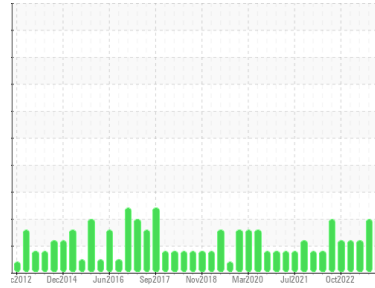




PROBLEM SUMMARY

Sample Rating Trend



ISO

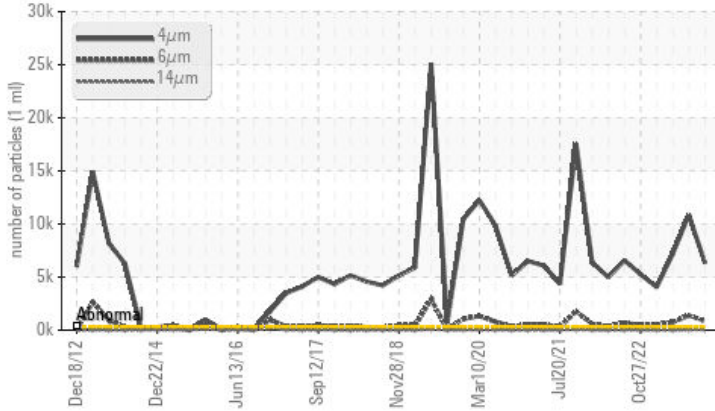


Area
Morony
 Machine Id
MRN01 Governor Oil

Component
Reservoir Governor System
 Fluid
CONOCO MULTIPURPOSE R&O OIL ISO 68 (1300 GAL)

COMPONENT CONDITION SUMMARY

▲ Particle Trend



RECOMMENDATION

We recommend you service the filters on this component. Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS

Sample Status			ABNORMAL	ABNORMAL	ABNORMAL
Particles >4µm	ASTM D7647	>320	▲ 6320	▲ 10847	▲ 7187
Particles >6µm	ASTM D7647	>80	▲ 842	▲ 1389	▲ 750
Particles >14µm	ASTM D7647	>20	▲ 34	▲ 39	13
Particles >21µm	ASTM D7647	>4	▲ 11	▲ 8	2
Oil Cleanliness	ISO 4406 (c)	>15/13/11	▲ 20/17/12	▲ 21/18/12	▲ 20/17/11

Customer Id: PPLBUT
 Sample No.: WC0757842
 Lab Number: 05994327
 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
Change Filter	---	---	?	We recommend you service the filters on this component.

HISTORICAL DIAGNOSIS

15 Jul 2023 Diag: Angela Borella

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



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



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.

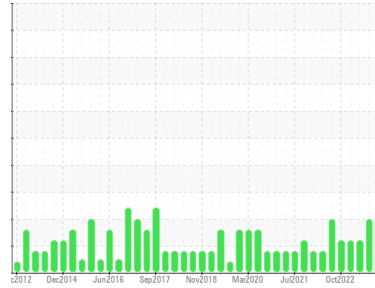
view report





OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area

Morony

Machine Id

MRN01 Governor Oil

Component

Reservoir Governor System

Fluid

CONOCO MULTIPURPOSE R&O OIL ISO 68 (1300 GAL)

DIAGNOSIS

▲ Recommendation

We recommend you service the filters on this component. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

▲ Contamination

There is a high amount of particulates 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		WC0757842	WC0715262	WC0757811
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	1	2	<1
Chromium	ppm	ASTM D5185m >10	<1	0	0
Nickel	ppm	ASTM D5185m >10	0	0	0
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	1	1	<1
Copper	ppm	ASTM D5185m >15	4	4	3
Tin	ppm	ASTM D5185m >55	<1	<1	<1
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	0	0	0
Magnesium	ppm	ASTM D5185m	0	<1	0
Calcium	ppm	ASTM D5185m	0	<1	0
Phosphorus	ppm	ASTM D5185m	69	34	32
Zinc	ppm	ASTM D5185m	33	18	15
Sulfur	ppm	ASTM D5185m	1059	925	927

CONTAMINANTS

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

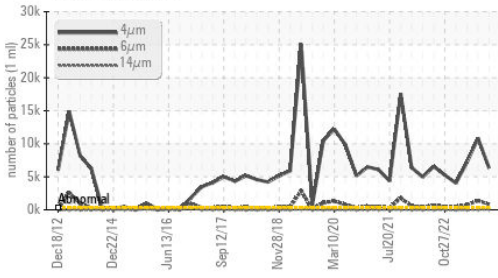
FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>320	▲ 6320	▲ 10847	▲ 7187
Particles >6µm	ASTM D7647	>80	▲ 842	▲ 1389	▲ 750
Particles >14µm	ASTM D7647	>20	▲ 34	▲ 39	13
Particles >21µm	ASTM D7647	>4	▲ 11	▲ 8	2
Particles >38µm	ASTM D7647	>3	1	0	0
Particles >71µm	ASTM D7647	>3	0	0	0
Oil Cleanliness	ISO 4406 (c)	>15/13/11	▲ 20/17/12	▲ 21/18/12	▲ 20/17/11

