



# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id  
**22553**  
Component  
**Hydraulic System**  
Fluid  
**AW HYDRAULIC OIL ISO 68 (--- GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0905207</b>	WC0857016	WC0786395
Sample Date		Client Info		<b>03 May 2024</b>	21 Nov 2023	08 Aug 2023
Machine Age	hrs	Client Info		<b>8054</b>	7589	7075
Oil Age	hrs	Client Info		<b>2000</b>	1500	500
Filter Age	hrs	Client Info		<b>2000</b>	1500	500
Oil Changed		Client Info		<b>Changed</b>	Not Changd	Changed
Filter Changed		Client Info		<b>Changed</b>	Not Changd	Changed
Sample Status				<b>NORMAL</b>	ABNORMAL	ABNORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>20	<b>4</b>	4	4
Chromium	ppm	ASTM D5185m	>10	<b>0</b>	<1	0
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	0
Aluminum	ppm	ASTM D5185m	>10	<b>1</b>	2	2
Lead	ppm	ASTM D5185m	>10	<b>&lt;1</b>	2	1
Copper	ppm	ASTM D5185m	>75	<b>5</b>	3	3
Tin	ppm	ASTM D5185m	>10	<b>&lt;1</b>	0	0
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

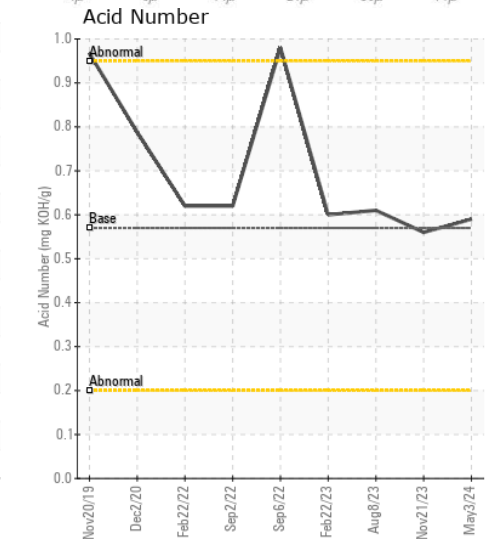
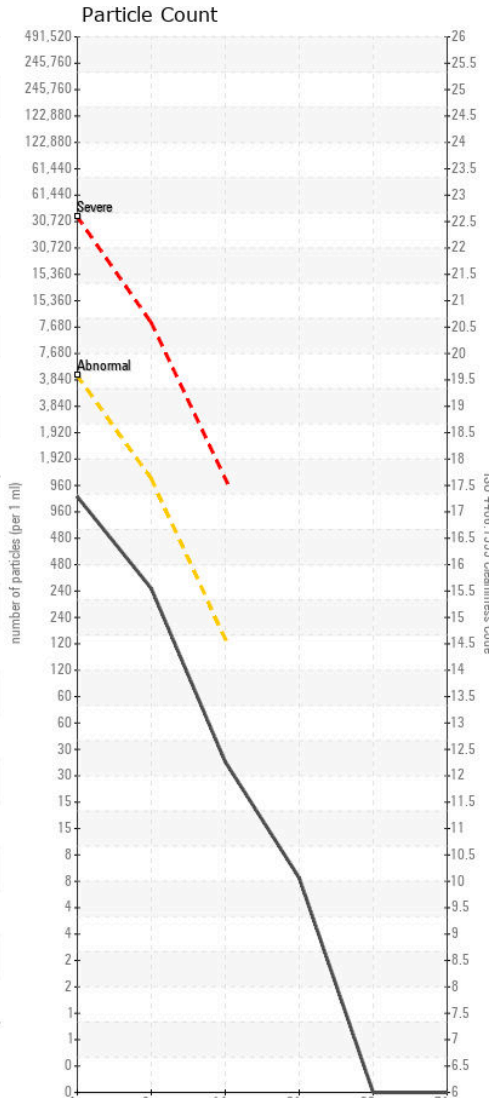
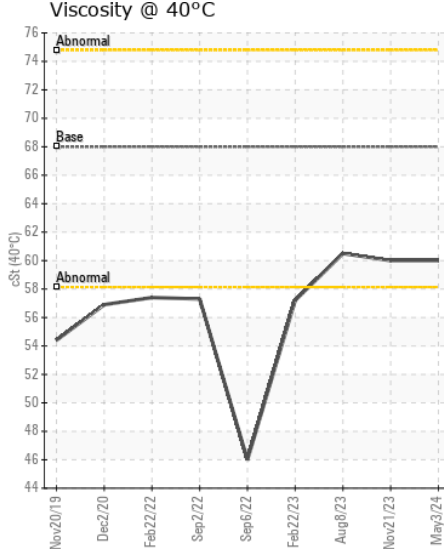
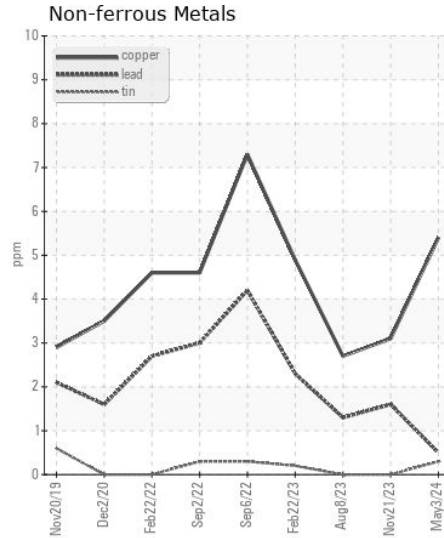
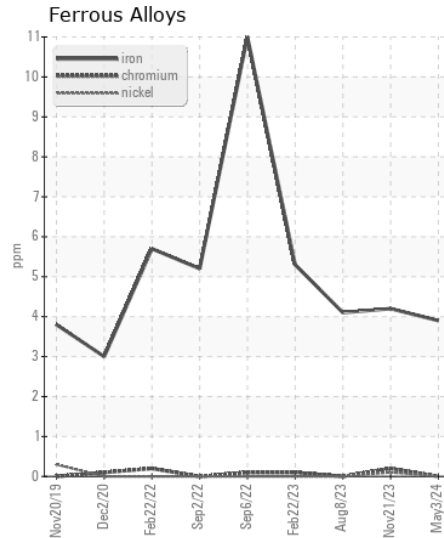
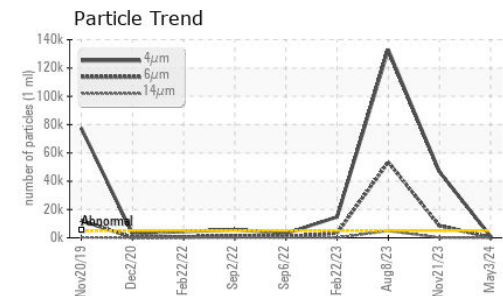
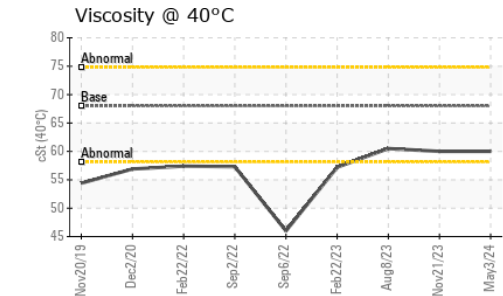
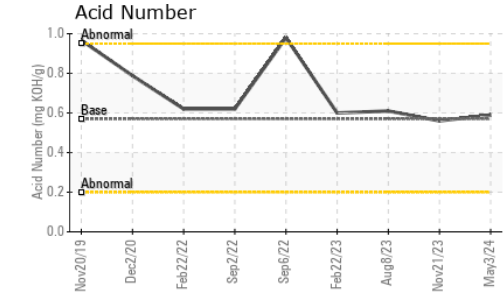
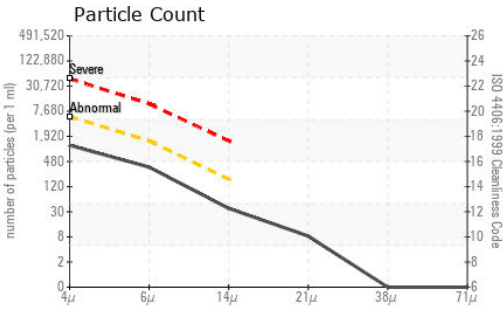
There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

