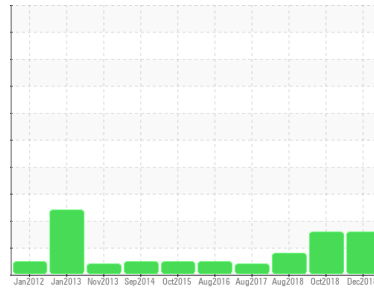


PROBLEM SUMMARY

Sample Rating Trend



ISO



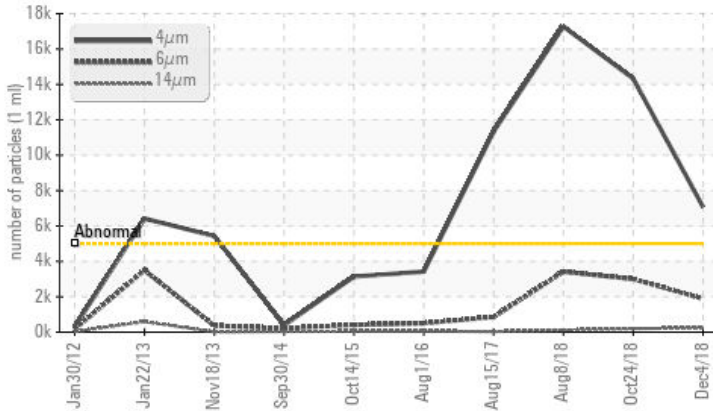
Machine Id
A-021 (S/N 32693)

Component
Hydraulic System

Fluid
MOBIL DTE 10 EXCEL 46 (45 GAL)

COMPONENT CONDITION SUMMARY

▲ Particle Trend



RECOMMENDATION

Re-sample to verify the actual oil condition. Replace filter elements. Change oil if cleanliness level does not improve after replacing the filter(s).

PROBLEMATIC TEST RESULTS

Sample Status			ABNORMAL	ABNORMAL	ABNORMAL
Particles >4µm	ASTM D7647	>5000	▲ 7076	▲ 14332	▲ 17271
Particles >6µm	ASTM D7647	>1300	▲ 1884	▲ 3003	▲ 3419
Particles >14µm	ASTM D7647	>160	▲ 238	▲ 198	114
Particles >21µm	ASTM D7647	>40	▲ 77	▲ 46	33
Oil Cleanliness	ISO 4406 (c)	>19/17/14	▲ 20/18/15	▲ 21/19/15	▲ 21/19/14

Customer Id: MITELI
Sample No.: MHI011598
Lab Number: 04632829
Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:
Jonathan Hester +1 919-379-4092 x4092
jhester@wearcheckusa.com

To change component or sample information:
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Filter	---	---	?	Re-sample to verify the actual oil condition. Replace filter elements. Change oil if cleanliness level does not improve after replacing the filter(s).
Resample	---	---	?	Re-sample to verify the actual oil condition. Replace filter elements. Change oil if cleanliness level does not improve after replacing the filter(s).

HISTORICAL DIAGNOSIS

24 Oct 2018 Diag: Jonathan Hester

ISO



Re-sample to verify the actual oil condition. Replace filter elements. Change oil if cleanliness level does not improve after replacing the filter(s). All component wear rates are normal. There is a high amount of particulates present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



08 Aug 2018 Diag: Don Baldrige

ISO



Re-sample to verify the actual oil condition. Replace filter elements. Change oil if cleanliness level does not improve after replacing the filter(s). All component wear rates are normal. There is a high amount of silt (particulates < 14 microns in size) present in the oil. The AN level is acceptable for this fluid.

view report



15 Aug 2017 Diag: Doug Bogart

ISO



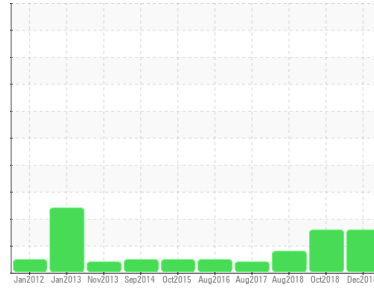
No corrective action is recommended at this time. Resample at the next service interval to monitor. All component wear rates are normal. There is a high amount of silt (particulates < 6 microns in size) present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Machine Id
A-021 (S/N 32693)
Component
Hydraulic System
Fluid
MOBIL DTE 10 EXCEL 46 (45 GAL)

DIAGNOSIS

Recommendation

Re-sample to verify the actual oil condition. Replace filter elements. Change oil if cleanliness level does not improve after replacing the filter(s).

