

## **OIL ANALYSIS REPORT**

### Area 412 Machine Id 273 BANBURY GEARBOX

Main Gearbox

MOBIL MOBILGEAR SHC 460 (300 GAL)

### DIAGNOSIS

#### Recommendation

We recommend you service the filters on this component. We recommend an early resample to monitor this condition.

## Wear

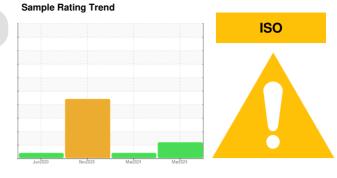
All component wear rates are normal.

#### Contamination

There is a moderate amount of silt (particulates < 14 microns in size) present in the oil.

#### Fluid Condition

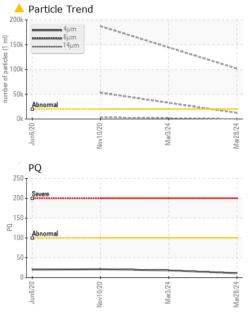
The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

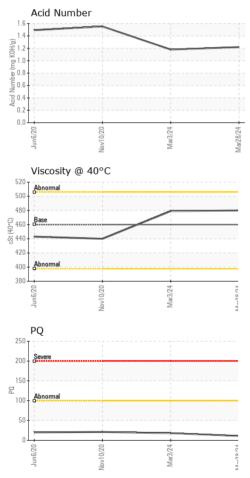


SAMPLE INFORMA		method	limit/base	current	history1	history2
Sample Number		Client Info		WC0912130	WC0838854	WC0397532
Sample Date		Client Info		28 Mar 2024	03 Mar 2024	10 Nov 2020
	mths	Client Info		0	0	0
Oil Age r	mths	Client Info		0	8	0
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				ABNORMAL	ABNORMAL	SEVERE
CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.2	NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184		11	18	21
lron p	opm	ASTM D5185m	>200	24	16	46
	opm	ASTM D5185m	>15	1	0	1
	opm		>15	<1	0	<1
	opm	ASTM D5185m		<1	0	0
	opm	ASTM D5185m		0	0	0
	opm	ASTM D5185m	>25	2	0	0
1	opm		>100	0	0	<1
-	opm	ASTM D5185m	>200	1	<1	1
	opm	ASTM D5185m	>25	<1	0	0
•	opm	ASTM D5185m	>5			0
	opm	ASTM D5185m		<1	0	0
	opm	ASTM D5185m		<1	0	0
ADDITIVES		method	limit/base	current	history1	history2
Deven						
Boron (	opm	ASTM D5185m		2	<1	13
	opm opm	ASTM D5185m ASTM D5185m		2	<1	13 0
Barium p	opm	ASTM D5185m		0	0	0
Barium p Molybdenum p	opm opm	ASTM D5185m ASTM D5185m		0 <1	0 0	0 2
Barium p Molybdenum p Manganese p	opm opm opm	ASTM D5185m ASTM D5185m ASTM D5185m		0 <1 <1	0 0 0	0 2 <1
Barium p Molybdenum p Manganese p Magnesium p	opm opm opm opm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 <1 <1 2	0 0 0 0	0 2 <1 0
Barium p Molybdenum p Manganese p Magnesium p Calcium p	opm opm opm opm opm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 <1 <1 2 4	0 0 0 0	0 2 <1 0 0
Barium p Molybdenum p Manganese p Magnesium p Calcium p Phosphorus p	opm opm opm opm opm opm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 <1 <1 2 4 545	0 0 0 0 0 511	0 2 <1 0 0 349
Barium p Molybdenum p Manganese p Magnesium p Calcium p Phosphorus p Zinc p	opm opm opm opm opm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 <1 <1 2 4	0 0 0 0	0 2 <1 0 0
Barium p Molybdenum p Manganese p Magnesium p Calcium p Phosphorus p Zinc p	opm opm opm opm opm opm opm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 <1 <1 2 4 545 10	0 0 0 0 0 511 0	0 2 <1 0 0 349 6
Barium p Molybdenum p Manganese p Magnesium p Calcium p Phosphorus p Zinc p Sulfur p	opm opm opm opm opm opm opm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 <1 <1 2 4 545 10 4520	0 0 0 0 511 0 3690	0 2 <1 0 0 349 6 7251
Barium p Molybdenum p Manganese p Magnesium p Calcium p Calcium p Calcium p Calcium p Contaminants Sulfur p	opm opm opm opm opm opm opm opm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 <1 <1 2 4 545 10 4520 current 17	0 0 0 0 511 0 3690 history1 13	0 2 <1 0 0 349 6 7251 history2
Barium p Molybdenum p Manganese p Magnesium p Calcium p Calcium p Zinc p Sulfur p CONTAMINANTS Silicon p Sodium p	opm opm opm opm opm opm opm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>50	0 <1 <1 2 4 545 10 4520 current	0 0 0 0 511 0 3690 history1	0 2 <1 0 0 349 6 7251 history2 2
Barium p Molybdenum p Manganese p Magnesium p Calcium p Calcium p Calcium p Sulfur p CONTAMINANTS Silicon p Sodium p	opm opm opm opm opm opm opm opm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m ASTM D5185m	>50	0 <1 <1 2 4 545 10 4520 current 17 3	0 0 0 0 511 0 3690 history1 13 <1	0 2 <1 0 0 349 6 7251 history2 2 2 2
