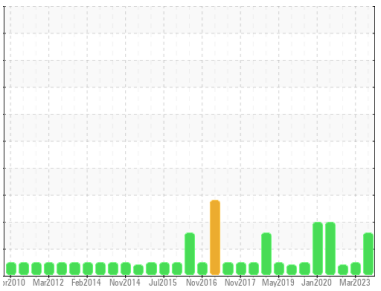
OIL ANALYSIS REPORT

Sample Rating Trend



INSOLUBLES

Machine Id
360.XX040-29 HYDRAULIC DRUM DOOR
Component
Hydraulic System
Fluid
MOBIL DTE 10 EXCEL 68 (10 GAL)

DIAGNOSIS

Recommendation
We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor. Please submit a sample of the new (unused) oil to verify and confirm current baseline.

Wear
All component wear rates are normal.

Contamination
There is a high amount of silt (particulates < 14 microns in size) present in the oil. MPC (Membrane Patch Colorimetry) test indicates a light concentration of varnish present.

Fluid Condition
Linear Sweep Voltammetry (RULER – ASTM D6971) testing indicates normal levels of anti-oxidants present in the oil. 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		**WC0432362**	WC0799239	RP0001023
Sample Date		Client Info		**28 Mar 2024**	31 Mar 2023	14 Jan 2022
Machine Age	mths	Client Info		**0**	0	0
Oil Age	mths	Client Info		**0**	0	0
Oil Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**ABNORMAL**	NORMAL	ABNORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>20	**3**	0	<1
Chromium	ppm	ASTM D5185m	>20	**0**	0	0
Nickel	ppm	ASTM D5185m	>20	**0**	0	0
Titanium	ppm	ASTM D5185m		**0**	0	0
Silver	ppm	ASTM D5185m		**0**	0	0
Aluminum	ppm	ASTM D5185m	>20	**0**	0	0
Lead	ppm	ASTM D5185m	>20	**0**	0	0
Copper	ppm	ASTM D5185m	>20	**0**	0	<1
Tin	ppm	ASTM D5185m	>20	**0**	0	0
Antimony	ppm	ASTM D5185m		**---**	---	0
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**0**	0	<1
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**0**	0	0
Manganese	ppm	ASTM D5185m		**0**	<1	0
Magnesium	ppm	ASTM D5185m		**0**	4	<1
Calcium	ppm	ASTM D5185m		**112**	121	101
Phosphorus	ppm	ASTM D5185m		**463**	464	397
Zinc	ppm	ASTM D5185m		**2**	0	13
Sulfur	ppm	ASTM D5185m		**1748**	1513	1597

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	**0**	<1	<1
Sodium	ppm	ASTM D5185m		**3**	1	1
Potassium	ppm	ASTM D5185m	>20	**0**	<1	0
Water	%	ASTM D6304	>0.05	**0.009**	0.005	0.002
ppm Water	ppm	ASTM D6304	>500	**96**	58.4	19.7

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>320	▲ **8212**	117	▲ 997
Particles >6µm		ASTM D7647	>80	▲ **568**	22	77
Particles >14µm		ASTM D7647	>20	**11**	4	7
Particles >21µm		ASTM D7647	>4	**4**	2	2
Particles >38µm		ASTM D7647	>3	**0**	0	0
Particles >71µm		ASTM D7647	>3	**0**	0	0
Oil Cleanliness		ISO 4406 (c)	>15/13/11	▲ **20/16/11**	14/12/9	▲ 17/13/10

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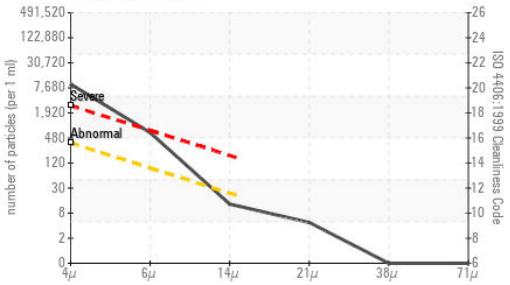
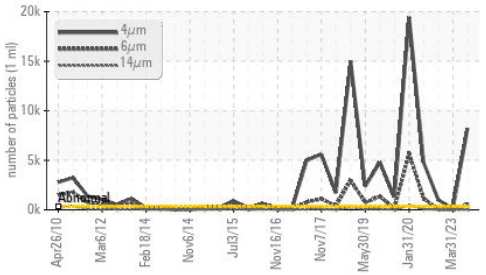
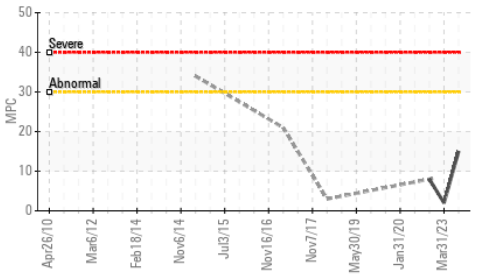
Particle Count



