

## **OIL ANALYSIS REPORT**

#### Sample Rating Trend

#### NORMAL

# BOBSP 7352

Component Gearbox Fluic

MOBIL MOBILGEAR 600 XP ISO 150 (--- GAL)

#### Recommendation

Resample at the next service interval to monitor.

#### Wear

All component wear rates are normal.

#### Contamination

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

#### Fluid Condition

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





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| SAMPLE INFORM   |  | method   | limit/base  | current   | history1   | history2  |
|---|--|--|---|---|--|---|
| Sample Number   |  | Client Info  |   | PTK0000294  | PTK0000352   | PTK0001279  |
| Sample Date   |  | Client Info  |   | 09 Nov 2023   | 13 Jun 2023  | 23 Nov 2022   |
|   | mths   | Client Info  |   | 0   | 0  | 0   |
| Ű   | mths   | Client Info  |   | 0   | 0  | 0   |
| Oil Changed   | maio   | Client Info  |   | N/A   | N/A  | 0<br>N/A  |
| Sample Status   |  |  |   | NORMAL  | NORMAL   | NORMAL  |
| CONTAMINATION   |  | method   | limit/base  | current   | history1   | history2  |
| Water   |  | WC Method  | >0.2  | NEG   | NEG  | NEG   |
| WEAR METALS   |  | method   | limit/base  | current   | history1   | history2  |
|   |  |  |   |   |  |   |
|   | ppm  | ASTM D5185m  | >200  | 2   | 2  | 2   |
|   | ppm  | ASTM D5185m  |   | 0   | 0  | 0   |
|   | ppm  | ASTM D5185m  | >10   | 0   | 0  | 0   |
|   | ppm  | ASTM D5185m  |   | 0   | 0  | 0   |
|   | ppm  | ASTM D5185m  | 05  | 0   | <1   | 0   |
|   | ppm  | ASTM D5185m  |   | 0   | 0  | 0   |
|   | ppm  | ASTM D5185m  | >50   | 0   | 0  | <1  |
|   | ppm  | ASTM D5185m  | >200  | 1   | <1   | <1  |
|   | ppm  | ASTM D5185m  | >10   | 0   | 0  | <1  |
|   | ppm  | ASTM D5185m  | >5  |   |  |   |
|   | ppm  | ASTM D5185m  |   | 0   | 0  | 0   |
| Cadmium   | ppm  | ASTM D5185m  |   | 0   | 0  | 0   |
|   |  |  |   |   |  |   |
| ADDITIVES   |  | method   | limit/base  | current   | history1   | history2  |
| _   | ppm  | method<br>ASTM D5185m  | limit/base  | current<br>0  | history1<br>0  | history2<br>0   |
| Boron   | ppm<br>ppm   |  | limit/base  |   |  |   |
| Boron<br>Barium   |  | ASTM D5185m  | limit/base  | 0   | 0  | 0   |
| Boron<br>Barium<br>Molybdenum   | ppm  | ASTM D5185m<br>ASTM D5185m   | limit/base  | 0<br>0  | 0<br>2   | 0<br>0  |
| Boron<br>Barium<br>Molybdenum<br>Manganese  | ppm<br>ppm   | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m  | limit/base  | 0<br>0<br>0   | 0<br>2<br>0  | 0<br>0<br>0   |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium   | ppm<br>ppm<br>ppm                                    | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   | limit/base  | 0<br>0<br>0   | 0<br>2<br>0<br>0   | 0<br>0<br>0<br>0  |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium  | ppm<br>ppm<br>ppm<br>ppm                             | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m  | limit/base  | 0<br>0<br>0<br>0<br>0   | 0<br>2<br>0<br>0<br><1   | 0<br>0<br>0<br>1  |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus  | ppm<br>ppm<br>ppm<br>ppm<br>ppm                      | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   | limit/base  | 0<br>0<br>0<br>0<br>0<br>1  | 0<br>2<br>0<br>0<br><1<br>2  | 0<br>0<br>0<br>1<br>2   |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc  | ppm<br>ppm<br>ppm<br>ppm<br>ppm                      | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   | limit/base  | 0<br>0<br>0<br>0<br>0<br>1<br>287   | 0<br>2<br>0<br>0<br><1<br>2<br>298   | 0<br>0<br>0<br>1<br>2<br>340  |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc  | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm               | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m  | limit/base  | 0<br>0<br>0<br>0<br>0<br>1<br>287<br>4  | 0<br>2<br>0<br>0<br><1<br>2<br>298<br>5  | 0<br>0<br>0<br>1<br>2<br>340<br>3   |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Chosphorus<br>Zinc<br>Sulfur<br>CONTAMINANTS  | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm               | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   | limit/base  | 0<br>0<br>0<br>0<br>1<br>287<br>4<br>14738  | 0<br>2<br>0<br><1<br>2<br>298<br>5<br>17044  | 0<br>0<br>0<br>1<br>2<br>340<br>3<br>15701  |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Chosphorus<br>Zinc<br>Sulfur<br>CONTAMINANTS<br>Silicon   | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m  | limit/base  | 0<br>0<br>0<br>0<br>1<br>287<br>4<br>14738<br>current   | 0<br>2<br>0<br>0<br><1<br>2<br>298<br>5<br>17044<br>history1   | 0<br>0<br>0<br>1<br>2<br>340<br>3<br>15701<br>history2  |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Chosphorus<br>Zinc<br>Sulfur<br>CONTAMINANTS<br>Silicon<br>Sodium   | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm        | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   | limit/base<br>>50   | 0<br>0<br>0<br>0<br>1<br>287<br>4<br>14738<br>current<br>1  | 0<br>2<br>0<br>0<br><1<br>2<br>298<br>5<br>17044<br>history1<br>0  | 0<br>0<br>0<br>1<br>2<br>340<br>3<br>15701<br>history2<br>2   |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Chosphorus<br>Zinc<br>Sulfur<br>CONTAMINANTS<br>Silicon<br>Sodium   | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   | limit/base<br>>50   | 0<br>0<br>0<br>0<br>1<br>287<br>4<br>14738<br><u>current</u><br>1<br><  | 0<br>2<br>0<br>0<br><1<br>2<br>298<br>5<br>17044<br>history1<br>0<br>0   | 0<br>0<br>0<br>1<br>2<br>340<br>3<br>15701<br>history2<br>2<br>0  |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINANTS<br>Silicon<br>Sodium<br>Potassium   | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm | ASTM D5185m<br>ASTM D5185m  | limit/base<br>>50<br>>20  | 0<br>0<br>0<br>0<br>1<br>287<br>4<br>14738<br>current<br>1<br><<br>1<br><<br>1<br>0   | 0<br>2<br>0<br>0<br><1<br>2<br>298<br>5<br>17044<br>history1<br>0<br>0<br>1  | 0<br>0<br>0<br>1<br>2<br>340<br>3<br>15701<br>history2<br>2<br>0<br><1                                      |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINANTS<br>Silicon<br>Sodium<br>Potassium<br>FLUID CLEANLINE  | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm | ASTM D5185m<br>ASTM D5185m   | limit/base<br>>50<br>>20<br>limit/base  | 0<br>0<br>0<br>0<br>1<br>287<br>4<br>14738<br>current<br>1<br><1<br>0<br>current  | 0<br>2<br>0<br>0<br><1<br>2<br>298<br>5<br>17044<br>history1<br>0<br>0<br>1<br>1<br>history1   | 0<br>0<br>0<br>1<br>2<br>340<br>3<br>15701<br>history2<br>2<br>0<br><1<br>history2                          |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Zinc<br>Sulfur<br>CONTAMINANTS<br>Silicon<br>Sodium<br>Potassium<br>FLUID CLEANLINE<br>Particles >4µm                               | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm | ASTM D5185m<br>ASTM D5185m  | limit/base<br>>50<br>>20<br>limit/base  | 0<br>0<br>0<br>0<br>1<br>287<br>4<br>14738<br><i>current</i><br>1<br>1<br><1<br>0<br><i>current</i><br>1<br>0   | 0<br>2<br>0<br>0<br><1<br>2<br>298<br>5<br>17044<br>history1<br>0<br>0<br>1<br>history1<br>501   | 0<br>0<br>0<br>1<br>2<br>340<br>3<br>15701<br>history2<br>2<br>0<br><1<br>history2<br>721                   |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Zinc<br>Sulfur<br>CONTAMINANTS<br>Silicon<br>Sodium<br>Potassium<br>FLUID CLEANLINE<br>Particles >4µm<br>Particles >6µm             | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm | ASTM D5185m<br>ASTM D5185m                           | limit/base<br>>50<br>>20<br>limit/base<br>>2500<br>>320   | 0<br>0<br>0<br>0<br>1<br>287<br>4<br>14738<br>current<br>1<br>1<br>21<br>0<br>current<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | 0<br>2<br>0<br>0<br><1<br>2<br>298<br>5<br>17044<br>history1<br>0<br>0<br>0<br>1<br>history1<br>501<br>144                               | 0<br>0<br>0<br>1<br>2<br>340<br>3<br>15701<br>history2<br>2<br>0<br><1<br>history2<br>721<br>179            |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Zinc<br>Sulfur<br>CONTAMINANTS<br>Silicon<br>Sodium<br>Potassium<br>FLUID CLEANLINE<br>Particles >4µm<br>Particles >14µm            | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm | ASTM D5185m<br>ASTM D7647<br>ASTM D7647              | limit/base<br>>50<br>>20<br>limit/base<br>>2500<br>>320   | 0<br>0<br>0<br>0<br>1<br>287<br>4<br>14738<br>current<br>1<br>4<br>14738<br>current<br>1<br>0<br>current<br>1029<br>281<br>25                               | 0<br>2<br>0<br>0<br>2<br>2<br>9<br>8<br>5<br>17044<br><b>history1</b><br>0<br>0<br>0<br>1<br><b>history1</b><br>501<br>1<br>444<br>16    | 0<br>0<br>0<br>1<br>2<br>340<br>3<br>15701<br>history2<br>2<br>0<br><1<br>history2<br>721<br>179<br>18      |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINANTS<br>Silicon<br>Sodium<br>Potassium<br>FLUID CLEANLINE<br>Particles >4µm<br>Particles >14µm<br>Particles >21µm | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm | ASTM D5185m<br>ASTM D7647<br>ASTM D7647<br>ASTM D7647<br>ASTM D7647 | limit/base<br>>50<br>>20<br>limit/base<br>>220<br>s20<br>s20<br>s20<br>s20<br>s20<br>s20<br>s20<br>s20<br>s20 | 0<br>0<br>0<br>0<br>1<br>287<br>4<br>14738<br>current<br>1<br>4<br>3<br>4<br>14738<br>current<br>1<br>0<br>0<br>current<br>1029<br>281<br>25<br>8           | 0<br>2<br>0<br>0<br><1<br>2<br>298<br>5<br>17044<br><b>history1</b><br>0<br>0<br>0<br>1<br>1<br><b>history1</b><br>501<br>144<br>16<br>6 | 0<br>0<br>0<br>1<br>2<br>340<br>3<br>15701<br>history2<br>2<br>0<br><1<br>history2<br>721<br>179<br>18<br>4 |

