



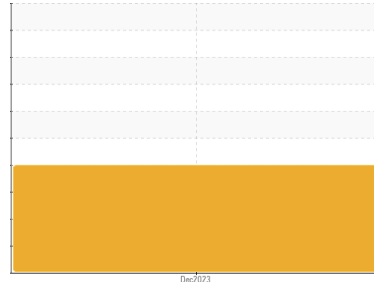
OIL ANALYSIS REPORT

Sample Rating Trend

ISO



Area
HOWARD SHEPPARD
 Machine Id
2612 HOWARD SHEPPARD
 Component
Front Differential
 Fluid
{not provided} (--- GAL)



DIAGNOSIS

Recommendation

Check seals and/or filters for points of contaminant entry. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. We recommend you service the filters on this component. Resample in 30-45 days to monitor this situation. Please specify the component make and model with your next sample. Please specify the brand, type, and viscosity of the oil on your next sample.

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. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0876054	---	---
Sample Date	Client Info		28 Dec 2023	---	---
Machine Age	mls	Client Info	160490	---	---
Oil Age	mls	Client Info	0	---	---
Oil Changed	Client Info		N/A	---	---
Sample Status			SEVERE	---	---

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>500	164	---
Chromium	ppm	ASTM D5185m	>10	1	---
Nickel	ppm	ASTM D5185m	>10	0	---
Titanium	ppm	ASTM D5185m		0	---
Silver	ppm	ASTM D5185m		0	---
Aluminum	ppm	ASTM D5185m	>25	1	---
Lead	ppm	ASTM D5185m	>25	0	---
Copper	ppm	ASTM D5185m	>100	2	---
Tin	ppm	ASTM D5185m	>10	0	---
Vanadium	ppm	ASTM D5185m		0	---
Cadmium	ppm	ASTM D5185m		0	---

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		67	---
Barium	ppm	ASTM D5185m		2	---
Molybdenum	ppm	ASTM D5185m		0	---
Manganese	ppm	ASTM D5185m		14	---
Magnesium	ppm	ASTM D5185m		169	---
Calcium	ppm	ASTM D5185m		6	---
Phosphorus	ppm	ASTM D5185m		1625	---
Zinc	ppm	ASTM D5185m		17	---
Sulfur	ppm	ASTM D5185m		21826	---

CONTAMINANTS

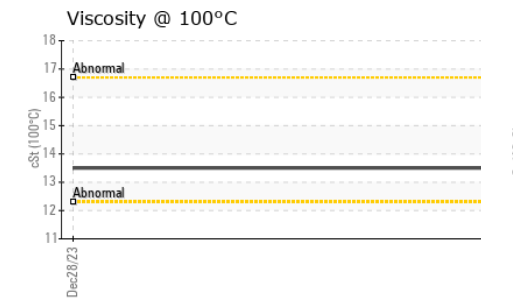
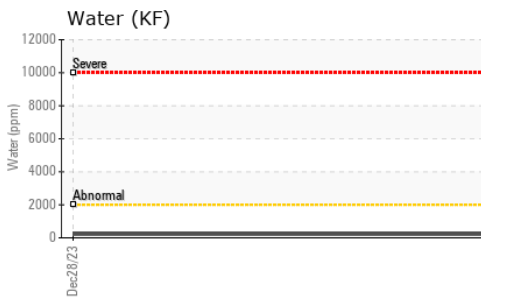
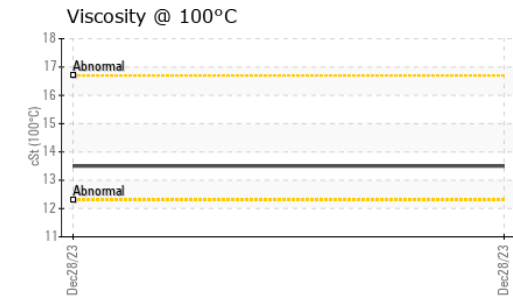
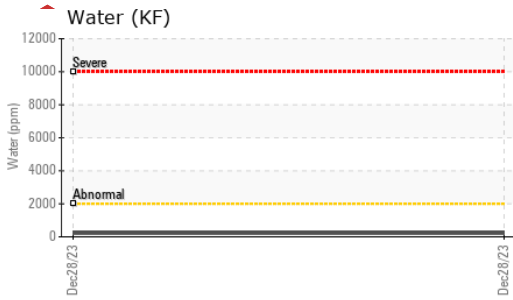
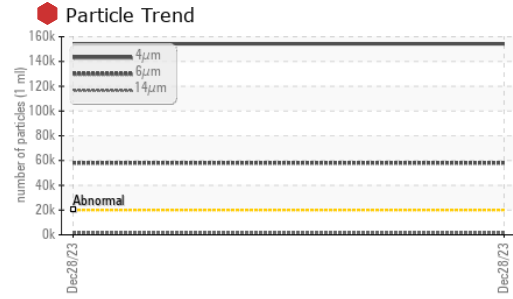
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>75	15	---
Sodium	ppm	ASTM D5185m		4	---
Potassium	ppm	ASTM D5185m	>20	0	---
Water	%	ASTM D6304	>.2	0.022	---
ppm Water	ppm	ASTM D6304	>2000	223	---

FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>20000	▲ 154248	---	---
Particles >6µm	ASTM D7647	>5000	● 58052	---	---
Particles >14µm	ASTM D7647	>640	▲ 1552	---	---
Particles >21µm	ASTM D7647	>160	▲ 237	---	---
Particles >38µm	ASTM D7647	>40	2	---	---
Particles >71µm	ASTM D7647	>10	0	---	---
Oil Cleanliness	ISO 4406 (c)	>21/19/16	● 24/23/18	---	---

FLUID DEGRADATION

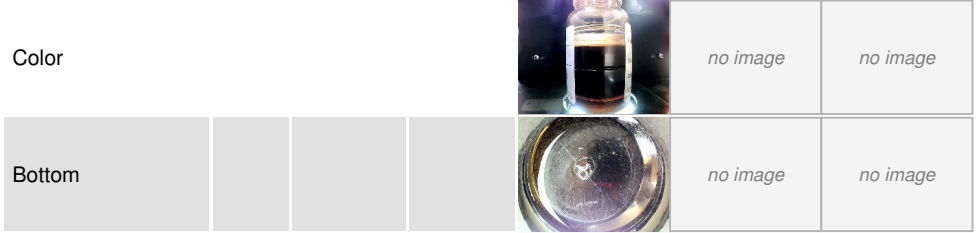
	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		0.81	---



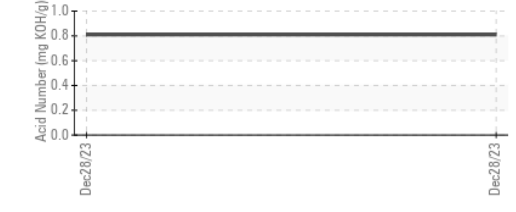
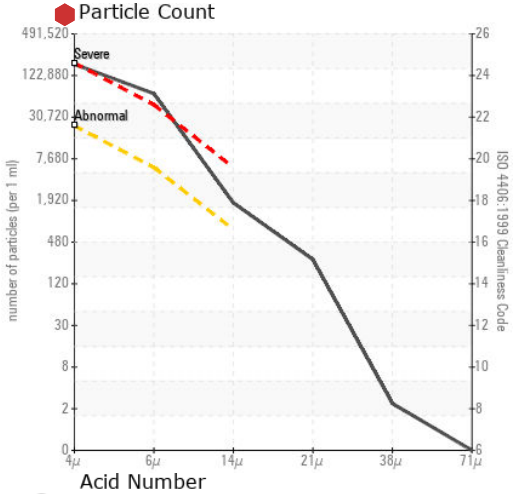
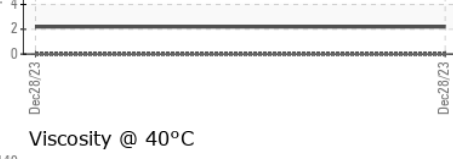
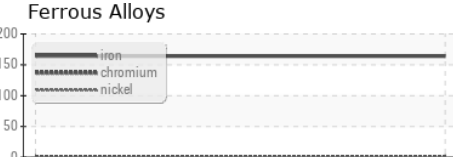
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	LIGHT	---
Debris	scalar	*Visual	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	---
Emulsified Water	scalar	*Visual	>.2	NEG	---
Free Water	scalar	*Visual		NEG	---

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	93.4	---	---
Visc @ 100°C	cSt	ASTM D445	13.5	---	---
Viscosity Index (VI)	Scale	ASTM D2270	145	---	---

SAMPLE IMAGES	method	limit/base	current	history1	history2
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GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0876054 **Received** : 08 Jan 2024
Lab Number : 06054916 **Diagnosed** : 10 Jan 2024
Unique Number : 10820865 **Diagnostician** : Wes Davis
Test Package : MOB 2 (Additional Tests: KF, KV100, PrtCount, VI)

BASF - GIANNA CREDAROLI
 500 WHITE PLAINS RD
 TARRYTOWN, NY
 US 10591
 Contact: GIANNA CREDAROLI
 gianna.credaroli@basf.com

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)