

## **OIL ANALYSIS REPORT**

### Area **Paper Machine** Vacuum Pump #6 Gearbox

Gearbox Fluid MOBIL MOBILGEAR SHC 220 (35 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

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

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		Au	2023	Dec2023 Jun20	124	
SAMPLE INFORM	<u>IATION</u>	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0776486	WC0776496	WC0776544
Sample Date		Client Info		06 Jun 2024	27 Dec 2023	11 Aug 2023
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				ABNORMAL	NORMAL	ABNORMAL
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>200	8	5	7
Chromium	ppm	ASTM D5185m	>15	0	0	0
Nickel	ppm	ASTM D5185m	>15	0	0	0
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>25	0	0	<1
Lead	ppm	ASTM D5185m	>100	0	0	<1
Copper	ppm	ASTM D5185m	>200	0	0	<1
Tin	ppm	ASTM D5185m	>25	<1	0	0
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES						
ADDITIVES		method	limit/base	current	history1	history2
	ppm		limit/base		history1	history2
Boron	ppm	ASTM D5185m	limit/base	28	20	19
Boron Barium	ppm	ASTM D5185m ASTM D5185m	limit/base	28 <1	20 0	19 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	28 <1 0	20 0 0	19 0 0
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	28 <1 0 <1	20 0 0 0	19 0 0 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	28 <1 0 <1 1	20 0 0 0 0	19 0 0 <1 3
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	28 <1 0 <1 1 5	20 0 0 0 0 4	19 0 <1 3 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	28 <1 0 <1 1 5 417	20 0 0 0 0 4 402	19 0 0 <1 3 4 463
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	28 <1 0 <1 1 5	20 0 0 0 0 4	19 0 <1 3 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		28 <1 0 <1 1 5 417 8 2769	20 0 0 0 0 4 402 0 2062	19 0 0 <1 3 4 463 0 2546
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	28 <1 0 <1 1 5 417 8 2769 current	20 0 0 0 0 4 402 0 2062 history1	19 0 0 <1 3 4 463 0 2546 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	limit/base	28 <1 0 <1 1 5 417 8 2769 current 21	20 0 0 0 0 4 402 0 2062 history1 20	19 0 0 <1 3 4 463 0 2546 history2 19
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m ASTM D5185m	limit/base >50	28 <1 0 <1 1 5 417 8 2769 current 21 11	20 0 0 0 0 4 402 0 2062 history1 20 5	19 0 0 <1 3 4 463 0 2546 history2 19 9
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >50 >20	28 <1 0 <1 1 5 417 8 2769 current 21 11 2	20 0 0 0 4 402 0 2062 history1 20 5 0	19 0 0 <1 3 4 463 0 2546 <b>history2</b> 19 9 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >50 >20 >0.2	28 <1 0 <1 1 5 417 8 2769 current 21 11 2 2 0.005	20 0 0 0 4 402 0 2062 history1 20 5 0 0 0.025	19 0 0 <1 3 4 463 0 2546 history2 19 9 2 2 0.008
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water ppm Water	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D6304	limit/base >50 >20 >0.2 >2000	28 <1 0 <1 1 5 417 8 2769 <u>current</u> 21 11 2 0.005 51	20 0 0 0 4 402 0 2062 history1 20 5 0 0.025 253	19 0 0 <1 3 4 463 0 2546 history2 19 9 2 0.008 80.6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water ppm Water	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D6304 ASTM D6304	limit/base >50 >20 >0.2 >2000 Limit/base	28 <1 0 <1 1 5 417 8 2769 current 21 11 2 0.005 51 current	20 0 0 0 4 402 0 2062 history1 20 5 0 0.025 253 history1	19 0 0 <1 3 4 463 0 2546 history2 19 9 2 0.008 80.6 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D6304 ASTM D6304	limit/base >50 >20 >0.2 >2000 limit/base >20000	28 <1 0 <1 1 5 417 8 2769 current 21 11 2 0.005 51 current ▲ 102406	20 0 0 0 4 402 0 2062 history1 20 5 0 0.025 253 history1 18169	19 0 0 <1 3 4 463 0 2546 19 9 2 2 0.008 80.6 history2 0.008
