



# СЕРТИФИКАТ

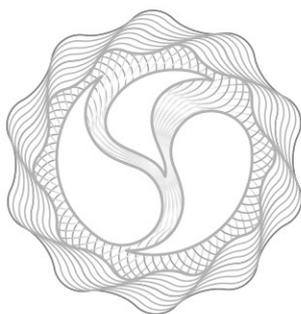
Настоящим удостоверяем, что компания

**“GREENBAT” SRL**

ул. Падурий 12,  
г. Кишинёв, 2002  
Республика Молдова

является Официальным Дистрибьютором  
продукции LOTOS Oil Sp. z o.o.  
на территории Республики Молдавии

Сертификат действителен до 31.12.2023



*Janusz Fudała*

**Janusz Fudała**  
Президент Правления

## \*\*CERTIFICATE of QUALITY\*\* Copy

|                      |             |             |  |
|----------------------|-------------|-------------|--|
| <b>Control No:</b>   | 4084 / 2022 | <b>For:</b> |  |
| <b>Tank No.:</b>     | 15V001      |             |  |
| <b>Sample No</b>     | 4084 / 2022 |             |  |
| <b>Delivery doc:</b> |             |             |  |
| <b>Packing, Tank</b> |             |             |  |

### DIESEL FLEET SAE 5W-40

| Lp | PROPERTY                           | RESULTS | UNITS              | TEST METHOD          |
|----|------------------------------------|---------|--------------------|----------------------|
| 1  | Kinematic viscosity at 100° C      | 14.290  | mm <sup>2</sup> /s | ASTM D 445-21e1 (A)  |
| 2  | Kinematic viscosity at 40° C       | 89.02   | mm <sup>2</sup> /s | ASTM D 445-21e1 (A)  |
| 3  | Pour point                         | -45     | ° C                | ASTM D 97-17b        |
| 4  | Flash Point COC                    | 228     | ° C                | ASTM D 92-18         |
| 5  | Density, at 15,0° C                | 0.8601  | g/cm <sup>3</sup>  | ASTM D 4052-22       |
| 6  | Viscosity CCS at -30° C            | 6220    | mPa*s              | ASTM D 5293-15       |
| 7  | Viscosity Index                    | 166     |                    | ASTM D 2270-10(2016) |
| 8  | Total Base Number (TBN)            | 11.0    | mg KOH/g           | ASTM D 2896-21       |
| 9  | Corrosion action Cu at 120° C, 3 h | 1       | stop.kor.          | ASTM D 130-19 (A)    |
| 10 | Foaming                            |         |                    | ASTM D 892-18        |
|    | -tendency at 24 deg C              | 0       | ml                 |                      |
|    | -tendency at 93 deg C              | 0       | ml                 |                      |
|    | -tendency at 24°C ex 93,5°C        | 0       | ml                 |                      |
| 11 | Stability                          |         |                    | ASTM D 892-18        |
|    | -at 24° C                          | 0       | ml                 |                      |
|    | -at 93,5° C                        | 0       | ml                 |                      |
|    | -at 24° C ex 93,5° C               | 0       | ml                 |                      |

Certificate of Quality may be duplicated only as a whole.

LOTOS Lab Sp. z o.o. Draw certificate date: 24-09-2022

LOTOS Lab Sp. z o.o.

Symbol (A) in the standard column - The tests were performed by LOTOS Lab Ltd. accredited in this respect by the PCA, No.AB 474

Manufacturer: LOTOS OIL SP. Z O.O.

Product does meet requirements of the contract: WT 15/09 wyd.4

Confirm certificate - name: Schneider Piotr

Publish certificate - name: **Sikora Paweł DC 03**

## \*\*CERTIFICATE of QUALITY\*\* Copy

|                      |             |             |  |
|----------------------|-------------|-------------|--|
| <b>Control No:</b>   | 5085 / 2022 | <b>For:</b> |  |
| <b>Tank No.:</b>     | 15S027      |             |  |
| <b>Sample No</b>     | 5085 / 2022 |             |  |
| <b>Delivery doc:</b> |             |             |  |
| <b>Packing, Tank</b> |             |             |  |

### DIESEL FLEET SAE 10W-40

| Lp | PROPERTY                           | RESULTS | UNITS              | TEST METHOD          |
|----|------------------------------------|---------|--------------------|----------------------|
| 1  | Kinematic viscosity at 100° C      | 14.600  | mm <sup>2</sup> /s | ASTM D 445-21e1 (A)  |
| 2  | Pour point                         | -48     | ° C                | ASTM D 97-17b        |
| 3  | Flash Point COC                    | 224     | ° C                | ASTM D 92-18         |
| 4  | Density, at 15,0° C                | 0.8721  | g/cm <sup>3</sup>  | ASTM D 4052-22       |
| 5  | Viscosity CCS at -25° C            | 6110    | mPa*s              | ASTM D 5293-20       |
| 6  | Viscosity Index                    | 154     |                    | ASTM D 2270-10(2016) |
| 7  | Total Base Number (TBN)            | 11      | mg KOH/g           | ASTM D 2896-21       |
| 8  | Corrosion action Cu at 120° C, 3 h | 1       | stop.kor.          | ASTM D 130-19 (A)    |
| 9  | Foaming                            |         |                    | ASTM D 892-18        |
|    | -tendency at 24 deg C              | 0       | ml                 |                      |
|    | -tendency at 93 deg C              | 10      | ml                 |                      |
|    | -tendency at 24°C ex 93,5°C        | 0       | ml                 |                      |
| 10 | Stability                          |         |                    | ASTM D 892-18        |
|    | -at 24° C                          | 0       | ml                 |                      |
|    | -at 93,5° C                        | 0       | ml                 |                      |
|    | -at 24° C ex 93,5° C               | 0       | ml                 |                      |

**Certificate of Quality may be duplicated only as a whole.**

**Symbol (A) in the standard column - The tests were performed by LOTOS Lab Ltd. accredited in this respect by the PCA, No.AB 474**

Manufacturer: LOTOS OIL SP. Z O.O.

Product does meet requirements of the contract: WT 14/09 wyd.2

Confirm certificate - name: Kacprzak Marcin

Publish certificate - name: **Sikora Paweł DC 03**

## \*\*CERTIFICATE of QUALITY\*\* Copy

|                      |             |             |  |
|----------------------|-------------|-------------|--|
| <b>Control No:</b>   | 4084 / 2022 | <b>For:</b> |  |
| <b>Tank No.:</b>     | 15V001      |             |  |
| <b>Sample No</b>     | 4084 / 2022 |             |  |
| <b>Delivery doc:</b> |             |             |  |
| <b>Packing, Tank</b> |             |             |  |

### DIESEL FLEET SAE 5W-40

| Lp | PROPERTY                           | RESULTS | UNITS              | TEST METHOD          |
|----|------------------------------------|---------|--------------------|----------------------|
| 1  | Kinematic viscosity at 100° C      | 14.290  | mm <sup>2</sup> /s | ASTM D 445-21e1 (A)  |
| 2  | Kinematic viscosity at 40° C       | 89.02   | mm <sup>2</sup> /s | ASTM D 445-21e1 (A)  |
| 3  | Pour point                         | -45     | ° C                | ASTM D 97-17b        |
| 4  | Flash Point COC                    | 228     | ° C                | ASTM D 92-18         |
| 5  | Density, at 15,0° C                | 0.8601  | g/cm <sup>3</sup>  | ASTM D 4052-22       |
| 6  | Viscosity CCS at -30° C            | 6220    | mPa*s              | ASTM D 5293-15       |
| 7  | Viscosity Index                    | 166     |                    | ASTM D 2270-10(2016) |
| 8  | Total Base Number (TBN)            | 11.0    | mg KOH/g           | ASTM D 2896-21       |
| 9  | Corrosion action Cu at 120° C, 3 h | 1       | stop.kor.          | ASTM D 130-19 (A)    |
| 10 | Foaming                            |         |                    | ASTM D 892-18        |
|    | -tendency at 24 deg C              | 0       | ml                 |                      |
|    | -tendency at 93 deg C              | 0       | ml                 |                      |
|    | -tendency at 24°C ex 93,5°C        | 0       | ml                 |                      |
| 11 | Stability                          |         |                    | ASTM D 892-18        |
|    | -at 24° C                          | 0       | ml                 |                      |
|    | -at 93,5° C                        | 0       | ml                 |                      |
|    | -at 24° C ex 93,5° C               | 0       | ml                 |                      |

Certificate of Quality may be duplicated only as a whole.

