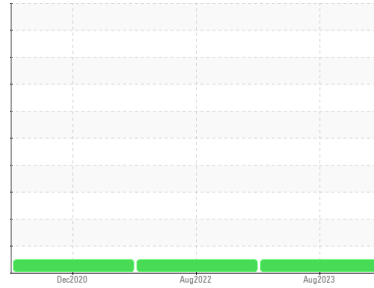




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Area
CTF
 Machine Id
Dyno Side A
 Component
Pump Bearing Lube
 Fluid
ESSO NUTO H ISO 68 (200 GAL)

DIAGNOSIS

Recommendation

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

The amount and size of particulates present in the system are acceptable. There is no indication of any contamination 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			WC0810913	WC0500750	WC0500744
Sample Date	Client Info			28 Aug 2023	12 Aug 2022	04 Dec 2020
Machine Age	Client Info			34	32	0
Oil Age	Client Info			1	0	0
Oil Changed	Client Info			Not Changed	Not Changed	N/A
Sample Status				NORMAL	NORMAL	NORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>120	0	0	<1
Chromium	ppm	ASTM D5185m	>5	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	>4	<1	<1	0
Lead	ppm	ASTM D5185m	>30	0	<1	<1
Copper	ppm	ASTM D5185m	>17	0	<1	3
Tin	ppm	ASTM D5185m	>10	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	<1
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	0	0	0	<1
Manganese	ppm	ASTM D5185m		0	0	0
Magnesium	ppm	ASTM D5185m	5	0	<1	0
Calcium	ppm	ASTM D5185m	50	58	63	70
Phosphorus	ppm	ASTM D5185m	330	354	359	360
Zinc	ppm	ASTM D5185m	420	430	486	432
Sulfur	ppm	ASTM D5185m	3100	7862	7667	3249

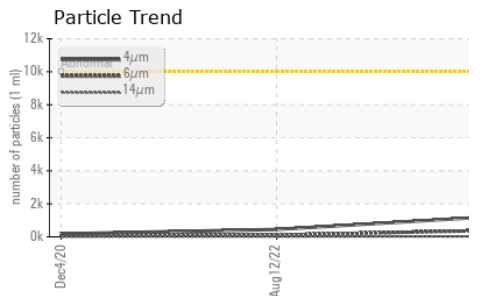
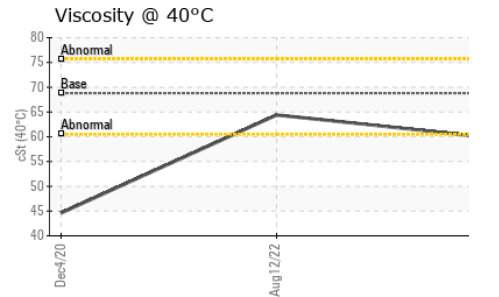
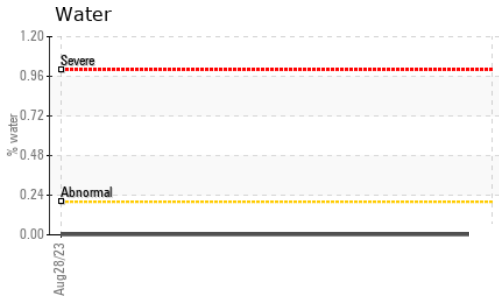
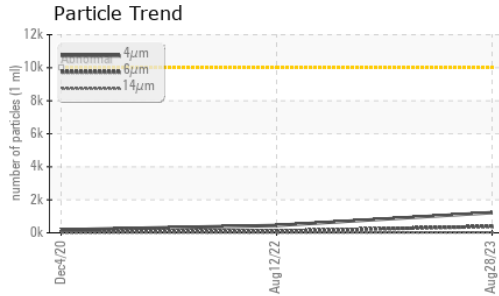
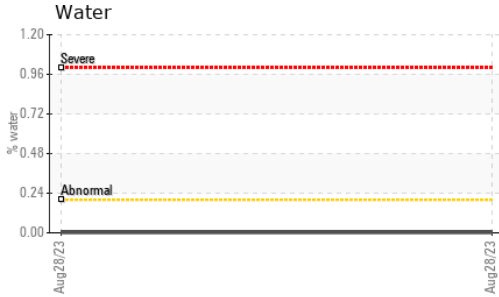
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	<1	0	1
Sodium	ppm	ASTM D5185m		<1	<1	0
Potassium	ppm	ASTM D5185m	>20	0	<1	0
Water	%	ASTM D6304	>0.2	0.002	---	---
ppm Water	ppm	ASTM D6304	>2000	15.7	---	---

