



OIL ANALYSIS REPORT

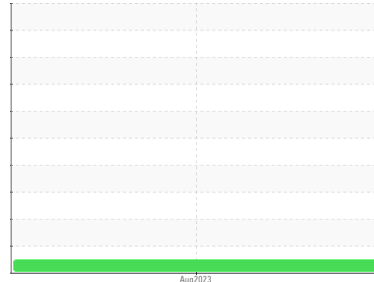
Sample Rating Trend

NORMAL



Machine Id
GEA TYSWAL HS-04 NEW (S/N 00856-009-1-01-01)

Component
Refrigeration Compressor
Fluid
USPI ALT-68 SC (--- GAL)



DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

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	USP0000378	---	---
Sample Date	Client Info	27 Aug 2023	---	---
Machine Age	hrs Client Info	1815	---	---
Oil Age	hrs Client Info	0	---	---
Oil Changed	Client Info	N/A	---	---
Sample Status		NORMAL	---	---

WEAR METALS

method	limit/base	current	history1	history2
Iron ppm ASTM D5185m	>8	0	---	---
Chromium ppm ASTM D5185m	>2	0	---	---
Nickel ppm ASTM D5185m		0	---	---
Titanium ppm ASTM D5185m		0	---	---
Silver ppm ASTM D5185m	>2	0	---	---
Aluminum ppm ASTM D5185m	>3	0	---	---
Lead ppm ASTM D5185m	>2	<1	---	---
Copper ppm ASTM D5185m	>8	0	---	---
Tin ppm ASTM D5185m	>4	0	---	---
Vanadium ppm ASTM D5185m		0	---	---
Cadmium ppm ASTM D5185m		0	---	---

ADDITIVES

method	limit/base	current	history1	history2
Boron ppm ASTM D5185m		0	---	---
Barium ppm ASTM D5185m		0	---	---
Molybdenum ppm ASTM D5185m		0	---	---
Manganese ppm ASTM D5185m		0	---	---
Magnesium ppm ASTM D5185m		0	---	---
Calcium ppm ASTM D5185m		0	---	---
Phosphorus ppm ASTM D5185m		1	---	---
Zinc ppm ASTM D5185m		0	---	---
Sulfur ppm ASTM D5185m	50	0	---	---

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon ppm ASTM D5185m	>15	<1	---	---
Sodium ppm ASTM D5185m		0	---	---
Potassium ppm ASTM D5185m	>20	<1	---	---
Water % ASTM D6304	>0.01	0.001	---	---
ppm Water ppm ASTM D6304	>100	2.8	---	---

FLUID CLEANLINESS

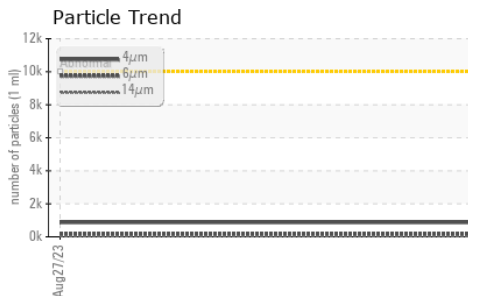
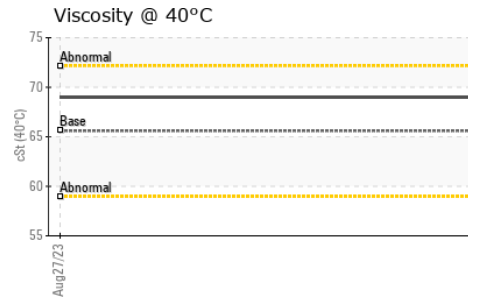
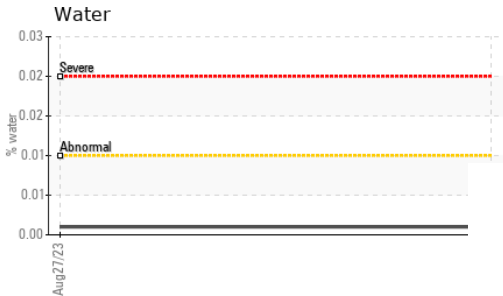
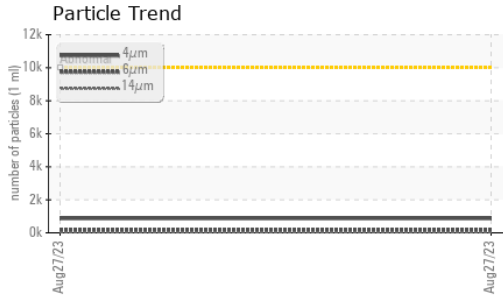
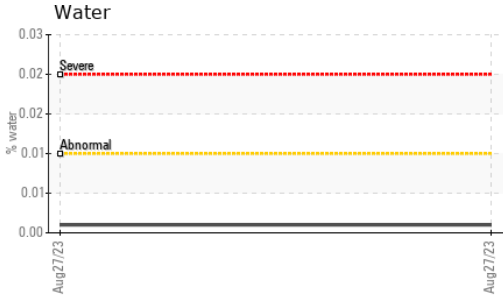
method	limit/base	current	history1	history2
Particles >4µm ASTM D7647	>10000	870	---	---
Particles >6µm ASTM D7647	>2500	198	---	---
Particles >14µm ASTM D7647	>320	35	---	---
Particles >21µm ASTM D7647	>80	11	---	---
Particles >38µm ASTM D7647	>20	0	---	---
Particles >71µm ASTM D7647	>4	0	---	---
Oil Cleanliness ISO 4406 (c)	>20/18/15	17/15/12	---	---

