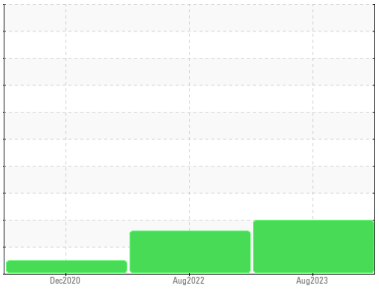
PROBLEM SUMMARY

Sample Rating Trend

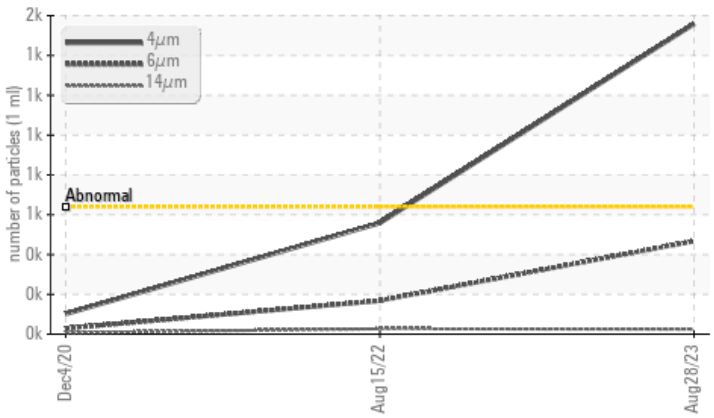


ISO

Area
CTF
Machine Id
Dyno Side B
Component
Main Hydraulic System
Fluid
ESSO NUTO H ISO 46 (250 GAL)

COMPONENT CONDITION SUMMARY

Particle Trend



RECOMMENDATION

No corrective action is recommended at this time. The filter change at the time of sampling has been noted. Resample at the next service interval to monitor. (Customer Sample Comment: Fluid and Filters Changed in August 2022
Filters changed again in August 2023)

PROBLEMATIC TEST RESULTS

Sample Status				ABNORMAL	ATTENTION	NORMAL
Particles >4µm		ASTM D7647	>640	▲ **1558**	558	101
Particles >6µm		ASTM D7647	>160	▲ **467**	▲ 168	29
Particles >14µm		ASTM D7647	>20	▲ **25**	▲ 27	7
Particles >21µm		ASTM D7647	>4	▲ **7**	▲ 8	4
Oil Cleanliness		ISO 4406 (c)	>16/14/11	▲ **18/16/12**	▲ 16/15/12	14/12/10

Customer Id: MICGRE
Sample No.: WC0810915
Lab Number: 05938896
Test Package: IND 2

To manage this report scan the QR code

To discuss the diagnosis or test data:
Doug Bogart +1 (800)237-1369 x4016
dougb@wearcheckusa.com

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

RECOMMENDED ACTIONS

There are no recommended actions for this sample.

HISTORICAL DIAGNOSIS

15 Aug 2022 Diag: Jonathan Hester

ISO

No corrective action is recommended at this time. The filter change at the time of sampling has been noted. Resample at the next service interval to monitor.All component wear rates are normal. There is a moderate 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

04 Dec 2020 Diag: Angela Borella

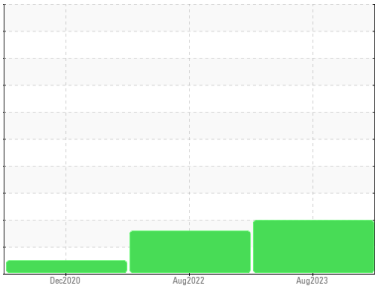
NORMAL

Resample at the next service interval to monitor.All component wear rates are normal. The amount and size of particulates present in the system are acceptable. There is no indication of any contamination 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

Area
CTF
Machine Id
Dyno Side B
Component
Main Hydraulic System
Fluid
ESSO NUTO H ISO 46 (250 GAL)

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. The filter change at the time of sampling has been noted. Resample at the next service interval to monitor. (Customer Sample Comment: Fluid and Filters Changed in August 2022
Filters changed again in August 2023)

Wear

All component wear rates are normal.

