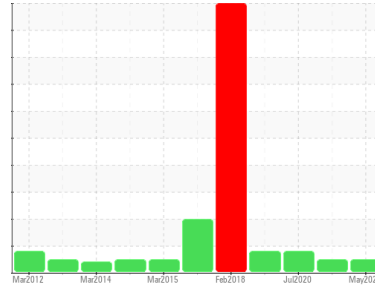




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
Lac Seul GS
 Machine Id
FP5-Kaplan Head Tank
 Component
Governor System
 Fluid
ESSO NUTO H ISO 68 (1000 LTR)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

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.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0806459	WC0686274	WC0481705
Sample Date	Client Info		10 May 2023	11 Jul 2022	13 Jul 2020
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	ATTENTION

CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.1	NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m) >50	4	5	8
Chromium	ppm	ASTM D5185(m) >10	0	0	0
Nickel	ppm	ASTM D5185(m) >10	0	<1	<1
Titanium	ppm	ASTM D5185(m)	0	0	0
Silver	ppm	ASTM D5185(m)	0	0	0
Aluminum	ppm	ASTM D5185(m) >3	<1	<1	0
Lead	ppm	ASTM D5185(m) >75	<1	<1	3
Copper	ppm	ASTM D5185(m) >15	6	8	▲ 33
Tin	ppm	ASTM D5185(m) >55	<1	<1	2
Antimony	ppm	ASTM D5185(m) >5	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
Boron	ppm	ASTM D5185(m) 0	0	0	<1
Barium	ppm	ASTM D5185(m) 0	0	0	0
Molybdenum	ppm	ASTM D5185(m) 0	0	0	0
Manganese	ppm	ASTM D5185(m)	0	0	<1
Magnesium	ppm	ASTM D5185(m) 5	8	14	<1
Calcium	ppm	ASTM D5185(m) 50	58	59	40
Phosphorus	ppm	ASTM D5185(m) 330	369	329	341
Zinc	ppm	ASTM D5185(m) 420	421	406	400
Sulfur	ppm	ASTM D5185(m) 3100	2575	2584	2921
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

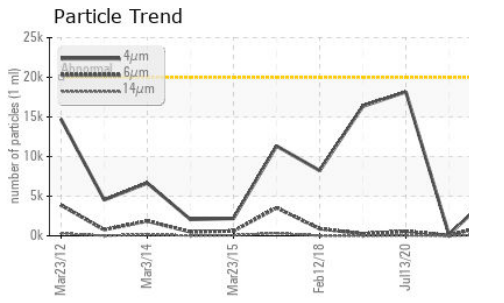
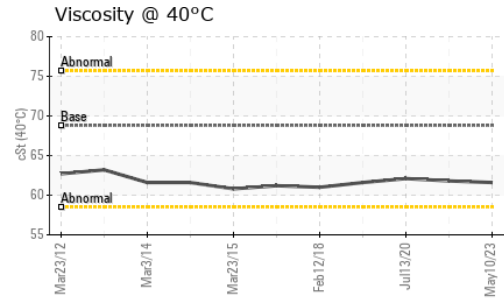
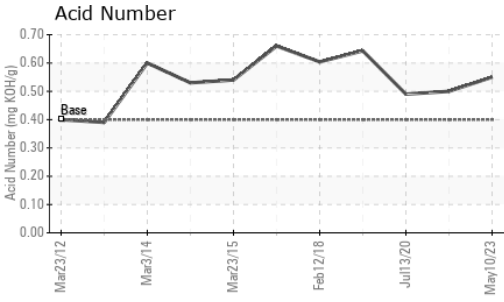
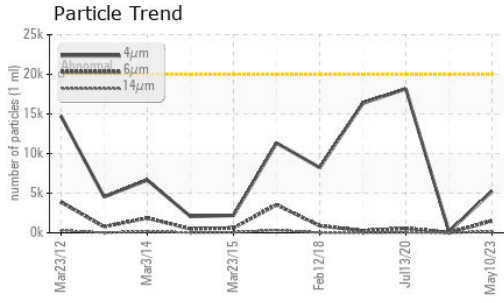
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >8	3	2	1
Sodium	ppm	ASTM D5185(m)	3	4	7
Potassium	ppm	ASTM D5185(m) >20	0	0	5

FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>20000	5256	162	18167
Particles >6µm	ASTM D7647	>5000	1509	26	559
Particles >14µm	ASTM D7647	>640	148	5	43
Particles >21µm	ASTM D7647	>160	49	2	16
Particles >38µm	ASTM D7647	>40	4	0	0
Particles >71µm	ASTM D7647	>10	0	0	0
Oil Cleanliness	ISO 4406 (c)	>21/19/16	20/18/14	15/12/10	21/16/13



OIL ANALYSIS REPORT

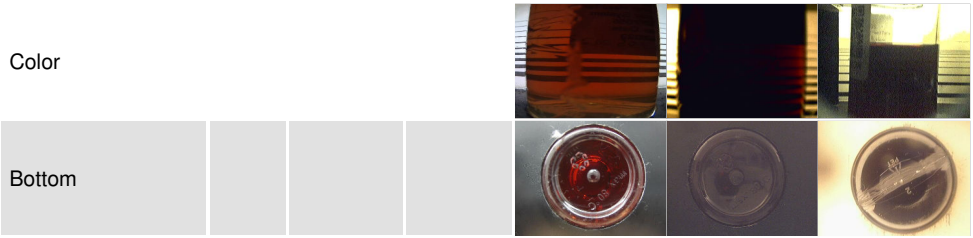


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	.40	0.55	0.50	0.49

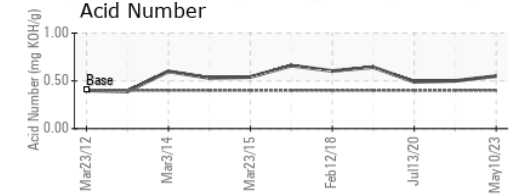
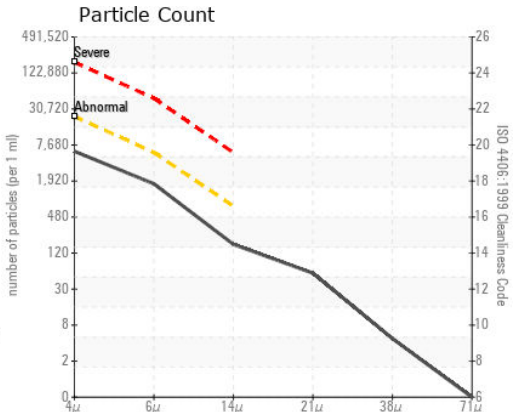
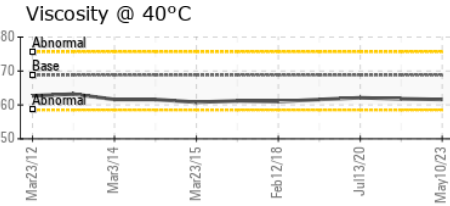
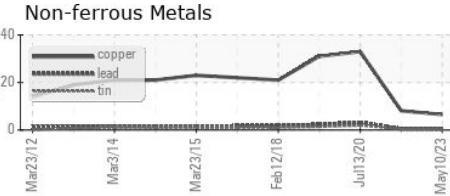
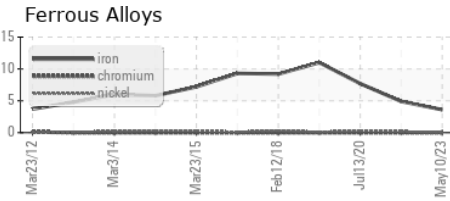
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	Visual*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

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	68.8	61.6	61.8	62.1

SAMPLE IMAGES



GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0806459 **Received** : 23 May 2023
Lab Number : 02558906 **Diagnosed** : 24 May 2023
Unique Number : 5579946 **Diagnostician** : Wes Davis
Test Package : IND 2 (Additional Tests: TAN Man)

Ontario Power Generation
 KENORA PRODUCTION CENTRE, 200-60 FOURTEENTH ST. N.
 KENORA, ON
 CA P9N 4M9
 Contact: Josh Robinson
 josh.robinson@opg.com

To discuss this sample report, contact Customer Service at 1-800-268-2131.
 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.