FLUID DEGRADATION

method	limit/base	current	history1	history2
Acid Number (AN) mg KOH/g ASTM D974	0.005	0.015	---	---



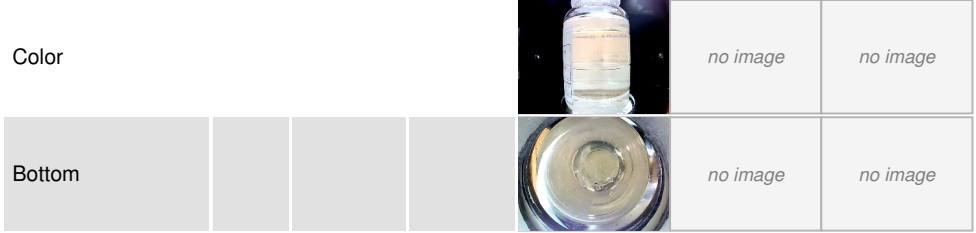
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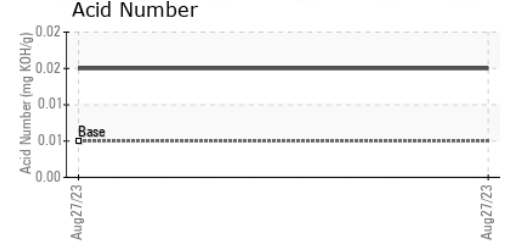
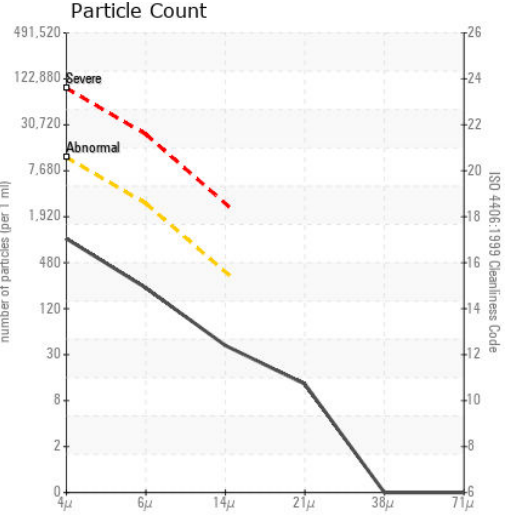
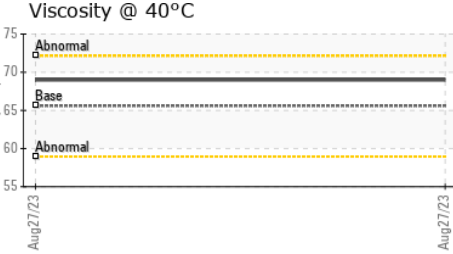
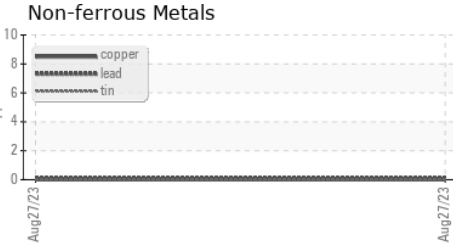
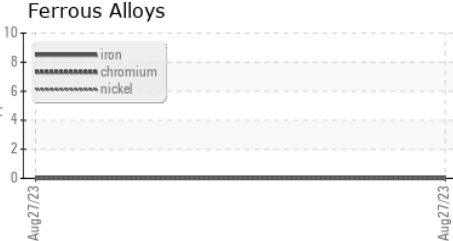
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.01	NEG	---
Free Water	scalar	*Visual		NEG	---

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	65.6	69.0	---

SAMPLE IMAGES	method	limit/base	current	history1	history2
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GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : USP0000378 **Received** : 30 Aug 2023
Lab Number : 05938960 **Diagnosed** : 31 Aug 2023
Unique Number : 10629572 **Diagnostician** : Doug Bogart
Test Package : IND 2

TYSON - WALDRON- USP
 WALDRON, AR
 US
 Contact: DANNY HOUSTON
 danny.houston@tyson.com
 T: (479)637-2121
 F: (479)637-5602

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)