Contamination

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

Fluid Condition

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		**WC0810915**	WC0500751	WC0500743
Sample Date		Client Info		**28 Aug 2023**	15 Aug 2022	04 Dec 2020
Machine Age		Client Info		**34**	32	0
Oil Age		Client Info		**1**	3	0
Oil Changed		Client Info		**Not Changd**	Not Changd	N/A
Sample Status				**ABNORMAL**	ATTENTION	NORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>20	**0**	0	0
Chromium	ppm	ASTM D5185m	>20	**0**	0	0
Nickel	ppm	ASTM D5185m	>20	**0**	<1	0
Titanium	ppm	ASTM D5185m		**0**	0	0
Silver	ppm	ASTM D5185m		**0**	<1	0
Aluminum	ppm	ASTM D5185m	>20	**<1**	<1	0
Lead	ppm	ASTM D5185m	>20	**0**	<1	0
Copper	ppm	ASTM D5185m	>20	**1**	<1	<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**	0	0
Barium	ppm	ASTM D5185m	0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	0	**0**	<1	0
Manganese	ppm	ASTM D5185m		**0**	0	0
Magnesium	ppm	ASTM D5185m	5	**0**	1	0
Calcium	ppm	ASTM D5185m	50	**50**	54	48
Phosphorus	ppm	ASTM D5185m	330	**331**	366	375
Zinc	ppm	ASTM D5185m	410	**412**	497	450
Sulfur	ppm	ASTM D5185m	2700	**7298**	3770	1017

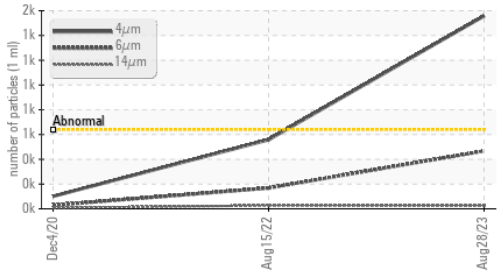
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	**0**	0	<1
Sodium	ppm	ASTM D5185m		**<1**	0	0
Potassium	ppm	ASTM D5185m	>20	**0**	<1	0
Water	%	ASTM D6304	>0.05	**0.002**	---	---
ppm Water	ppm	ASTM D6304	>500	**18.7**	---	---

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>640	▲ **1558**	558	101
Particles >6µm		ASTM D7647	>160	▲ **467**	▲ 168	29
Particles >14µm		ASTM D7647	>20	▲ **25**	▲ 27	7
Particles >21µm		ASTM D7647	>4	▲ **7**	▲ 8	4
Particles >38µm		ASTM D7647	>3	**1**	1	1
Particles >71µm		ASTM D7647	>3	**0**	0	1
Oil Cleanliness		ISO 4406 (c)	>16/14/11	▲ **18/16/12**	▲ 16/15/12	14/12/10

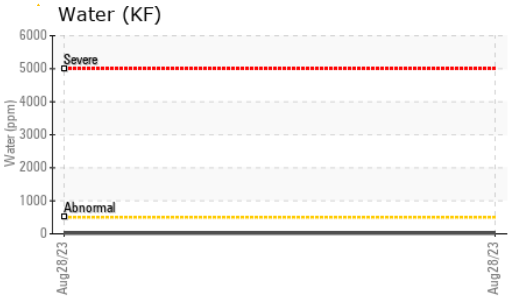
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.45	**0.24**	0.25	0.305

OIL ANALYSIS REPORT

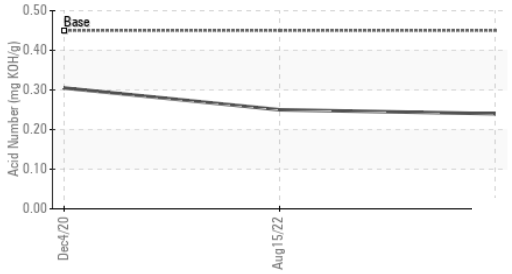
Particle Trend



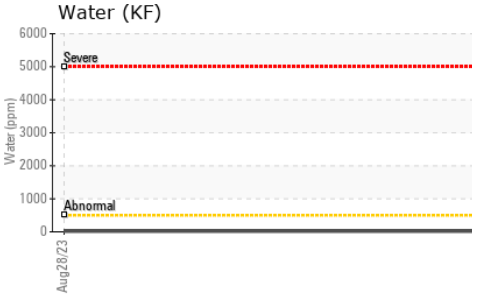
Water (KF)