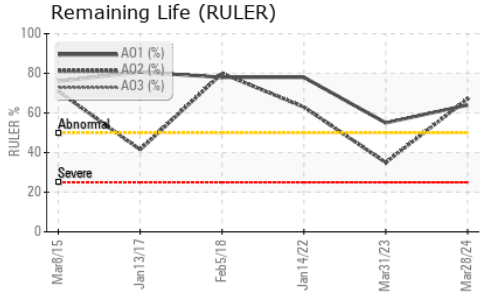
Particle Trend



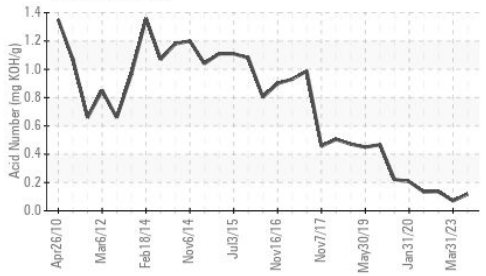
Varnish Potential



Remaining Life (RULER)



Acid Number

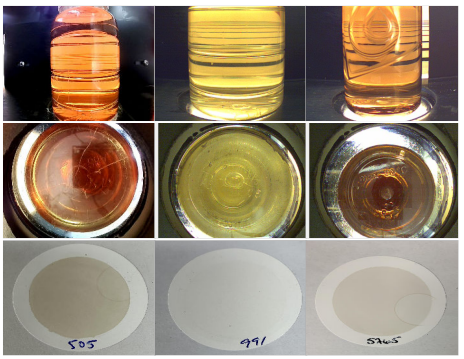


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		**0.117**	0.07	0.137
Anti-Oxidant 1	%	ASTM D6971	<25	**64**	55	78
Anti-Oxidant 2	%	ASTM D6971	<25	**67**	35	63
MPC Varnish Potential	Scale	ASTM D7843	>15	▲ **15**	2	8

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 D445	68.4	**67.0**	66.2	67.7

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					
MPC					



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0432362 **Received** : 03 Apr 2024
Lab Number : 06137505 **Tested** : 12 Apr 2024
Unique Number : 10956970 **Diagnosed** : 12 Apr 2024 - Doug Bogart
Test Package : AOM 1 (Additional Tests: KF)

