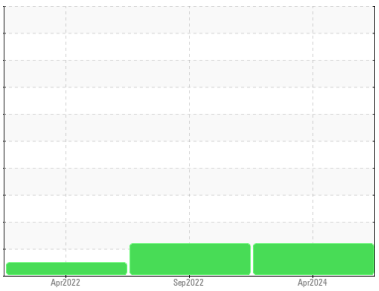
OIL ANALYSIS REPORT

Sample Rating Trend



ISO

Area
HOWARD SHEPPARD
Machine Id
2567 HOWARD SHEPPARD
Component
Rear Differential
Fluid
{not provided} (--- GAL)

DIAGNOSIS

Recommendation
No corrective action is recommended at this time. Resample at the next service interval to monitor. Please note that this is a corrected copy for laboratory data updates of elemental data and confirmation of viscosities.

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 oil viscosity is higher than normal. This plus the additive levels indicates the addition of a different brand, or type of oil. Confirm oil type. The AN level is acceptable for this fluid.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0934656**	WC0771231	WC0682432
Sample Date		Client Info		**15 Apr 2024**	12 Sep 2022	03 Apr 2022
Machine Age	mls	Client Info		**196543**	48859	176
Oil Age	mls	Client Info		**0**	0	0
Oil Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**ABNORMAL**	ABNORMAL	NORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>500	**69**	196	2
Chromium	ppm	ASTM D5185m	>10	**<1**	1	0
Nickel	ppm	ASTM D5185m	>10	**0**	0	<1
Titanium	ppm	ASTM D5185m		**<1**	<1	0
Silver	ppm	ASTM D5185m		**0**	0	1
Aluminum	ppm	ASTM D5185m	>25	**2**	4	<1
Lead	ppm	ASTM D5185m	>25	**0**	0	0
Copper	ppm	ASTM D5185m	>100	**<1**	<1	<1
Tin	ppm	ASTM D5185m	>10	**0**	0	<1
Vanadium	ppm	ASTM D5185m		**<1**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	<1

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**14**	107	108
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**0**	0	0
Manganese	ppm	ASTM D5185m		**2**	6	<1
Magnesium	ppm	ASTM D5185m		**12**	153	199
Calcium	ppm	ASTM D5185m		**4**	3	<1
Phosphorus	ppm	ASTM D5185m		**379**	1540	1776
Zinc	ppm	ASTM D5185m		**8**	6	0
Sulfur	ppm	ASTM D5185m		**17707**	26536	23408

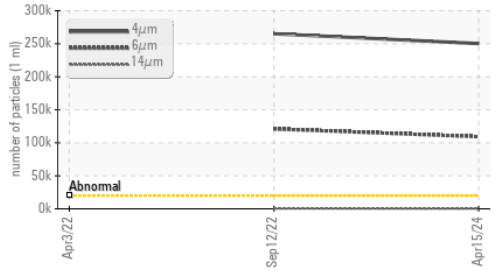
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>75	**11**	15	2
Sodium	ppm	ASTM D5185m		**2**	5	<1
Potassium	ppm	ASTM D5185m	>20	**0**	0	0
Water	%	ASTM D6304	>.2	**0.015**	0.033	0.048
ppm Water	ppm	ASTM D6304	>2000	**158**	331.3	480.1

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>20000	▲ **250290**	▲ 265079	---
Particles >6µm		ASTM D7647	>5000	▲ **109177**	▲ 121034	---
Particles >14µm		ASTM D7647	>640	**307**	574	---
Particles >21µm		ASTM D7647	>160	**24**	29	---
Particles >38µm		ASTM D7647	>40	**1**	1	---
Particles >71µm		ASTM D7647	>10	**0**	0	---
Oil Cleanliness		ISO 4406 (c)	>21/19/16	▲ **25/24/15**	▲ 25/24/16	---

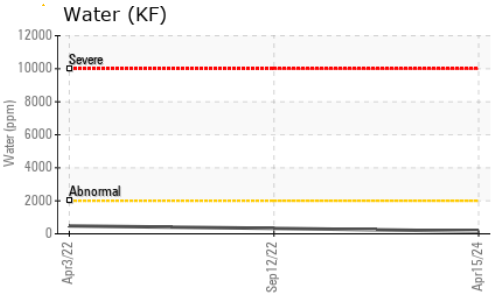
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		**0.76**	0.74	0.77