LOTOS Lab Sp. z o.o. Draw certificate date: 24-09-2022

LOTOS Lab Sp. z o.o.

Symbol (A) in the standard column - The tests were performed by LOTOS Lab Ltd. accredited in this respect by the PCA, No.AB 474

Manufacturer: LOTOS OIL SP. Z O.O.

Product does meet requirements of the contract: WT 15/09 wyd.4

Confirm certificate - name: Schneider Piotr

Publish certificate - name: **Wiatr Kamil DG 03**

## \*\*CERTIFICATE of QUALITY\*\* Copy

|                      |             |             |  |
|----------------------|-------------|-------------|--|
| <b>Control No:</b>   | 4458 / 2022 | <b>For:</b> |  |
| <b>Tank No.:</b>     | 15S027      |             |  |
| <b>Sample No</b>     | 4458 / 2022 |             |  |
| <b>Delivery doc:</b> |             |             |  |
| <b>Packing, Tank</b> |             |             |  |

### DIESEL FLEET SAE 10W-40

| Lp | PROPERTY                           | RESULTS | UNITS              | TEST METHOD          |
|----|------------------------------------|---------|--------------------|----------------------|
| 1  | Kinematic viscosity at 100° C      | 14.580  | mm <sup>2</sup> /s | ASTM D 445-21e1 (A)  |
| 2  | Pour point                         | -45     | ° C                | ASTM D 97-17b        |
| 3  | Flash Point COC                    | 240     | ° C                | ASTM D 92-18         |
| 4  | Density, at 15,0° C                | 0.8730  | g/cm <sup>3</sup>  | ASTM D 4052-22       |
| 5  | Viscosity CCS at -25° C            | 5850    | mPa*s              | ASTM D 5293-20       |
| 6  | Viscosity Index                    | 150     |                    | ASTM D 2270-10(2016) |
| 7  | Total Base Number (TBN)            | 12      | mg KOH/g           | ASTM D 2896-21       |
| 8  | Corrosion action Cu at 120° C, 3 h | 1       | stop.kor.          | ASTM D 130-19 (A)    |
| 9  | Foaming                            |         |                    | ASTM D 892-18        |
|    | -tendency at 24 deg C              | 0       | ml                 |                      |
|    | -tendency at 93 deg C              | 0       | ml                 |                      |
|    | -tendency at 24°C ex 93,5°C        | 0       | ml                 |                      |
| 10 | Stability                          |         |                    | ASTM D 892-18        |
|    | -at 24° C                          | 0       | ml                 |                      |
|    | -at 93,5° C                        | 0       | ml                 |                      |
|    | -at 24° C ex 93,5° C               | 0       | ml                 |                      |

Certificate of Quality may be duplicated only as a whole.

LOTOS Lab Sp. z o.o. Draw certificate date: 15-10-2022

LOTOS Lab Sp. z o.o.

Symbol (A) in the standard column - The tests were performed by LOTOS Lab Ltd. accredited in this respect by the PCA, No.AB 474

Manufacturer: LOTOS OIL SP. Z O.O.

Product does meet requirements of the contract: WT 14/09 wyd.2

Confirm certificate - name: Besler Paweł

Publish certificate - name: **Wiatr Kamil DG 03**

**\*\*CERTIFICATE of QUALITY\*\* Copy**

Sample No: 12837 / 2011 For:

Tank No.: TC1KM-1

Batch No: 2740 / 2011

Delivery doc:

Packing, Tank

**GEAR GL-4 SAE 80W**

| Lp. | PROPERTY               | RESULTS | UNITS              | TEST METHOD         |
|-----|------------------------|---------|--------------------|---------------------|
| 1   | Viscosity at 100 C     | 8,11    | mm <sup>2</sup> /s | ASTM D 445-11a      |
| 2   | Pour Point             | -33     | stop.C             | ASTM D 97-11        |
| 3   | Flash Point COC        | 230     | stop.C             | ASTM D 92-05a(2010) |
| 4   | Density, at 15,0 deg C | 0,8830  | g/cm <sup>3</sup>  | ASTM D 4052-11      |

Certificate of Quality may be duplicated only as a whole.