Silicon	ppm	ASTM D5185m	>20	<b>2</b>	3	3
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	1	<1
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Particles >4µm		ASTM D7647	>5000	<b>1026</b>	▲ 46698	▲ 132906
Particles >6µm		ASTM D7647	>1300	<b>309</b>	▲ 8536	▲ 53404
Particles >14µm		ASTM D7647	>160	<b>32</b>	▲ 168	▲ 4853
Particles >21µm		ASTM D7647	>40	<b>7</b>	29	▲ 1001
Particles >38µm		ASTM D7647	>10	<b>0</b>	1	▲ 13
Particles >71µm		ASTM D7647	>3	<b>0</b>	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	<b>17/15/12</b>	▲ 23/20/15	▲ 24/23/19
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>LIGHT</b>	NONE	LIGHT
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	>0.1	<b>NEG</b>	NEG	NEG

## FLUID CONDITION

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>11</b>	10	7
Boron	ppm	ASTM D5185m	5	<b>12</b>	12	11
Barium	ppm	ASTM D5185m	5	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	5	<b>6</b>	8	7
Manganese	ppm	ASTM D5185m		<b>1</b>	0	0
Magnesium	ppm	ASTM D5185m	25	<b>19</b>	22	20
Calcium	ppm	ASTM D5185m	200	<b>442</b>	455	437
Phosphorus	ppm	ASTM D5185m	300	<b>430</b>	487	429
Zinc	ppm	ASTM D5185m	370	<b>537</b>	557	524
Sulfur	ppm	ASTM D5185m	2500	<b>1576</b>	1330	1419
Acid Number (AN)	mg KOH/g	ASTM D8045	0.57	<b>0.59</b>	0.56	0.61
Visc @ 40°C	cSt	ASTM D445	68	<b>60.0</b>	60.0	60.5



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0905207  
**Lab Number** : 06177078  
**Unique Number** : 11023131  
**Test Package** : CONST  
**Received** : 13 May 2024  
**Tested** : 14 May 2024  
**Diagnosed** : 14 May 2024 - Don Baldrige

**SULLIVAN EASTERN INC-LIEBHERR**  
 2860 C SLATER RD  
 MORRISVILLE, NC  
 US 27560  
 Contact: CHRIS CALTON

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)