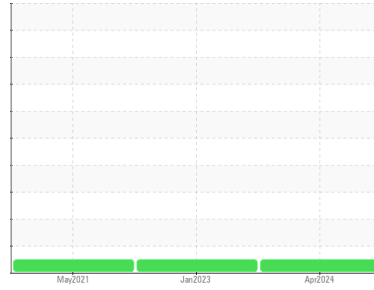




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Area

**88-19**

Machine Id

**Manipulator 60 North X-Axis (S/N SC006127)**

Component

**Reduction Gear**

Fluid

**SHELL OMALA S4 WE 150 (--- LTR)**

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

There is no indication of any contamination 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>WC0910147</b>	WC0701623	WC0565809
Sample Date	Client Info		<b>10 Apr 2024</b>	03 Jan 2023	24 May 2021
Machine Age	hrs	Client Info	<b>0</b>	0	0
Oil Age	hrs	Client Info	<b>0</b>	0	0
Oil Changed	Client Info		<b>N/A</b>	N/A	N/A
Sample Status			<b>NORMAL</b>	NORMAL	NORMAL

## WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184		<b>15</b>	14	---
Iron	ppm	ASTM D5185m >150	<b>&lt;1</b>	2	5
Chromium	ppm	ASTM D5185m >10	<b>0</b>	0	0
Nickel	ppm	ASTM D5185m >10	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185m	<b>0</b>	0	0
Silver	ppm	ASTM D5185m	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >25	<b>&lt;1</b>	0	0
Lead	ppm	ASTM D5185m >100	<b>0</b>	0	<1
Copper	ppm	ASTM D5185m >50	<b>2</b>	0	<1
Tin	ppm	ASTM D5185m >10	<b>&lt;1</b>	0	<1
Antimony	ppm	ASTM D5185m >5	<b>---</b>	---	0
Vanadium	ppm	ASTM D5185m	<b>0</b>	0	0
Cadmium	ppm	ASTM D5185m	<b>0</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	<b>14</b>	14	38
Barium	ppm	ASTM D5185m	<b>1</b>	0	0
Molybdenum	ppm	ASTM D5185m	<b>0</b>	0	0
Manganese	ppm	ASTM D5185m	<b>1</b>	0	<1
Magnesium	ppm	ASTM D5185m	<b>1</b>	0	0
Calcium	ppm	ASTM D5185m	<b>2</b>	1	<1
Phosphorus	ppm	ASTM D5185m	<b>370</b>	340	404
Zinc	ppm	ASTM D5185m	<b>&lt;1</b>	2	10
Sulfur	ppm	ASTM D5185m	<b>18292</b>	15949	5557

## CONTAMINANTS

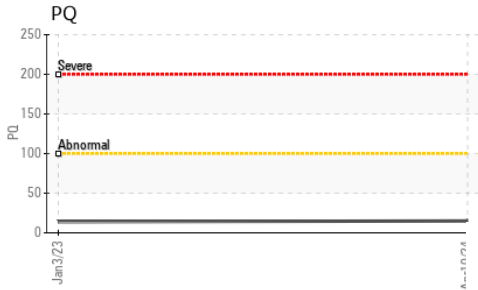
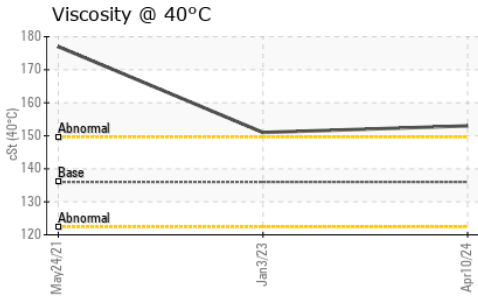
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >50	<b>2</b>	2	7
Sodium	ppm	ASTM D5185m	<b>2</b>	0	<1
Potassium	ppm	ASTM D5185m >20	<b>2</b>	0	<1
Water	%	ASTM D6304 >0.1	<b>NEG</b>	NEG	NEG

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	<b>0.90</b>	0.78	0.855



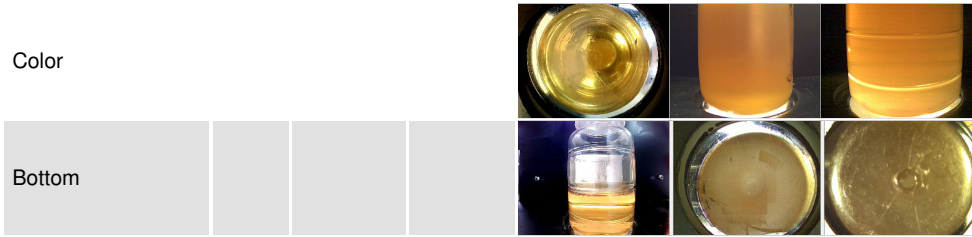
# OIL ANALYSIS REPORT



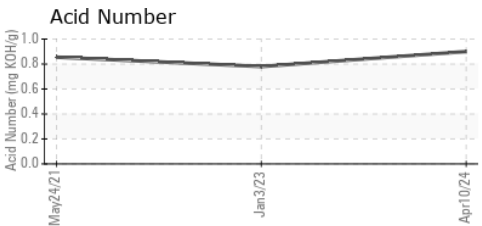
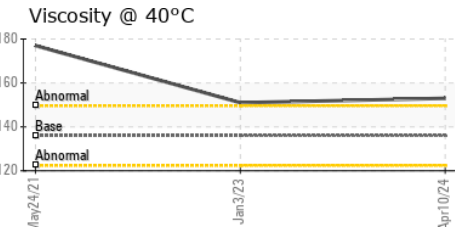
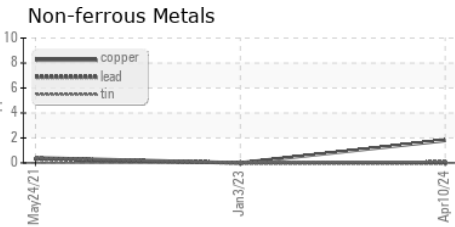
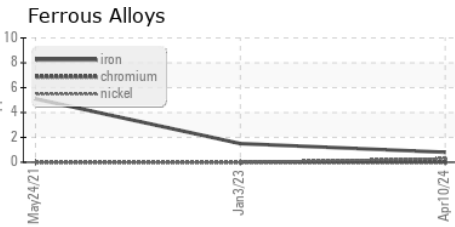
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	LIGHT	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445 136	<b>153</b>	151	177

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



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0910147      **Received** : 16 Apr 2024  
**Lab Number** : **06150536**      **Tested** : 18 Apr 2024  
**Unique Number** : 10980614      **Diagnosed** : 18 Apr 2024 - Jonathan Hester  
**Test Package** : PLANT

**THE BOEING COMPANY**  
 5400 AIRFRAME DR  
 NORTH CHARLESTON, SC  
 US 29418  
 Contact: DAN HARRIS  
 DANIEL.R.HARRIS2@BOEING.COM  
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 F:

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)