Test were run in LOTOS Lab Sp. z o.o. Draw certificate date: 12-05-2011

Manufacturer: LOTOS OIL S.A.

Product does meet requirements of the contract: W/T 36/05 wyd.2

Confirm certificate - name: Iwona Ruczyńska

Publish certificate - name: **Sikora Paweł DC 03**

**\*\*CERTIFICATE of QUALITY\*\*** Copy

|                                |             |
|--------------------------------|-------------|
| <b>Control No:</b> 2118 / 2022 | <b>For:</b> |
| <b>Tank No.:</b> 204/263       |             |
| <b>Sample No</b> 2118 / 2022   |             |
| <b>Delivery doc:</b>           |             |
| <b>Packing, Tank</b>           |             |

**GEAR OIL PL GL-1**

| Lp | PROPERTY                      | RESULTS | UNITS              | TEST METHOD     |
|----|-------------------------------|---------|--------------------|-----------------|
| 1  | Kinematic viscosity at 100° C | 29.2    | mm <sup>2</sup> /s | ASTM D 445-21   |
| 2  | Pour point                    | -12     | ° C                | ASTM D 97-17b   |
| 3  | Flash Point COC               | 317     | ° C                | ASTM D 92-18    |
| 4  | Density, at 15,0° C           | 0.8977  | g/cm <sup>3</sup>  | ASTM D 4052-18a |

Certificate of Quality may be duplicated only as a whole.

ECOL Sp. z o.o. Draw certificate date: 26-05-2022

ECOL Sp. z o.o.

Manufacturer: LOTOS OIL SP. Z O.O.

Product does meet requirements of the contract: WT 28/04 wyd.4

Confirm certificate - name: ECOL - Kubacki Jakub

Publish certificate - name: **Sikora Paweł DC 03**

**\*\*CERTIFICATE of QUALITY\*\*** Copy

|                                |             |
|--------------------------------|-------------|
| <b>Control No:</b> 5522 / 2021 | <b>For:</b> |
| <b>Tank No.:</b> 412           |             |
| <b>Sample No</b> 5522 / 2021   |             |
| <b>Delivery doc:</b>           |             |
| <b>Packing, Tank</b>           |             |

**LITHIUM GREASE LT-42**

| Lp | PROPERTY                    | RESULTS | UNITS   | TEST METHOD |
|----|-----------------------------|---------|---------|-------------|
| 1  | Worked Penetration 25 deg C | 279     | 1/10 mm | ASTM D 217  |

Certificate of Quality may be duplicated only as a whole.

ECOL Sp. z o.o. Draw certificate date: 17-11-2021

ECOL Sp. z o.o.

Manufacturer: LOTOS OIL SP. Z O.O.

Product does meet requirements of the contract: WT 48/05 wyd.7

Confirm certificate - name: ECOL - Kubacki Jakub

Publish certificate - name: **Sikora Paweł DC 03**

**\*\*CERTIFICATE of QUALITY\*\*** Copy

|                                |             |
|--------------------------------|-------------|
| <b>Control No:</b> 5195 / 2022 | <b>For:</b> |
| <b>Tank No.:</b> 412           |             |
| <b>Sample No</b> 5195 / 2022   |             |
| <b>Delivery doc:</b>           |             |
| <b>Packing, Tank</b>           |             |

**LITHIUM GREASE LT-43**

| Lp | PROPERTY                    | RESULTS | UNITS   | TEST METHOD |
|----|-----------------------------|---------|---------|-------------|
| 1  | Worked Penetration 25 deg C | 238     | 1/10 mm | ASTM D 217  |

Certificate of Quality may be duplicated only as a whole.

Laboratory test ECOL Sp. z o.o. Draw certificate date: 01-12-2022

Manufacturer: LOTOS OIL SP. Z O.O.

Product does meet requirements of the contract. WT 48/05 wyd.7

Confirm certificate - name: ECOL - Farbiszewski Piotr

Publish certificate - name: **Sikora Paweł DC 03**

**\*\*CERTIFICATE of QUALITY\*\*** Copy

|                                |             |
|--------------------------------|-------------|
| <b>Control No:</b> 3933 / 2022 | <b>For:</b> |
| <b>Tank No.:</b> 408/K5        |             |
| <b>Sample No</b> 3933 / 2022   |             |
| <b>Delivery doc:</b>           |             |
| <b>Packing, Tank</b>           |             |

**GREASE STP**

| Lp | PROPERTY                    | RESULTS | UNITS   | TEST METHOD |
|----|-----------------------------|---------|---------|-------------|
| 1  | Worked Penetration 25 deg C | 302     | 1/10 mm | ASTM D 217  |

Certificate of Quality may be duplicated only as a whole.

ECOL Sp. z o.o. Draw certificate date: 15-09-2022

ECOL Sp. z o.o.

Manufacturer: LOTOS OIL SP. Z O.O.

Product does meet requirements of the contract. WT 37/06 wyd.3

Confirm certificate - name: ECOL - Kubacki Jakub

Publish certificate - name: **Sikora Paweł DC 03**

## \*\*CERTIFICATE of QUALITY\*\* Copy

|                      |        |   |      |             |  |
|----------------------|--------|---|------|-------------|--|
| <b>Control No:</b>   | 5285   | / | 2022 | <b>For:</b> |  |
| <b>Tank No.:</b>     | 15V002 |   |      |             |  |
| <b>Sample No</b>     | 5285   | / | 2022 |             |  |
| <b>Delivery doc:</b> |        |   |      |             |  |
| <b>Packing, Tank</b> |        |   |      |             |  |

### HYDRAULIC OIL L-HM 32

| Lp | PROPERTY                           | RESULTS | UNITS              | TEST METHOD     |
|----|------------------------------------|---------|--------------------|-----------------|
| 1  | Kinematic viscosity at 40° C       | 32.28   | mm <sup>2</sup> /s | ASTM D 445-21e1 |
| 2  | Pour point                         | -33     | ° C                | ASTM D 97-17b   |
| 3  | Flash Point COC                    | 222     | ° C                | ASTM D 92-18    |
| 4  | Density, at 15,0° C                | 0.8692  | g/cm <sup>3</sup>  | ASTM D 4052-22  |
| 5  | Total Acid Number                  | 0.54    | mg KOH/g           | ASTM D 664-18e2 |
| 6  | Demulsibility at 54° C             |         |                    | ASTM D 1401-21  |
|    | -volume of oil                     | 40      | ml                 |                 |
|    | -volume water                      | 40      | ml                 |                 |
|    | -volume of emulsion                | 0       | ml                 |                 |
|    | -time of separability              | 10      | min                |                 |
| 7  | Corrosion action Cu at 120° C, 3 h | 1       | stop.kor.          | ASTM D 130-19   |
| 8  | Foaming                            |         |                    | ASTM D 892-18   |
|    | -tendency at 24 deg C              | 0       | ml                 |                 |
|    | -tendency at 93 deg C              | 10      | ml                 |                 |
|    | -tendency at 24° C ex 93,5° C      | 0       | ml                 |                 |
| 9  | Stability                          |         |                    | ASTM D 892-18   |
|    | -at 24° C                          | 0       | ml                 |                 |
|    | -at 93,5° C                        | 0       | ml                 |                 |
|    | -at 24° C ex 93,5° C               | 0       | ml                 |                 |

Certificate of Quality may be duplicated only as a whole.

Laboratory test LOTOS Lab Sp. z o.o. Draw certificate date: 05-12-2022

Manufacturer: LOTOS OIL SP. Z O.O.

