

OIL ANALYSIS REPORT

Area EAR FALLS GS Machine Id FP1G3

Component Lower Guide Bearing Fluid R&O OIL ISO 46 (--- GAL)

DIAGNOSIS

Recommendation

Little or no information is provided as to the component and lubricant being tested. Recommendations are therefore generic in nature and may not apply to the current application. Please forward information as to equipment type, reservoir capacity, lubricant type and any pertinent information to allow for a more accurate assessment. Resample at the next service interval to monitor. The fluid was not specified, however, a fluid match indicates that this fluid is (GENERIC) R&O OIL ISO 46. Please confirm. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

Wear

All component wear rates are normal.

Contamination

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

				I	I			
Nov2011	Mar2012	Mar2014	Mar2015	Mar2016	May2017	Feb2018	May2021	

Sample Rating Trend



NORMAL

			11 11 11			
SAMPLE INFORM	ATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0560616	WC944499	WC22123105
Sample Date		Client Info		03 May 2021	01 Feb 2018	30 May 2017
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				NORMAL	NORMAL	NORMAL
CONTAMINATIO	N	method	limit/base	current	history1	history2
Water		WC Method	>2	NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>20	<1	<1	<1
Chromium	ppm	ASTM D5185(m)	>20	0	0	0
Nickel	ppm	ASTM D5185(m)	>20	0	<1	0
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)		<1	0	0
Aluminum	ppm	ASTM D5185(m)	>20	<1	<1	<1
Lead	ppm	ASTM D5185(m)	>20	<1	<1	<1
Copper	ppm	ASTM D5185(m)	>20	<1	<1	<1
Tin	ppm	ASTM D5185(m)	>20	0	0	0
Antimony	ppm	ASTM D5185(m)		0	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0
Beryllium	ppm	ASTM D5185(m)		0	0	0
Cadmium	ppm	ASTM D5185(m)		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185(m)	limit/base 5	current <1	history1 0	history2 0
	ppm ppm		5			
Boron		ASTM D5185(m)	5	<1	0	0
Boron Barium	ppm	ASTM D5185(m) ASTM D5185(m)	5 5	<1 <1	0	0 <1
Boron Barium Molybdenum	ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	5 5 5 5	<1 <1 0	0 0 0	0 <1 0
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	5 5 5 5	<1 <1 0 0	0 0 0 0	0 <1 0 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	5 5 5 5 5 5 5 100	<1 <1 0 0 0 <1 <1	0 0 0 0 0 0 <1	0 <1 0 0 0 0 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	5 5 5 5 5 5 100 25	<1 <1 0 0 0 <1 <1 1	0 0 0 0 0 0 <1 1	0 <1 0 0 0 0 <1 1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	5 5 5 5 5 5 5 100	<1 <1 0 0 <1 <1 1 1926	0 0 0 0 0 <1 1 1818	0 <1 0 0 0 <1 1 1851
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	5 5 5 5 5 100 25 1500	<1 <1 0 0 0 <1 <1 1	0 0 0 0 0 <1 1 1818 <1	0 <1 0 0 0 <1 1 1851 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	5 5 5 5 5 100 25 1500	<1 <1 0 0 <1 <1 1926 <1 	0 0 0 0 0 <1 1 1818 <1 history1	0 <1 0 0 0 <1 1 1851 <1 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	5 5 5 5 5 100 25 1500	<1 <1 0 0 <1 <1 <1 1 1926 <1 current 3	0 0 0 0 0 <1 1 1818 <1 +istory1 2	0 <1 0 0 0 <1 1 1851 <1 +istory2 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	5 5 5 5 100 25 1500 imit/base >15	<1 <1 0 0 0 <1 <1 1 1926 <1 Urrent 3 <1	0 0 0 0 0 <1 1 1818 <1 history1 2 <1	0 <1 0 0 0 <1 1 1851 <1 <i>history2</i> 2 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	5 5 5 5 5 5 100 25 1500 25 1500 25 1500 25 25 20	<1 <1 0 0 <1 <1 <1 1 1926 <1 current 3	0 0 0 0 0 <1 1 1818 <1 history1 2 <1 0	0 <1 0 0 0 <1 1 1 851 <1 history2 2 2 <1 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	5 5 5 5 100 25 1500 imit/base >20 imit/base	<1 <1 0 0 0 <1 <1 1 1926 <1 Current 3 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1	0 0 0 0 0 <1 1 1818 <1 history1 2 <1 0 history1	0 <1 0 0 0 <1 1 1 1851 <1 * 1 * 1 * 1 * 1 * 1 * 1 * 1 * * 1 *
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	5 5 5 5 100 25 1500 25 1500 imit/base >20 imit/base >10000	<1 <1 0 0 0 <1 <1 <1 1 1926 <1 0 0 <1 1 1926 <1 0 0 <1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 <1 1 1 1818 <1 history1 2 <1 0 0 history1 3776	0 <1 0 0 0 <1 1 1 1851 <1 * 1 * 1 * 1 * 1 * 1 * 1 * * * * * *
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >6µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	5 5 5 5 100 25 1500 25 1500 10000 >20 10000 >2500	<1 <1 0 0 0 <1 <1 1 1926 <1	0 0 0 0 0 0 1 1 1 1818 <1 history1 2 <1 0 history1 3776 415	0 <1 0 0 0 () () () () () () () () () () () () ()
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >14µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D76477 ASTM D7647	5 5 5 5 100 25 1500 25 1500 3 1500 3 10000 3 2500 3 2500 3 2500 3 160	<1 <1 0 0 0 <1 <1 <1 1 1926 <1 0 0 <1 1 1926 <1 0 0 <1 1 1926 <1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 1 1 1 1818 <1 1 1818 <1 2 4 1 0 0 1 1 1 1 8 18 1 1 1 1 1 8 18 1 1 1 1	0 <1 0 0 0 0 <1 1 1 1851 <1 * 1 * 1 0 * 1 0 * 1 0 * 1 0 * 1 0 * 1 0 * 1 0 * 1 0 * 1 * 1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >14µm Particles >21µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D7647 ASTM D7647 ASTM D7647	5 5 5 5 100 25 1500 25 1500 25 1500 25 20 20 20 20 20 20 20 20 20 20 20 20 20	<1 <1 <1 0 0 <1 <1 1926 <1 Current 3 <1 <	0 0 0 0 0 0 1 1 1 1818 <1 1 1818 <1 1 1 8 1818 <1 1 1 1818 <1 1 1 1	0 <1 0 0 0 (1 1 1 851 <1 * 1 851 <1 * 1 8 51 (1 8 0 * 1 0 * 1 0 * 1 0 * 1 0 * 1 0 * 1 * 1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium PtLUID CLEANLIN Particles >4µm Particles >14µm Particles >21µm Particles >38µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	5 5 5 5 5 100 25 1500 25 1500 *15 *15 *20 *10000 *2500 *160 *160 *40 *10	<1 <1 0 0 0 0 <1 <1 1 1926 <1 1 1926 <1 0 0 <1 1 1926 <1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 1 1 1 1818 <1 1 1818 <1 1 1818 <1 2 <1 0 0 history1 3776 415 7 2 0 0	0 <1 0 0 0 0 <1 1 1 851 <1 * 1 851 <1 * 1 851 <1 * 1 0 * * 1 0 * * * * * * * * * * * *
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >14µm Particles >21µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D7647 ASTM D7647 ASTM D7647	5 5 5 5 5 100 25 1500 25 1500 *15 *15 *20 *10000 *2500 *160 *160 *40 *10	<1 <1 <1 0 0 <1 <1 1926 <1 Current 3 <1 <	0 0 0 0 0 0 1 1 1 1818 <1 1 1818 <1 1 1 8 1818 <1 1 1 1818 <1 1 1 1	0 <1 0 0 0 (1 1 1 851 <1 * 1 851 <1 * 1 851 <1 * 1 0 * * 1 0 * * * * * * * * * * * *