OIL ANALYSIS REPORT

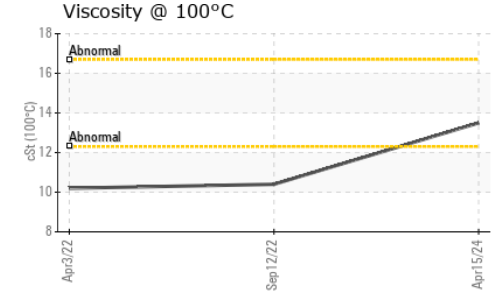
Particle Trend



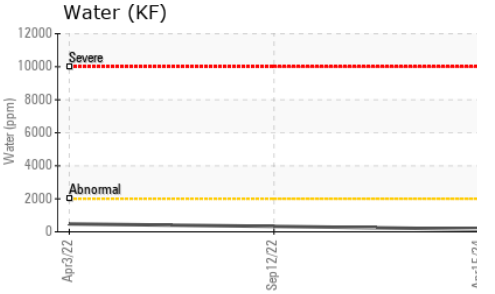
Water (KF)



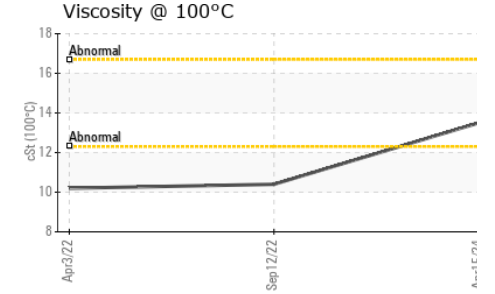
Viscosity @ 100°C



Water (KF)



Viscosity @ 100°C



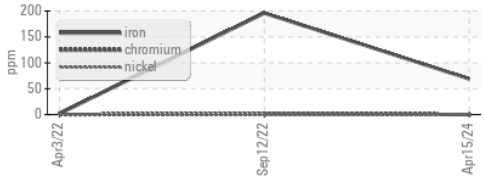
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**LIGHT**	LIGHT	NONE
Sand/Dirt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

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445		**87.8**	58.7	82.5
Visc @ 100°C	cSt	ASTM D445		**13.5**	10.4	10.2
Viscosity Index (VI)	Scale	ASTM D2270		**155**	167	104

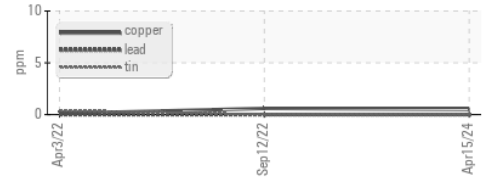
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS

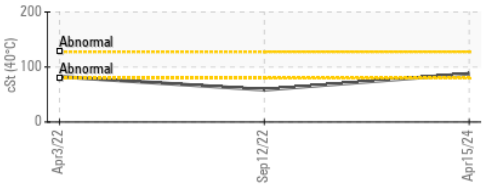
Ferrous Alloys



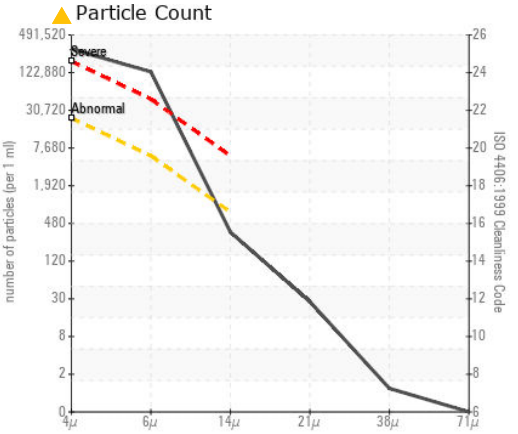
Non-ferrous Metals



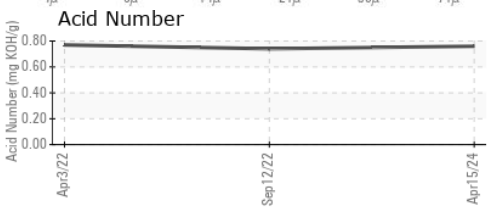
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0934656 **Received** : 30 May 2024
Lab Number : 06195910 **Tested** : 13 Jun 2024
Unique Number : 11058033 **Diagnosed** : 13 Jun 2024 - Doug Bogart
Test Package : MOB 2 (Additional Tests: KF, KV100, PrtCount, VI)

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)

BASF - GIANNA CREDAROLI
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US 10591
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Report Id: bastarhd [WUSCAR] 06195910 (Generated: 06/15/2024 04:26:55) Rev: 3

Contact/Location: MIKE BARRY - BASTARHD