

## **OIL ANALYSIS REPORT**

### Area **Paper Machine** Vacuum Pump #10 Gearbox

Gearbox Fluid MOBIL MOBILGEAR SHC 220 (35 GAL)

#### Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

#### Contamination

There is a moderate amount of silt (particulates < 6 microns in size) present in the oil.

#### Fluid Condition

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

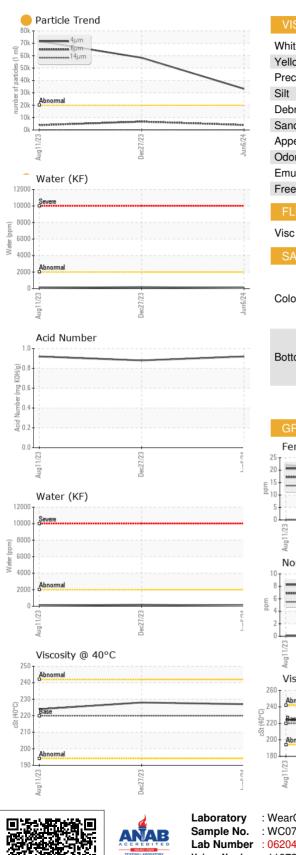
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						<b>O</b>
		Au	2023	Dec2023 Jun20	124	
SAMPLE INFORM		method	limit/base	current	history1	history2
Sample Number		Client Info	IIIIII/Dase	WC0776535	WC0776492	WC0776547
Sample Date		Client Info		06 Jun 2024	27 Dec 2023	11 Aug 2023
Machine Age	hrs	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				ATTENTION	ABNORMAL	ABNORMAL
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>200	19	20	22
Chromium	ppm	ASTM D5185m		0	0	<1
Nickel	ppm	ASTM D5185m	>15	<1	0	0
Titanium	ppm	ASTM D5185m	210	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		0	<1	<1
Tin	ppm	ASTM D5185m	>25	<1	0	0
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		16	11	0
Barium	ppm	ASTM D5185m		<1	0	0
Molybdenum	ppm	ASTM D5185m		0	0	0
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		<1	0	2
Calcium				1	â	
Calcium	ppm	ASTM D5185m		•	2	0
Phosphorus	ppm ppm	ASTM D5185m ASTM D5185m		429	2 373	0 485
						÷
Phosphorus	ppm	ASTM D5185m		429	373	485
Phosphorus Zinc	ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base	429 9 2687	373 13	485 0
Phosphorus Zinc Sulfur	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m		429 9 2687	373 13 2012	485 0 2478
Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m method		429 9 2687 current	373 13 2012 history1	485 0 2478 history2
Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m		429 9 2687 current 34	373 13 2012 history1 28 2 2 0	485 0 2478 history2 19
Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m ASTM D5185m	>50 >20	429 9 2687 <u>current</u> 34 2	373 13 2012 history1 28 2	485 0 2478 history2 19 2
Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m ASTM D5185m ASTM D5185m	>50 >20	429 9 2687 <u>current</u> 34 2 3	373 13 2012 history1 28 2 2 0	485 0 2478 history2 19 2 2
Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water	ppm ppm ppm ppm ppm ppm ppm %	ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D6304	>50 >20 >0.2	429 9 2687 <u>current</u> 34 2 3 0.007 76	373 13 2012 history1 28 2 0 0 0.017	485 0 2478 history2 19 2 2 2 0.009
Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water ppm Water	ppm ppm ppm ppm ppm ppm ppm %	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D6304 ASTM D6304	>50 >20 >0.2 >2000	429 9 2687 <u>current</u> 34 2 3 0.007 76	373 13 2012 history1 28 2 0 0.017 173	485 0 2478 history2 19 2 2 0.009 97.9
Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN	ppm ppm ppm ppm ppm ppm ppm %	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D6304 ASTM D6304 <b>method</b>	>50 >20 >0.2 >2000 limit/base >20000	429 9 2687 Current 34 2 3 0.007 76 Current	373 13 2012 history1 28 2 0 0.017 173 history1	485 0 2478 history2 19 2 2 0.009 97.9 history2
Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm	ppm ppm ppm ppm ppm ppm ppm %	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D6304 ASTM D6304 Method ASTM D7647	>50 >20 >0.2 >2000 limit/base >20000	429 9 2687 Current 34 2 3 0.007 76 Current 33247	373 13 2012 history1 28 2 2 0 0.017 173 history1 ▲ 58337	485 0 2478 history2 19 2 2 2 0.009 97.9 history2 ∧ 71644 3924 55
Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm Particles >6µm Particles >14µm Particles >21µm	ppm ppm ppm ppm ppm ppm ppm %	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D6304 ASTM D6304 Method ASTM D7647 ASTM D7647	>50 >20 >0.2 >2000 <b>limit/base</b> >20000 >5000 >640	429 9 2687 2687 34 2 3 0.007 76 current 33247 4049 121 29	373 13 2012 history1 28 2 2 0 0.017 173 history1 ▲ 58337 ● 6756	485 0 2478 history2 19 2 2 2 0.009 97.9 history2 ∧ 71644 3924
Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm Particles >6µm Particles >21µm Particles >38µm	ppm ppm ppm ppm ppm ppm ppm %	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D6304 ASTM D6304 ASTM D6304 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	>50 >20 >0.2 >2000 <b>limi/base</b> >20000 >5000 >640 >160 >40	429 9 2687 34 2 3 3 0.007 76 0.007 76 0.007 76 0.007 76 0.007 121 29 4	373 13 2012 history1 28 2 2 0 0 0.017 173 history1 ▲ 58337 ● 6756 124 26 0	485 0 2478 19 2 2 2 0.009 97.9 history2 ∧ 71644 3924 55 12 0
Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm Particles >6µm Particles >14µm Particles >21µm	ppm ppm ppm ppm ppm ppm ppm %	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D6304 ASTM D6304 ASTM D6304 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	>50 >20 >0.2 >2000 <b>limi/base</b> >20000 >5000 >640 >160 >40	429 9 2687 2687 34 2 3 0.007 76 current 33247 4049 121 29	373 13 2012 history1 28 2 2 0 0 0.017 173 history1 ▲ 58337 6756 124 26	485 0 2478 19 2 2 2 0.009 97.9 history2 ∧ 71644 3924 55 12 0 0 0
Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm Particles >6µm Particles >21µm Particles >38µm	ppm ppm ppm ppm ppm ppm ppm %	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D6304 ASTM D6304 ASTM D6304 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	>50 >20 >0.2 >2000 <b>limi/base</b> >20000 >5000 >640 >160 >40	429 9 2687 34 2 3 3 0.007 76 0.007 76 0.007 76 0.007 76 0.007 121 29 4	373 13 2012 history1 28 2 2 0 0 0.017 173 history1 ▲ 58337 ● 6756 124 26 0	485 0 2478 history2 19 2 2 2 0.009 97.9 history2 ∧ 71644 3924 55 12 0
Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm Particles >6µm Particles >14µm Particles >38µm Particles >71µm	ppm ppm ppm ppm ppm % ppm VESS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D6304 ASTM D6304 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	>50 >20 >0.2 >2000 <b>limit/base</b> >20000 >5000 >5000 >640 >160 >40 >40	429 9 2687 Current 34 2 3 0.007 76 Current 33247 4049 121 29 4 3 29 4 3 22/19/14	373 13 2012 history1 28 2 0 0.017 173 history1 ▲ 58337 ● 6756 124 26 0 0 0	485 0 2478 19 2 2 2 0.009 97.9 history2 ∧ 71644 3924 555 12 0 0 0

