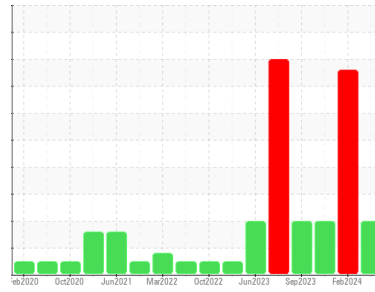




OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Machine Id
140-HU-001 Winder Hydraulics
 Component
Hydraulic System
 Fluid
ESSO NUTO H ISO 68 (1000 LTR)

DIAGNOSIS

Recommendation

We recommend you service the filters on this component. Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. The system cleanliness is above the acceptable limit for the target ISO 4406 cleanliness code.

Fluid Condition

Additive levels indicate the addition of a different brand, or type of oil. The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	WC0962281	WC0913391	WC0879786
Sample Date	Client Info	03 Jul 2024	26 Feb 2024	08 Nov 2023
Machine Age	hrs	Client Info	0	0
Oil Age	hrs	Client Info	0	0
Oil Changed	Client Info	N/A	N/A	N/A
Sample Status		ABNORMAL	SEVERE	ABNORMAL

CONTAMINATION

method	limit/base	current	history1	history2
Water	WC Method >0.05	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	<1	<1	0
Titanium	ppm ASTM D5185(m)	0	0	0
Silver	ppm ASTM D5185(m)	0	0	<1
Aluminum	ppm ASTM D5185(m) >20	<1	<1	<1
Lead	ppm ASTM D5185(m) >20	0	<1	<1
Copper	ppm ASTM D5185(m) >20	7	7	5
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	<1	0	<1
Barium	ppm ASTM D5185(m) 0	0	0	<1
Molybdenum	ppm ASTM D5185(m) 0	0	0	0
Manganese	ppm ASTM D5185(m)	0	0	0
Magnesium	ppm ASTM D5185(m) 5	110	142	137
Calcium	ppm ASTM D5185(m) 50	91	106	101
Phosphorus	ppm ASTM D5185(m) 330	419	462	435
Zinc	ppm ASTM D5185(m) 420	518	553	557
Sulfur	ppm ASTM D5185(m) 3100	1171	1403	1664
Lithium	ppm ASTM D5185(m)	<1	<1	<1

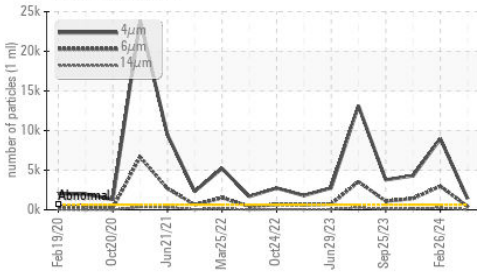
CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185(m) >15	0	2	<1
Sodium	ppm ASTM D5185(m)	2	2	2
Potassium	ppm ASTM D5185(m) >20	<1	<1	0

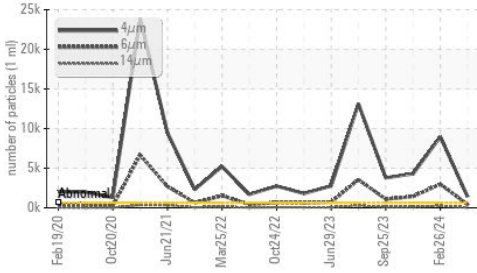
FLUID CLEANLINESS

method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647 >640	▲ 1398	▲ 8960	▲ 4294
Particles >6µm	ASTM D7647 >160	▲ 415	▲ 2994	▲ 1431
Particles >14µm	ASTM D7647 >20	● 26	▲ 243	▲ 108
Particles >21µm	ASTM D7647 >4	● 7	▲ 60	▲ 21
Particles >38µm	ASTM D7647 >3	1	2	2
Particles >71µm	ASTM D7647 >3	0	0	1
Oil Cleanliness	ISO 4406 (c) >16/14/11	▲ 18/16/12	▲ 20/19/15	▲ 19/18/14