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>10000	1223	448	181
Particles >6µm		ASTM D7647	>2500	387	103	63
Particles >14µm		ASTM D7647	>160	25	12	7
Particles >21µm		ASTM D7647	>40	6	4	3
Particles >38µm		ASTM D7647	>10	0	0	2
Particles >71µm		ASTM D7647	>3	0	0	2
Oil Cleanliness		ISO 4406 (c)	>20/18/14	17/16/12	16/14/11	15/13/10

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	.40	0.27	0.30	0.364



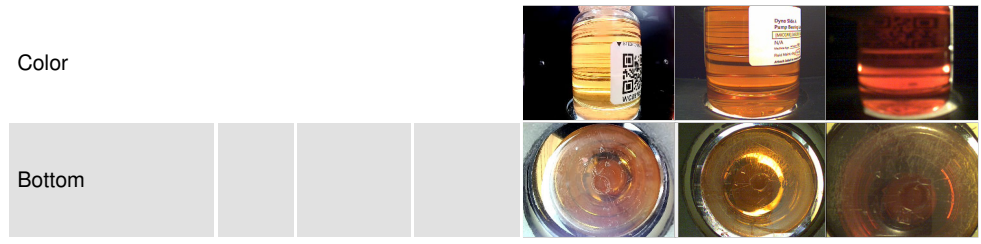
OIL ANALYSIS REPORT



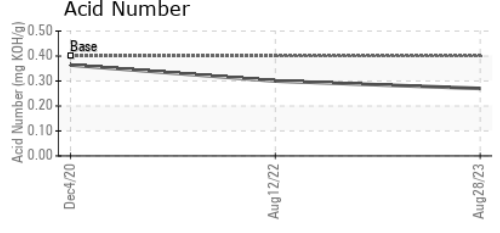
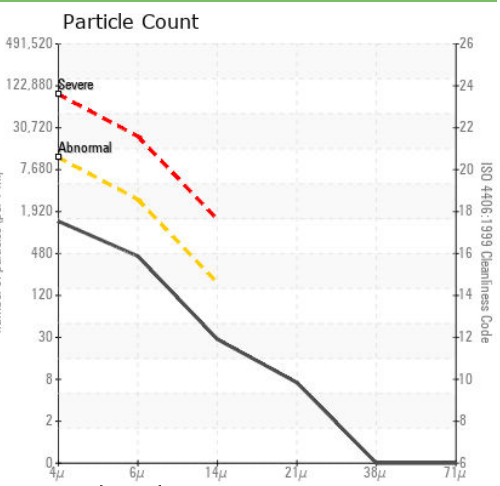
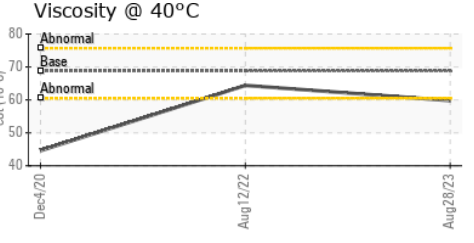
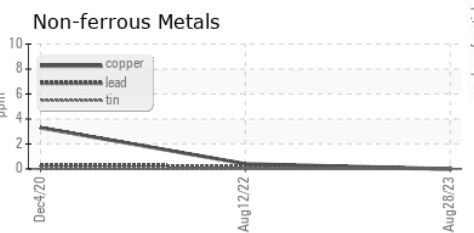
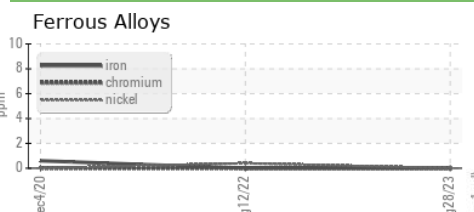
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	68.8	59.8	64.4

SAMPLE IMAGES	method	limit/base	current	history1	history2
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GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0810913 **Received** : 30 Aug 2023
Lab Number : 05938894 **Diagnosed** : 31 Aug 2023
Unique Number : 10629506 **Diagnostician** : Doug Bogart
Test Package : IND 2 (Additional Tests: KF, PrtCount)

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

Certificate L2367
 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)