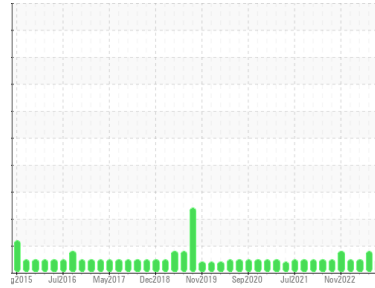




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area

Temboard/Service/Stock Preparation

Machine Id

N/A N/A [804-236-060] TB Top Ply Control Refiner

Component

Hydraulic System

Fluid

ESSO NUTO H ISO 68 (37 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 water content is negligible. 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		WC0873698	WC0851497	WC0831893
Sample Date	Client Info		10 Nov 2023	10 Sep 2023	10 Jul 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			NORMAL	ATTENTION	NORMAL

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>20	8	3	3
Chromium	ppm	ASTM D5185(m)	>20	0	0	0
Nickel	ppm	ASTM D5185(m)	>20	0	0	0
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)		0	<1	0
Aluminum	ppm	ASTM D5185(m)	>20	<1	0	0
Lead	ppm	ASTM D5185(m)	>20	<1	0	0
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	
Boron	ppm	ASTM D5185(m)	0	0	<1	0
Barium	ppm	ASTM D5185(m)	0	0	<1	0
Molybdenum	ppm	ASTM D5185(m)	0	0	0	0
Manganese	ppm	ASTM D5185(m)		0	0	0
Magnesium	ppm	ASTM D5185(m)	5	<1	0	<1
Calcium	ppm	ASTM D5185(m)	50	52	51	51
Phosphorus	ppm	ASTM D5185(m)	330	341	342	366
Zinc	ppm	ASTM D5185(m)	420	423	441	433
Sulfur	ppm	ASTM D5185(m)	3100	2386	2726	2855
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

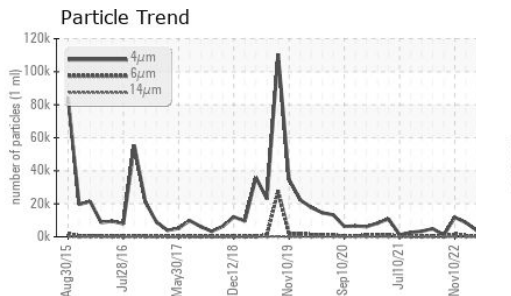
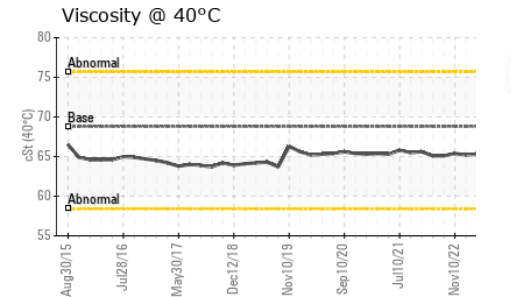
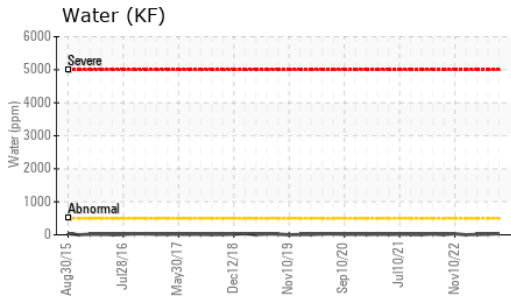
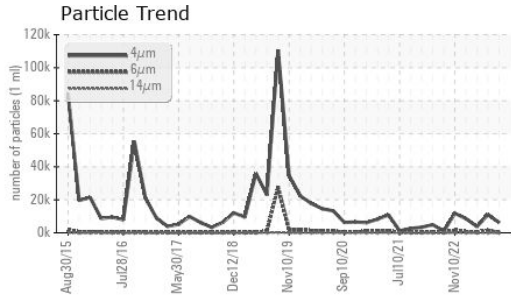
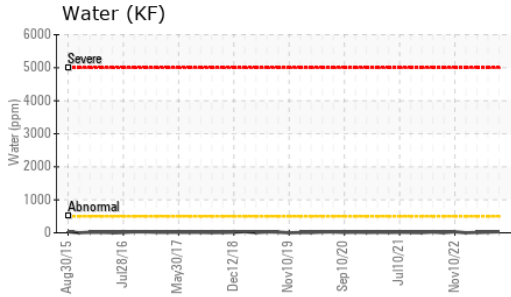
CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>15	2	2	2
Sodium	ppm	ASTM D5185(m)		0	<1	0
Potassium	ppm	ASTM D5185(m)	>20	4	0	0
Water	%	ASTM D6304*	>0.05	0.003	0.002	0.001
ppm Water	ppm	ASTM D6304*	>500	33	21.6	10.3

FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		6196	11072	3728
Particles >6µm	ASTM D7647	>1300	241	▲ 1497	246
Particles >14µm	ASTM D7647	>160	10	34	6
Particles >21µm	ASTM D7647	>40	4	7	2
Particles >38µm	ASTM D7647	>10	1	0	0
Particles >71µm	ASTM D7647	>3	0	0	0
Oil Cleanliness	ISO 4406 (c)	>--/17/14	20/15/10	▲ 21/18/12	19/15/10

OIL ANALYSIS REPORT

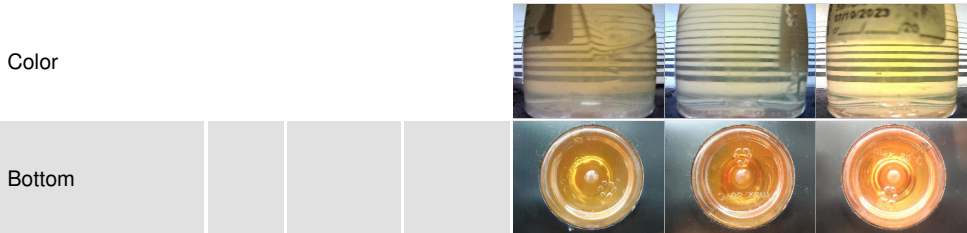


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	.40	0.41	0.45	0.40

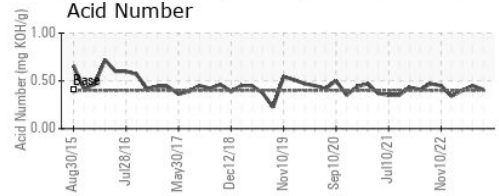
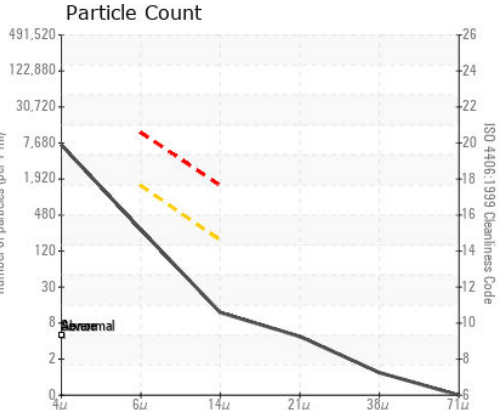
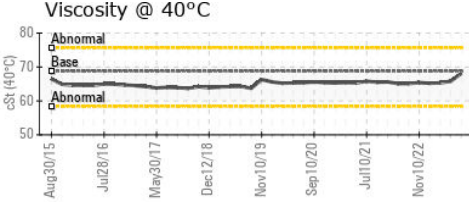
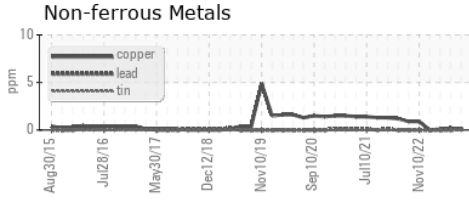
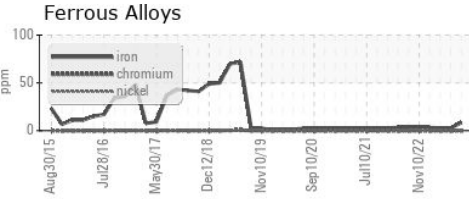
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.05	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	68.1	65.8	65.3

SAMPLE IMAGES		method	limit/base	current	history1	history2
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GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0873698 **Received** : 11 Jan 2024
Lab Number : **02608205** **Diagnosed** : 16 Jan 2024
Unique Number : 5709291 **Diagnostician** : Wes Davis
Test Package : IND 2 (Additional Tests: KF)

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 P.O.Box 6000, 33 Kipawa Road
 Temiscaming, QC
 CA J0Z 3R0
 Contact: Santosh Raikar
 santosh.raikar@rayonieram.com
 T: (819)627-4931
 F: (819)627-1507

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.