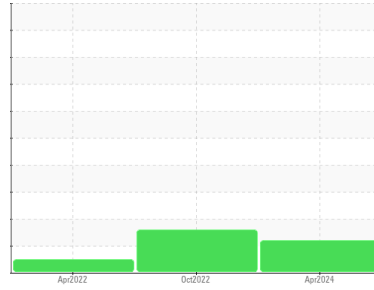




# OIL ANALYSIS REPORT

## Sample Rating Trend



ISO



Area

**HOWARD SHEPPARD**

Machine Id

**2570 HOWARD SHEPPARD**

Component

**Rear Differential**

Fluid

**GEAR OIL SAE 75W90 (--- GAL)**

### DIAGNOSIS

#### Recommendation

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 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		<b>WC0934654</b>	WC0797101	WC0692950
Sample Date	Client Info		<b>14 Apr 2024</b>	18 Oct 2022	05 Apr 2022
Machine Age	mls	Client Info	<b>177134</b>	55631	177
Oil Age	mls	Client Info	<b>0</b>	0	0
Oil Changed	Client Info		<b>N/A</b>	N/A	N/A
Sample Status			<b>ABNORMAL</b>	ABNORMAL	NORMAL

### WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >500	<b>319</b>	236	15
Chromium	ppm	ASTM D5185m >10	<b>1</b>	1	<1
Nickel	ppm	ASTM D5185m >10	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185m	<b>&lt;1</b>	<1	0
Silver	ppm	ASTM D5185m	<b>&lt;1</b>	0	11
Aluminum	ppm	ASTM D5185m >25	<b>21</b>	5	<1
Lead	ppm	ASTM D5185m >25	<b>0</b>	0	<1
Copper	ppm	ASTM D5185m >100	<b>2</b>	1	<1
Tin	ppm	ASTM D5185m >10	<b>0</b>	0	<1
Vanadium	ppm	ASTM D5185m	<b>&lt;1</b>	0	0
Cadmium	ppm	ASTM D5185m	<b>0</b>	0	2

### ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 400	<b>199</b>	225	264
Barium	ppm	ASTM D5185m 200	<b>2</b>	0	0
Molybdenum	ppm	ASTM D5185m 12	<b>0</b>	<1	0
Manganese	ppm	ASTM D5185m	<b>9</b>	8	3
Magnesium	ppm	ASTM D5185m 12	<b>3</b>	3	2
Calcium	ppm	ASTM D5185m 150	<b>14</b>	8	5
Phosphorus	ppm	ASTM D5185m 1650	<b>1238</b>	1283	1433
Zinc	ppm	ASTM D5185m 125	<b>24</b>	13	6
Sulfur	ppm	ASTM D5185m 22500	<b>25516</b>	21034	21436

### CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >75	<b>71</b>	23	12
Sodium	ppm	ASTM D5185m	<b>6</b>	5	4
Potassium	ppm	ASTM D5185m >20	<b>2</b>	2	0
Water	%	ASTM D6304 >.2	<b>0.043</b>	0.038	0.048
ppm Water	ppm	ASTM D6304 >2000	<b>433</b>	385.3	480.5

### FLUID CLEANLINESS

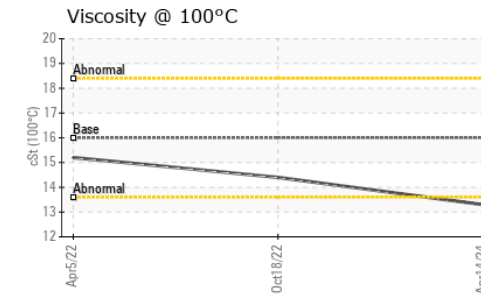
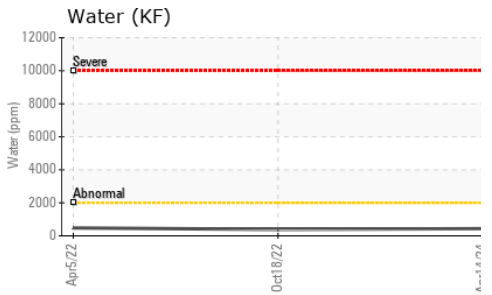
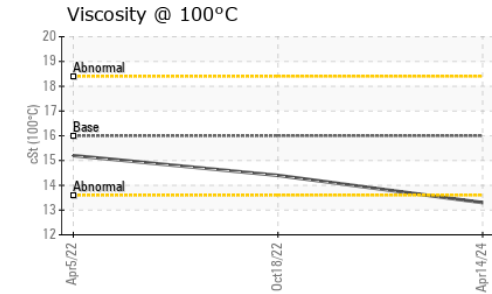
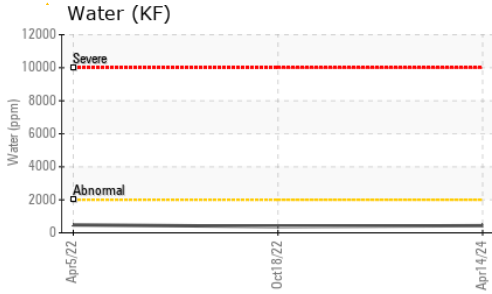
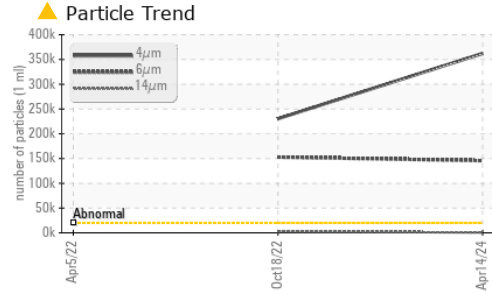
	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>20000	▲ <b>362259</b>	▲ 230448	---
Particles >6µm	ASTM D7647	>5000	▲ <b>145634</b>	▲ 152902	---
Particles >14µm	ASTM D7647	>640	<b>585</b>	▲ 2674	---
Particles >21µm	ASTM D7647	>160	<b>39</b>	58	---
Particles >38µm	ASTM D7647	>40	<b>1</b>	1	---
Particles >71µm	ASTM D7647	>10	<b>0</b>	0	---
Oil Cleanliness	ISO 4406 (c)	>21/19/16	▲ <b>26/24/16</b>	▲ 25/24/19	---

### FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045 2.00	<b>1.74</b>	1.96	2.42



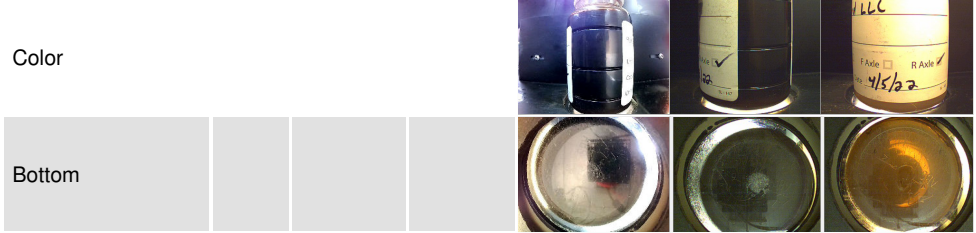
# OIL ANALYSIS REPORT



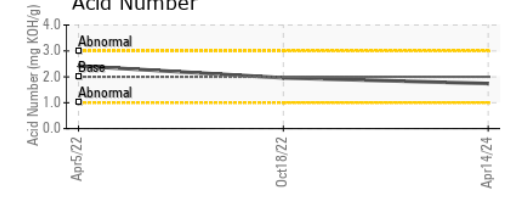
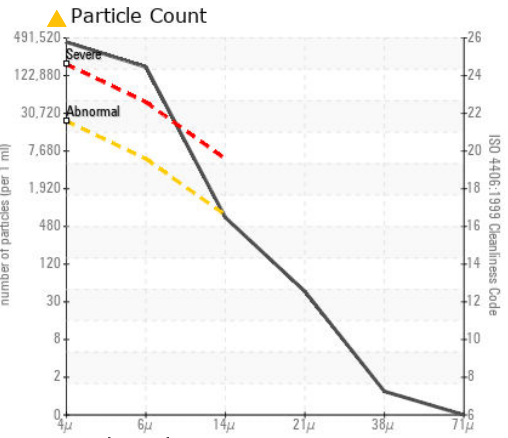
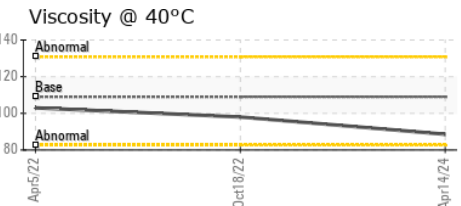
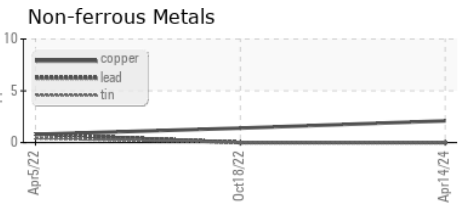
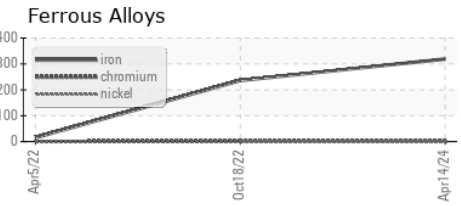
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	109	88.6	98.0
Visc @ 100°C	cSt	ASTM D445	16.0	13.3	14.4
Viscosity Index (VI)	Scale	ASTM D2270	157	150	151

SAMPLE IMAGES	method	limit/base	current	history1	history2
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## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0934654 **Received** : 30 May 2024  
**Lab Number** : 06195902 **Tested** : 13 Jun 2024  
**Unique Number** : 11058025 **Diagnosed** : 13 Jun 2024 - Doug Bogart  
**Test Package** : MOB 2 ( Additional Tests: KF, KV100, PrtCount, VI )

**BASF - GIANNA CREDAROLI**  
 500 WHITE PLAINS RD  
 TARRYTOWN, NY  
 US 10591  
 Contact: MIKE BARRY  
 mike.barry@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)

T:  
F: