	0	0	0
Sodium	ppm	ASTM D5185m	3	0	0
Potassium	ppm	ASTM D5185m >20	0	0	<1

FLUID CLEANLINESS

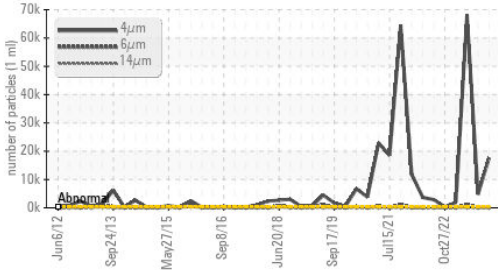
	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>320	▲ 17646	▲ 4807	▲ 68028
Particles >6µm	ASTM D7647	>80	▲ 152	▲ 184	▲ 1104
Particles >14µm	ASTM D7647	>20	10	15	4
Particles >21µm	ASTM D7647	>4	4	4	2
Particles >38µm	ASTM D7647	>3	0	0	0
Particles >71µm	ASTM D7647	>3	0	0	0
Oil Cleanliness	ISO 4406 (c)	>15/13/11	▲ 21/14/10	▲ 19/15/11	▲ 23/17/9

FLUID DEGRADATION

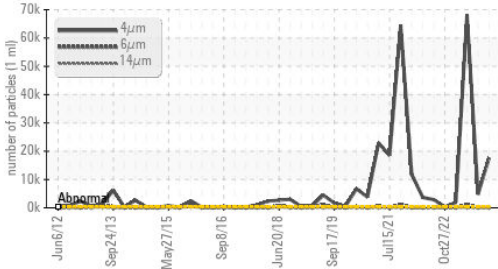
	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045 0.4	0.36	0.39	0.38

OIL ANALYSIS REPORT

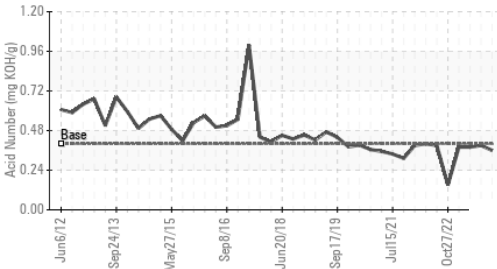
▲ Particle Trend



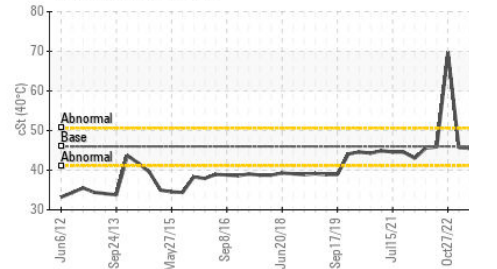
▲ Particle Trend



Acid Number



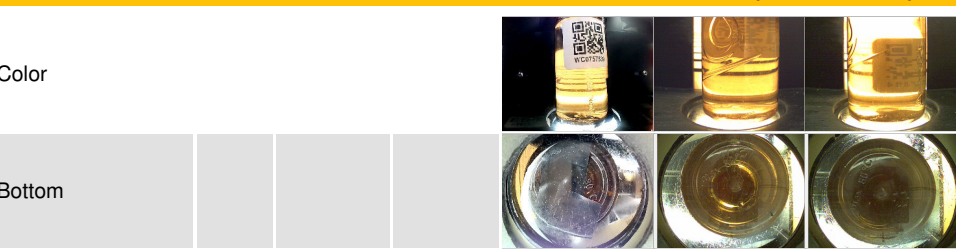
Viscosity @ 40°C



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

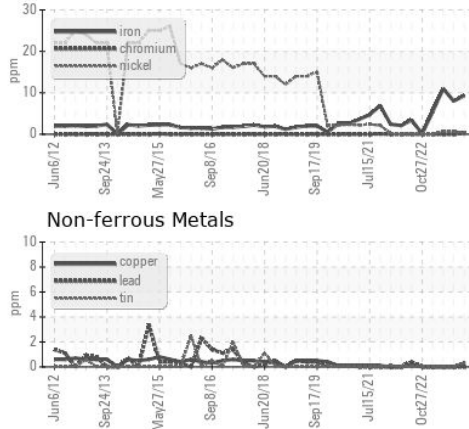
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445 46	45.6	45.8	45.5

SAMPLE IMAGES

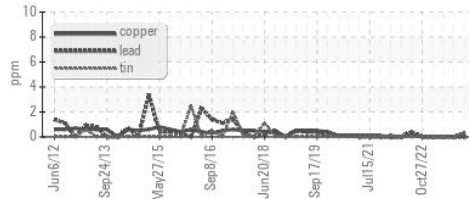


GRAPHS

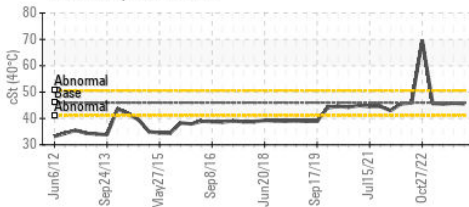
Ferrous Alloys



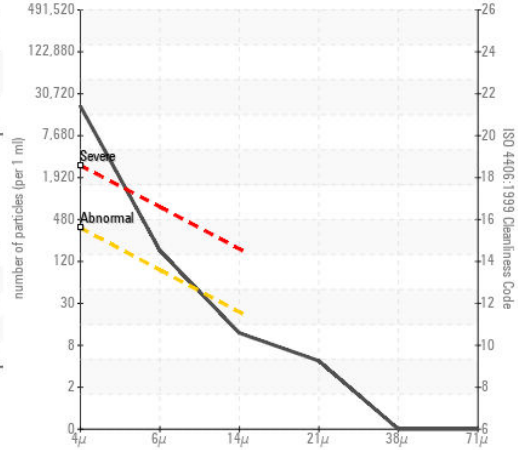
Non-ferrous Metals



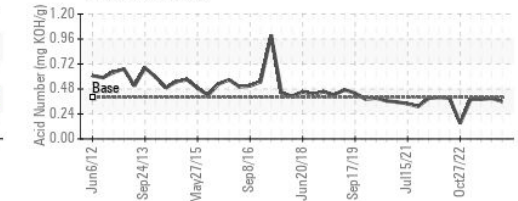
Viscosity @ 40°C



▲ Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : WC0757839 Received : 31 Oct 2023
 Lab Number : 05994330 Diagnosed : 01 Nov 2023
 Unique Number : 10722690 Diagnostician : Don Baldrige
 Test Package : IND 2 (Additional Tests: PrtCount)

NORTHWESTERN ENERGY
 6700 RAINBOW DAM RD
 GREAT FALLS, MT
 US 59404
 Contact: STANLEY BOGNATZ
 srb@mbesi.com
 T: (570)575-9252
 F: (570)227-0014

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)