Product does meet requirements of the contract. WT 2/90 wyd.13

Confirm certificate - name: Stachulski Ryszard

Publish certificate - name: **Wiatr Kamil DG 03**

**\*\*CERTIFICATE of QUALITY\*\* Copy**

|                      |        |   |      |             |
|----------------------|--------|---|------|-------------|
| <b>Control No:</b>   | 28     | / | 2023 | <b>For:</b> |
| <b>Tank No.:</b>     | 15S030 |   |      |             |
| <b>Sample No</b>     | 28     | / | 2023 |             |
| <b>Delivery doc:</b> |        |   |      |             |
| <b>Packing, Tank</b> |        |   |      |             |

**HYDRAULIC OIL L-HM 46**

| Lp | PROPERTY                           | RESULTS | UNITS              | TEST METHOD     |
|----|------------------------------------|---------|--------------------|-----------------|
| 1  | Kinematic viscosity at 40° C       | 46.28   | mm <sup>2</sup> /s | ASTM D 445-21e1 |
| 2  | Pour point                         | -27     | ° C                | ASTM D 97-17b   |
| 3  | Flash Point COC                    | 236     | ° C                | ASTM D 92-18    |
| 4  | Density, at 15,0° C                | 0.8736  | g/cm <sup>3</sup>  | ASTM D 4052-22  |
| 5  | Total Acid Number                  | 0.57    | mg KOH/g           | ASTM D 664-18e2 |
| 6  | Demulsibility at 54° C             |         |                    | ASTM D 1401-21  |
|    | -volume of oil                     | 40      | ml                 |                 |
|    | -volume water                      | 40      | ml                 |                 |
|    | -volume of emulsion                | 0       | ml                 |                 |
|    | -time of separability              | 20      | min                |                 |
| 7  | Corrosion action Cu at 120° C, 3 h | 1       | stop.kor.          | ASTM D 130-19   |
| 8  | Foaming                            |         |                    | ASTM D 892-18   |
|    | -tendency at 24 deg C              | 0       | ml                 |                 |
|    | -tendency at 93 deg C              | 10      | ml                 |                 |
|    | -tendency at 24° C ex 93,5° C      | 0       | ml                 |                 |
| 9  | Stability                          |         |                    | ASTM D 892-18   |
|    | -at 24° C                          | 0       | ml                 |                 |
|    | -at 93,5° C                        | 0       | ml                 |                 |
|    | -at 24° C ex 93,5° C               | 0       | ml                 |                 |

Certificate of Quality may be duplicated only as a whole.

Laboratory test LOTOS Lab Sp. z o.o. Draw certificate date: 03-01-2023

Manufacturer: LOTOS OIL SP. Z O.O.

Product does meet requirements of the contract. WT 2/90 wyd.13

Confirm certificate - name: Schneider Piotr

Publish certificate - name: **Wiatr Kamil DG 03**

**\*\*CERTIFICATE of QUALITY\*\* Copy**

|                      |             |             |
|----------------------|-------------|-------------|
| <b>Control No:</b>   | 5393 / 2022 | <b>For:</b> |
| <b>Tank No.:</b>     | 15V002      |             |
| <b>Sample No</b>     | 5393 / 2022 |             |
| <b>Delivery doc:</b> |             |             |
| <b>Packing, Tank</b> |             |             |

**HYDRAULIC OIL L-HV 32**

| Lp | PROPERTY                           | RESULTS | UNITS              | TEST METHOD          |
|----|------------------------------------|---------|--------------------|----------------------|
| 1  | Kinematic viscosity at 40° C       | 32.36   | mm <sup>2</sup> /s | ASTM D 445-21e1 (A)  |
| 2  | Pour point                         | -54     | ° C                | ASTM D 97-17b        |
| 3  | Flash Point COC                    | 220     | ° C                | ASTM D 92-18         |
| 4  | Density, at 15,0° C                | 0.8633  | g/cm <sup>3</sup>  | ASTM D 4052-22       |
| 5  | Viscosity Index                    | 147     |                    | ASTM D 2270-10(2016) |
| 6  | Total Acid Number                  | 0.54    | mg KOH/g           | ASTM D 664-18e2      |
| 7  | Demulsibility at 54° C             |         |                    | ASTM D 1401-21       |
|    | -volume of oil                     | 41      | ml                 |                      |
|    | -volume water                      | 39      | ml                 |                      |
|    | -volume of emulsion                | 0       | ml                 |                      |
|    | -time of separability              | 15      | min                |                      |
| 8  | Corrosion action Cu at 120° C, 3 h | 1       | stop.kor.          | ASTM D 130-19 (A)    |
| 9  | Foaming                            |         |                    | ASTM D 892-18        |
|    | -tendency at 24 deg C              | 30      | ml                 |                      |
|    | -tendency at 93 deg C              | 20      | ml                 |                      |
|    | -tendency at 24°C ex 93,5°C        | 10      | ml                 |                      |
| 10 | Stability                          |         |                    | ASTM D 892-18        |
|    | -at 24° C                          | 0       | ml                 |                      |
|    | -at 93,5° C                        | 0       | ml                 |                      |
|    | -at 24° C ex 93,5° C               | 0       | ml                 |                      |

