



WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>ATTENTION</b>



Machine Id  
**CATERPILLAR CS563 E57**  
Component  
**Rear Differential**  
Fluid  
**GEAR OIL SAE 80W90 (--- GAL)**

### RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>JR0193315</b>	JR0154989	JR0031804
Sample Date		Client Info		<b>04 Dec 2023</b>	19 Jan 2023	09 Dec 2019
Machine Age	hrs	Client Info		<b>3957</b>	3645	3408
Oil Age	hrs	Client Info		<b>1100</b>	788	551
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>Not Chngd</b>	Not Chngd	Not Chngd
Filter Changed		Client Info		<b>Changed</b>	N/A	N/A
Sample Status				<b>ATTENTION</b>	NORMAL	NORMAL

### WEAR

All component wear rates are normal.

PQ	UOM	Method	Limit/Abn	Current	History1	History2
PQ		ASTM D8184		<b>18</b>	15	20
Iron	ppm	ASTM D5185m	>500	<b>17</b>	11	14
Chromium	ppm	ASTM D5185m	>3	<b>&lt;1</b>	0	<1
Nickel	ppm	ASTM D5185m	>3	<b>&lt;1</b>	0	<1
Titanium	ppm	ASTM D5185m	>2	<b>&lt;1</b>	<1	0
Silver	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185m	>30	<b>2</b>	2	2
Lead	ppm	ASTM D5185m	>13	<b>&lt;1</b>	0	<1
Copper	ppm	ASTM D5185m	>103	<b>4</b>	2	2
Tin	ppm	ASTM D5185m	>5	<b>&lt;1</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
White Metal	scalar	*Visual	NONE	<b>LIGHT</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