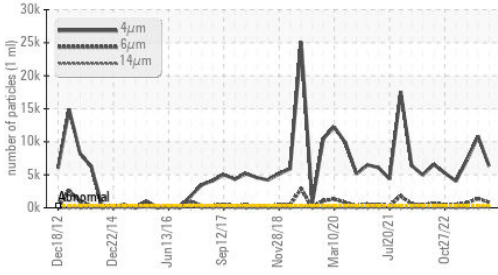
FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045 0.14	0.28	0.29	0.28

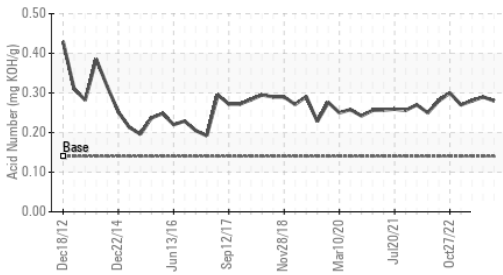
▲ Particle Trend



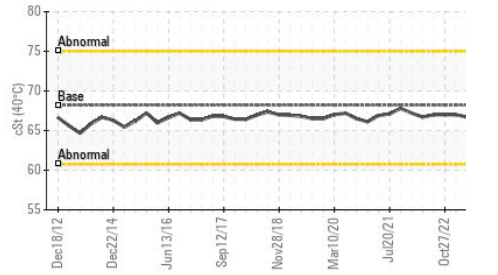
▲ Particle Trend



Acid Number



Viscosity @ 40°C

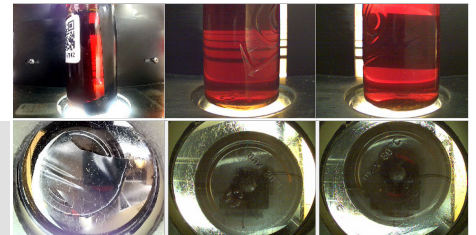


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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	68.2	66.9	66.7

SAMPLE IMAGES	method	limit/base	current	history1	history2
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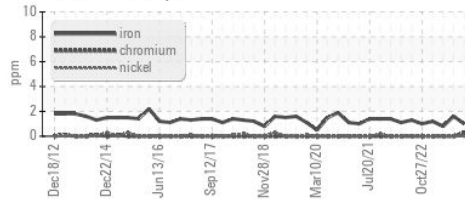
Color



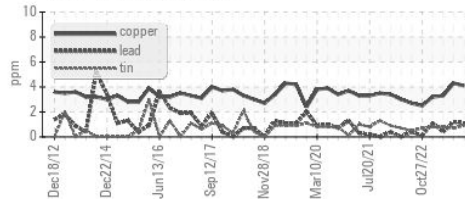
Bottom

GRAPHS

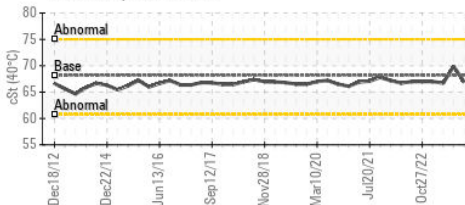
Ferrous Alloys



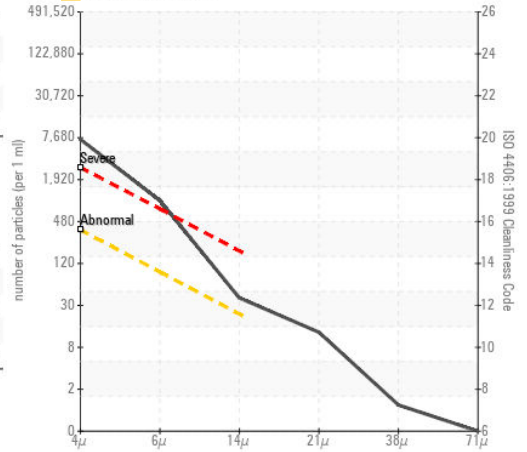
Non-ferrous Metals



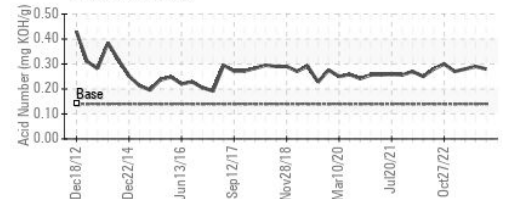
Viscosity @ 40°C



▲ Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0757842 **Received** : 31 Oct 2023
Lab Number : 05994327 **Diagnosed** : 01 Nov 2023
Unique Number : 10722687 **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@mbsi.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)