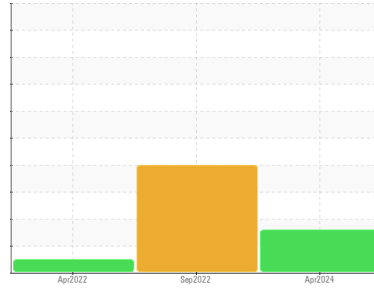




# OIL ANALYSIS REPORT

## Sample Rating Trend



ISO



Area

**HOWARD SHEPPARD**

Machine Id

**2573 HOWARD SHEPPARD**

Component

**Rear Differential**

Fluid

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

### DIAGNOSIS

#### Recommendation

We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor.

#### Wear

All component wear rates are normal.

#### Contamination

There is a high amount of particulates present in the oil.

#### Fluid Condition

Additive levels indicate the addition of a different brand, or type of oil. Confirm oil type. 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>WC0934648</b>	WC0797099	WC0692952
Sample Date	Client Info		<b>12 Apr 2024</b>	30 Sep 2022	05 Apr 2022
Machine Age	mls	Client Info	<b>109311</b>	30114	150
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>90</b>	222	19
Chromium	ppm	ASTM D5185m >10	<b>&lt;1</b>	1	<1
Nickel	ppm	ASTM D5185m >10	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185m	<b>&lt;1</b>	1	<1
Silver	ppm	ASTM D5185m	<b>0</b>	0	2
Aluminum	ppm	ASTM D5185m >25	<b>4</b>	23	1
Lead	ppm	ASTM D5185m >25	<b>0</b>	0	<1
Copper	ppm	ASTM D5185m >100	<b>0</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	<1

### ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 400	<b>14</b>	239	208
Barium	ppm	ASTM D5185m 200	<b>&lt;1</b>	0	0
Molybdenum	ppm	ASTM D5185m 12	<b>0</b>	<1	<1
Manganese	ppm	ASTM D5185m	<b>2</b>	10	4
Magnesium	ppm	ASTM D5185m 12	<b>4</b>	3	2
Calcium	ppm	ASTM D5185m 150	<b>15</b>	9	8
Phosphorus	ppm	ASTM D5185m 1650	<b>571</b>	1290	1204
Zinc	ppm	ASTM D5185m 125	<b>14</b>	10	6
Sulfur	ppm	ASTM D5185m 22500	<b>24578</b>	23683	18217

### CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >75	<b>32</b>	42	12
Sodium	ppm	ASTM D5185m	<b>4</b>	5	4
Potassium	ppm	ASTM D5185m >20	<b>8</b>	2	1
Water	%	ASTM D6304 >.2	<b>0.020</b>	0.035	0.050
ppm Water	ppm	ASTM D6304 >2000	<b>206</b>	352.7	508.1

### FLUID CLEANLINESS

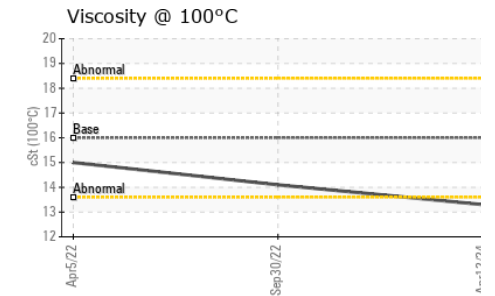
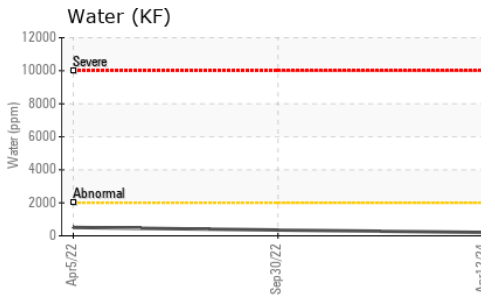
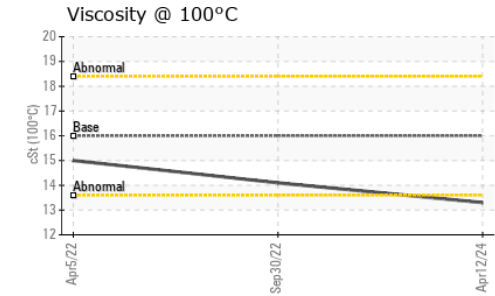
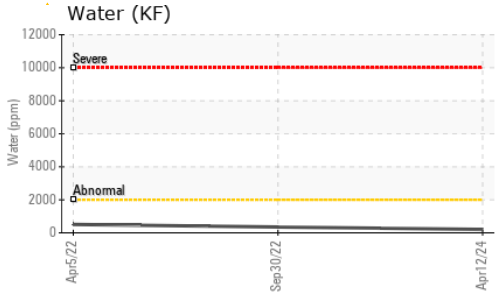
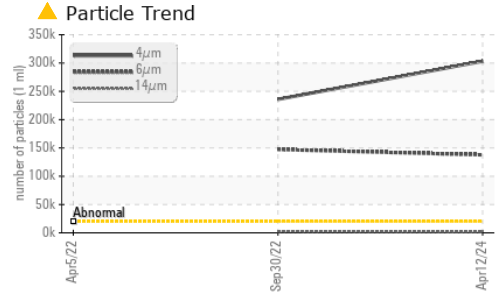
	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>20000	<b>303201</b>	235821	---
Particles >6µm	ASTM D7647	>5000	<b>137715</b>	147140	---
Particles >14µm	ASTM D7647	>640	<b>1169</b>	2158	---
Particles >21µm	ASTM D7647	>160	<b>99</b>	151	---
Particles >38µm	ASTM D7647	>40	<b>2</b>	5	---
Particles >71µm	ASTM D7647	>10	<b>0</b>	0	---
Oil Cleanliness	ISO 4406 (c)	>21/19/16	<b>25/24/17</b>	25/24/18	---

### FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045 2.00	<b>1.61</b>	2.01	2.72



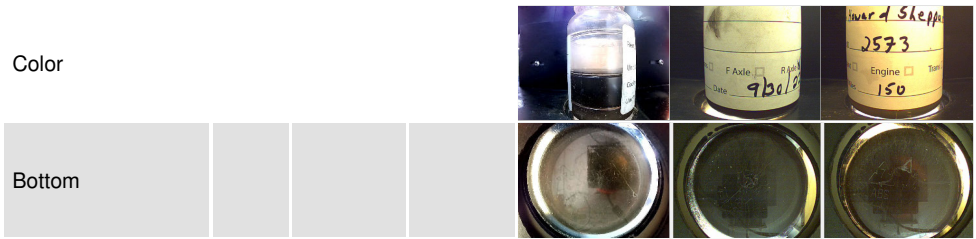
# OIL ANALYSIS REPORT



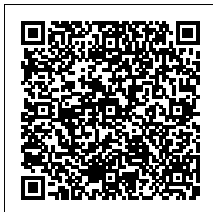
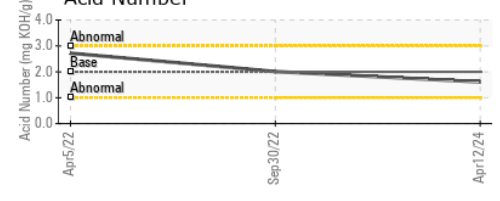
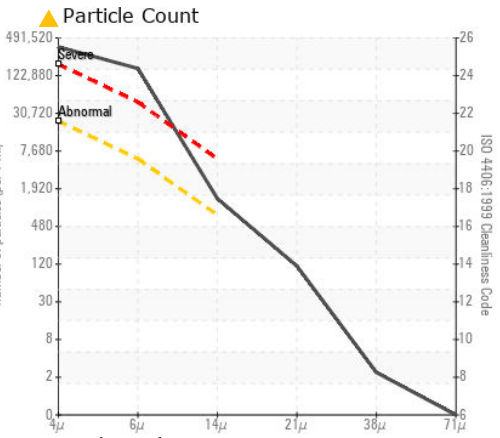
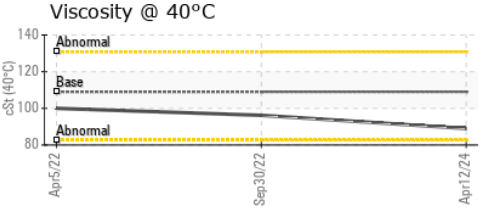
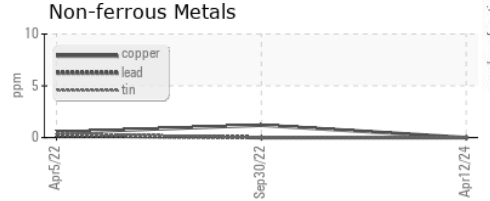
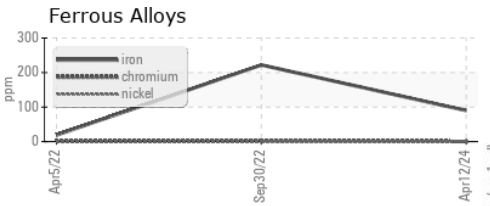
VISUAL	method	limit/base	current	history1	history2	
White Metal	scalar	*Visual	NONE	NONE	LIGHT	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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	109	89.0	96.2	100
Visc @ 100°C	cSt	ASTM D445	16.0	13.3	14.1	15.0
Viscosity Index (VI)	Scale	ASTM D2270	157	150	150	157

SAMPLE IMAGES	method	limit/base	current	history1	history2
---------------	--------	------------	---------	----------	----------



## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0934648      **Received** : 30 May 2024  
**Lab Number** : 06195916      **Tested** : 02 Jun 2024  
**Unique Number** : 11058039      **Diagnosed** : 02 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)