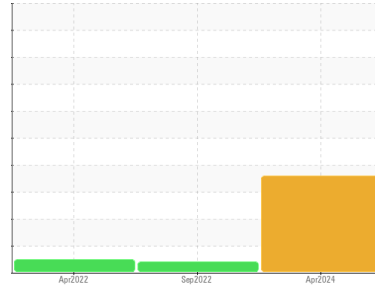




# OIL ANALYSIS REPORT

## Sample Rating Trend



DIRT



Area  
**HOWARD SHEPPARD**  
 Machine Id  
**2571 HOWARD SHEPPARD**  
 Component  
**Front Differential**  
 Fluid  
**GEAR OIL SAE 75W90 (--- GAL)**

### DIAGNOSIS

#### ▲ Recommendation

We advise that you check all areas where dirt can enter the system. Resample at the next service interval to monitor.

#### ● Wear

All component wear rates are normal.

#### ▲ Contamination

There is a high amount of silt (particulates < 14 microns in size) present in the oil. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

#### Fluid Condition

The AN level is acceptable for this fluid.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			<b>WC0934653</b>	WC0771224	WC0692959
Sample Date	Client Info			<b>14 Apr 2024</b>	26 Sep 2022	06 Apr 2022
Machine Age	mls	Client Info		<b>122405</b>	25046	553
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>267</b>	132	58
Chromium	ppm	ASTM D5185m	>10	<b>1</b>	<1	2
Nickel	ppm	ASTM D5185m	>10	<b>0</b>	<1	<1
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>16</b>	4	<1
Lead	ppm	ASTM D5185m	>25	<b>0</b>	<1	0
Copper	ppm	ASTM D5185m	>100	<b>2</b>	2	<1
Tin	ppm	ASTM D5185m	>10	<b>0</b>	<1	<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>199</b>	256	270
Barium	ppm	ASTM D5185m	200	<b>3</b>	2	0
Molybdenum	ppm	ASTM D5185m	12	<b>0</b>	<1	<1
Manganese	ppm	ASTM D5185m		<b>11</b>	9	9
Magnesium	ppm	ASTM D5185m	12	<b>&lt;1</b>	1	<1
Calcium	ppm	ASTM D5185m	150	<b>7</b>	6	4
Phosphorus	ppm	ASTM D5185m	1650	<b>1356</b>	1331	1465
Zinc	ppm	ASTM D5185m	125	<b>18</b>	12	5
Sulfur	ppm	ASTM D5185m	22500	<b>26463</b>	26854	21855

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>75	<b>▲ 78</b>	21	10
Sodium	ppm	ASTM D5185m		<b>6</b>	6	5
Potassium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	1	0
Water	%	ASTM D6304	>.2	<b>0.062</b>	0.054	0.052
ppm Water	ppm	ASTM D6304	>2000	<b>621</b>	540.0	526.4

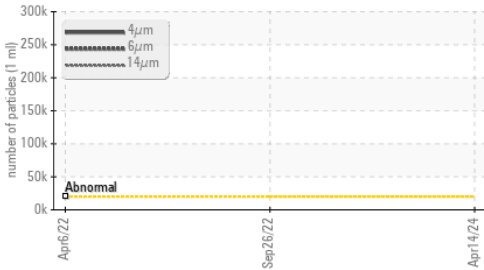
FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>20000	<b>▲ 253230</b>	---	---
Particles >6µm		ASTM D7647	>5000	<b>▲ 61549</b>	---	---
Particles >14µm		ASTM D7647	>640	<b>159</b>	---	---
Particles >21µm		ASTM D7647	>160	<b>11</b>	---	---
Particles >38µm		ASTM D7647	>40	<b>1</b>	---	---
Particles >71µm		ASTM D7647	>10	<b>0</b>	---	---
Oil Cleanliness		ISO 4406 (c)	>21/19/16	<b>▲ 25/23/14</b>	---	---