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water Potassium Water Ppm Water FLUID CLEANLIN Particles >4µm Particles >6µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D6304 ASTM D6304 ASTM D6304 ASTM D7647	limit/base >50 >20 >0.2 >2000 limit/base >20000 >5000	28 <1 0 <1 1 5 417 8 2769 current 21 11 2 0.005 51 current ▲ 102406 ▲ 102406	20 0 0 0 4 402 0 2062 history1 20 5 0 0.025 253 0 0.025 253 history1 18169 746	19 0 0 3 4 463 0 2546 19 9 2 19 9 2 0.008 80.6 history2 2 0.008 80.6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water Potassium Water Ppm Water FLUID CLEANLIM Particles >6µm Particles >14µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D6304 ASTM D6304 METHOd ASTM D7647 ASTM D7647 ASTM D7647	limit/base >50 >20 >0.2 >2000 limit/base >20000 >5000 >5000 >640	28 <1 0 <1 1 5 417 8 2769 Current 21 11 2 0.005 51 Current ▲ 102406 ▲ 33545 ▲ 1915	20 0 0 0 0 4 402 0 2062 history1 20 5 0 0 0.025 253 0 0.025 253 history1 18169 746 20	19 0 0 3 4 463 0 2546 bistory2 19 9 2 0.008 80.6 bistory2 0.008 80.6 bistory2 52918 3215 100
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water ppm Water ppm Water FLUID CLEANLIN Particles >4µm Particles >14µm Particles >21µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D6304 ASTM D6304 ASTM D6304 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	limit/base >50 >20 >0.2 >2000 limit/base >20000 >5000 >5000 >640 >160	28 <1 0 <1 1 5 417 8 2769 current 21 11 2 0.005 51 current ▲ 102406 ▲ 33545 ▲ 1915 ● 269	20 0 0 0 4 402 0 2062 history1 20 5 0 0.025 253 0 0.025 253 history1 18169 746 20 6	19 0 0 3 4 463 0 2546 19 9 2 2 0.008 80.6 0.008 80.6 52918 3215 100 28
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Vater ppm Water FLUID CLEANLIN Particles >4µm Particles >14µm Particles >21µm Particles >38µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >50 >20 >0.2 >2000 >0.2 >2000 limit/base >20000 >5000 >5000 >640 >160 >40	28 <1 0 <1 1 5 417 8 2769 current 21 11 2 0.005 51 current ▲ 102406 ▲ 33545 ▲ 1915 ● 269 4	20 0 0 0 4 402 0 2062 history1 20 5 0 0.025 253 history1 18169 746 20 6 2 2 0	19 0 0 3 4 463 0 2546 bistory2 19 9 2 0.008 80.6 bistory2 0.008 80.6 bistory2 52918 3215 100
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Vater ppm Water FLUID CLEANLIN Particles >4µm Particles >14µm Particles >38µm Particles >71µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	limit/base >50 >20 >0.2 >2000 limit/base >20000 >5000 >5000 >5000 >640 >160 >40 >10	28 <1 0 <1 1 5 417 8 2769 current 21 11 2 0.005 51 current ▲ 102406 ▲ 33545 ▲ 1915 ● 269 4 1	20 0 0 0 4 402 0 2062 history1 20 5 0 0.025 253 history1 18169 746 20 6 2 2 1	19 0 0 3 4 463 0 2546 bistory2 19 2 2546 19 9 2 0.008 80.6 bistory2 0.008 80.6 bistory2 2 0.008 80.6 bistory2 2 0.008 80.6 bistory2 2 0.008 80.6 bistory2 1 0 0.008 80.6 bistory2 1 0 0.008 80.6 bistory2 1 0 0 2 8 0.008 8 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water ppm Water Particles >4µm Particles >4µm Particles >4µm Particles >14µm Particles >38µm Particles >71µm Oil Cleanliness	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7647 ASTM D7647	limit/base >50 >20 >0.2 >2000 2000 limit/base >20000 >5000 >5000 >640 >160 >40 >10 >10 >21/19/16	28 <1 0 <1 1 5 417 8 2769 current 21 11 2 0.005 51 current ▲ 102406 ▲ 33545 ▲ 1915 ● 269 4	20 0 0 0 4 402 0 2062 history1 20 5 0 0 0.025 253 history1 18169 746 20 6 2 20 6 2 2 1 121/17/11	19 0 0 3 4 463 0 2546 bistory2 19 9 2 0.008 80.6 bistory2 0.008 80.6 52918 3215 100 28 4 100 28 4 11 28 4 1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Vater ppm Water FLUID CLEANLIN Particles >4µm Particles >14µm Particles >38µm Particles >71µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	limit/base >50 >20 >0.2 >2000 limit/base >20000 >5000 >5000 >5000 >640 >160 >40 >10	28 <1 0 <1 1 5 417 8 2769 current 21 11 2 0.005 51 current ▲ 102406 ▲ 33545 ▲ 1915 ● 269 4 1	20 0 0 0 4 402 0 2062 history1 20 5 0 0.025 253 history1 18169 746 20 6 2 2 1	19 0 0 3 4 463 0 2546 bistory2 19 2 2546 19 9 2 0.008 80.6 bistory2 0.008 80.6 bistory2 2 0.008 80.6 bistory2 2 0.008 80.6 bistory2 2 0.008 80.6 bistory2 1 0 0.008 80.6 bistory2 1 0 0.008 80.6 bistory2 1 0 0 2 8 0.008 8 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0