Wear

All component wear rates are normal.

Contamination

There is a moderate amount of particulates present in the oil.

Fluid Condition

The AN level is acceptable for this fluid.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		MHI011598	MHI009219	MHI020152
Sample Date	Client Info		04 Dec 2018	24 Oct 2018	08 Aug 2018
Machine Age	hrs	Client Info	0	0	94896
Oil Age	hrs	Client Info	0	0	32473
Oil Changed	Client Info		Not Changed	N/A	Not Changed
Sample Status			ABNORMAL	ABNORMAL	ABNORMAL

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >50	7	6	6
Chromium	ppm	ASTM D5185m	<1	<1	<1
Nickel	ppm	ASTM D5185m	2	2	1
Titanium	ppm	ASTM D5185m	0	0	0
Silver	ppm	ASTM D5185m	0	0	0
Aluminum	ppm	ASTM D5185m	0	0	0
Lead	ppm	ASTM D5185m	2	2	1
Copper	ppm	ASTM D5185m	<1	<1	<1
Tin	ppm	ASTM D5185m	<1	0	<1
Antimony	ppm	ASTM D5185m	0	0	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	0
Barium	ppm	ASTM D5185m	0	0	0
Molybdenum	ppm	ASTM D5185m	0	0	0
Manganese	ppm	ASTM D5185m	<1	<1	<1
Magnesium	ppm	ASTM D5185m	0	<1	<1
Calcium	ppm	ASTM D5185m	108	98	102
Phosphorus	ppm	ASTM D5185m	440	383	401
Zinc	ppm	ASTM D5185m	78	67	72
Sulfur	ppm	ASTM D5185m	1428	2098	1528

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >+30	<1	<1	0
Sodium	ppm	ASTM D5185m	2	2	2
Potassium	ppm	ASTM D5185m >20	0	<1	<1
Water	%	ASTM D6304 >0.1	0.002	0.004	0.007
ppm Water	ppm	ASTM D6304 >1000	20	40	70

FLUID CLEANLINESS

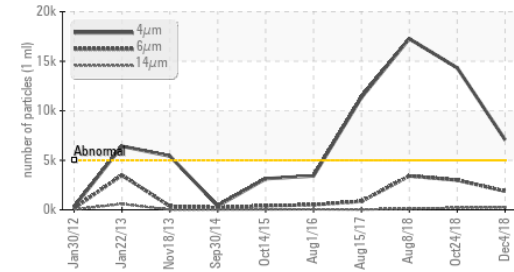
	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>5000	▲ 7076	▲ 14332	▲ 17271
Particles >6µm	ASTM D7647	>1300	▲ 1884	▲ 3003	▲ 3419
Particles >14µm	ASTM D7647	>160	▲ 238	▲ 198	114
Particles >21µm	ASTM D7647	>40	▲ 77	▲ 46	33
Particles >38µm	ASTM D7647	>10	5	2	2
Particles >71µm	ASTM D7647	>3	0	0	0
Oil Cleanliness	ISO 4406 (c)	>19/17/14	▲ 20/18/15	▲ 21/19/15	▲ 21/19/14

FLUID DEGRADATION

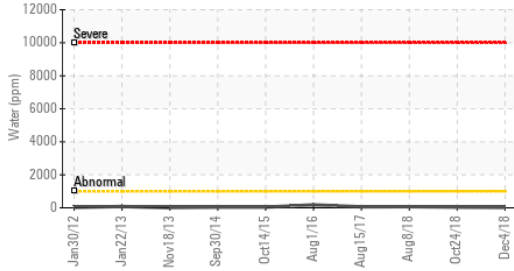
	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.167	0.207	0.164

OIL ANALYSIS REPORT

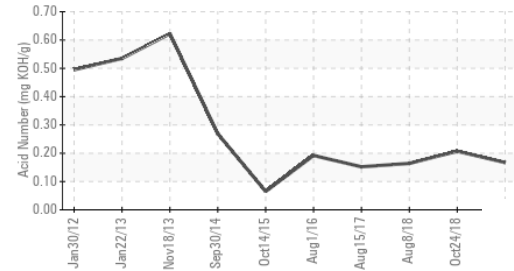
▲ Particle Trend



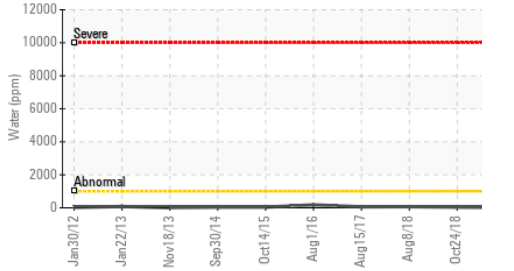
Water (KF)



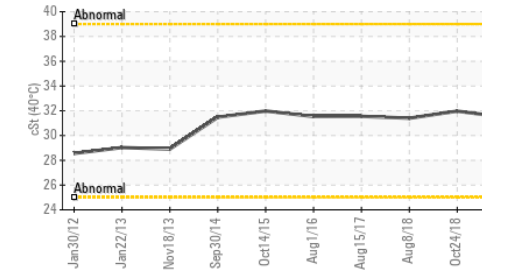
Acid Number



Water (KF)



Viscosity @ 40°C



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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	31.47	31.97	31.4

SAMPLE IMAGES	method	limit/base	current	history1	history2
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Color

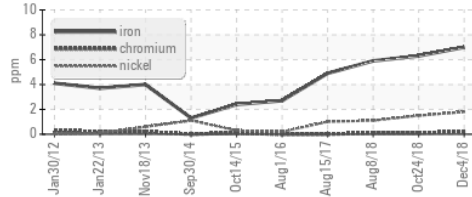


Bottom

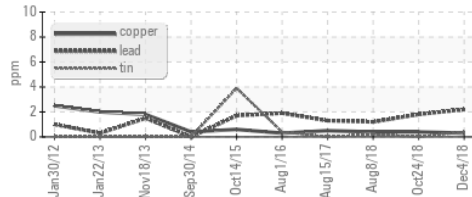


GRAPHS

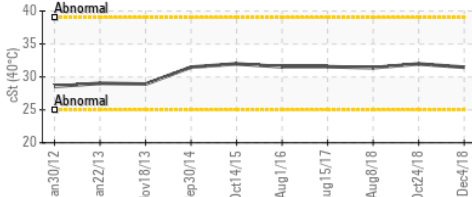
Ferrous Alloys



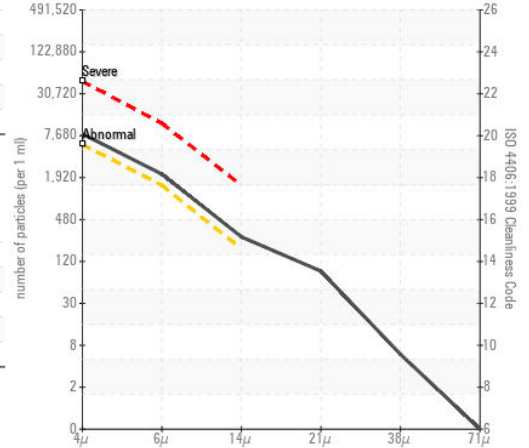
Non-ferrous Metals



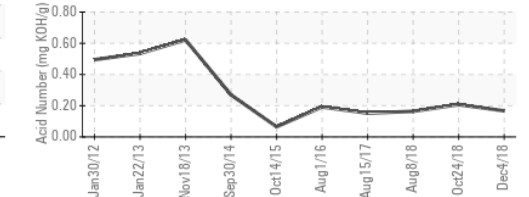
Viscosity @ 40°C



▲ Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MH1011598 **Received** : 18 Jan 2019
Lab Number : 04632829 **Diagnosed** : 21 Jan 2019
Unique Number : 8464255 **Diagnostician** : Jonathan Hester

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 F: (505)274-6369

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)