ISO 4406 (c) >18/15

15/12

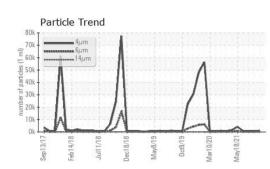
**Oil Cleanliness** 

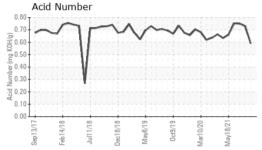
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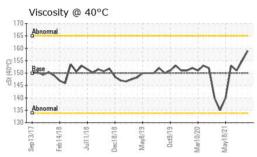
14/11

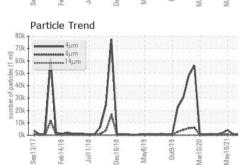


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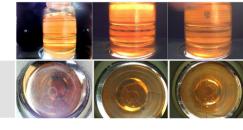


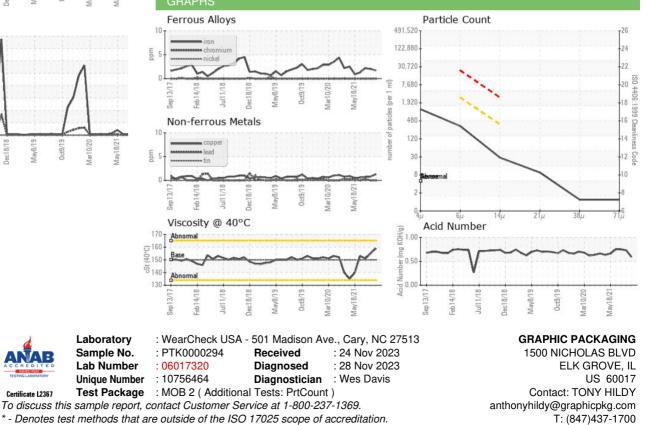


| FLUID DEGRADATION |          | method     | limit/base | current | history1 | history2 |
|-------------------|----------|------------|------------|---------|----------|----------|
| Acid Number (AN)  | mg KOH/g | ASTM D8045 |            | 0.59    | 0.73     | 0.75     |
| VISUAL            |          | 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       | 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 PROPERT     | IES      | method     | limit/base | current | history1 | history2 |
| Visc @ 40°C       | cSt      | ASTM D445  | 150        | 159     | 155      | 151      |
| 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)

Certificate L2367

Contact/Location: TONY HILDY - GRAELK

F: