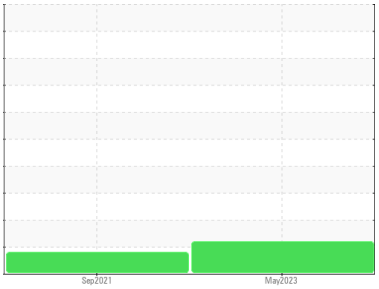
DIAMOND WTG ENGINEERING & SERVICES, INC.
a group company of MITSUBISHI HEAVY INDUSTRIES, LTD.

PROBLEM SUMMARY

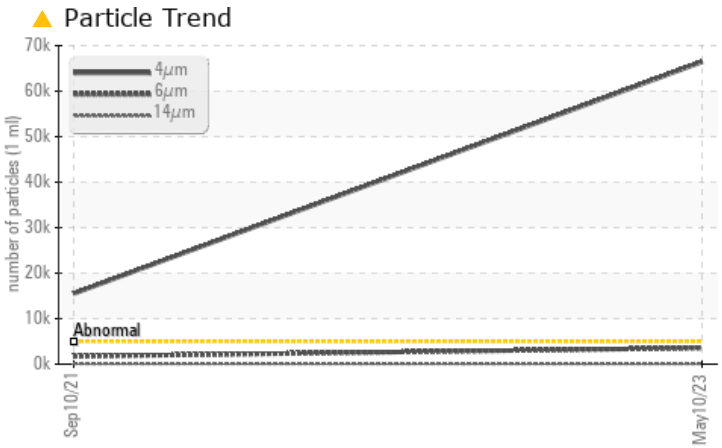
Sample Rating Trend



ISO

Machine Id
I-05
Component
Hydraulic System
Fluid
MOBIL DTE 10 EXCEL 32 (--- GAL)

COMPONENT CONDITION SUMMARY



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	---
Particles >4µm		ASTM D7647	>5000	▲ **66428**	▲ 15501	---
Particles >6µm		ASTM D7647	>1300	▲ **3542**	▲ 1715	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ **23/19/14**	▲ 21/18/14	---

Customer Id: MITWHI
Sample No.: MHI021627
Lab Number: 06016383
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

10 Sep 2021 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 silt (particulates < 14 microns in size) present in the oil. The AN level is acceptable for this fluid.

view report

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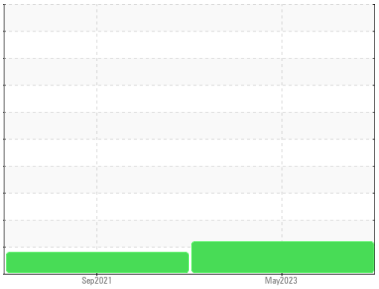
OIL ANALYSIS REPORT

Sample Rating Trend



ISO

Machine Id
I-05
Component
Hydraulic System
Fluid
MOBIL DTE 10 EXCEL 32 (--- 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 high amount of silt (particulates < 14 microns in size) 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		**MHI021627**	MHI017359	---
Sample Date		Client Info		**10 May 2023**	10 Sep 2021	---
Machine Age	hrs	Client Info		**0**	0	---
Oil Age	hrs	Client Info		**0**	0	---
Oil Changed		Client Info		**N/A**	N/A	---
Sample Status				**ABNORMAL**	ABNORMAL	---

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	**4**	4	---
Chromium	ppm	ASTM D5185m	>20	**<1**	0	---
Nickel	ppm	ASTM D5185m	>20	**<1**	<1	---
Titanium	ppm	ASTM D5185m		**<1**	0	---
Silver	ppm	ASTM D5185m		**0**	0	---
Aluminum	ppm	ASTM D5185m	>20	**2**	0	---
Lead	ppm	ASTM D5185m	>20	**0**	<1	---
Copper	ppm	ASTM D5185m	>20	**<1**	2	---
Tin	ppm	ASTM D5185m	>20	**0**	0	---
Antimony	ppm	ASTM D5185m		**---**	0	---
Vanadium	ppm	ASTM D5185m		**0**	0	---
Cadmium	ppm	ASTM D5185m		**<1**	0	---

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**0**	0	---
Barium	ppm	ASTM D5185m		**0**	0	---
Molybdenum	ppm	ASTM D5185m		**<1**	0	---
Manganese	ppm	ASTM D5185m		**<1**	0	---
Magnesium	ppm	ASTM D5185m		**<1**	0	---
Calcium	ppm	ASTM D5185m	120	**96**	126	---
Phosphorus	ppm	ASTM D5185m	475	**233**	500	---
Zinc	ppm	ASTM D5185m		**0**	0	---
Sulfur	ppm	ASTM D5185m	1275	**855**	1147	---

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>+30	**<1**	1	---
Sodium	ppm	ASTM D5185m		**0**	1	---
Potassium	ppm	ASTM D5185m	>20	**<1**	0	---
Water	%	ASTM D6304	>0.1	**0.010**	0.003	---
ppm Water	ppm	ASTM D6304	>1000	**100**	31.5	---

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	▲ **66428**	▲ 15501	---
Particles >6µm		ASTM D7647	>1300	▲ **3542**	▲ 1715	---
Particles >14µm		ASTM D7647	>160	**97**	109	---
Particles >21µm		ASTM D7647	>40	**34**	23	---
Particles >38µm		ASTM D7647	>10	**1**	0	---
Particles >71µm		ASTM D7647	>3	**0**	0	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ **23/19/14**	▲ 21/18/14	---

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		**0.194**	0.05	---

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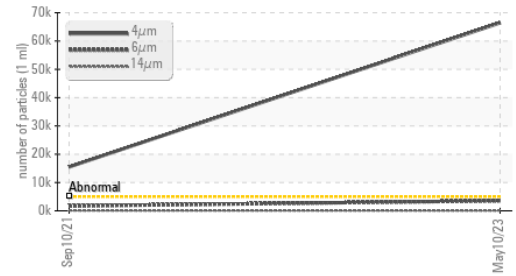
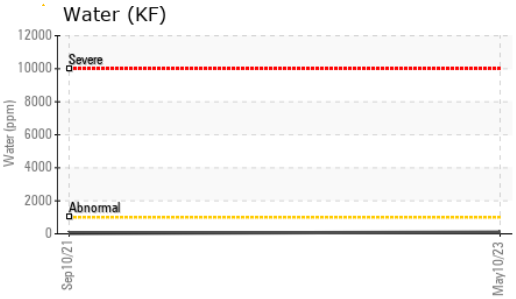
OIL ANALYSIS REPORT

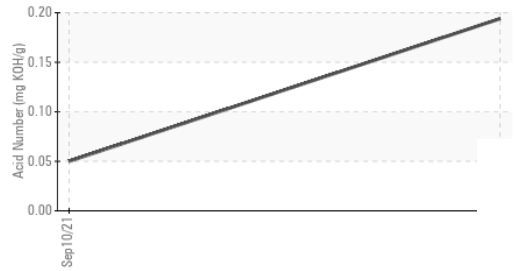
Particle Trend



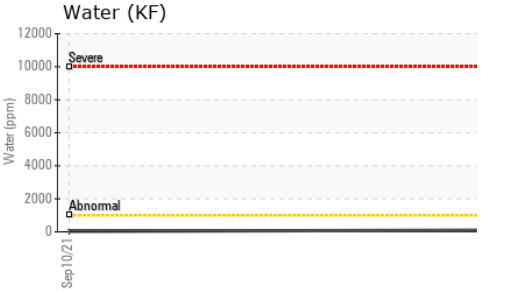
Water (KF)



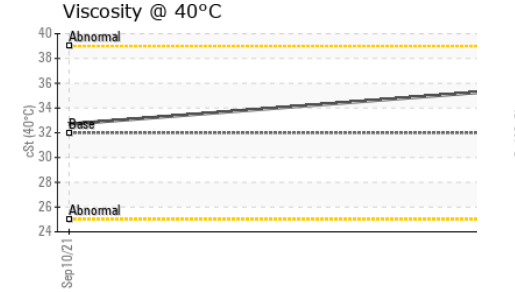
Acid Number



Water (KF)

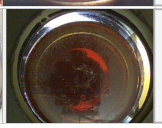


Viscosity @ 40°C



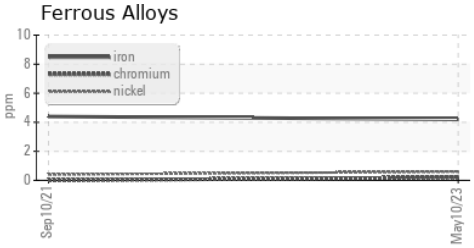
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	VLITE	---
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	---
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	---
Silt	scalar	*Visual	NONE	**NONE**	NONE	---
Debris	scalar	*Visual	NONE	**NONE**	VLITE	---
Sand/Dirt	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	32	**35.4**	32.7	---

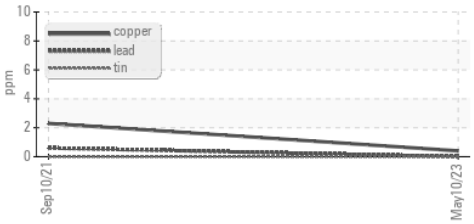
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					no image
Bottom					no image

GRAPHS

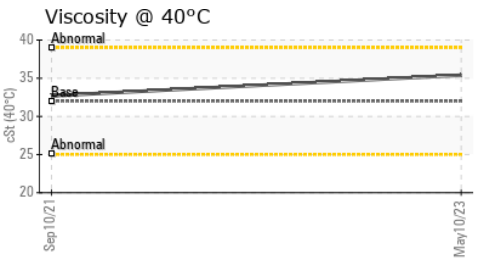
Ferrous Alloys



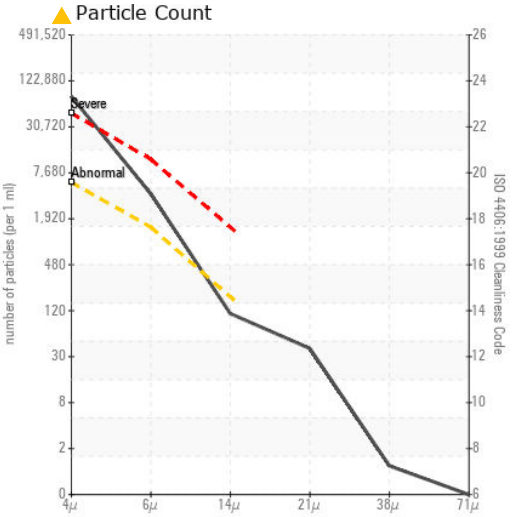
Non-ferrous Metals



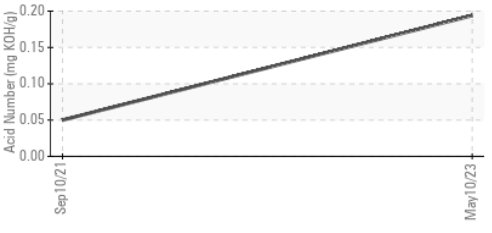
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MHI021627 **Received** : 24 Nov 2023
Lab Number : 06016383 **Diagnosed** : 01 Dec 2023
Unique Number : 10755527 **Diagnostician** : Jonathan Hester
Test Package : IND 2 (Additional Tests: KF)

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)

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