Barium p Molybdenum p Manganese p Magnesium p Calcium p Calcium p Dhosphorus p Zinc p Sulfur p CONTAMINANTS Silicon p Sodium p Potassium p	opm opm opm opm opm opm opm opm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>50 >20	0 <1 <1 2 4 545 10 4520 current 17 3 <1 current	0 0 0 0 511 0 3690 history1 13 <1 0	0 2 <1 0 0 349 6 7251 history2 2 2 2 <1 history2
Barium p Molybdenum p Manganese p Magnesium p Calcium p Calcium p Phosphorus p Zinc p Sulfur p CONTAMINANTS Silicon p Sodium p Potassium p FLUID CLEANLINE Particles >4µm	opm opm opm opm opm opm opm opm	ASTM D5185m ASTM D5185m	>50 >20 limit/base >20000	0 <1 <1 2 4 545 10 4520 current 17 3 <1 current ↓ 10 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 511 0 3690 history1 13 <1 0 0 history1	0 2 <1 0 349 6 7251 history2 2 2 2 2 <1 history2
Barium p Molybdenum p Manganese p Magnesium p Calcium p Phosphorus p Zinc p Sulfur p CONTAMINANTS Silicon p Sodium p Potassium p FLUID CLEANLINE Particles >4µm Particles >6µm	opm opm opm opm opm opm opm opm	ASTM D5185m ASTM D5185m	>50 >20 limit/base >20000 >5000	0 <1 <1 2 4 545 10 4520 current 17 3 <1 current ↓ 101699 ↓ 12285	0 0 0 0 511 0 3690 history1 13 <1 0 history1 	0 2 <1 0 0 349 6 7251 history2 2 2 2 2 <1 ×1 history2 ×1 ×187301 ▲ 187301
Barium particles >4µm Particles >4µm Particles >4µm Particles >4µm Particles >14µm Particles >	opm opm opm opm opm opm opm opm	ASTM D5185m ASTM D7647 ASTM D7647	>50 >20 limit/base >20000 >5000 >640	0 <1 <1 2 4 545 10 4520 current 17 3 <1 current ↓ 101699 ↓ 12285 190	0 0 0 0 511 0 5511 0 3690 history1 13 <1 0 history1 	0 2 <1 0 0 349 6 7251 history2 2 2 2 <1 2 <1 history2 2 3 4 187301 ▲ 187301 ▲ 187301
Barium p Molybdenum p Manganese p Magnesium p Calcium p Calcium p Phosphorus p Zinc p Sulfur p CONTAMINANTS Silicon p Sodium p Potassium p FLUID CLEANLINE Particles >4µm p Particles >14µm Particles >21µm	opm opm opm opm opm opm opm opm	ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	>50 >20 limit/base >20000 >5000 >640 >160	0 <1 <1 2 4 545 10 4520 current 17 3 <1 current ↓ 101699 ↓ 12285 190 74	0 0 0 0 511 0 3690 history1 13 <1 0 history1 	0 2 <1 0 0 349 6 7251 history2 2 2 2 <1 history2 ↓ 187301 ↓ 187301 ↓ 187301 ↓ 3491 ↓ 1258
Barium particles >38µm particl	opm opm opm opm opm opm opm opm	ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	>50 >20 limit/base >20000 >5000 >640 >160 >40	0 <1 <1 2 4 545 10 4520 current 17 3 <1 current ↓ 101699 ↓ 12285 190 74 6	0 0 0 0 511 0 3690 history1 13 <1 0 history1   	0 2 349 6 7251 history2 2 2 2 3 1 1 1 1 8 3061 3 3491 3 3491 1 2 53061 3 3491 3 1258 1 72
Barium p Molybdenum p Manganese p Magnesium p Calcium p Phosphorus p Zinc p Sulfur p CONTAMINANTS Silicon p Sodium p Potassium p	opm opm opm opm opm opm opm opm	ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	>50 >20 limit/base >20000 >5000 >640 >160	0 <1 <1 2 4 545 10 4520 current 17 3 <1 current ↓ 101699 ↓ 12285 190 74	0 0 0 0 511 0 511 0 3690 history1 13 <1 0 history1  	0 2 <1 0 0 349 6 7251 history2 2 2 2 <1 history2 ↓ 187301 ↓ 187301 ↓ 187301 ↓ 3491 ↓ 1258



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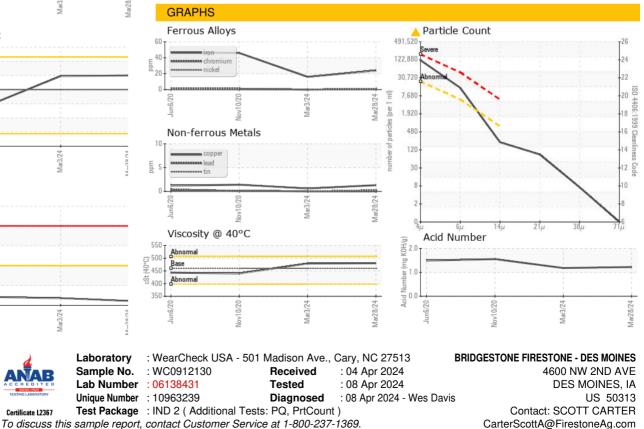


FLUID DEGRADA	TION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		1.22	1.18	1.553
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	LIGHT	🔺 MODER	LIGHT
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 PROPERT	IES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	460	480	479	440
SAMPLE IMAGES	6	method	limit/base	current	history1	history2

Color



Bottom



\* - 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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Certificate 12367

Laboratory

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