### CONTAMINATION

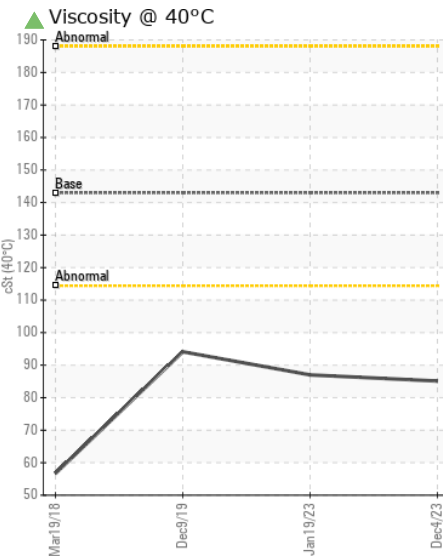
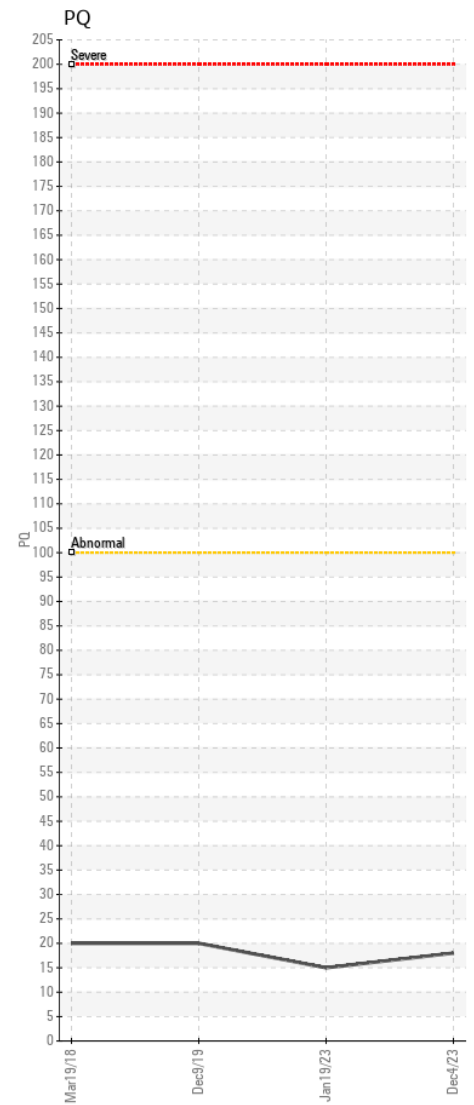
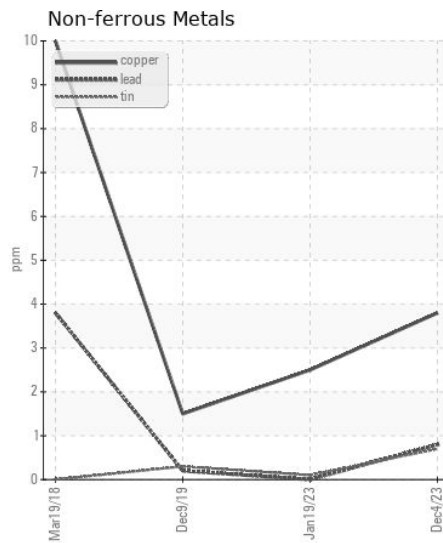
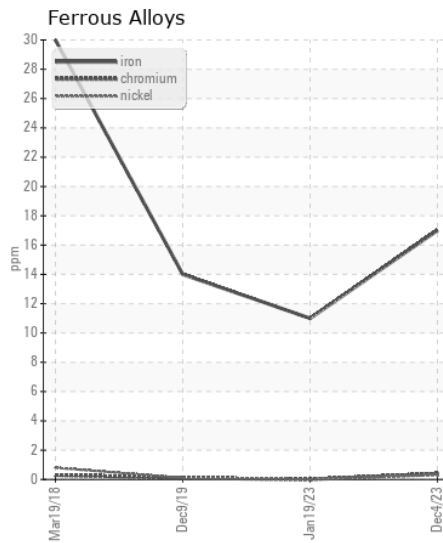
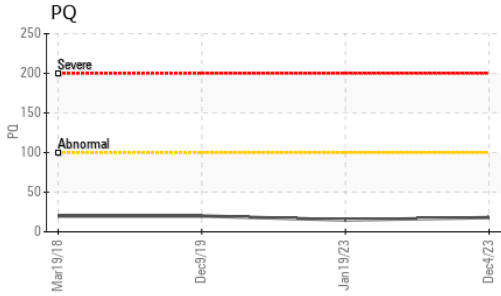
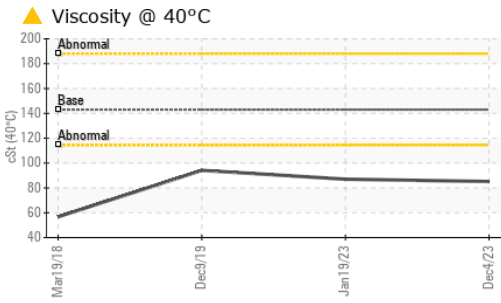
There is no indication of any contamination in the oil.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Silicon	ppm	ASTM D5185m	>100	<b>16</b>	12	14
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	0	1
Water		WC Method	>.2	<b>NEG</b>	NEG	NEG
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>.2	<b>NEG</b>	NEG	NEG

### FLUID CONDITION

The oil viscosity is lower than normal. Confirm oil type.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sodium	ppm	ASTM D5185m	>170	<b>2</b>	2	4
Boron	ppm	ASTM D5185m	400	<b>89</b>	73	66
Barium	ppm	ASTM D5185m	200	<b>8</b>	0	0
Molybdenum	ppm	ASTM D5185m	12	<b>50</b>	40	39
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	12	<b>611</b>	465	478
Calcium	ppm	ASTM D5185m	150	<b>1963</b>	1600	1605
Phosphorus	ppm	ASTM D5185m	1650	<b>1117</b>	870	901
Zinc	ppm	ASTM D5185m	125	<b>1298</b>	974	983
Sulfur	ppm	ASTM D5185m	22500	<b>4085</b>	3743	5141
Visc @ 40°C	cSt	ASTM D445	143	<b>▲ 85.1</b>	87.0	94.1



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : JR0193315 **Received** : 08 Jan 2024  
**Lab Number** : 06054269 **Diagnosed** : 09 Jan 2024  
**Unique Number** : 10820218 **Diagnostician** : Don Baldrige  
**Test Package** : CONST ( Additional Tests: PQ )

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)

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