Certificate of Quality may be duplicated only as a whole.

Laboratory test LOTOS Lab Sp. z o.o. Draw certificate date: 13-12-2022

Symbol (A) in the standard column - The tests were performed by LOTOS Lab Ltd. accredited in this respect by the PCA, No.AB 474

Manufacturer: LOTOS OIL SP. Z O.O.

Product does meet requirements of the contract: WT 2/94 wyd.7

Confirm certificate - name: Schneider Piotr

Publish certificate - name: **Wiatr Kamil DG 03**

## \*\*CERTIFICATE of QUALITY\*\* Copy

|                      |              |             |  |
|----------------------|--------------|-------------|--|
| <b>Control No:</b>   | 75990 / 2022 | <b>For:</b> |  |
| <b>Tank No.:</b>     | V2/GMB4X0    |             |  |
| <b>Sample No</b>     | 12916 / 2022 |             |  |
| <b>Delivery doc:</b> |              |             |  |
| <b>Packing, Tank</b> |              |             |  |

### HYDRAULIC OIL L-HM 32

| Lp | PROPERTY                           | RESULTS | UNITS              | TEST METHOD     |
|----|------------------------------------|---------|--------------------|-----------------|
| 1  | Kinematic viscosity at 40° C       | 32.38   | mm <sup>2</sup> /s | ASTM D 445-21e1 |
| 2  | Pour point                         | -33     | ° C                | ASTM D 97-17b   |
| 3  | Flash Point COC                    | 222     | ° C                | ASTM D 92-18    |
| 4  | Density, at 15,0° C                | 0.8692  | g/cm <sup>3</sup>  | ASTM D 4052-22  |
| 5  | Total Acid Number                  | 0.54    | mg KOH/g           | ASTM D 664-18e2 |
| 6  | Demulsibility at 54° C             |         |                    | ASTM D 1401-21  |
|    | -volume of oil                     | 41      | ml                 |                 |
|    | -volume water                      | 39      | ml                 |                 |
|    | -volume of emulsion                | 0       | ml                 |                 |
|    | -time of separability              | 10      | min                |                 |
| 7  | Corrosion action Cu at 120° C, 3 h | 1       | stop.kor.          | ASTM D 130-19   |
| 8  | Foaming                            |         |                    | ASTM D 892-18   |
|    | -tendency at 24 deg C              | 0       | ml                 |                 |
|    | -tendency at 93 deg C              | 10      | ml                 |                 |
|    | -tendency at 24° C ex 93,5° C      | 0       | ml                 |                 |
| 9  | Stability                          |         |                    | ASTM D 892-18   |
|    | -at 24° C                          | 0       | ml                 |                 |
|    | -at 93,5° C                        | 0       | ml                 |                 |
|    | -at 24° C ex 93,5° C               | 0       | ml                 |                 |

Certificate of Quality may be duplicated only as a whole.

Laboratory test LOTOS Lab Sp. z o.o. Draw certificate date: 09-12-2022

Manufacturer: LOTOS OIL SP. Z O.O.

Product does meet requirements of the contract. WT 2/90 wyd.13

Confirm certificate - name: Pracownia Olejów

Publish certificate - name: **Sikora Paweł DC 03**