Certificate L2367

INTERNATIONAL PAPER
1785 Weyerhaeuser Road
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US 28586
Contact: DOUG WEIR
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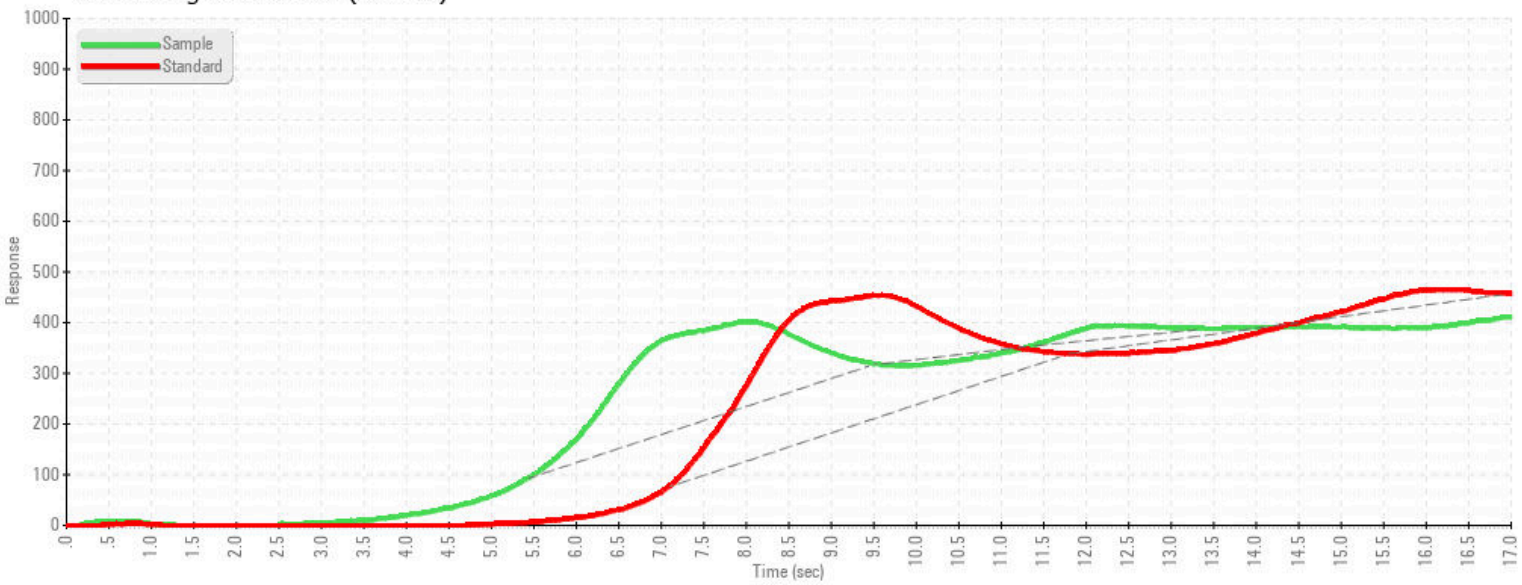
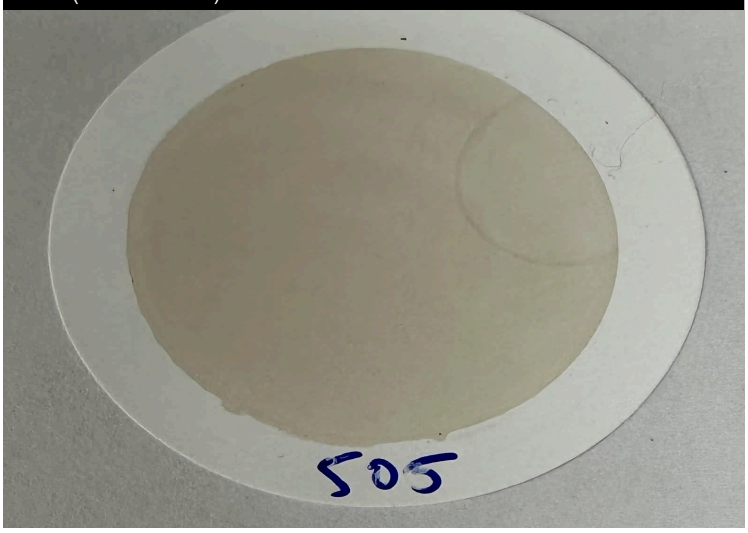
T: (252)633-7350
F: (252)633-7761

To discuss this sample report, contact Customer Service at 1-800-237-1369.
** - Denotes test methods that are outside of the ISO 17025 scope of accreditation.*
Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

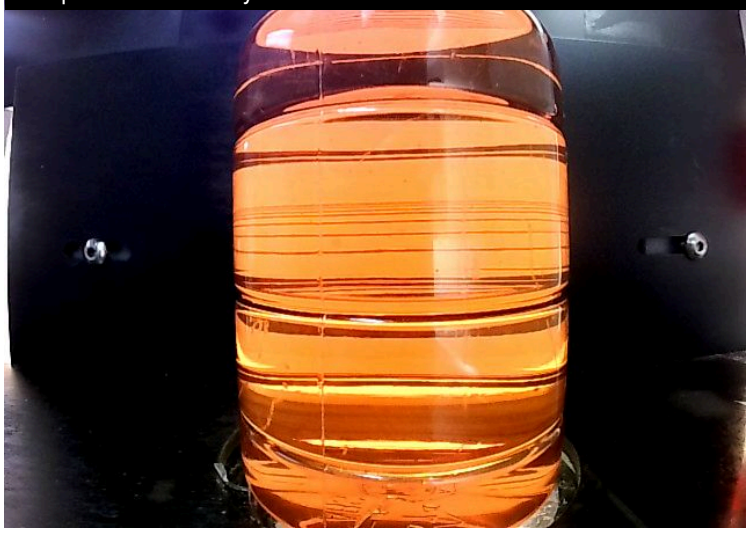
Remaining Useful Life (RULER)



MPC (Varnish Test)



Sample Color & Clarity



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