Contact/Location: Josh Robinson - ONTKEE



orma

50 A. (0-0+) 46

ŝ 42 Ab 40

OIL ANALYSIS REPORT

VISUAL

mg KOH/g

scalar

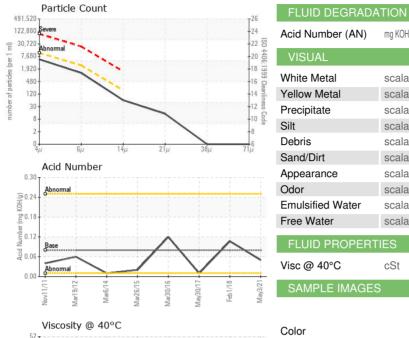
scalar

scalar

scalar

scalar Visual*

scalar Visual*



Appearance	scalar	Visual* Visual*	NORML NORML	NORML NORML	NORML	NORML
Odor Emulsified Water	scalar scalar	Visual*	>2	NEG	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG	NEG
FLUID PROPERT	IES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	46	44.2	44.2	44.4
SAMPLE IMAGES	3	method	limit/base	current	history1	history2
Color						
Bottom						Ó
MPC				no image		no image

0.08

NONE

NONE

NONE

NONE

NONE

NONE

ASTM D974*

Visual*

Visual*

Visual*

Visual*

0.05

NONE

NONE

NONE

NONE

NONE

NONE

0.107

NONE

NONE

NONE

NONE

NONE

NONE

0.01

NONE

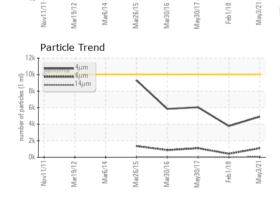
NONE

NONE

NONE

VLITE

NONE



Ontario Power Generation Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 CALA Sample No. : WC0560616 Received : 26 May 2021 KENORA PRODUCTION CENTRE, 200-60 FOURTEENTH ST N. Lab Number : 02423558 Diagnosed : 27 May 2021 KENORA, ON ISO 17025:2017 Accredited Laboratory Diagnostician : Kevin Marson CA P9N 4M9 Unique Number : 5227058 Test Package : IND 2 (Additional Tests: PrtCount) Contact: Josh Robinson To discuss this sample report, contact Customer Service at 1-800-268-2131. josh.robinson@opg.com T: Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab. Validity of results and interpretation are based on the sample and information as supplied. F:

Contact/Location: Josh Robinson - ONTKEE Page 2 of 2