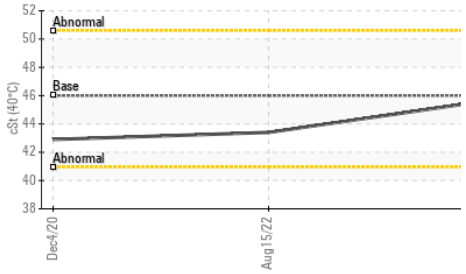
Acid Number



Water (KF)

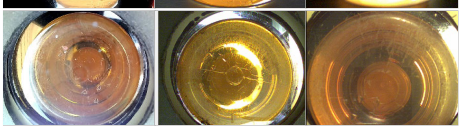


Viscosity @ 40°C



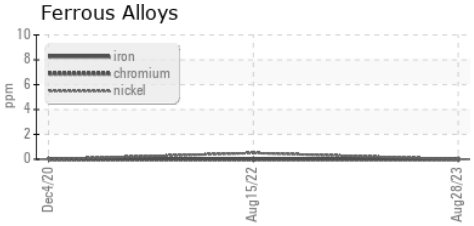
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	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	46	**45.6**	43.4	42.9

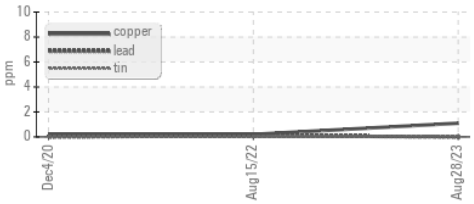
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS

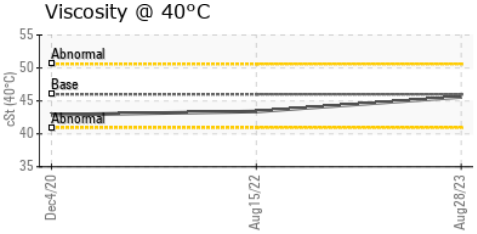
Ferrous Alloys



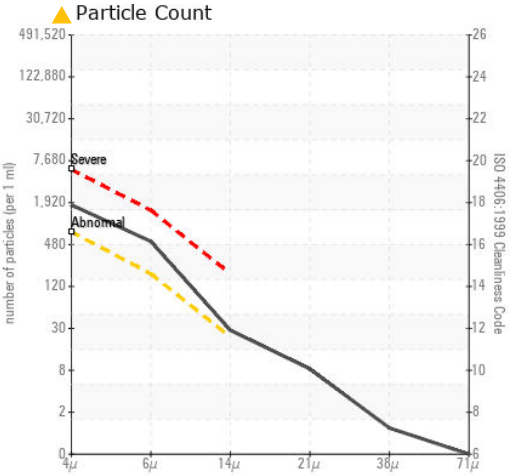
Non-ferrous Metals



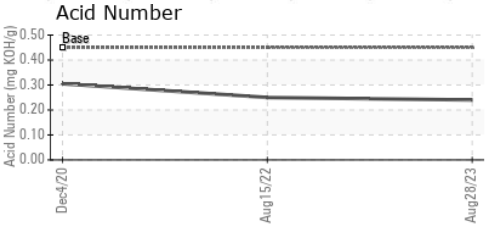
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0810915 **Received** : 30 Aug 2023
Lab Number : 05938896 **Diagnosed** : 31 Aug 2023
Unique Number : 10629508 **Diagnostician** : Doug Bogart
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)

Michelin Americas Research Company
515 Michelin Road
Greenville, SC
US 29605
Contact: Vince Wilson
vince.wilson@michelin.com
T: (864)422-3913
F: (864)422-3518