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Sample Rating Trend

ISO



65

Danti

Water

O Acid

1000

600 Water (

4000

25

24

210

200

19

Abnorm

vua1

Ab 200

Aug 1

Water (KF)

Viscosity @ 40°C

# **OIL ANALYSIS REPORT**

scalar

cSt

method

\*Visual

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\*Visual

method

ASTM D445

method

limit/base

NONE

NONE

NONE

NONE

NONE

NONE

NORML

NORML

limit/base

limit/base

>0.2

220

current

NONE

NONE

NONE

NONE

NONE

NONE

NORML

NORML

curren

current

NEG

NEG

210

history1

NONE

NONE

NONE

NONE

NONE

NONE

NORML

NORML

history

history1

NFG

NEG

210

history2

NONE

NONE

NONE

LIGHT

NONE

NONE

NORML

NORML

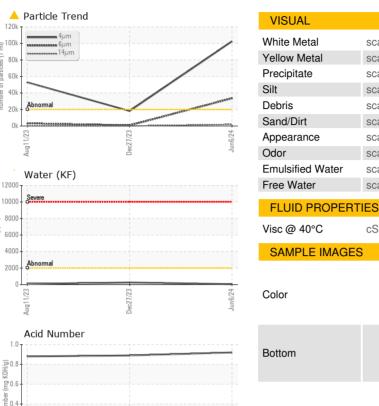
history

history2

NEG

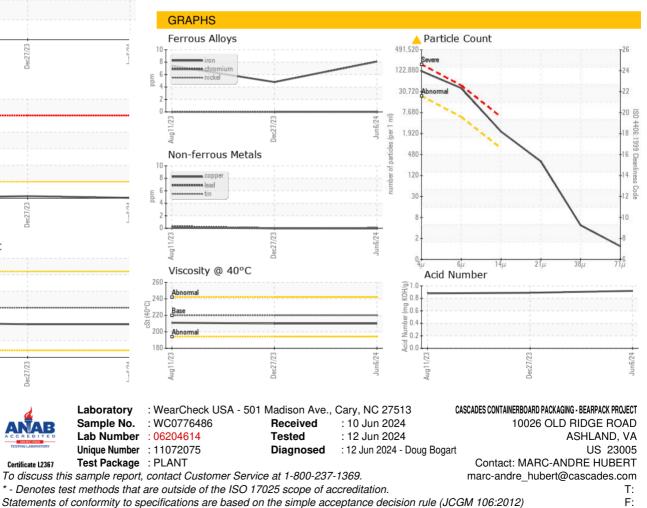
NEG

211



201702

CILCOR



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