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	2.00	<b>2.27</b>	2.18	2.38

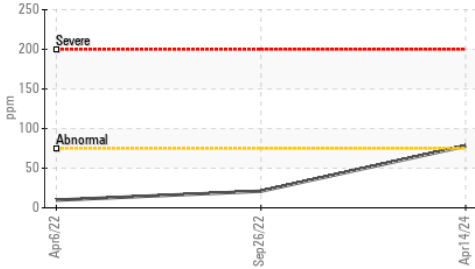


# OIL ANALYSIS REPORT

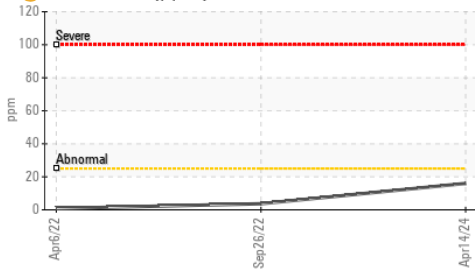
## ▲ Particle Trend



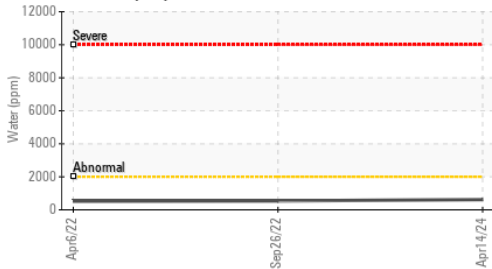
## ▲ Silicon (ppm)



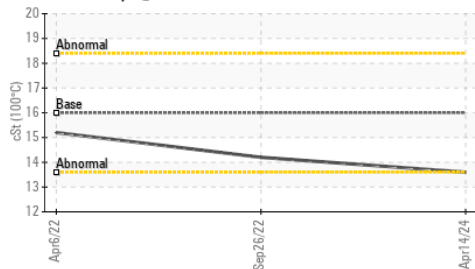
## ● Aluminum (ppm)



## Water (KF)



## Viscosity @ 100°C



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	▲ MODER
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	92.8	96.9
Visc @ 100°C	cSt	ASTM D445	16.0	13.6	14.2
Viscosity Index (VI)	Scale	ASTM D2270	157	148	150

## SAMPLE IMAGES

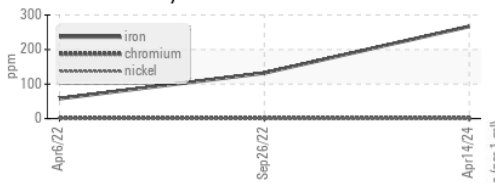
Color

Bottom

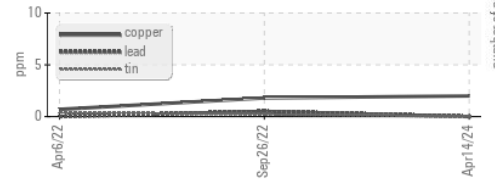


## GRAPHS

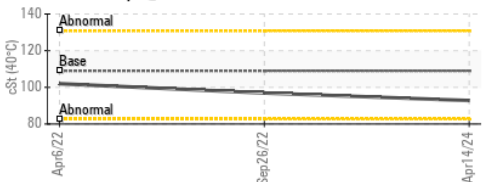
### Ferrous Alloys



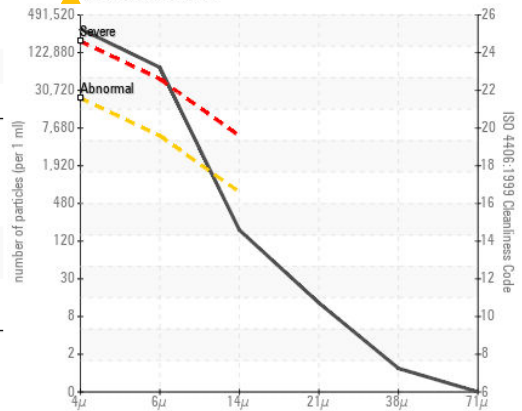
### Non-ferrous Metals



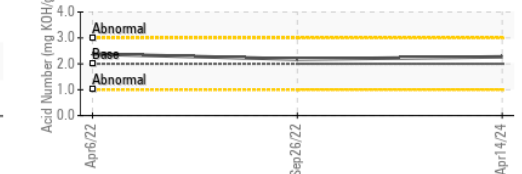
### Viscosity @ 40°C



### ▲ Particle Count



### Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : WC0934653

Lab Number : 06195903

Unique Number : 11058026

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)

Received : 30 May 2024

Tested : 02 Jun 2024

Diagnosed : 02 Jun 2024 - Doug Bogart

BASF - GIANNA CREDAROLI

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TARRYTOWN, NY

US 10591

Contact: MIKE BARRY

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