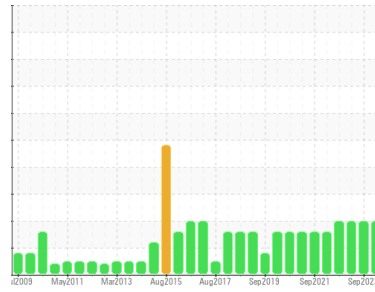




OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area
OPK/CL04
 Machine Id
101803 Mill
 Component
Hydraulic System
 Fluid
ESSO NUTO H ISO 68 (250 LTR)

DIAGNOSIS

Recommendation

We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

There is a moderate amount of particulates (2 to 100 microns in size) present in the oil.

Fluid Condition

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	WC0889277	WC0790673	WC0763716
Sample Date	Client Info	26 Mar 2024	26 Sep 2023	14 Mar 2023
Machine Age	hrs	0	0	0
Oil Age	hrs	0	0	0
Oil Changed	Client Info	N/A	N/A	N/A
Sample Status		ABNORMAL	ABNORMAL	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	0	<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	0
Aluminum	ppm ASTM D5185(m) >20	0	0	<1
Lead	ppm ASTM D5185(m) >20	0	<1	<1
Copper	ppm ASTM D5185(m) >20	2	3	2
Tin	ppm ASTM D5185(m) >20	0	0	0
Antimony	ppm ASTM D5185(m)	0	0	<1
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	39	39	39
Phosphorus	ppm ASTM D5185(m) 330	336	341	373
Zinc	ppm ASTM D5185(m) 420	447	456	438
Sulfur	ppm ASTM D5185(m) 3100	4953	5060	5060
Lithium	ppm ASTM D5185(m)	<1	<1	<1

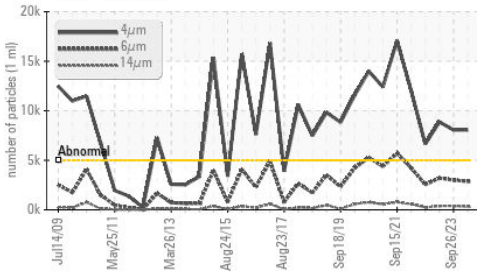
CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185(m) >15	3	2	2
Sodium	ppm ASTM D5185(m)	2	2	2
Potassium	ppm ASTM D5185(m) >20	0	0	1

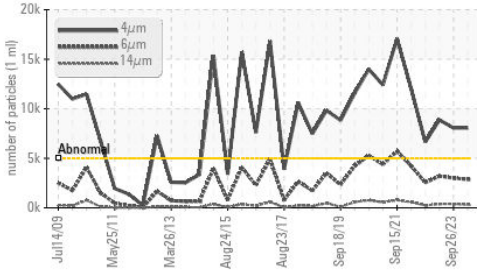
FLUID CLEANLINESS

method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647 >5000	8063	8054	8881
Particles >6µm	ASTM D7647 >1300	2864	2999	3205
Particles >14µm	ASTM D7647 >160	312	391	381
Particles >21µm	ASTM D7647 >40	93	123	110
Particles >38µm	ASTM D7647 >10	6	6	4
Particles >71µm	ASTM D7647 >3	1	0	0
Oil Cleanliness	ISO 4406 (c) >19/17/14	20/19/15	20/19/16	20/19/16

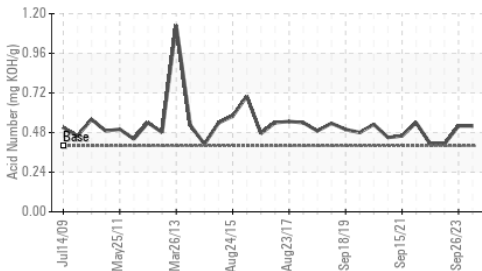
Particle Trend



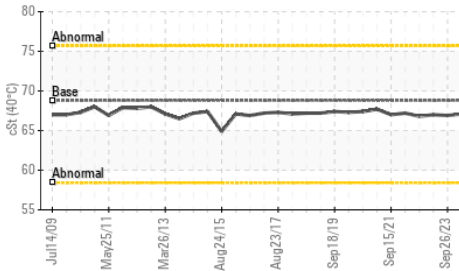
Particle Trend



Acid Number



Viscosity @ 40°C



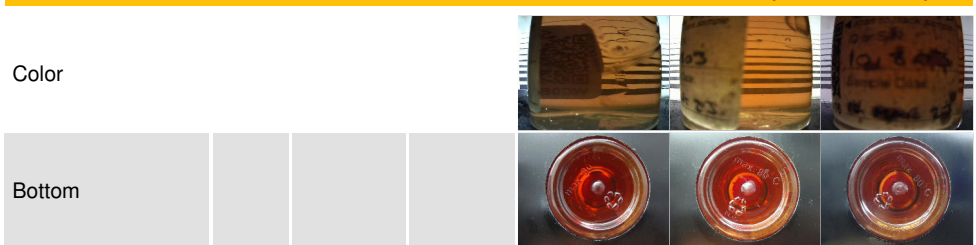
FLUID DEGRADATION

method	limit/base	current	history1	history2
Acid Number (AN) mg KOH/g	ASTM D974* .40	0.52	0.52	0.41
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

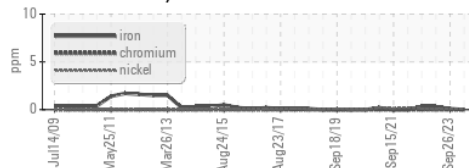
method	limit/base	current	history1	history2
Visc @ 40°C cSt	ASTM D7279(m) 68.8	67.1	66.9	67.0

SAMPLE IMAGES

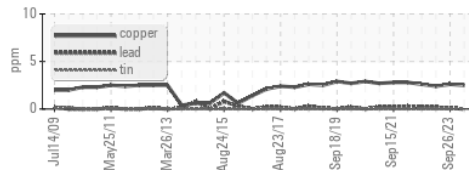


GRAPHS

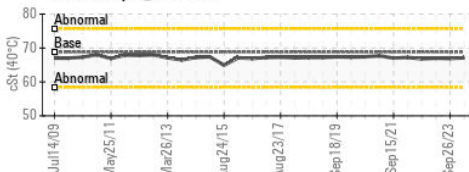
Ferrous Alloys



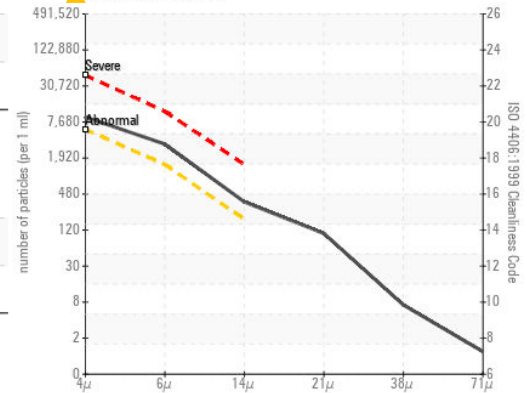
Non-ferrous Metals



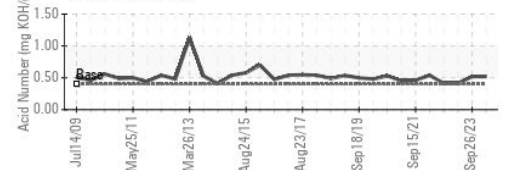
Viscosity @ 40°C



Particle Count



Acid Number



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0889277
Lab Number : 02628163
Unique Number : 5761295
Test Package : IND 2
Received : 11 Apr 2024
Tested : 12 Apr 2024
Diagnosed : 12 Apr 2024 - Wes Davis

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 F: x:

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.