Sample Rating Trend

ISO

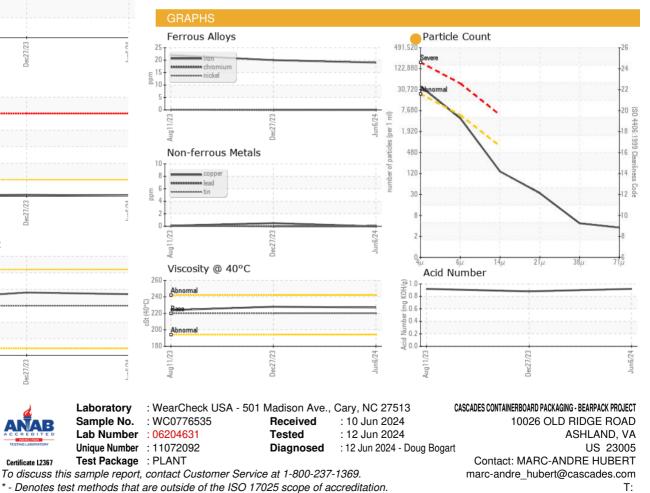


# **OIL ANALYSIS REPORT**



VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	LIGHT
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	220	227	228	224
SAMPLE IMAGES	;	method	limit/base	current	history1	history2
Color						

Bottom



Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Report Id: CASASH [WUSCAR] 06204631 (Generated: 06/12/2024 18:21:17) Rev: 1

Certificate 12367

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