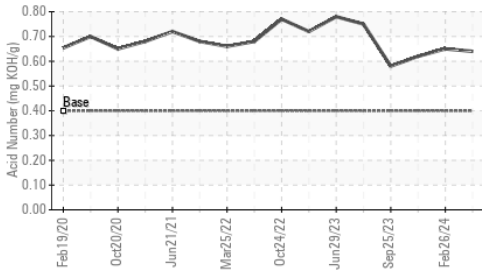
Particle Trend



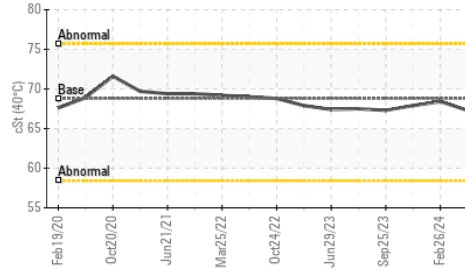
Particle Trend



Acid Number



Viscosity @ 40°C



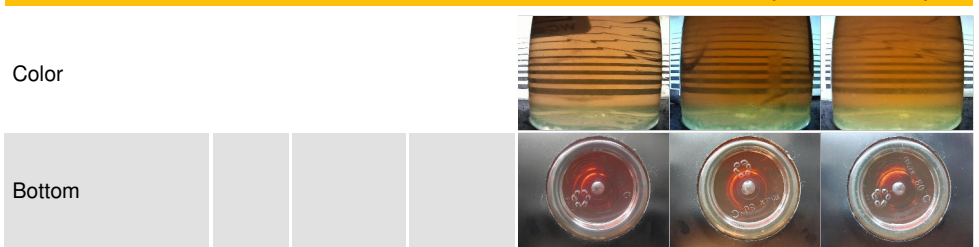
FLUID DEGRADATION

method	limit/base	current	history1	history2
Acid Number (AN) mg KOH/g	ASTM D974* .40	0.64	0.65	0.62
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	VLITE	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* >0.05	NEG	NEG	NEG

FLUID PROPERTIES

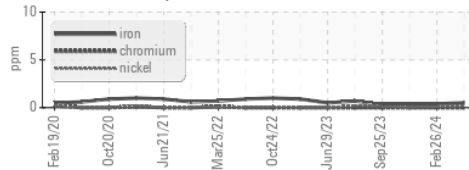
method	limit/base	current	history1	history2
Visc @ 40°C cSt	ASTM D7279(m) 68.8	67.3	68.4	67.9

SAMPLE IMAGES

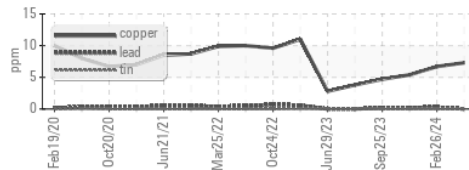


GRAPHS

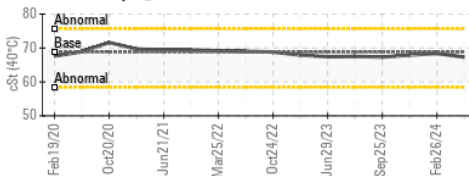
Ferrous Alloys



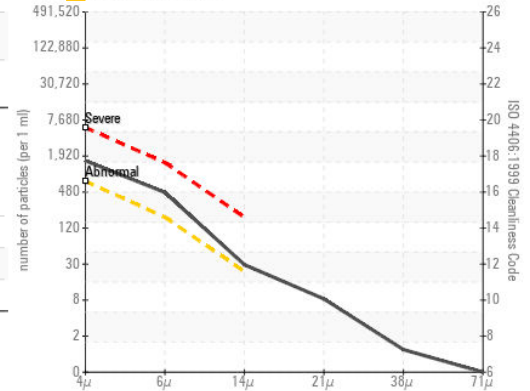
Non-ferrous Metals



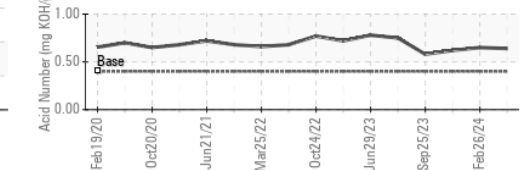
Viscosity @ 40°C



Particle Count



Acid Number



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0962281 **Received** : 04 Jul 2024
Lab Number : **02645639** **Tested** : 05 Jul 2024
Unique Number : 5803178 **Diagnosed** : 08 Jul 2024 - Kevin Marson
Test Package : IND 2 (Additional Tests: TAN Man)

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.

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